



MONROE COUNTY
R O A D
COMMISSION

840 S. Telegraph Road • Monroe, Michigan 48161 • Phone: (734) 240-5102 • Fax: (734) 240-5101

PROPOSAL

FOR

**SPRINGBROOK SUBDIVISION
SPECIAL ASSESSMENT DISTRICT**

**BEDFORD TOWNSHIP
MONROE COUNTY, MICHIGAN**

BID OPENING:

Thursday, July 26, 2018 at 10:00 a.m.

**BOARD OF COUNTY ROAD COMMISSIONERS
OF THE COUNTY OF MONROE**

Paul Iacoangeli, Chairman
Dan Minton, Vice Chairman
Stephen J. Pace, Member
Charles A. Londo, Member
Greg W. Stewart, Member

**MONROE COUNTY ROAD COMMISSION
INVITATION TO BID**

Sealed bids will be received by the Board of County Road Commissioners of the County of Monroe until **10:00 a.m.** local time on **Thursday, July 26, 2018** at their office located at 840 South Telegraph Road, Monroe, MI 48161 for the following projects in Bedford Township, Monroe County, Michigan.

- **Mildred Avenue Special Assessment District**
Significant bid items and approximate quantities include Aggregate Base, Conditioning – 5,506 Syd; HMA Surface, Rem – 5,396 Syd; HMA, 13A - 447 Ton; and HMA, 5E1 - 455 Ton

- **Springbrook Subdivision Special Assessment District**
Significant bid items and approximate quantities include Aggregate Base, Conditioning – 1,390 Syd; HMA Surface, Rem – 2,185 Syd; HMA, 13A - 350 Ton; and HMA, Ultra-Thin, Medium Volume - 445 Ton

Bids will be publicly opened and read aloud by the Bid Committee at 10:00 a.m. Proposals may be downloaded from the Road Commission's website at www.mcrc-mi.org/bids.html .

BOARD OF COUNTY ROAD COMMISSIONERS
OF THE COUNTY OF MONROE, MICHIGAN

**MONROE COUNTY ROAD COMMISSION
PROPOSAL
SPRINGBROOK SUBDIVISION SPECIAL ASSESSMENT DISTRICT**

TO: The Board of County Road Commissioners of the County of Monroe, Michigan

FOR: 0.69 miles of hot mix asphalt surface removal and resurfacing, aggregate base conditioning, concrete curb and gutter and drainage structure repairs on Deepwood Drive, Springdale Drive, Fairwood Drive and Shadywood Drive in the Springbrook Subdivision, Bedford Township, Monroe County, Michigan

Ladies and Gentlemen:

The undersigned bidder hereby affirms that:

1. The proposal is in all respects fair and without any collusion or fraud.
2. The undersigned have examined the site of the proposed project and have made a personal investigation and estimate of quantities.
3. The undersigned will contract to furnish all labor, equipment, tools, material and traffic control devices necessary at the unit prices stated on the attached bid forms and to complete the work in the time specified to the satisfaction of the Board of County Road Commissioners of the County of Monroe, Michigan.

Company: _____
Address: _____
City, State, ZIP: _____
Telephone: _____
By: _____
Title: _____
Date: _____

Notes:

1. If the bidder is a partnership, each member must sign the proposal.
2. Corporations must execute the proposal by duly authorized officers in accordance with the Articles of Incorporation.

INSTRUCTIONS TO BIDDERS
and
GENERAL CONDITIONS

The Michigan Department of Transportation 2012 Standard Specifications for Construction are incorporated as part of these bidding documents and shall govern except as provided in the Invitation to Bid, Instructions to Bidders and General Conditions, and Proposal. Reference to the Department or Commission in the Michigan Department of Transportation 2012 Standard Specifications for Construction shall for this project mean the Board of County Road Commissioners of the County of Monroe, hereinafter referred to as "Board", unless otherwise specified.

OWNER

The owner of the project is the Board of County Road Commissioners of the County of Monroe, also referred to as the "Board."

ENGINEER

The Engineer is the County Highway Engineer or the individual assigned by the County Highway Engineer to be in charge of the Contract. The person assigned as the Engineer may be an employee of the Board, a consultant or an outside contractor hired by the Board.

BIDDER

The Bidder is one who submits a signed bid with the required documentation directly to the Board at the time and place specified.

BID FORMS

Sealed proposals must be submitted on the bid forms furnished by the Board. The proposal shall be submitted in its entirety (pages 1 through 12) with no modifications or changes except as authorized by an addendum and with no pages removed. All proposals must be filled out in ink or typewritten and shall be legibly signed, giving the complete name and address of the Bidder.

All bids must be in a sealed envelope and clearly marked "**Springbrook Subdivision Special Assessment District.**"

BIDDER'S SURETY

The proposal must be accompanied by a cashier's check, certified check or a bid bond made payable to the Board of County Road Commissioners of Monroe County, Michigan in the sum of five percent (5%) of the amount of the bid. Upon awarding and signing of a contract, or in the event of bid rejection, such bid surety will be returned to the Bidder. Bids may be held for a period of forty (40) days.

INTERPRETATION AND ADDENDA

All questions about the meaning or intent of the Bidding Documents are to be directed to the Engineer. Interpretation or clarification considered necessary by the Engineer to such questions will be issued by Addenda delivered to all parties recorded by the Engineer as having received the Bidding Documents. Questions received less than seven days prior to the date for opening the bids may not be answered. Only questions answered by formal written Addenda are binding. Oral and other interpretations or clarifications will be without legal effect.

OPENING OF BIDS

Bids will be received by the Board at 840 S. Telegraph Road, Monroe, Michigan, 48161 until **10:00 a.m.** local time on **Thursday, July 26, 2018** at which time they will be publicly opened and read aloud.

REJECTION OF BIDS

The Board reserves the right to reject any or all bids, including without limitation the right to reject any or all nonconforming, nonresponsive, unbalanced, or conditional bids and to reject the bid of any Bidder if the Board believes that it would not be in the best interest of the project to make an award to that Bidder,

whether because the bid is not responsive or if the Bidder is unqualified or of doubtful financial ability or fails to meet any pertinent standards or criteria established by the Board. The Board also reserves the right to waive all informalities in any bid should it be deemed in the best interest of the Road Commission to do so. Discrepancies between the multiplication of units of work and the unit prices will be resolved in favor of the unit price. Discrepancies between the indicated sum of any column of figures and the correct sum will be resolved in favor of the correct sum. Discrepancies between words and figure will be resolved in favor of words.

TITLE VI ASSURANCE

The Monroe County Road Commission, in accordance with Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 USC 2000d to 2000d-4) and Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, hereby notifies all bidders that it assures that in any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, gender, age, or disability in consideration for an award.

PROHIBITION OF DISCRIMINATION

In accordance with Act No. 453, Public Acts of 1976, the Contractor and subcontractors hereby agree not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of race, color, religion, national origin, age, sex, height, weight, or marital status. Further, in accordance with Act No. 220, Public Acts of 1976 as amended by Act No. 478, Public Acts of 1980, the Contractor and subcontractors hereby agree not to discriminate against an employee or applicant for employment tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of a disability that is unrelated to the individual's ability to perform the duties of a particular job or position. A breach of the above covenants shall be regarded as a material breach of this contract.

CONTRACT EXECUTION

The Bidder to whom the Contract is awarded shall, within ten (10) calendar days after notice of award, enter into a written contract with the Board and furnish proof of insurance as hereinafter specified. Failure to execute the contract or furnish satisfactory proof of insurance will be considered cause for annulment of award.

PERFORMANCE AND LIEN BONDS

The successful Bidder to whom the contract is awarded shall furnish two (2) surety bonds as follows:

Performance Bond - To the Board of County Road Commissioners of the County of Monroe, Michigan for the faithful fulfillment of the terms of the contract in the amount of one-hundred (100) percent of the contract amount

Lien Bond - To the Board of County Road Commissioners of the County of Monroe, Michigan for the payment of all labor and materials used in the work in the amount of one-hundred (100) percent of the contract amount

MAINTENANCE BOND

After the project is completed and accepted by the Board but prior to final payment, the Contractor shall secure a two (2) year Maintenance Bond in the amount of twenty-five (25) percent of the final construction cost rounded off to the nearest thousand dollars.

Subsequent to completion of construction, the Engineer will conduct a final inspection of the project to determine whether or not the improvements have been properly constructed. The two (2) year term of the bond will begin on the final inspection date provided that at that time, all improvements meet the required standard.

INCREASED OR DECREASED QUANTITIES

The Board reserves the right to increase or decrease quantities from those originally estimated and such changes will be paid for at the unit price bid so long as the total contract amount is not changed more than ten (10) percent. Changes in excess of that amount will be individually negotiated.

PROGRESS SCHEDULE

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

The low Bidder for the work covered by this proposal will be required to meet with the Board's representative to review the Contractor's proposed work schedule. The schedule for this meeting will be set within one (1) week after the low bidder is determined.

The Board's representative will arrange the time and place for the meeting.

TIME OF COMPLETION

All contract work shall be completed on or before **November 2, 2018**.

FAILURE TO COMPLETE ON TIME

Liquidated damages will be assessed in accordance with Section 108 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, except that all references to seasonal limitations will not apply. Liquidated damages will continue to be assessed for each calendar day the work remains incomplete after the substantial completion date or contract completion date, even if those days extend beyond any seasonal limitations.

PAYMENTS TO CONTRACTOR

Payments will be made to the Contractor on a bi-weekly basis. The Board will make a partial payment to the Contractor on the basis of an estimate, prepared by the Engineer, of the work performed on the project during the preceding period less a five (5) percent retainer.

FINAL INSPECTION, ACCEPTANCE AND FINAL PAYMENT

The Engineer will make a final inspection of all work included in the contract and notify the Contractor of defects to be remedied prior to final acceptance. The Contractor is required to provide unconditional waivers of lien from all subcontractors and suppliers before preparing a final estimate. Upon satisfactory completion of the work by the Contractor, a final estimate will be prepared. Payment for all work completed and accepted, less previous payments, will be made within thirty (30) days of final acceptance.

DISPUTES

The County Highway Engineer's written decision on any question arising under the contract between the Board and Contractor shall be final and binding upon both the Board and the Contractor in the absence of fraud, bad faith, or abuse of discretion.

ARBITRATION

All claims, disputes and other matters in question between the Board and the Contractor arising out of, or relating to, the Contract Documents or the breach thereof (except for claims which have been waived by the making or acceptance of final payment) will be decided by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association then obtaining subject to the limitations of this section. This agreement so to arbitrate and any other agreement or consent to arbitrate entered into in accordance herewith will be specifically enforceable under the prevailing laws of any court having jurisdiction.

No demand for arbitration of any claim, dispute or other matter that is required to be referred to Engineer initially for decision will be made until the earlier of (a) the date on which Engineer has rendered a decision or (b) the tenth day after the parties have presented their evidence to Engineer if a written decision has not been rendered by Engineer before that date. No demand for arbitration of any such claim, dispute or other matter will be made later than thirty (30) days after the date on which Engineer has rendered a written decision in respect thereof; and the failure to demand arbitration within said thirty (30) days' period shall

result in Engineer's decision being final and binding upon Board and Contractor. If Engineer renders a decision after arbitration proceedings have been initiated, such decision may be entered as evidence but will not supersede the arbitration proceedings, except where the decision is acceptable to the parties concerned. No demand for arbitration of any written decision of Engineer will be made later than ten (10) days after the party making such demand has delivered written notice of intention to appeal.

Notice of the demand for arbitration will be filed in writing with the other party to the Agreement and with the American Arbitration Association, and a copy will be sent to Engineer for information. The demand for arbitration will be made within the thirty (30) day or ten (10) day period specified above as applicable, and in all other cases within a reasonable time after the claim, dispute or other matter in question has arisen, and in no event shall any such demand be made after the date when institution of legal or equitable proceedings based on such claim, dispute or other matter in question would be barred by the applicable statute of limitations.

No arbitration arising out of or relating to the Contract Documents shall include by consolidation, joinder or in any other manner any other person or entity who is not a party of this contract unless:

- a) the inclusion of such other person or entity is necessary if complete relief is to be afforded among those who are already parties to the arbitration;
- b) such other person or entity is substantially involved in a question of law or fact which is common to those who are already parties to the arbitration and which will arise in such proceedings, and;
- c) the written consent of the other person or entity sought to be included and of Board and Contractor has been obtained for such inclusion, which consent shall make specific reference to this paragraph; but no such consent shall constitute consent to arbitration of any dispute not specifically described in such consent or to arbitration with any party not specifically identified in such consent.

Notwithstanding the above paragraph, if a claim, dispute or other matter in question between Board and Contractor involves the Work of a Subcontractor, either Board or Contractor may join such Subcontractor as a party to the arbitration between Board and Contractor hereunder. Contractor shall include in all subcontracts a specific provision whereby the Subcontractor consents to being joined in arbitration between Board and Contractor involving the Work of such Subcontractor. Nothing in this paragraph nor in the provision of such subcontract consenting to joinder shall create any claim, right or cause of action in favor of Subcontractor and against Board or Board's Consultants that does not otherwise exist.

The award rendered by the arbitrators will be final, judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal.

ASSIGNMENT CLAUSE

The contract between the Board and the Contractor may not be assigned to a third party without the written consent of the Board.

TAXES

The Contractor shall include, and will be deemed to have included, in its base bid and contract price all applicable Michigan Sales and Use taxes which have been enacted into law as of the date the bid is submitted.

BOARD RESPONSIBILITY

The Board shall not supervise, direct or have control or authority over, nor be responsible for, the Contractor's means, methods, techniques, sequences or procedures of construction or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with laws and regulations applicable to the furnishing or performance of the work unless otherwise specified in the Special

Provisions. The Board will not be responsible for the Contractor's failure to perform or furnish the work in accordance with the Contract Documents.

INDEMNIFICATION, DAMAGE LIABILITY AND INSURANCE

- A. Indemnification. The Contractor must hold harmless, indemnify, defend and represent the Board and its officers, agents and employees against any and all claims for bodily injury or property damage, or any other claim arising out of performance of the work on this contract. The Contractor will not be responsible for claims that result from the sole negligence or willful acts of said indemnitee.
- B. Workers' Compensation Insurance. The Contractor must carry the necessary Workers' Compensation Insurance and submit a certification that it carries Workers' Compensation to the Board.
- C. Bodily Injury and Property Damage. The Contractor must carry adequate insurance, satisfactory to the Board, to afford protection against all claims for damage to public or private property and injuries to persons arising out of performance of the work. Copies of completed certificates must be submitted to the Board.

- 1. General Liability, Bodily Injury and Property Damage. The Contractor must provide the following minimum limits of property damage and bodily injury liability:

Bodily Injury and Property Damage Liability:	
Each Occurrence	\$1,000,000
Aggregate	\$2,000,000

- 2. Automobile Liability, Bodily Injury and Property Damage. The Contractor must provide the following minimum limits of property damage and bodily injury liability:

Bodily Injury Liability:	
Each Person	\$500,000
Each Occurrence	\$1,000,000

Property Damage Liability:	
Each Occurrence	\$1,000,000

Combined Single Limit for Bodily Injury and Property Damage Liability:	
Each Occurrence	\$2,000,000

- 3. Umbrella Policy. The Contractor may meet the requirements of above minimum limits of bodily injury and property damage liability through an umbrella policy.

- D. Additional Insured. The Bodily Injury and Property Damage Policy must include the following endorsements, verbatim:

“Additional Insured: The Board of County Road Commissioners of the County of Monroe, the Monroe County Road Commission and its officers, agents and employees; Bedford Township and its officers, agents and employees; and The Mannik & Smith Group, Inc. and its officers, agents and employees.”

“Provide written notice ten (10) days prior to cancellation, expiration, termination or reduction in coverage for nonpayment of the premium and written notice thirty (30) days prior to cancellation, expiration, termination or reduction in coverage for all other reasons.”

- E. Per Project Aggregate. The Bodily Injury and Property Damage Policy must be endorsed with an endorsement that provides the General Aggregate Limit to each designated construction project.
- F. Notice. The Contractor must ensure that all insurance policies and binders include an endorsement by which the insurer agrees to notify the Department in writing at least 30 days before there is a cancellation or material change in coverage. The Contractor must stop operations if any insurance is canceled or reduced, and must not resume operations until new issuance is in force.
- G. Reports. The Contractor or insurance carrier shall report to the Board any claims received, inspections made and the disposition of claims. The Board will withhold final payment release until either the Contractor pays the claim or until final disposition of the claim by the Contractor's insurance company has been received by the Board.

MAINTENANCE OF TRAFFIC

See the Special Provision for Maintaining Traffic attached to the proposal.

SPECIFICATIONS

All work not otherwise specified shall be done in accordance with the Michigan Department of Transportation 2012 Standard Specifications for Construction. Within these specifications all references to the Michigan Department of Transportation shall mean the Board. The errata to the 2012 Standard Specifications can be found on the Michigan Department of Transportation website at www.michigan.gov/mdot.

MATERIALS

All materials shall be in accordance with the Michigan Department of Transportation 2012 Standard Specifications for Construction except as modified herein.

The Contractor shall submit a job mix formula for each HMA mixture used.

The virgin asphalt binder for all HMA mixtures shall be PG 58-28 unless otherwise specified.

QUALITY CONTROL

For each day's HMA production greater than 500 tons, the Contractor must perform a minimum of one quality control (QC) tester per day for gradation, AC content and air voids. A copy of the QC test results shall be provided to the Engineer.

SPECIAL PROVISIONS AND NOTICES TO BIDDERS

The following special provisions and notices to bidders are attached to this proposal:

1. Progress Clause
2. Maintaining Traffic
3. Drainage Structure, Reconstruct, Case 1
4. Sanitary Structure Cover, Adjust, Riser Ring
5. Hot Mix Asphalt Ultra-Thin Overlay
6. HMA Application Estimate
7. Marshall Hot Mix Asphalt Mixture
8. Recycled Hot Mix Asphalt Mixture on Local Agency Projects
9. Curb and Gutter, Concrete, Mountable, Type F

UTILITY COORDINATION

For the protection of underground utilities, the contractor shall notify "Miss Dig" at 1-800-482-7171 or 811, a minimum of three working days, excluding weekends or holidays prior to excavating and otherwise fully comply with the provisions of Act 174 of 2013 and as amended. Miss Dig members will thus be routinely notified. This does not relieve the Contractor of the responsibility of notifying utility owners who may not be part of the Miss Dig system.

The Contractor shall conduct operations in such a manner as to ensure that those utilities not requiring relocation will not be disturbed.

COMMUNICATIONS

Any questions regarding this bid shall be directed to the person listed below:

Name: Michael Smith
Phone: 734-240-5103
Email: MSmith@mcrc-mi.org

**MONROE COUNTY ROAD COMMISSION
UNIT PRICE CONTRACT
SPRINGBROOK SUBDIVISION SPECIAL ASSESSMENT DISTRICT**

TO: Board of County Road Commissioners of Monroe County, Michigan

The undersigned, having full knowledge of the site, proposal, plans and specifications for the **Springbrook Subdivision Special Assessment District** project in Bedford Township, Monroe County, Michigan including Bidders' Addenda _____, and the conditions of these Contract Documents, hereby agrees to furnish all services, labor, materials, tools, equipment, transportation, and incidentals necessary to perform the entire Work; to complete the contract by the date specified in the Instructions to Bidders and General Provisions, according to the Proposal, Plans and Specifications; and to accept in full, compensation for all work necessary to complete the project at the unit prices named below:

UNIT PRICE WORK					
Item Code	Item Description	Approx. Quantity	Unit	Unit Price	Bid Amount
1500001	Mobilization, Max. _ \$10,000.00	1.00	LSUM	\$	\$
2040020	Curb and Gutter, Rem	48.00	Ft	\$	\$
2050016	Excavation, Earth	8.00	Cyd	\$	\$
3020050	Aggregate Base, Conditioning	1,390.00	Syd	\$	\$
4037001	Dr Structure, Reconst, Case 1	6.00	Ft	\$	\$
4037050	Sanitary Structure Cover, Adj, Riser Ring	12.00	Ea	\$	\$
5010002	Cold Milling HMA Surface	376.00	Syd	\$	\$
5010005	HMA Surface, Rem	2,185.00	Syd	\$	\$
5010009	Edge Trimming	90.00	Ft	\$	\$
5010025	Hand Patching	16.00	Ton	\$	\$
5010033	HMA, 13A	325.00	Ton	\$	\$
5017031	HMA, Ultra-Thin, Low Volume	470.00	Ton	\$	\$
6030030	Lane Tie, Epoxy Anchored	24.00	Ea	\$	\$
8027001	Curb and Gutter, Conc, Mountable, Type F	48.00	Ft	\$	\$
8127051	Maintaining Traffic	1.00	LSUM	\$	\$
Total Bid =					\$

Contractor Signature: _____

Printed Name and Title: _____

Quantities are not guaranteed. Final payment will be based on actual quantities.

Bidder agrees that the work will be completed and ready for final payment in accordance with the General Conditions. All work on the **Springbrook Subdivision Special Assessment District** project is to be completed by **November 2, 2018** as detailed in the Time of Completion section above.

Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the work on time.

The following documents are attached to and made a condition of this Bid:

Required Bid Security in the form of either:

Certified Check or a Bidder's Bond in the amount of:

_____ Dollars (\$ _____)

Communications concerning this Bid shall be addressed to the Bidder's representative.

Name of Representative: _____

Address: _____

City, State, ZIP: _____

Telephone Number: _____

E-Mail Address: _____

The terms used in this Bid, which are defined in subsection 101.03 of the Michigan Department of Transportation 2012 Standard Specifications of the Construction, have the meanings assigned to them in the Standard Specifications for Construction.

SUBMITTED on: _____, 2018

If Bidder is:

An Individual

By: _____ (SEAL)
Individual's Name

Doing Business As: _____

Business Address: _____

Phone No: _____

A Partnership

By: _____ (SEAL)
Firm Name

General Partner

Business Address: _____

Phone No.: _____

A Corporation

By: _____ (Corporate SEAL)
Corporate Seal

State of Incorporation

By: _____
Name of Person Authorized to Sign

Title

Business Address: _____

Phone No.: _____

A Joint Venture

By: _____
Name

Business Address: _____

Phone No.: _____

By: _____
Name

Business Address: _____

Phone No.: _____

(Each joint venture must sign. The manner of signing for each individual, partnership and corporation that is a party to the joint venture should be in the manner indicated above.)

**SPRINGBROOK SUBDIVISION
SPECIAL ASSESSEMENT DISTRICT**

PROPOSAL ATTACHMENTS

1. Progress Clause
2. Maintaining Traffic
3. Drainage Structure, Reconstruct, Case 1
4. Sanitary Structure Cover, Adjust, Riser Ring
5. Hot Mix Asphalt Ultra-Thin Overlay
6. HMA Application Estimate
7. Marshall Hot Mix Asphalt Mixture
8. Recycled Hot Mix Asphalt Mixture on Local Agency Projects
9. Curb and Gutter, Concrete, Mountable, Type F

PROGRESS CLAUSE

MSG:BAB

1 of 1

07-10-18

The Owner anticipates that construction can begin no earlier than 10 calendar days after award or as directed by the Engineer.

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

The Contractor shall prepare and submit a detailed Progress Schedule. 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 cleanup on or before **November 2, 2018**.

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.

MONROE COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
MAINTAINING TRAFFIC

MSG:KHW

1 of 3

07-10-18

a. Description. Maintain traffic in accordance with the Michigan Manual of Uniform Traffic Devices (MMUTCD) 2011 Edition (as revised), Sections 104.11, 812 and 922 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, as applicable, and as herein stated and as directed by the Engineer.

b. Construction Influence Area. The Construction Influence Area (CIA) shall consist of the width of the existing right-of-way from the project point of beginning to the point of ending. The CIA shall extend a sufficient distance in each direction beyond the project beginning and ending to warn motorists of construction ahead per the appropriate Maintaining Traffic Typical. In addition, the CIA shall include the rights-of-way of any intersecting streets adjacent of the work zone for a distance of approximately 500 feet.

c. General. The Contractor shall be responsible for the protection of vehicular and pedestrian traffic, work in progress and construction workers in the CIA through the implementation of procedures as described in this proposal, the MMUTCD, the Standard Specifications for Construction and other applicable state and federal requirements.

The Contractor shall notify the Engineer a minimum of 72 business hours prior to the start of work.

d. Traffic Restrictions. All work shall be conducted during normal working hours except as approved by the Engineer. Normal daytime hours are considered to be Monday through Saturday from 7 a.m. to 7 p.m.

Springdale Drive shall be closed to through traffic from Shadywood Drive to Secor Road during the hot mix asphalt surface removal, aggregate base conditioning and installation of the hot mix asphalt leveling course. Two (2) Type III barricades and two (2) "Road Closed to Thru Traffic" signs have been included in the Maintaining Traffic item of work for the closure of Springdale Drive. The closure of Springdale Drive from Shadywood Drive to Secor Road will be allowed for up to four calendar days.

Two-way traffic, with a minimum of one lane of traffic, shall be maintained at all other times.

No work shall be performed or lane closures allowed during the Labor Day holiday period (3:00 p.m. Friday, 8/3/18 to 7:00 am Tuesday, 9/4/18) or as defined by the Engineer.

Maintain access for emergency vehicles at all times. The Contractor will be required to assist emergency vehicles (fire, ambulance, police) in gaining access into, around, and through the work zone at all times without exception.

At all times, the Contract shall provide local traffic reasonable access to their property along the project by grading and filling driveways with aggregate or millings as work progresses. Providing

temporary ramps at driveways with aggregate or millings will not be paid for separately and is included in the unit prices bid for other items of work.

e. Traffic Control Devices. All traffic control devices and their usage shall conform to the Michigan Manual on Uniform Traffic Control Devices (MMUTCD), 2011 edition, and as specified herein.

All signs shall be 4 feet x 4 feet with black legends on reflectorized orange background unless otherwise noted.

Minimum merging taper lengths, distance between traffic control devices, and length of longitudinal buffer space shall conform to standards as shown on Maintaining Traffic Typical M0020a. Field adjustment may be necessary as determined by the Engineer.

Signing for a lane closure on Secor Road shall be in accordance with Maintaining Traffic Typical M0140 except that lighted arrows and speed limit signs will not be required.

Channelizing devices for lane closures shall be 28-inch traffic cones. Traffic cones will not be paid for separately and are included in the unit price for **Maintaining Traffic**.

All construction signing shall be covered or removed during the times they do not apply.

The estimated maximum quantity of dissimilar sign legends in use at one time are as follows:

Sign	Description	Size	Estimated Quantity	Area per Sign (Sft)	Type B Area (Sft)
W20-1	Road Work Ahead	48" x 48"	4	16	64
W20-4	One Lane Road Ahead	48" x 48"	2	16	32
W20-7a	Traffic Regulator (Symbol)	48" x 48"	2	16	32
W3-4	Be Prepared to Stop	48" x 48"	2	16	32
R11-4	Road Closed to Thru Traffic	60" x 30"	2	10	20
G20-2	End Road Work	24" x 48"	2	8	16
Totals					196

f. Measurement and Payment. The completed work as measured will be paid for at the contract unit price for the following pay item:

Pay Item	Pay Unit
Maintaining Traffic.....	Lump Sum

The unit price for **Maintaining Traffic** includes the cost of the following items of work:

Item of Work	Quantity	Unit
Barricade, Type III, High Intensity, Lighted, Furn	2	Each
Barricade, Type III, High Intensity, Lighted, Oper	2	Each
Channelizing Device, 42 inch, Furn	40	Each
Channelizing Device, 42 inch, Oper	40	Each
Minor Traf Devices	1	Lump Sum
Sign, Type B, Temp, Prismatic, Furn	196	Square Feet
Sign, Type B, Temp, Prismatic, Oper	196	Square Feet
Traf Regulator Control	1	Lump Sum

The estimated quantities are for informational purposes only and are based on the maximum quantity of dissimilar sign legends and traffic control devices in use at one time on the project.

Additional signing or temporary traffic control devices required to expedite the construction will be at the Contractor's expense.

MINIMUM MERGING TAPER LENGTH "L" (FEET)

OFFSET FEET	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)									
	25	30	35	40	45	50	55	60	65	70
1	10	15	20	27	45	50	55	60	65	70
2	21	30	41	53	90	100	110	120	130	140
3	31	45	61	80	135	150	165	180	195	210
4	42	60	82	107	180	200	220	240	260	280
5	52	75	102	133	225	250	275	300	325	350
6	63	90	123	160	270	300	330	360	390	420
7	73	105	143	187	315	350	385	420	455	490
8	83	120	163	213	360	400	440	480	520	560
9	94	135	184	240	405	450	495	540	585	630
10	104	150	204	267	450	500	550	600	650	700
11	115	165	225	293	495	550	605	660	715	770
12	125	180	245	320	540	600	660	720	780	840
13	135	195	266	347	585	650	715	780	845	910
14	146	210	286	374	630	700	770	840	910	980
15	157	225	307	400	675	750	825	900	975	1050

TAPER LENGTH "L" IN FEET

THE FORMULAS FOR THE MINIMUM LENGTH OF A MERGING TAPER IN DERIVING THE "L" VALUES SHOWN IN THE ABOVE TABLES ARE AS FOLLOWS:

"L" = $\frac{W \times S^2}{60}$ WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 40 MPH OR LESS

"L" = S x W WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 45 MPH OR GREATER

- L = MINIMUM LENGTH OF MERGING TAPER
- S = POSTED SPEED LIMIT IN MPH PRIOR TO WORK AREA
- W = WIDTH OF OFFSET

TYPES OF TAPERS

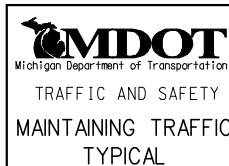
UPSTREAM TAPERS

- MERGING TAPER
- SHIFTING TAPER
- SHOULDER TAPER
- TWO-WAY TRAFFIC TAPER

DOWNSTREAM TAPERS (USE IS OPTIONAL)

TAPER LENGTH

- L - MINIMUM
- 1/2 L - MINIMUM
- 1/3 L - MINIMUM
- 100' - MAXIMUM
- 100' - MINIMUM (PER LANE)



TABLES FOR "L", "D" AND "B" VALUES

DRAWN BY: CON:AE:djf	JUNE 2006	M0020a	SHEET 1 OF 2
CHECKED BY: BMM	PLAN DATE:		
FILE: K:/DGN/TSR/STDS/ENGLISH/MNTTRF/M0020a.dgn		REV.	08/21/2006

DISTANCE BETWEEN TRAFFIC CONTROL DEVICES "D"
AND LENGTH OF LONGITUDINAL BUFFER SPACE ON
"WHERE WORKERS PRESENT" SEQUENCES


"D" DISTANCES	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)									
	25	30	35	40	45	50	55	60	65	70
D (FEET)	250	300	350	400	450	500	550	600	650	700

GUIDELINES FOR LENGTH OF
LONGITUDINAL BUFFER SPACE "B"

SPEED* MPH	LENGTH FEET
20	33
25	50
30	83
35	132
40	181
45	230
50	279
55	329
60	411
65	476
70	542

* POSTED SPEED, OFF PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED

1 BASED UPON AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) BRAKING DISTANCE PORTION OF STOPPING SIGHT DISTANCE FOR WET AND LEVEL PAVEMENTS (A POLICY ON GEOMETRIC DESIGN OF HIGHWAY AND STREETS), AASHTO. THIS AASHTO DOCUMENT ALSO RECOMMENDS ADJUSTMENTS FOR THE EFFECT OF GRADE ON STOPPING AND VARIATION FOR TRUCKS.

 Michigan Department of Transportation TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TABLES FOR "L", "D" AND "B" VALUES		
	DRAWN BY: CON:AE:djf CHECKED BY: BMM	JUNE 2006 PLAN DATE:	M0020a
FILE: K:/DGN/TSR/STDS/ENGLISH/MNTTRF/M0020a.dgn REV. 08/21/2006			






PLACE THROUGHOUT WORK AREA AS INDICATED AND AFTER ALL MAJOR CROSSROADS IF PERMANENT SIGNS ARE NOT IN PLACE.

PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.

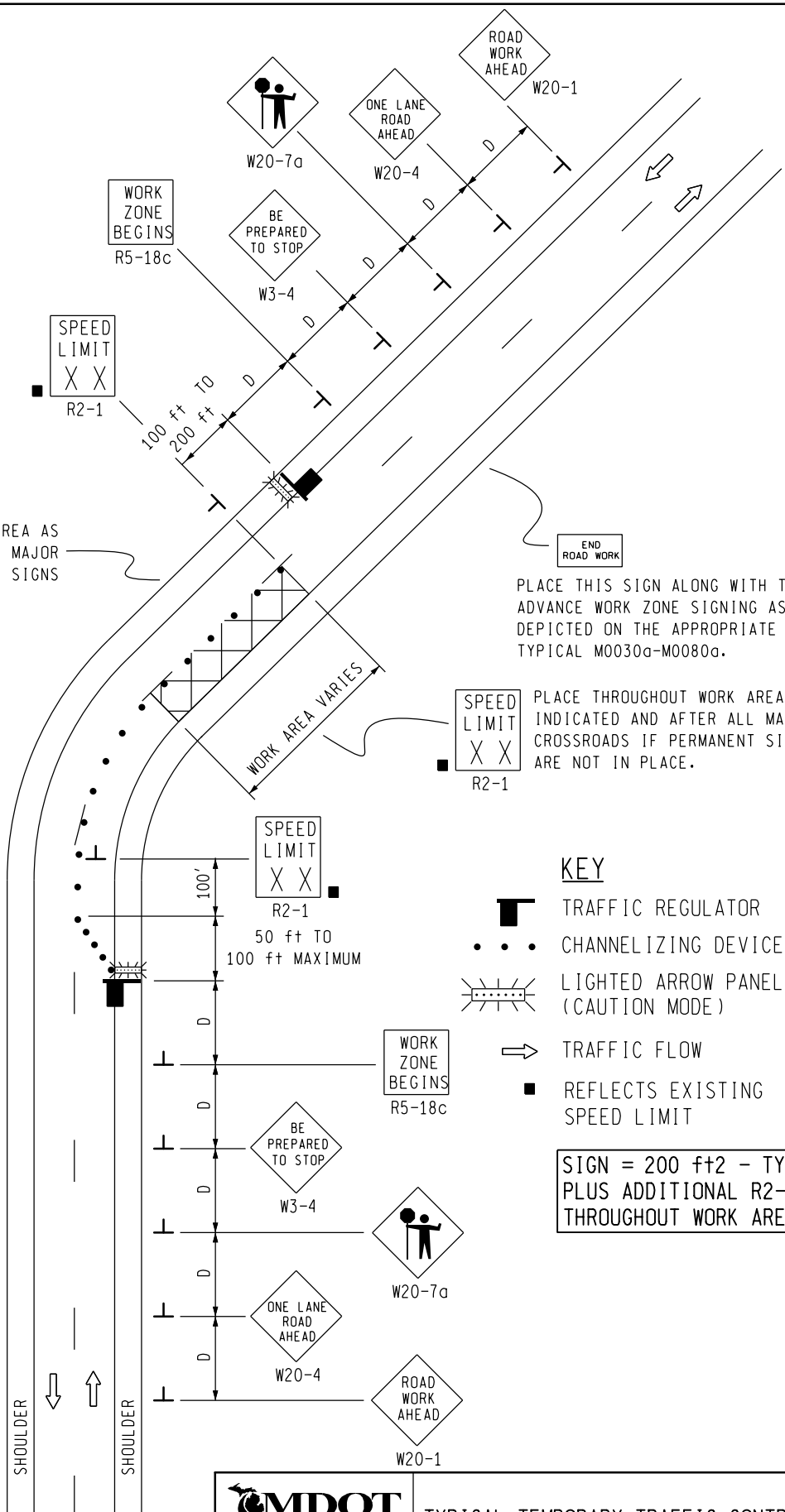
PLACE THROUGHOUT WORK AREA AS INDICATED AND AFTER ALL MAJOR CROSSROADS IF PERMANENT SIGNS ARE NOT IN PLACE.

PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.


KEY

-  TRAFFIC REGULATOR
-  CHANNELIZING DEVICES
-  LIGHTED ARROW PANEL (CAUTION MODE)
-  TRAFFIC FLOW
-  REFLECTS EXISTING SPEED LIMIT

SIGN = 200 ft± - TYPE B PLUS ADDITIONAL R2-1's THROUGHOUT WORK AREA



NOT TO SCALE

 Michigan Department of Transportation TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL		TYPICAL TEMPORARY TRAFFIC CONTROL FOR A TWO-LANE TWO-WAY ROADWAY WHERE ONE LANE IS CLOSED UTILIZING TRAFFIC REGULATORS, NO SPEED REDUCTION	
DRAWN BY: CON:AE:djf CHECKED BY: BMM:CRB	OCTOBER 2011 PLAN DATE:	M0140a	SHEET 1 OF 2
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0140a.dgn REV. 10/04/2011			


NOTES

- 1H. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES AND LENGTH OF LONGITUDINAL BUFFERS
SEE **M0020a** FOR "D" VALUES.
2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.
3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
- 3A. THE "WORK ZONE BEGINS" (R5-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.
- 4A. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES IN THE TAPER AREA(S) SHOULD BE 15 FEET AND SHOULD BE EQUAL IN FEET TO TWICE THE POSTED SPEED IN MILES PER HOUR IN THE PARALLEL AREA(S).
5. FOR OVERNIGHT CLOSURES, TYPE III BARRICADES SHALL BE LIGHTED.
6. WHEN CALLED FOR IN THE FHWA ACCEPTANCE LETTER FOR THE SIGN SYSTEM SELECTED, THE TYPE A WARNING FLASHER, SHOWN ON THE WARNING SIGNS, SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.
7. ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHLY REQUIREMENTS STIPULATED IN THE CURRENT EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDOT WILL BE ALLOWED.
9. ALL TRAFFIC REGULATORS SHALL BE PROPERLY TRAINED AND SUPERVISED.
- 9A. IN ANY OPERATION INVOLVING MORE THAN ONE TRAFFIC REGULATOR, ONE PERSON SHOULD BE DESIGNATED AS HEAD TRAFFIC REGULATOR.
10. ALL TRAFFIC REGULATORS' CONDUCT, THEIR EQUIPMENT, AND TRAFFIC REGULATING PROCEDURES SHALL CONFORM TO THE CURRENT EDITION OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) AND THE CURRENT EDITION OF THE MDOT HANDBOOK ENTITLED "TRAFFIC REGULATORS INSTRUCTION MANUAL."
11. WHEN TRAFFIC REGULATING IS ALLOWED DURING THE HOURS OF DARKNESS, APPROPRIATE LIGHTING SHALL BE PROVIDED TO SUFFICIENTLY ILLUMINATE THE TRAFFIC REGULATOR'S STATIONS.
- 12E. THE MAXIMUM DISTANCE BETWEEN THE TRAFFIC REGULATORS SHALL BE NO MORE THAN 2 MILES IN LENGTH UNLESS RESTRICTED FURTHER IN THE SPECIAL PROVISIONS FOR MAINTAINING TRAFFIC. ALL SEQUENCES OF MORE THAN 2 MILES IN LENGTH WILL REQUIRE WRITTEN PERMISSION FROM THE ENGINEER BEFORE PROCEEDING.
13. WHEN INTERSECTING ROADS OR SIGNIFICANT TRAFFIC GENERATORS (SHOPPING CENTERS, MOBILE HOME PARKS, ETC.) OCCUR WITHIN THE ONE-LANE TWO-WAY OPERATION, INTERMEDIATE TRAFFIC REGULATORS AND APPROPRIATE SIGNING SHALL BE PLACED AT THESE LOCATIONS.
14. ADDITIONAL SIGNING AND/OR ELONGATED SIGNING SEQUENCES SHOULD BE USED WHEN TRAFFIC VOLUMES ARE SIGNIFICANT ENOUGH TO CREATE BACKUPS BEYOND THE W3-4 SIGNS.
15. THE HAND HELD (PADDLE) SIGNS REQUIRED BY THE MMUTCD TO CONTROL TRAFFIC WILL BE PAID FOR AS PART OF FLAG CONTROL.
- 28E. THE TRAFFIC REGULATORS SHOULD BE POSITIONED AT OR NEAR THE SIDE OF THE ROAD SO THAT THEY ARE SEEN CLEARLY AT A MINIMUM DISTANCE OF 500 FEET. THIS MAY REQUIRE EXTENDING THE BEGINNING OF THE LANE CLOSURE TO OVERCOME VIEWING PROBLEMS CAUSED BY HILLS AND CURVES.

SIGN SIZES

DIAMOND WARNING - 48" x 48"
 R2-1 REGULATORY - 48" x 60"
 R5-18c REGULATORY - 48" x 48"

NOT TO SCALE

 TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TYPICAL TEMPORARY TRAFFIC CONTROL FOR A TWO-LANE TWO-WAY ROADWAY WHERE ONE LANE IS CLOSED UTILIZING TRAFFIC REGULATORS, NO SPEED REDUCTION		
DRAWN BY: CON:AE:djf	OCTOBER 2011	M0140a	SHEET
CHECKED BY: BMM:CRB	PLAN DATE:		2 OF 2
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0140a.dgn REV. 10/04/2011			

MONROE COUNTY ROAD COMMISSION
SPECIAL PROVISION
FOR
DRAINAGE STRUCTURE, RECONSTRUCT, CASE 1

MSG:BAB

1 of 1

07-10-18

a. Description. This work consists of removing and reconstructing portions of drainage structures as directed by the Engineer.

b. Materials. Provide materials in accordance with subsection 403.02 of the Standard Specifications for Construction.

c. Construction. Reconstruct portions of drainage structures in accordance with subsection 403.03 of the Standard Specifications for Construction.

f. Measurement and Payment. The completed work as measured will be paid for at the contract unit price for the following pay item:

Pay Item	Pay Unit
Dr Structure, Reconst, Case 1.....	Foot

The Engineer will measure **Dr Structure, Reconst, Case 1** vertically from the top of the masonry to the bottom of the reconstruction limit. The unit price for **Dr Structure, Reconst, Case 1** includes the cost of the following:

1. Removing and salvaging the existing frame and cover;
2. Sawcutting and removing existing pavement;
3. Removing a portion of the drainage structure;
4. Disposing of materials;
5. Reconstructing the drainage structure;
6. Reinstalling the salvaged cover and adjusting the cover to the required elevation;
7. Providing, placing and compacting backfill or base material; and
8. Replacing pavement adjacent to the drainage structure.

The Engineer will pay separately for removing and replacing curb and gutter adjacent to the reconstructed structure.

MONROE COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
SANITARY STRUCTURE COVER, ADJUST, RISER RING

MSG:BAB

1 of 1

07-10-18

a. Description. This work consists of adjusting sanitary structure covers with an expandable steel adjusting riser ring.

b. Materials. Provide expandable steel adjusting riser rings from one of the following manufacturers:

- 1. East Jordan Iron Works, P.O. Box 439, East Jordan, MI 49727
- 2. American Highway Products, 11723 Strasburg Bolivar Road NW, Bolivar, OH 44612

c. Construction. Adjust sanitary manhole covers in accordance with the following:

- 1. Measure the interior dimensions of the sanitary manhole frame prior to ordering the expandable steel adjusting riser ring.
- 2. Remove the manhole cover.
- 3. Remove all debris and buildup on the interior of the sanitary manhole frame.
- 4. Install the expandable steel adjusting riser and expand the linkage until the steel adjusting riser ring is secure in the frame.
- 5. Reinstall the manhole cover.

f. Measurement and Payment. The completed work as measured will be paid for at the contract unit price for the following pay item:

Pay Item	Pay Unit
Sanitary Structure Cover, Adjust, Riser Ring.....	Each

The unit price for **Sanitary Structure Cover, Adjust, Riser Ring** includes the cost of the following:

- 1. Taking field measurements to determine the correct adjusting riser ring; and
- 2. Providing and installing the expandable steel adjusting riser ring.

MONROE COUNTY ROAD COMMISSION
SPECIAL PROVISION
FOR
HOT MIX ASPHALT ULTRA-THIN OVERLAY

MCRC:MLS

1 of 4

03-21-18

a. Description. This work consists of providing and placing a hot mix asphalt (HMA) Ultra-Thin Overlay. The HMA mixture shall be provided in accordance with the Standard Specifications for Construction except where modified herein.

b. Materials. Provide materials in accordance with the following:

1. Bond Coat. The bond coat material shall be Type SS-1h emulsified asphalt conforming to the requirements of Section 904 of the Standard Specifications for Construction.
2. HMA Ultra-Thin Overlay. The HMA Ultra-Thin Overlay shall be composed of a mixture of aggregate, asphalt binder and mineral filler, if required, as listed in Table 1.

Table 1 - HMA Ultra-Thin Overlay Mixture Requirements

Parameter	Low Volume Comm. ADT <380	Medium Volume Comm. ADT 380 - 3400	High Volume Comm. ADT >3400
Marshall Air Voids, %	4.5	4.5	5.0
VMA (min), % (a)	15.5	15.5	15.5
Fines to Binder Ratio (max)	1.2	1.4	1.4
Flow (0.01 in.)	8-16	8-16	8-16
Stability (min), lbs	1200		
a. VMA calculated using Gsb of the combined aggregates.			

3. Aggregate Gradation and Physical Properties. The combined gradation of the aggregate portion of the mixture, including the mineral filler, shall be within the limits of Table 2. The physical properties of the combined aggregates shall meet the criteria of Table 3.

Table 2 - HMA Ultra-Thin Overlay Aggregate Gradation

Sieve Size	Total Passing Percent by Weight
1/2 inch	100
3/8 inch	99-100
No. 4	75-95
No. 8	55-75
No. 30	25-45
No. 200	3-8

Table 3 - HMA Ultra-Thin Overlay Aggregate Physical Requirements

Parameter	Low Volume Comm. ADT <380	Medium Volume Comm. ADT 380 - 3400	High Volume Comm. ADT >3400
Crushed (min), %	50	75	95
Angularity Index (min) (MTM 118)	2.5	3.0	4.0
L.A. Abrasion (max), % loss	40	35	35
Aggregate Wear Index (AWI)	(a)	(a)	(a)
a. An AWI of 220 is required for projects with less than or equal to 2000 ADT. For projects with an ADT greater than 2000, the minimum AWI requirement is 260.			

In addition, the sum of the shale, siltstone, ochre, coal, clay-ironstone and particles that are structurally weak or are found to be non-durable in service shall not exceed 8.0 percent.

- Performance Graded (PG) Asphalt Binder. Binder selection is based on present day two-way commercial ADT as listed in Table 4. The PG binder shall meet all the requirements in Section 904 of the Standard Specifications for Construction.

Table 4 - Asphalt Binder Selection for HMA Ultra-Thin Overlay

Low Volume Comm. ADT <380	Medium Volume Comm. ADT 380 - 3400	High Volume Comm. ADT >3400
PG 58-28	PG 64-28P	PG 70-22P

c. Construction

- Bond Coat Application. The bond coat material will be applied to completely cover the prepared surface at a rate of 0.11 - 0.15 gallons per square yard
- Mixture Application Rate. The target application rate shall be 110 pounds per square yard unless specified by the Engineer to address special circumstances.
- Density. Thoroughly compact the mixture immediately after placement using the number of rollers method. The number of compaction and finish rollers used shall be as specified in Table 5 based on the square yards per hour of HMA Ultra-Thin Overlay being placed.

Table 5 – Number of Rollers Required Based on Placement Rate

Average Laydown Rate Syd/Hour	Number of Rollers Required	
	Compaction Rollers	Finish Rollers
Less than 800	1	1*
801 – 2000	1	1
2001 – 5500	2	1
5501 - 7200	3	1
* The compaction roller may be used as the finish roller also.		

4. **Mix Design.** The Contractor shall submit to the Engineer a complete mix design according to the Procedures Manual for Mix Design Processing following the Express Mix Design Procedures prior to the start of production.
5. **Quality Control.** The Contractor shall provide and follow a Quality Control (QC) plan for the HMA Ultra-Thin Overlay that will maintain adequate QC for production and construction processes applicable to this specification and the contract documents. For QC purposes, the Contractor must perform at least one QC test per day for gradation, AC content and air voids. The Engineer shall be provided a copy of the QC plan for review, prior to mix production and placement.

After the job-mix-formula is established, the aggregate gradation and the binder content of the HMA mixture furnished for the work shall be maintained within the Range 1 uniformity tolerance limits permitted for the job-mix-formula specified in Table 6. However, if deviations are predominantly either below or above the job-mix-formula, the Engineer may order alterations in the plant to bring the mixture to the job-mix-formula. If two consecutive aggregate gradations on one sieve, or binder contents as determined by the QC tests, are outside Range 1 but within Range 2 tolerance limits, the Contractor shall suspend all operations. Contract time will continue during these times when the plant is down. Before resuming any production, the Contractor shall propose, for the Engineer's approval, all necessary alterations to the materials or plant so that the job-mix-formula can be maintained. The Engineer, after evaluating for effects on AWI and mix design properties, will approve or disapprove such alterations.

Table 6 – Uniformity Tolerance Limits (for QC and Acceptance)

Parameter	Range 1 (a)	Range 2
Air Voids, % (b)	± 1.0	± 2.0
Binder Content, %	± 0.40	± 0.50
% Passing # 8 and Larger Sieves	± 5.0	± 8.0
% Passing # 30 Sieve	± 4.0	± 6.0
% Passing # 200 Sieve	± 1.0	± 2.0
a. 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. b. Air Void limits apply to QC testing and are optional for Acceptance testing.		

6. **Acceptance Sampling and Testing.** Acceptance sampling and testing may be performed by the Engineer. Each day of production, a minimum of two samples will be obtained for each mix type. Acceptance testing will be performed at the frequency specified by the Engineer. No less than three samples shall be obtained for each mix type.
7. **Rejected Mixtures.** If for any one mixture, two consecutive aggregate gradations on one sieve or binder contents as determined by acceptance tests exceed the uniformity tolerance of Range 2 under Table 5, or do not meet the minimum requirements for crushed particle content specified in the project documents, the mixture will be rejected. If such mixtures are placed in a pavement, the remaining portions of the failing acceptance samples (split sample) will be sent to an independent Laboratory to confirm the

acceptance test results. If the Laboratory’s results do not confirm the acceptance test results, then no price adjustments will be made for the mixture involved. If the Laboratory’s results confirm the acceptance test results and if, in the Engineer’s judgment, the defective mixture can remain in place, the contract unit price for the defective mixture involved, as determined from acceptance tests, will be decreased on the following basis: The contract unit price for material outside of Range 2 will be decreased 25 percent.

The Engineer may take into account the Contractor’s QC test results when making acceptance decisions and price adjustments.

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

Pay Item	Pay Unit
HMA, Ultra-Thin, Low Volume.....	Ton
HMA, Ultra-Thin, Medium Volume	Ton
HMA, Ultra-Thin, High Volume.....	Ton

The Engineer will measure **HMA, Ultra-Thin, (type)** by the weight placed as supported by weigh tickets. The unit price for **HMA, Ultra-Thin, (type)** includes the cost of:

1. Cleaning the existing pavement;
2. Applying a bond coat;
3. Placing and compacting the hot mix asphalt mixture; and
4. Performing QC testing on the hot mix asphalt mixture and providing QC test results to the Engineer.

MONROE COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
HMA APPLICATION ESTIMATE

MSG:KHW

1 of 1

07-10-18

a. Description. The hot mix asphalt (HMA) work shall be done in accordance with the requirements of Division 5 of the Standard Specifications for Construction and as herein specified.

b. Materials. The materials and estimated application rates shall be as follows:

The leveling course mixture for Springdale Drive shall be HMA, 13A with an estimated yield of 275 pounds per square yard. The target air voids for the leveling course mixture shall be 3.0%, and the Performance Graded (PG) asphalt binder shall be PG 58-28.

The leveling course mixture for the repairs on Deepwood Drive shall be HMA, 13A with an estimated yield of 330 - 385 pounds per square yard. The target air voids for the leveling course mixture shall be 3.0%, and the Performance Graded (PG) asphalt binder shall be PG 58-28.

The Hand Patching mixture for the base widening at the Springdale Drive approach to Secor Road shall be HMA, 13A or other mixture approved by the Engineer with an estimated yield of 660 pounds per square yard.

The wearing course mixture for Springdale Drive and Deepwood Drive shall be HMA, Ultra-Thin, Low Volume with an estimated yield of 110 pounds per square yard. The target air voids for the wearing course mixture shall be 4.5%, and the Performance Graded (PG) asphalt binder shall be PG 58-28.

The bond coat material shall be emulsified asphalt SS-1h conforming to the requirements in Section 904 of the 2012 Standard Specifications for Construction. The uniform rate of application for the bond coat shall be 0.05 to 0.15 gallons per square yard.

c. Measurement and Payment. The completed work as described will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	Pay Unit
Hand Patching.....	Ton
HMA, 13A.....	Ton
HMA, Ultra-Thin, Low Volume.....	Ton

Measurement and payment will be in accordance with subsection 501.04 of the Standard Specifications and as herein specified.

No separate payment will be made for the bond coat material.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
MARSHALL HOT MIX ASPHALT MIXTURE

C&T:JWB

1 of 2

C&T:APPR:EHR:CJB:09-25-06
FHWA:APPR:06-06-11

a. Description. Furnish hot mix asphalt (HMA) mixture, designed using Marshall Mixture Design Methods, in accordance with the standard specifications except as modified by this special provision.

b. Mix Design. Submit the mix design for evaluation in accordance with the Department's HMA Production Manual. Use a 50 blow Marshall hammer when compacting mixtures for developing Marshall mix designs.

c. Recycled Mixtures. Substituting reclaimed asphalt pavement (RAP) for a portion of the new material required to produce HMA mixture is allowed provided that the mixture is designed and produced to meet all criteria specified herein, unless otherwise prohibited. RAP materials must be in accordance with the standard specifications.

d. Materials. Table 1 provides the mix design criteria and volumetric properties. Table 2 provides the required aggregate properties. Use aggregates of the highest quality available to meet the minimum specifications. Use the mixture designation number shown in the contract item name when determining mix design properties from Tables 1 and 2.

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:

Pay Item	Pay Unit
HMA, (type)	Ton

Table 1: Mix Design Criteria and Volumetric Properties

	Mixture No.				
	2C	3C	4C	13A	36A
Target Air Void, % (a)	3.00	4.00	4.00	4.00	4.00
VMA (min) (b)	11.00	13.00	14.00	14.00	15.00
VFA	65-78	65-78	65-78	65-78	65-78
Fines to Binder Ratio (max) (c)	1.2	1.2	1.2	1.2	1.2
Flow (0.01 inch)	8 -16	8 -16	8 -16	8 -16	8 -16
Stability (min), lbs	1200	1200	1200	900	900

- a. Lower target air voids by 1.00% if used in a separate shoulder paving operation. Consider reducing air void targets to 3.00% for lower traffic volume roadways when designing 13A and 36A mixtures for local agency use.
- b. VMA calculated using Gsb of the combined aggregates.
- c. Ratio of the weight of aggregate passing the No. 200 sieve to total asphalt binder content by weight; including fines and binder contributed by RAP.

Table 2: Aggregate Properties

	Mixture No.				
	2C	3C	4C	13A	36A
	Percent Passing Indicated Sieve or Property Limit				
1 1/2 inch	100				
1 inch	91-100	100			
3/4 inch	90 max.	91-100	100	100	
1/2 inch	78 max.	90 max.	91-100	75-95	100
3/8 inch	70 max.	77 max.	90 max.	60-90	92-100
No. 4	52 max.	57 max.	67 max.	45-80	65-90
No. 8	15-40	15-45	15-52	30-65	55-75
No. 16	30 max.	33 max.	37 max.	20-50	
No. 30	22 max.	25 max.	27 max.	15-40	25-45
No. 50	17 max.	19 max.	20 max.	10-25	
No. 100	15 max.	15 max.	15 max.	5-15	
No. 200	3-6	3-6	3-6	3-6	3-10
Crushed (min), % (MTM 117)	90	90	90	25	60
Soft Particle (max), % (a)	12.0	12.0	8.0	8.0	8.0
Angularity Index (min) (b)	4.0	4.0	4.0	2.5	3.0
L.A. Abrasion (max), % loss (c)	40	40	40	40	40
Sand Ratio (max) (d)	-	-	-	50	50
<p>a. The sum of the shale, siltstone, structurally weak, and clay-ironstone particles must not exceed 8.0 percent for aggregates used in top course. The sum of the shale, siltstone, structurally weak, and clay-ironstone particles must not exceed 12.0 percent for aggregates used in base and leveling courses.</p> <p>b. The fine aggregate angularity of blended aggregates, determined by MTM 118, must meet the minimum requirement. In mixtures containing RAP, the required minimum fine aggregate angularity must be met by the virgin material. NAA fine aggregate angularity must be reported for information only and must include the fine material contributed by RAP if present in the mixture.</p> <p>c. Los Angeles abrasion maximum loss must be met for the composite mixture, however, each individual aggregate must be less than 50</p> <p>d. Sand ratio for 13A and 36A no more than 50% of the material passing the No. 4 sieve is allowed to pass the No. 30 Sieve.</p>					

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
RECYCLED HOT MIX ASPHALT MIXTURE ON LOCAL AGENCY PROJECTS

CFS:KPK

1 of 2

APPR:JWB:CJB:03-13-14
FHWA:APPR:03-13-14

Add the following subsection to subsection 501.02.A.2, on page 234 of the Standard Specifications for Construction.

- c. **Reclaimed Asphalt Pavement (RAP) and Binder Grade Selection.** The method for determining the binder grade in HMA mixtures incorporating RAP is divided into three categories designated Tier 1, Tier 2 and Tier 3. Each tier has a range of percentages that represent the contribution of the RAP binder toward the total binder, by weight. The tiers identified below apply to HMA mixtures with the following exception: Superpave mixture types E3, E3 High Stress, E10, E10 High Stress, E30, E30 High Stress, E50, and E50 High Stress used as leveling or top course must be limited to a maximum of 27 percent RAP binder by weight of the total binder in the mixture.

Recycled materials may be used as a substitute for a portion of the new materials required to produce HMA mixtures in accordance with contract.

- **Tier 1 (0% to 17% RAP binder by weight of the total binder in the mixture).** No binder grade adjustment is made to compensate for the stiffness of the asphalt binder in RAP.
- **Tier 2 (18% to 27% RAP binder by weight of the total binder in the mixture).** For all mixtures no binder grade change will occur in Tier 2 for all shoulder and temporary road mixtures.

The required asphalt binder grade must be at least one grade lower for the low temperature than the design binder grade required for the specified project mixture type. Lowering the high temperature of the binder one grade is optional. For example, if the design binder grade for the mixture type is PG 58-22, the required grade for the binder in the HMA mixture containing RAP would be a PG 52-28 or a PG 58-28.

For Marshall Mixes, no binder grade change will be required when Average Daily Traffic (ADT) is above 7000 or Commercial Average Daily Traffic (CADT) is above 700. No binder grade change will occur for LVSP, E03 and E1 mixtures used as leveling or top course.

The asphalt binder grade can also be selected using a blending chart for high and low temperatures. Supply the blending chart and the RAP test data used in determining the binder selection according to *AASHTO M 323*.

- **Tier 3 ($\geq 28\%$ RAP binder by weight of the total binder in the mixture).** The binder

grade for the asphalt binder is selected using a blending chart for high and low temperatures per *AASHTO M 323*. Supply the blending chart and the RAP test data used in determining the binder selection.

MONROE COUNTY ROAD COMMISSION
 SPECIAL PROVISION
 FOR
CURB AND GUTTER, CONCRETE, MOUNTABLE, TYPE F

MSG:BAB

1 of 1

07-10-18

a. Description. This work consists constructing mountable concrete curb and gutter and restoring disturbed areas with topsoil, fertilizer, seed and mulch.

b. Materials. Provide materials for the concrete curb and gutter in accordance with subsection 802.02 of the Standard Specifications for Construction.

Provide materials for the slope restoration in accordance with subsection 816.02 of the Standard Specifications for Construction. The seed mixture shall be MDOT THM mixture (30% Kentucky Bluegrass, 20% Perennial Ryegrass and 50% Creeping Red Fescue) or a similar residential seed mixture approved by the Engineer.

c. Construction. Construct the mountable concrete curb and gutter in accordance with subsection 802.03 of the Standard Specifications for Construction.

Restore disturbed areas behind the back of curb with topsoil, fertilizer, seed and mulch in accordance with subsection 816.03 of the Standard Specifications for Construction.

f. Measurement and Payment. The completed work as measured will be paid for at the contract unit price for the following pay item:

Pay Item	Pay Unit
Curb and Gutter, Concrete, Mountable, Type F.....	Foot

The Engineer will measure **Curb and Gutter, Conc, Mountable, Type F** in place along the joint of the curbing with the pavement. The Engineer will not make deductions in the pay item measured length for catch basins, inlet castings or Detail L driveway openings.

The unit price for **Curb and Gutter, Conc, Mountable, Type F** includes the cost of backfilling and restoring disturbed areas with topsoil, fertilizer, seed and mulch.