

# **Bedford LRP7 Addendum 1**

The culvert installation schedule has been modified.



# Calhoun County

## Road Department

*"Building A Better County Through Responsive Leadership"*

13300 15 Mile Road  
Marshall, MI 49068  
(269) 781-9841 Voice  
(800) 781-5512 Toll Free  
(269) 781-6101 Fax

Christopher J. Bolt, MPA, PE  
Managing Director  
rdinfo@calhouncountymi.gov  
[www.calhouncountyroads.com](http://www.calhouncountyroads.com)

### **Invitation for Bids**

#### **Bedford LRP7, Bedford Township**

Sealed bids will be received by the Calhoun County Road Department at their offices on 13300 15 Mile Road, Marshall, MI 49068 until **12:00 PM EST on Monday, June 19<sup>th</sup>, 2017** for Bedford LRP7. The work is located in Bedford Township, Calhoun County, Michigan.

All bids must be in sealed envelopes marked:

#### **Bedford LRP7**

No pre-bid meeting will be held. Questions about this bid package must be submitted by **Monday, June 5<sup>th</sup>, 2017** at 12:00 PM EST via email to [cwehner@calhouncountymi.gov](mailto:cwehner@calhouncountymi.gov).

The Calhoun County Road Department reserves the right to reject any and all bids and to make the award in the best interest of the Calhoun County Road Department and Calhoun County. All contractors must be MDOT Prequalified to place a bid.

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Clayton Wehner  
Project Engineer

**Bedford Project**

**Project # LRP7**

CCRD: CRW

5/25/17

**SCOPE OF WORK**

The work consists of furnishing and placing HMA and related items in Bedford Township. The Calhoun County Road Department reserves the right to reject any and all bids and to make the award in the best interest of the Calhoun County Road Department and Calhoun County. All contractors must be MDOT Prequalified to place a bid.

**PROJECT LOCATION**

The project is located in Bedford Township. A list of roads is provided below and a map is attached.

<b>No.</b>	<b>Road</b>	<b>Length (ft)</b>	<b>Average Width (ft)</b>	<b>Square Yards</b>	<b>Proposed Treatment</b>
1	Hubbard	2600	22	6355.56	HMA1.5
2	Hamilton	5200	21	12,133.33	HMA1.5
3	W Halbert	7230	23	18,476.67	HMA1.5
4	Bowne	1500	20	3,333.33	HMA3.0
5	Ellen	490	20	1,088.89	HMA3.0
6	Falling Oak	250	20	555.56	HMA3.0
7	Peaceful Valley	1570	20	3,488.89	HMA3.0
8	White Pine	1120	18	2,240.00	HMA3.0

## STANDARD SPECIFICATIONS

The 2012 Standard Specifications for Construction of the Michigan Department of Transportation shall apply unless noted otherwise in these Standard and Special Provisions.

### HMA MIXTURES

This item includes the furnishing, hauling, and placing the required HMA mixture as indicated below. It also includes sweeping and cleaning the existing roadway and furnishing and applying low-tracking bond coat prior to paving. This work also includes placing mixes around catch basins and spillways. No additional payment will be made for HMA valley curb. HMA for driveways, intersections, and side roads will be included in this item. CCRD crews will mill or cut and remove driveways prior to paving operations. Driveways that are milled or cut and removed must be tacked and shall receive one or two courses of HMA depending on the treatment. Asphalt driveways that are not milled shall be tacked and receive a 3' approach with one course of HMA. Gravel driveways shall receive a 3' approach with one or two courses of HMA depending on the treatment. All monument boxes and water valve boxes shall be raised to the final elevation of the road at no additional cost. Risers will be supplied by CCRD.

#### MIX DESIGNS

##### HMA 13A, MOD

1. The Contractor shall submit a mix design with a range of 5.7 to 8.0 percent (effective bitumen) of bitumen content. Target air voids of 3% through regression.
2. The Limits of the bitumen content of Range 1 shall be  $\pm 0.30\%$  from the optimum mix design.
3. PG 58-28 Performance Grade Asphaltic Cement Bituminous Material shall be combined with the mineral aggregate.
4. The Contractor shall submit a mix design and test results of the aggregates to be used at least 2 weeks before commencing paving. The mix design shall be submitted to an approved testing laboratory for design compliance tests. CCRD shall require a 1 point Marshall Test Mix Design.
5. All mix designs must be approved by the Engineer.

##### HMA 36A, MOD

1. The Contractor shall submit a mix design with a range of 5.7 to 8.0 percent (effective bitumen) of bitumen content. Target air voids of 3% through regression.
2. The Limits of the bitumen content of Range 1 shall be  $\pm 0.30\%$  from the optimum mix design.
3. PG 58-28 Performance Grade Asphaltic Cement Bituminous Material shall be combined with the mineral aggregate.
4. The Contractor shall submit a mix design and test results of the aggregates to be used at least 2 weeks before commencing paving. The mix design shall be submitted to an approved testing laboratory for design compliance tests. CCRD shall require a 1 point Marshall Test Mix Design.
5. All mix designs must be approved by the Engineer.

CALHOUN COUNTY ROAD DEPARTMENT

SPECIAL PROVISION  
FOR

**MARSHALL HOT MIX ASPHALT MIXTURE**

CCRD: CRW

1 of 2

Date

**a. Description.** Furnish hot mix asphalt (HMA) mixture, designed using Marshall Mixture Design Methods, in accordance with the MDOT 2012 Standard Specifications for Construction 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 MDOT 2012 Standard Specifications for Construction.

**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:

<b>Pay Item</b>	<b>Pay Unit</b>
HMA (type) .....	Ton

**Table 1: Mix Design Criteria and Volumetric Properties**

	Mixture				
	2C	3C	4C	13A	36A
Target Air Void, % (a)	3.00	3.00	3.00	3.00	3.00
VMA (min) (b)	11.00	13.00	14.00	14.00	15.00
VFA	65-	65-	65-	65-78	65-
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				
	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	75-90	100
3/8 inch	70 max.	77 max.	90 max.	60-80	92-100
No. 4	52 max.	57 max.	67 max.	45-80	65-90
No. 8	15-40	15-45	15-52	30-60	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

**ACCEPTANCE OF HOT MIX ASPHALT MIXTURE ON LOCAL AGENCY PROJECTS**

CFS: KPK

1 of 7

APPR:CJB:JWB:07-05-16

FHWA:APPR:07-05-16

**a. Description.** This special provision provides sampling and testing requirements for local agency projects using the roller method and the nuclear density gauge testing. Provide the hot mix asphalt (HMA) mixture in accordance with the requirements of the MDOT 2012 Standard Specifications for Construction, except where modified herein.

**b. Materials.** Provide aggregates, mineral filler (if required), and asphalt binder to produce a mixture proportioned within the master gradation limits shown in the contract, and meeting the uniformity tolerance limits in Table 1.

**Table 1: Uniformity Tolerance Limits for HMA Mixtures**

Parameter		Top and Leveling Course		Base Course		
Number	Description	Range 1 (a)	Range 2	Range 1 (a)	Range 2	
1	% Binder Content	±0.40	±0.50	±0.40	±0.50	
2	% Passing	# 8 & Larger Sieves	±5.0	±8.0	±7.0	±9.0
		# 30 Sieve	±4.0	±6.0	±6.0	±9.0
		# 200 Sieve	±1.0	±2.0	±2.0	±3.0
3	Crushed Particle Content (b)	Below 10%	Below 15%	Below 10%	Below 15%	
<p>a. This range allows for normal mixture and testing variations. The mixture must be proportioned to test as closely as possible to the Job-Mix-Formula.</p> <p>b. Deviation from Job-Mix-Formula.</p>						

Parameter number 2 as shown in Table 1 is aggregate gradation. Each sieve will be evaluated on one of the three gradation tolerance categories. If more than one sieve is exceeding range 1 or range 2 tolerances, only the one with the largest exceedance will be counted as the gradation parameter.

The master gradation should be maintained throughout production; however, price adjustments will be based on Table 1. Aggregates which are to be used in plant-mixed HMA mixtures must not contain topsoil, clay, or loam.

**c. Construction.** Submit a Mix Design and a Job-Mix-Formula to the Engineer. Do not begin production and placement of the HMA until receipt of the Engineer's approval of the Job-Mix-Formula.

Maintain the binder content, aggregate gradation, and the crushed particle content of the HMA mixture within the Range 1 uniformity tolerance limits in Table 1. For all mixtures, field regress air voids content to 3.5 percent with liquid asphalt cement unless specified otherwise on HMA application estimate.

All persons performing QC and QA HMA field sampling must be “Local Agency HMA Sampling Qualified” samplers. At the Pre-Production or Pre-Construction meeting, the Engineer will determine the method of sampling to be used. Ensure all sampling is done in accordance with MTM 313 (Sampling HMA Paving Mixtures) or MTM 324 (Sampling HMA Paving Mixtures Behind the Paver). Samples are to be taken from separate hauling loads.

For production/mainline type paving, obtain a minimum of two samples, each being 20,000 grams, each day of production, for each mix type. The Engineer will sample and maintain possession of the sample. Sampling from the paver hopper is prohibited. Each sample will be divided into two 10,000 gram parts with one part being for initial testing and the other part being held for possible dispute resolution testing. Obtain a minimum of three samples for each mix type regardless of the number of days of production.

Obtain samples that are representative of the day’s paving. Sample collection is to be spaced throughout the planned tonnage. One sample will be obtained in the first half of the tonnage and the second sample will be obtained in the second half of the tonnage. If planned paving is reduced or suspended, when paving resumes, the remaining sampling must be representative of the original intended sampling timing.

All persons performing testing must be Bit Level One certified or Bit Quality Assurance/Quality Control (QA/QC) Technician certified.

Daily test samples must be obtained, except, if the first test results show that the HMA mixture is in specification, the Engineer has the option of not testing additional samples from that day.

At the Pre-Production or Pre-Construction meeting, the Engineer and Contractor will collectively determine the test method for measuring AC content using MTM 319 (Determination of Asphalt Content from Asphalt Paving Mixtures by the Ignition Method) or MTM 325 (Quantitative Extraction of Bitumen from HMA Paving Mixtures). Back calculation will not be allowed for determining asphalt content.

Ensure all labs performing local agency acceptance testing are qualified labs per the *HMA Production Manual* and 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. On non-NHS routes, Contractor labs must be made available, and may be used, but they must be qualified labs as previously stated. Contractor labs may not be used on NHS routes. Material acceptance testing will be completed by the Engineer within 14 calendar days for projects with less than 5,000 tons (plan quantity) of HMA and within 7 calendar days for projects with 5,000 tons (plan quantity) or more of HMA, after the Engineer has obtained the samples. Quality Assurance test results will be provided to the Contractor after the Engineer receives the Quality Control test results.

The correlation procedure for ignition oven will be established as follows. Asphalt binder content based on ignition method from MTM 319. Gradation (ASTM D 5444) and Crushed particle content



(MTM 117) based on aggregate from MTM 319. The incineration temperature will be established at the Pre-Production Meeting. The Contractor will provide a laboratory mixture sample to the acceptance laboratory to establish the correction factor for each mix. This sample must be provided to the Engineer a minimum of 14 calendar days prior to production.

For production/mainline type paving, the mixture may be accepted by visual inspection up to a quantity of 500 tons per mixture type, per project (not per day). For non-production type paving defined as driveways, approaches, and patching, visual inspection may be allowed regardless of the tonnage.

The mixture will be considered out-of-specification, as determined by the acceptance tests, if for any one mixture, two consecutive tests per parameter, (for Parameter 2, two consecutive aggregate gradations on one sieve) are outside Range 1 or Range 2 tolerance limits. If a parameter is outside of Range 1 tolerance limits and the second consecutive test shows that the parameter is outside of Range 2, then it will be considered to be a Range 1 out-of-specification. Consecutive refers to the production order and not necessarily the testing order. Out-of-Specification mixtures are subject to a price adjustment per the Measurement and Payment section.

Contractor operations will be suspended when the mixture is determined to be out-of-specification, but contract time will continue to run. The Engineer may issue a Notice of Non-Compliance with Contract Requirements (Form 1165), if the Contractor has not suspended operations and taken corrective action. Submit a revised Job-Mix-Formula or proposed alterations to the plant and/or materials to achieve the Job-Mix-Formula to the Engineer. Effects on the AWI and mix design properties will be taken into consideration. Production and placement cannot resume until receipt of the Engineer's approval to proceed.

Pavement in-place density will be measured using one of two approved methods. The method used for measuring in-place density will be agreed upon at a pre-production or pre-construction meeting.

Pavement in-place density tests will be completed by the Engineer during paving operations and prior to traffic staging changes. Pavement in-place density acceptance testing will be completed by the Engineer prior to paving of subsequent lifts and being open to traffic.

#### Option 1 – Direct Density Method

Use of a nuclear density gauge requires measuring the pavement density using the Gmm from the JMF for the density control target. The required in-place density of the HMA mixture must be 92.0 to 98.0 percent of the density control target. Nuclear density testing and frequency will be in accordance with the *MDOT Density Testing and Inspection Manual*.

#### Option 2 – Roller Method

The Engineer may use the Roller Method with a nuclear or non-nuclear density gauge to document achieving optimal density as discussed below.

Use of the density gauge requires establishing a rolling pattern that will achieve the required in-place density. The Engineer will measure pavement density with a density gauge using the Gmm from the JMF for the density control target.

Use of the Roller Method requires developing and establishing density frequency curves, and meeting the requirements of Table 2. A density frequency curve is defined as the measurement and documentation of each pass of the finished roller until the in-place density results indicate a decrease in value. The previous recording will be deemed the optimal density. The Contractor is responsible for establishing and documenting an initial or Quality Control rolling pattern that achieves the optimal in-place density. When the density frequency curve is used, the Engineer will run and document the density frequency curve for each half day of production to determine the number of passes to achieve the maximum density.

When the density frequency curve is used, the Engineer will run and document the density frequency curve for each half day of production to determine the number of passes to achieve the maximum density. Table 5, located at the end of this special provision, can be used as an aid in developing the density frequency curve. The Engineer will perform density tests using an approved nuclear or non-nuclear gauge per the manufacturer’s recommended procedures.

**Table 2: Minimum Number of Rollers Recommended Based on Placement Rate**

Average Laydown Rate, Square Yards per Hour	Number of Rollers Required (a)	
	Compaction	Finish
Less than 600	1	1 (b)
601 - 1200	1	1
1201 - 2400	2	1
2401 - 3600	3	1
3601 and More	4	1
a. Number of rollers may increase based on density frequency curve. b. The compaction roller may be used as the finish roller also.		

After placement, roll the HMA mixture as soon after placement as the roller is able to bear without undue displacement or cracking. Start rolling longitudinally at the sides of the lanes and proceed toward the center of the pavement, overlapping on successive trips by at least half the width of the drum. Each required roller must be 8 tons minimum in weight unless otherwise approved by the Engineer.

The initial breakdown roller must be capable of vibratory compaction and must be a maximum of 500 feet behind the paving operations. The maximum allowable speed of each roller is 3 mph or 4.5 feet/second. All compaction rollers must complete a minimum of two complete rolling cycles prior to the mat temperature cooling to 180 degrees Fahrenheit (F). Continue finish rolling until all roller marks are eliminated and no further compaction is possible. The Engineer will verify and document that the roller pattern has been adhered to. The Engineer can stop production when the roller pattern is not adhered to.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for using applicable pay items as described in section 501.04 of the Standard Specifications for Construction, or other contract documents, except as modified below.

If acceptance tests, as described in section c. of this special provision, show that a Table 1 mixture parameter exceeds the Range 1, but not the Range 2, tolerance limits, that mixture parameter will be subject to a 10 percent penalty. The 10 percent penalty will be assessed based on the acceptance tests only unless the Contractor requests that the 10,000 gram sample part retained for possible dispute resolution testing be tested. The Contractor has 4 calendar days from receipt of the acceptance test results to notify the Engineer, in writing, that dispute resolution testing is requested. The 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 lab once dispute resolution testing is requested. The dispute resolution sample will be sent to an independent lab selected by the Local Agency, and the resultant dispute test results will be used to determine the penalty per parameter, if any. The independent lab must be a MDOT QA/QC qualified lab or an AMRL HMA qualified lab. The independent lab must not have conflicts of interest with the Contractor or Local Agency. If the dispute testing results show that the mixture parameter is out-of-specification, the Contractor will pay for the cost of the dispute resolution testing and the contract unit price for the material will be adjusted, based on all test result parameters from the dispute tests, as shown in Table 3 and Table 4. If the dispute test results do not confirm the mixture parameter is out-of-specification, then the Local Agency will pay for the cost of the dispute resolution testing and no price adjustment is required.

If acceptance tests, as described in section c. of this special provision, show that a Table 1 mixture parameter exceeds the Range 2 tolerance limits, the 10,000 gram sample part retained for possible dispute resolution testing will be sent, within 4 calendar days, to the MDOT Central Laboratory for further testing. The MDOT Central Laboratory's test results will be used to determine the penalty per mixture parameter, if any. If the MDOT Central Laboratory's results do not confirm the mixture parameter is out-of-specification, then no price adjustment is required. If the MDOT Central Laboratory's results show that the mixture is out-of-specification and the Engineer approves leaving the out-of-specification mixture in place, the contract unit price for the material will be adjusted, based on all parameters, as shown in Table 3 and Table 4.

In the case that the Contractor disputes the results of the test of the second sample obtained for a particular day of production, the test turn-around time frames given would apply to the second test and there would be no time frame on the first test.

The laboratory (MDOT Central Laboratory or independent lab) will complete all Dispute Resolution testing and return test results to the Engineer, who will provide them to the contractor, within 13 calendar days upon receiving the Dispute Resolution samples.

In all cases, when penalties are assessed, the penalty applies to each parameter, up to two parameters, that is out of specification.

**Table 3: Penalty Per Parameter**

Mixture Parameter out-of-Specification per Acceptance Tests	Mixture Parameter out-of- Specification per Dispute Resolution Test Lab	Price Adjustment per Parameter
NO	N/A	None
YES	NO	None
	YES	Outside Range 1 but not Range 2: decrease by 10%
		Outside Range 2: decrease by 25%

The quantity of material receiving a price adjustment is defined as the material produced from the time the first out-of-specification sample was taken until the time the sample leading to the first in-specification test was taken.

Each parameter of Table 1 is evaluated with the total price adjustment applied to the contract unit price based on a sum of the two parameter penalties resulting in the highest total price adjustment as per Table 4. For example, if three parameters are out-of-specification, with two parameters outside Range 1 of Table 1 tolerance limits, but within Range 2 of Table 1 limits and one parameter outside of Range 2 of Table 1 tolerance limits and the Engineer approves leaving the mixture in place, the total price adjustment for that quantity of material is 35 percent.

**Table 4: Calculating Total Price Adjustment**

Cost Adjustment as a Sum of the Two Highest Parameter Penalties		
Number of Parameters Out-of-Specification	Range(s) Outside of Tolerance Limits of Table 1 per Parameter	Total Price Adjustment
One	Range 1	10%
	Range 2	25%
Two	Range 1 & Range 1	20%
	Range 1 & Range 2	35%
	Range 2 & Range 2	50%
Three	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%

**Table 5: Density Frequency Curve Development**

Tested by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Route/Location:		Air Temp:
Control Section/Job Number:		Weather:
Mix Type:	Tonnage:	Gauge:
Producer:	Depth:	Gmm:

Roller #1 Type:

Pass No.	Density	Temperature	Comments
1			
2			
3			
4			
5			
6			
7			
8			
Optimum			

Roller #2 Type:

Pass No.	Density	Temperature	Comments
1			
2			
3			
4			
5			
6			
7			
8			
Optimum			

Roller #3 Type:

Pass No.	Density	Temperature	Comments
1			
2			
3			
4			
5			
6			
7			
8			
Optimum			

Summary: \_\_\_\_\_  
 \_\_\_\_\_

CALHOUN COUNTY ROAD DEPARTMENT

SPECIAL PROVISIONS

FOR

**LOW-TRACKING BOND COAT PERMISSIVE USE, MODIFIED**

CCRD: CRW

1 of 2

4/24/17

**a. Description.** This work consists of furnishing a low-tracking bond coat in lieu of the standard bond coat. All work must be in accordance with the standard specifications and applicable special provisions, except as modified herein. No deviations to acceptance test methods/procedures will be allowed.

**b. Materials.** The following low-tracking bond coat products are required in lieu of the standard bond coat.

**Table 1: Approved Low-Tracking Bond Coat Products**

Manufacturer	Product Name	Specification Requirements
Blackledge Emulsions, Inc	NTSS-1HM Trackless Tack or Approved Equal	Table 2
K-Tech Specialty Coatings	AE-NT Trackless Tack or Approved Equal	Table 3

**Table 2: Specification Requirements for NTSS 1-HM**

Parameter	Test Method	Minimum	Maximum
Saybolt Furol Viscosity, SFS @ 25 degrees C	AASHTO T59	15	100
Storage Stability, 24 Hrs, %	AASHTO T59	--	1
Storage Stability, 5 Days, %	AASHTO T59	--	5
Residue By Distillation, %	AASHTO T59	50	--
Oil Distillate, %	AASHTO T59	--	1
Sieve Test, %	AASHTO T59	--	0.30
Tests On Residue			
Penetration, @ 25 degrees C	AASHTO T49	--	20
Softening Point Range degrees C	AASHTO T53	60	--
Solubility, %	AASHTO T44	97.5	--

**Table 3: Specification Requirements for AE-NT**

Parameter	Test Method	Minimum	Maximum
Saybolt Furol Viscosity, SFS @ 25 degrees C	<i>AASHTO T59</i>	15	100
Storage Stability, 5 Days, %	<i>AASHTO T59</i>	--	5
Residue By Distillation, %	<i>AASHTO T59</i>	50	--
Oil Distillate, %	<i>AASHTO T59</i>	--	1
Sieve Test, %	<i>AASHTO T59</i>	--	0.30
Tests On Residue			
Penetration, @ 25 degrees C	<i>AASHTO T49</i>	--	40
Solubility, %	<i>AASHTO T44</i>	97.5	--

**c. Construction.** Construct in accordance with subsection 501.03 of the Standard Specifications for Construction.

**d. Measurement and Payment.** The low-tracking bond will be paid for as a part of the HMA Mixture pay items.

METHOD OF PAYMENT FOR HMA MIXTURES

The item “HMA Mixtures” will be paid for by the Ton.

<u>Pay Item</u>	<u>Pay Unit</u>
HMA 13A, Mod	Ton
HMA 36A, Mod	Ton

**SHOULDER, CL II**

This item includes all labor, material, and equipment to place and compact the material according to Section 307 of the MDOT 2012 Standard Specifications for Construction. The Engineer will specify the width of the shoulders.

A mechanical shoulder machine, power broom, and double drum roller will be required for this project.

METHOD OF PAYMENT FOR SHOULDER, CL II

The item “Shoulder, CL II” will be paid for by the Ton.

<u>Pay Item</u>	<u>Pay Unit</u>
Shoulder, CL II	Ton

**PAVEMENT FOR BUTT JOINTS, REM**

When a butt joint is specified by the Engineer, the Contractor will mill the existing HMA to a depth of 1.5”. The material will be removed the full width of the joint. The removal will be tapered up to the original surface over a distance specified by the Engineer. This item also includes removing and disposing of the material.

METHOD OF PAYMENT FOR PAVT FOR BUTT JOINTS, REM

The item “Pavt for Butt Joints, Rem” will be paid for by the square yard.

<u>Pay Item</u>	<u>Pay Unit</u>
Pavt for Butt Joints, Rem	Square Yard

If the pay item “Pavt for Butt Joints, Rem” is not included, CCRD crews will mill the necessary butt joints.



**COLD MILLING HMA SURFACE**

This item includes all equipment, material, and labor necessary to achieve a smooth surface over the area specified in accordance with Section 501 of the MDOT 2012 Standard Specifications for Construction.

The existing HMA surface will be removed to the depth, width, grade and cross-section specified by the Engineer. The material is to be taken to CCRD’s Battle Creek Garage located on Raymond Road. All depressions left by the removal of the material below the specified grade must be back filled and compacted. All cost associated with the backfill and compaction will be borne by the contractor.

Cold milling machines must consistently remove the existing HMA surface in one or more passes to the required grade and cross section producing a uniform surface. Machines must be equipped with all of the following:

- a. Automatically controlled and activated cutting drums
- b. Grade reference and transverse slope control capabilities
- c. An approved grade referencing attachment, not less than 30 feet in length. An alternative grade referencing attachment may be used with the approval of the Engineer.

**METHOD OF PAYMENT FOR COLD MILLING HMA SURFACE**

The item “Cold Milling HMA Surface” will be paid for by the square yard.

<u>Pay Item</u>	<u>Pay Unit</u>
Cold Milling HMA Surface	Square Yard

**DR STRUCTURE COVER, ADJ, CASE 1**

This item includes all equipment, material, and labor required to raise existing manholes to match the final surface elevation of the HMA in accordance with Section 403 of the MDOT 2012 Standard Specifications for Construction.

**METHOD OF PAYMENT FOR DR STRUCTURE COVER, ADJ, CASE 1**

The item “Dr Structure Cover Adj, Case 1” will be paid for by the individual unit.

<u>Pay Item</u>	<u>Pay Unit</u>
Dr Structure Cover, Adj, Case 1	Each

**MANHOLE PLATING**

This item includes all equipment, material, and labor required to remove the existing manhole casting and place a metal plate over the manhole opening.

**METHOD OF PAYMENT FOR MANHOLE PLATING**

The item “Manhole Plating” will be paid for by the individual unit.

<u>Pay Item</u>	<u>Pay Unit</u>
Manhole Plating	Each

**WATER VALVE BOX PLATING**

This item includes all equipment, material, and labor required to remove the existing water valve box casting and place a metal plate over the water valve box opening.

**METHOD OF PAYMENT FOR WATER VALVE BOX PLATING**

The item “Water Valve Box Plating” will be paid for by the individual unit.

<u>Pay Item</u>	<u>Pay Unit</u>
Water Valve Box Plating	Each

**CATCH BASIN, ADJ**

This item includes all equipment, material, and labor required to waterproof and raise existing catch basins to match the final surface elevation of the HMA. Catch basins needing to be waterproofed or raised will be marked out by the Engineer.

**MATERIALS**

Mortar Type R-2 per Section 702 of the Michigan Department of Transportation’s (MDOT) 2012 Standard Specifications for Construction shall be used to coat the repaired areas.

**CONSTRUCTION METHODS:**

1. Remove dirt and loose mortar from the inside surface of the repair area of the drainage structure with a stiff wire brush and replace any missing brick or block. Place new block to match final surface elevation of the HMA.
2. Moisten the inside surface of the drainage structure walls.
3. Fill joints and holes with Type R-2 Mortar and apply a 1/2” thick plaster coat of Type R-2 Mortar to the inside repair areas of the drainage structure.

**METHOD OF PAYMENT FOR CATCH BASIN, ADJ**

The item “Catch Basin, Adj” will be paid for by the individual unit.

<u>Pay Item</u>	<u>Pay Unit</u>
Catch Basin, Adj	Each

**CURB AND GUTTER, REM**

This item includes all equipment, material, and labor required to remove existing curb and gutter in accordance with Section 204 of the MDOT 2012 Standard Specifications for Construction. Curb and gutter that shall be removed will be marked out by the Engineer.

**METHOD OF PAYMENT FOR CURB AND GUTTER, REM**

The item “Curb and Gutter, Rem” will be paid for by the foot.

<u>Pay Item</u>	<u>Pay Unit</u>
Curb and Gutter, Rem	Foot

**CURB AND GUTTER, CONC, DET C4**

This item includes all equipment, material, and labor required to furnish and place concrete curb and gutter in accordance with Section 802 of the MDOT 2012 Standard Specifications for Construction. The Engineer will mark out locations for curb and gutter.

**METHOD OF PAYMENT FOR CURB AND GUTTER, CONC, DET C4**

The item “Curb and Gutter, Conc, Det C4” will be paid for by the foot.

<u>Pay Item</u>	<u>Pay Unit</u>
Curb and Gutter, Conc, Det C4	Foot

**CURB VERTICAL, HMA**

This item includes all equipment, material, and labor required to furnish and place HMA vertical curb in accordance with Section 805 of the MDOT 2012 Standard Specifications for Construction.

**METHOD OF PAYMENT FOR CURB AND GUTTER, CONC, DET C4**

The item “Curb Vertical, HMA” will be paid for by the foot.

<u>Pay Item</u>	<u>Pay Unit</u>
Curb Vertical, HMA	Foot

**PAVT MRKG, TYPE NR, TAPE, 4 INCH, (COLOR), TEMP**

This item includes all equipment, material, and labor required to place four (4) inch wide temporary pavement marking tape of the appropriate color in accordance with Section 812 of the MDOT 2012 Standard Specifications for Construction. Marks shall be 2 feet long and placed every 50 feet.

**METHOD OF PAYMENT FOR PAVT MRKG, TYPE NR, TAPE, 4 INCH, (COLOR), TEMP**

The item “Pavt Mrkg, Type NR, Tape, 4 inch, (Color), Temp” will be paid for by the foot.

<u>Pay Item</u>	<u>Pay Unit</u>
Pavt Mrkg, Type NR, Tape, 4 inch, (Color), Temp	Foot

**TRAF REGULATORY CONTROL**

This item includes all equipment, material, and labor necessary for directing local traffic during construction operations in accordance with Section 812 of the MDOT 2012 Standard Specifications for Construction. Calhoun County Road Department will allow road closures during base crush and shaping and paving operations. The road may remain closed at the end of the work day during the crush and shape operations, but shall be left passable to local traffic. The road must be opened to traffic at the end of daily paving operations. During all other operations, the road will remain open with proper regulators and signage.

**METHOD OF PAYMENT FOR TRAF REGULATORY CONTROL**

The item “Traf Regulatory Control” will be paid for as a lump sum.

<u>Pay Item</u>	<u>Pay Unit</u>
Traf Regulatory Control	Lump Sum

**MINOR TRAF DEVICES**

This item includes all equipment, material, and labor necessary for providing road closed barricades, cones, plastic drums, or any other traffic control devices required in accordance with Section 812 of the MDOT 2012 Standard Specifications for Construction.

**METHOD OF PAYMENT FOR MINOR TRAF DEVICES**

The item “Minor Traf Devices” will be paid for as a lump sum.

<u>Pay Item</u>	<u>Pay Unit</u>
Minor Traf Devices	Lump Sum

**SLOPE RESTORATION, TYPE B**

This item includes all equipment, material, and labor required to install Topsoil Surface, Furnished or Salvaged; Fertilizer, Chemical Nutrient, Class A; Seeding Mixture; and Mulch Blanket which will not be paid for separately in accordance with the MDOT Special Provision for Slope Restoration, Non-Freeway. The top soil will bring the yards flush with the pavement surface. The contractor shall be required to re-seed if less than 75% of the restored area does not get established at their own expense.

**METHOD OF PAYMENT FOR SLOPE RESTORATION, TYPE B**

The item “Slope Restoration, Type B” will be paid for by the square yard.

<u>Pay Item</u>	<u>Pay Unit</u>
Slope Restoration, Type B	Square Yard

**AGGREGATE BASE, CONDITIONING, MOD**

This item includes all equipment, material, and labor required to shape the existing aggregate base to a 2% cross-slope (or as directed by the Engineer) within a tolerance of  $\pm 1/2$  inch. This will occur after the Cold Milling HMA Surface at locations specified by the Engineer. A minimum compaction of 98% will be required with density testing run at the discretion of the Engineer.

**METHOD OF PAYMENT FOR AGGREGATE BASE, CONDITIONING, MOD**

The item “Aggregate Base, Conditioning, Mod” will be paid for by the square yard.

<u>Pay Item</u>	<u>Pay Unit</u>
Aggregate Base, Conditioning, Mod	Square Yard

**HMA BASE CRUSHING AND SHAPING**

This item includes all equipment, material, and labor required to crush and shape the existing HMA base in accordance with Section 305 of the MDOT 2012 Standard Specifications for Construction. The Engineer may mark out locations for placement of Aggregate Base prior to the crushing operation to provide a uniformly mixed material of aggregate and crushed HMA. The contractor shall use surplus material as backfill for undercuts when specified by the Engineer. Dust Control is also included in this item.

**METHOD OF PAYMENT FOR HMA BASE CRUSHING AND SHAPING**

The item “HMA Base Crushing and Shaping” will be paid for by the square yard.

<u>Pay Item</u>	<u>Pay Unit</u>
HMA Base Crushing and Shaping	Square Yard

**AGGREGATE BASE, LM**

This item includes all equipment, material, and labor required to place an aggregate base course of a specified thickness over the existing HMA surface prior to crushing and shaping in accordance with Section 302 of the MDOT 2012 Standard Specifications for Construction. The Engineer will mark the location and specify the thickness before the start of the operation. The aggregate shall be 22A.

**METHOD OF PAYMENT AGGREGATE BASE, LM**

The item “Aggregate Base, LM” will be paid for by the cubic yard.

<u>Pay Item</u>	<u>Pay Unit</u>
Aggregate Base, LM	Cubic Yard

**MATERIAL, SURPLUS AND UNSUITABLE, REM, LM**

This item includes all equipment, material, and labor required to remove surplus or unsuitable material to the grade specified by the Engineer after HMA crushing in accordance with Section 305 of the MDOT 2012 Standard Specifications for Construction. The contractor shall use surplus material as backfill for undercuts when specified by the Engineer. CCRD will only pay for Material, Surplus and Unsuitable, Rem, LM if the contractor removes material from the project site.

**METHOD OF PAYMENT MATERIAL, SURPLUS AND UNSUITABLE, REM, LM**

The item “Material, Surplus and Unsuitable, Rem, LM” will be paid for by the cubic yard.

<u>Pay Item</u>	<u>Pay Unit</u>
Material, Surplus and Unsuitable, Rem, LM	Cubic Yard

**SALV CRUSHED MATERIAL, LM**

This item includes all equipment, material, and labor required to load, stockpile, and haul crushed material from locations on the project to attain specified grade in accordance with Section 305 of the MDOT 2012 Standard Specifications for Construction.

**METHOD OF PAYMENT SALV CRUSHED MATERIAL, LM**

The item “Salv Crushed Material, LM” will be paid for by the cubic yard.

<u>Pay Item</u>	<u>Pay Unit</u>
Salv Crushed Material, LM	Cubic Yard

**SUBGRADE UNDERCUTTING, TYPE II, MODIFIED**

This item includes all equipment, material, and labor required to undercut the subgrade and place backfill material in accordance with Section 308 of the MDOT 2012 Standard Specifications for Construction. The Engineer will specify the location and depth of the subgrade undercut. Backfill material shall be pulverized HMA base compacted to 98%.

**METHOD OF PAYMENT UNDERCUTTING, TYPE II, MODIFIED**

The item “Undercutting, Type II, Modified” will be paid for by the cubic yard.

<u>Pay Item</u>	<u>Pay Unit</u>
Undercutting, Type II, Modified	Cubic Yard

**APPROACH, CL II, LM, MOD**

This item includes all equipment, material, and labor required to place and compact the material in accordance with Section 307 of the MDOT 2012 Standard Specifications for Construction. Maintenance gravel shall be placed in gravel driveways no later than 24 hours after the HMA base course is paved. 21AA gravel shall be placed in gravel driveways no later than 2 days after the HMA top course is paved. The gravel shall provide a smooth transition from the driveway to the HMA. The Contractor shall keep a detailed list of the house addresses that received approached gravel and approximate quantities.

**METHOD OF PAYMENT APPROACH, CL II, LM, MOD**

The item “Approach, Cl II, LM, Mod” will be paid for by the cubic yard.

<u>Pay Item</u>	<u>Pay Unit</u>
Approach, Cl II, LM, Mod	Cubic Yard

**POST, MAILBOX, MOD**

This item includes all equipment, material, and labor required to:

1. Remove and relocate the existing mailbox support during construction activities;
2. Maintain serviceability;
3. Place a new post at the permanent location after construction activities are complete;
4. Remove the mailbox from the old support and attach it firmly to the new post;
5. Relocate existing newspaper boxes and supports to the permanent location; and
6. Dispose of the old support, at the property owner’s option;

in accordance with Section 807 of the MDOT 2012 Standard Specifications for Construction. The contractor shall keep a detailed list of the house addresses where the mailbox was adjusted.

**METHOD OF PAYMENT POST, MAILBOX**

The item “POST, MAILBOX” will be paid for by the individual unit.

<u>Pay Item</u>	<u>Pay Unit</u>
Post, Mailbox, Mod	Each

**Note:** The unit price will be paid for by the post, not by the mailbox. Newspaper box adjustment will be included at no additional cost.



## **PROPOSED TREATMENT DESCRIPTION**

Below are descriptions for each of the treatments for this project. The Engineer has the right to change the application rate or mix prior to paving.

### **RESTORATION**

Restoration is a seeded topsoil shoulder the length of the road and placing driveway gravel in all gravel driveways.

#### **HMA1.5**

HMA1.5 is 165 lb/syd (1.5") of 36A top course over the existing pavement. 36A may be applied as a scratch course prior to paving the HMA1.5 and will be marked out before paving, paid for as HMA 36A, Mod.

#### **HMA2.0**

HMA2.0 is 220 lb/syd (2") of 36A top course over the existing pavement. 36A may be applied as a scratch course prior to paving the HMA2.0 and will be marked out before paving, paid for as HMA 36A, Mod.

#### **HMA2.5**

HMA2.5 is 165 lb/syd (1.5") of 13A leveling course followed by 110 lb/syd (1") of 36A top course paid for as HMA 13A, Mod and HMA 36A, Mod respectively.

#### **HMA3.0**

HMA3.0 is a 165 lb/syd (1.5") of 13A leveling course followed by 165 lb/syd (1.5") of 13A or 36A top course paid for as HMA 13A, Mod or HMA 36A, Mod.

#### **CSC3.5**

CSC3.5 is a crush and shape of the entire length of the road surfaced by 220 lb/syd (2") of 13A leveling course and then 165 lb/syd (1.5") of 13A top course paid for as HMA Base Crushing and Shaping and HMA 13A, Mod respectfully. Aggregate base may be placed at certain locations prior to crushing as specified by the Engineer.

#### **CMHO1.5**

CHMO1.5 is a 1.5" Cold Milling HMA Surface of the existing pavement followed by 165 lb/syd (1.5") of 36A top course paid for as Cold Milling HMA Surface and HMA 36A, Mod respectfully.

#### **CMHO2.0**

CHMO2.0 is a 2.0" Cold Milling HMA Surface of the existing pavement followed by 220 lb/syd (2.0") of 36A top course paid for as Cold Milling HMA Surface and HMA 36A, Mod respectfully.

**NOTE:** The leveling course shall correct the slope of the road to 2%.

**1. Hubbard Rd** – from Morgan Rd to Battle Creek City Limits – 2,600 feet

HMA 13A, MOD

SHOULDER, CL II

APPROACH, CL II, LM, MOD

PAVT MRKG, TYPE NR, TAPE, 4 INCH, (COLOR), TEMP

TRAF REGULATORY CONTROL

MINOR TRAF DEVICES

POST, MAILBOX, MOD

**SCOPE OF WORK**

The work will consist of preparing the existing surface and then placing an HMA 13A top course approximately 22' wide at an average yield of 165 (1.5") lb/syd. A 3' gravel shoulder will then be placed the length of the road on both sides.

The work shall also include furnishing and applying low-tracking bond coat (included in HMA items) before placing the HMA. Bond Coat will be placed at the rate of 0.5-0.15 gallons per square yard.

Intersections, driveway approaches, spillways, and HMA valley curb are included in the bid quantities for HMA items.

**2. Hamilton Rd** – from Uldriks Rd to Collier Ave – 5,200 feet

HMA 13A, MOD

SHOULDER, CL II

APPROACH, CL II, LM, MOD

PAVT MRKG, TYPE NR, TAPE, 4 INCH, (COLOR), TEMP

TRAF REGULATORY CONTROL

MINOR TRAF DEVICES

POST, MAILBOX, MOD

**SCOPE OF WORK**

The work will consist of preparing the existing surface and then placing an HMA 13A top course approximately 22' wide at an average yield of 165 (1.5") lb/syd. A 3' gravel shoulder will then be placed the length of the road on both sides.

The work shall also include furnishing and applying low-tracking bond coat (included in HMA items) before placing the HMA. Bond Coat will be placed at the rate of 0.5-0.15 gallons per square yard.

Intersections, driveway approaches, spillways, and HMA valley curb are included in the bid quantities for HMA items.

**3. W Halbert Rd** – from Collier Ave to M-37 – 7,230 feet

HMA 13A, MOD

SHOULDER, CL II

APPROACH, CL II, LM, MOD

PAVT MRKG, TYPE NR, TAPE, 4 INCH, (COLOR), TEMP

TRAF REGULATORY CONTROL

MINOR TRAF DEVICES

POST, MAILBOX, MOD

**SCOPE OF WORK**

The work will consist of preparing the existing surface and then placing an HMA 13A top course approximately 22' wide at an average yield of 165 (1.5") lb/syd. A 3' gravel shoulder will then be placed the length of the road on both sides.

The work shall also include furnishing and applying low-tracking bond coat (included in HMA items) before placing the HMA. Bond Coat will be placed at the rate of 0.5-0.15 gallons per square yard.

Intersections, driveway approaches, spillways, and HMA valley curb are included in the bid quantities for HMA items.

**4. Bowne Rd** – from M-37 to Peaceful Valley Rd – 1,500 feet

HMA 13A, MOD

HMA, 36A, MOD

APPROACH, CL II, LM, MOD

SLOPE RESTORATION, TYPE B

TRAF REGULATORY CONTROL

MINOR TRAF DEVICES

POST, MAILBOX, MOD

**SCOPE OF WORK**

The work will consist of preparing the existing surface and then placing an HMA 13A leveling course approximately 20' wide at an average yield of 165 (1.5") lb/syd followed by an HMA 36A top course at an average yield of 165 (1.5") lb/syd. A topsoil shoulder will be placed along the length of the road.

The work shall also include furnishing and applying low-tracking bond coat (included in HMA items) before placing the HMA. Bond Coat will be placed at the rate of 0.5-0.15 gallons per square yard.

Intersections, driveway approaches, spillways, and HMA valley curb are included in the bid quantities for HMA items.

**5. Ellen Ave** – from Peaceful Valley Rd to Falling Oak Rd – 490 feet

HMA 13A, MOD

HMA, 36A, MOD

APPROACH, CL II, LM, MOD

SLOPE RESTORATION, TYPE B

TRAF REGULATORY CONTROL

MINOR TRAF DEVICES

POST, MAILBOX, MOD

**SCOPE OF WORK**

The work will consist of preparing the existing surface and then placing an HMA 13A leveling course approximately 20' wide at an average yield of 165 (1.5") lb/syd followed by an HMA 36A top course at an average yield of 165 (1.5") lb/syd. A topsoil shoulder will be placed along the length of the road.

The work shall also include furnishing and applying low-tracking bond coat (included in HMA items) before placing the HMA. Bond Coat will be placed at the rate of 0.5-0.15 gallons per square yard.

Intersections, driveway approaches, spillways, and HMA valley curb are included in the bid quantities for HMA items.

**6. Falling Oak Rd** – from Ellen Ave to Peaceful Valley Rd – 250 feet

HMA 13A, MOD

HMA, 36A, MOD

APPROACH, CL II, LM, MOD

SLOPE RESTORATION, TYPE B

TRAF REGULATORY CONTROL

MINOR TRAF DEVICES

POST, MAILBOX, MOD

**SCOPE OF WORK**

The work will consist of preparing the existing surface and then placing an HMA 13A leveling course approximately 20' wide at an average yield of 165 (1.5") lb/syd followed by an HMA 36A top course at an average yield of 165 (1.5") lb/syd. A topsoil shoulder will be placed along the length of the road.

The work shall also include furnishing and applying low-tracking bond coat (included in HMA items) before placing the HMA. Bond Coat will be placed at the rate of 0.5-0.15 gallons per square yard.

Intersections, driveway approaches, spillways, and HMA valley curb are included in the bid quantities for HMA items.

**7. Peaceful Valley Rd** – from Dead End to Attribute Change – 1,555 feet

HMA 13A, MOD

HMA, 36A, MOD

APPROACH, CL II, LM, MOD

SLOPE RESTORATION, TYPE B

TRAF REGULATORY CONTROL

MINOR TRAF DEVICES

POST, MAILBOX, MOD

**SCOPE OF WORK**

The work will consist of preparing the existing surface and then placing an HMA 13A leveling course approximately 20' wide at an average yield of 165 (1.5") lb/syd followed by an HMA 36A top course at an average yield of 165 (1.5") lb/syd. A topsoil shoulder will be placed along the length of the road.

The work shall also include furnishing and applying low-tracking bond coat (included in HMA items) before placing the HMA. Bond Coat will be placed at the rate of 0.5-0.15 gallons per square yard.

Intersections, driveway approaches, spillways, and HMA valley curb are included in the bid quantities for HMA items.



**8. White Pine Blvd** – from Bowne Rd to Dead End – 1,020 feet

HMA 13A, MOD

HMA, 36A, MOD

APPROACH, CL II, LM, MOD

SLOPE RESTORATION, TYPE B

TRAF REGULATORY CONTROL

MINOR TRAF DEVICES

POST, MAILBOX, MOD

**SCOPE OF WORK**

The work will consist of preparing the existing surface and then placing an HMA 13A leveling course approximately 18' wide at an average yield of 165 (1.5") lb/syd followed by an HMA 36A top course at an average yield of 165 (1.5") lb/syd. A topsoil shoulder will be placed along the length of the road.

The work shall also include furnishing and applying low-tracking bond coat (included in HMA items) before placing the HMA. Bond Coat will be placed at the rate of 0.5-0.15 gallons per square yard.

Intersections, driveway approaches, spillways, and HMA valley curb are included in the bid quantities for HMA items.

**BID SCHEDULE**

HMA 13A, Mod.....	4,330 Tons
HMA 36A, Mod.....	975 Tons
Shoulder, CI II.....	2,350 Tons
Approach, CI II, LM, Mod.....	25 Cyd
Slope Restoration, Type B.....	3,615 Syd
Pavt Mrkg, Type NR, Tape, 4 inch, (Color), Temp.....	600 Feet
Traf Regulatory Control.....	1 LSUM
Minor Traf Devices.....	1 LSUM
Post, Mailbox, Mod.....	90 Ea

**GENERAL NOTES**

The contractor will be required to submit a quality control (QC) Plan for HMA, in accordance with the HMA Production Manual. In this QC Plan please include a list of equipment and the manufacture’s recommended speed, impacts per foot, and vibration amplitude for the HMA thickness.

CCRD reserves the right to perform material testing and inspections in accordance with MDOT Standard Specification 2012 for quality assurance (QA).

CCRD will require a bi-weekly progress meeting. At such meetings the contractor shall supply a detailed bi-weekly construction schedule with haul route for approval by Engineer.

No work shall be performed during the Memorial Day, 4<sup>th</sup> of July or Labor Day holiday periods, as defined by the Engineer.

The start date for this project is dependent on culvert installation. A **tentative** culvert replacement schedule is listed below. CCRD will inform the contractor when each culvert replacement has been completed.

Hamilton Road Culvert is to be **completed by mid-August.**

Hubbard Road Culvert is to be **completed by mid-August.**

Halbert Road Culvert is to be installed August 1st - September 1st.

Bowne Road Culvert is to be installed July 1st – September 1st.

## Schedule of Items (Itemized Bid Sheet)

Letting Date: Monday, June 19, 2017 12:00 PM

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**Contract ID:** Bedford LRP7  
**Location:** Bedford Township  
**Description:**

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<b>Project Number:</b> Bedford LRP7	<b>Project Engineer:</b> Clayton Wehner
<b>Estimate Number:</b> 1	<b>Date Created:</b> 3/13/2017
<b>Project Type:</b> Resurfacing	<b>Fed/State #:</b>
<b>Location:</b> Bedford Township	<b>Fed Item:</b>
	<b>Control Section:</b>

**Description:**

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**Instructions to Bidders:** IMPORTANT NOTICE:  
If the proposal establishes a maximum price for any of the following work items, and if you bid a price higher than that maximum price, your bid will be considered to have quoted the maximum price and your bid total will be adjusted to reflect that maximum price.

If the proposal provides a specified price for any of the following work items, and if you bid a price higher or lower than that specified price, your bid will be adjusted to reflect that specified price.

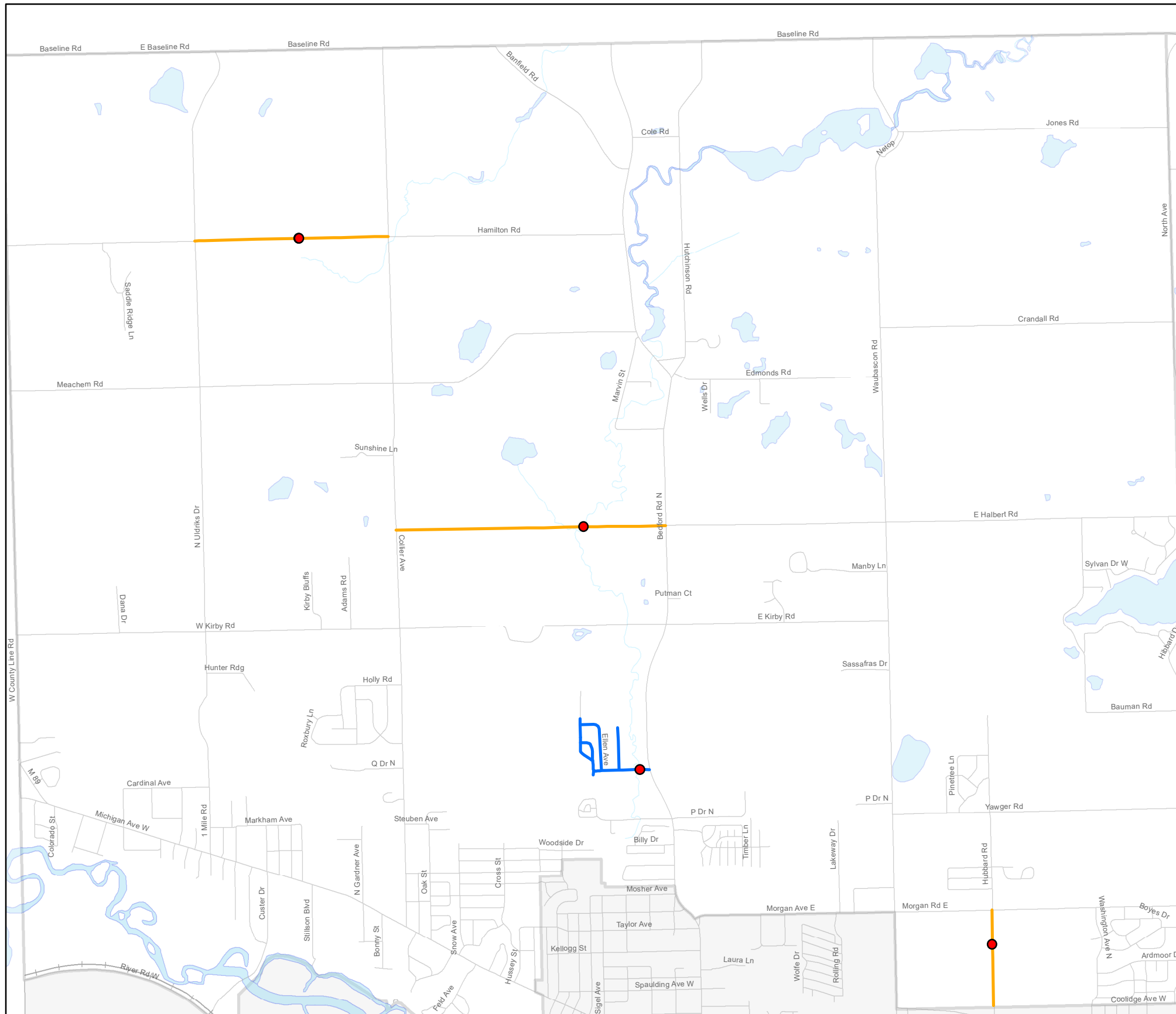
If your bid is the lowest accepted bid, and if you refuse to accept the award of the contract due to the change in what you quoted as a maximum or specified price, you will forfeit your proposal guaranty.

Pay Item	Description	Quantity	Units	Unit Price		Bid Amount		
				Dollars	Cts	Dollars	Cts	
3070121	Shoulder, CI II	2,350	Ton					
3077021	_ Approach, CI II, LM, Mod	25	Cyd					
5017031	_ HMA 13A, Mod	4,330	Ton					
5017031	_ HMA 36A, Mod	975	Ton					
8077050	_ Post, Mailbox, Mod	90	Ea					
8120170	Minor Traf Devices	1	LSUM					
8120231	Pavt Mrkg, Type NR, Tape, 4 inch, Yellow, Temp	600	Ft					
8120370	Traf Regulator Control	1	LSUM					
8160101	Slope Restoration, Type B	3,615	Syd					
<b>Total Bid:</b>								

**Contractor:** \_\_\_\_\_

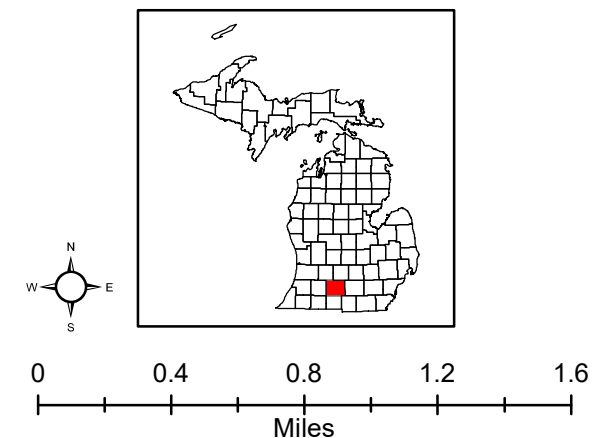
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(Signature)

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(Date)



# Bedford Township 2017 LRP7

- HMA1.5
- HMA3.0
- DEQ culvert replacements



Map created 2/21/17  
Source: Calhoun Co. Road Dept.