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Cheboygan County Road Commission

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R. BRENT SHANK
ENGINEER/MANAGER

DANA S. STEMPKY
CLERK

PROPOSAL

Project: A489.496 Long Lake Road

Fine grade and Compact existing road, 28 Foot wide 2 Inch thick HMA surface, Grass Shoulders and Pavement Markings.

The Cheboygan County Road Commission will accept Bids until **9:00 a.m.** local time on **April 16, 2019** at: 5302 South Straits Highway, Indian River, MI 49749. Bid packages are available at the Cheboygan County Road Commission.

ALL BIDS WILL BE SEALED AND PLAINLY MARKED AS TO THE PROJECT AND PROJECT NUMBER.

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

The bidder hereby proposes to furnish all necessary machinery, tools, apparatus and other means of construction, do all the work, furnish all the materials except as otherwise specified and, or each unit price, lump sum, or one each named in the itemized bid, to complete the work in strict conformity with the plans therefore and the entire proposal which is incorporated by reference in these pages, and in strict conformity with the requirements of the 2012 Standard Specifications for Construction, Michigan Department of Transportation and such other special provisions and supplemental specifications as may be part of the proposal for this project.

The bidder further proposes to do such extra work as may be authorized by the Cheboygan County Road Commission, prices for which are not included in the itemized bid. Compensation shall be made on the basis agreed upon before such extra work is begun.

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

LONG LAKE ROAD

Project Information:

Job Number: A489.496

Job Location: M-33 then east to existing pavement.

Type of Work:

Fine grade and Compact existing road, 28 Foot wide 2 Inch thick HMA surface, Grass Shoulders and Pavement Markings.

Owner: Cheboygan County Road Commission

Project Dates:

Project Start Date: 10 Days after all Contracts are executed.

Project Completion Date: September 27, 2019

The project shall be completed within Twenty-one (21) days of starting date.

A pre-construction meeting will be scheduled by the Cheboygan County Road Commission prior to project start. All project submittals are to be submitted for review at this meeting.

Project Submittals:

The following shall be submitted to the Road Commission Engineer for approval prior to project start:

1. Material Source List (MDOT Form 501)
2. Progress Schedule (must be submitted within 5 days of Contract award)
3. See the Special Provision for Acceptance of HMA Mixtures on Township Projects for submittal requirements (must be submitted prior to paving).

Project Coordination:

Contractor shall coordinate all work with adjacent project contractor(s). This project and work must be scheduled to not cause delays in the Mann Road project (Federal Aid, MDOT), M-33 to east 8800', and Mann Road (County Funded), 8800' east of M-33 to Pallister Road, Summer of 2019.

Aggregate Base:

Aggregate Base material is provisional quantity, and is to be used for crown correction, usage only with the approval of the Engineer. Aggregate base shall meet MDOT specifications. The Contractor shall provide a scale ticket for each load delivered to the job. All scale tickets shall meet MDOT requirements. The Contractor shall provide current scale certification to the Road Commission prior to hauling material. Loader scales will not be accepted.

Aggregate base material shall be a Dense-Graded Aggregate 22A.

Aggregate Base Fine Grading:

Fine Grading to be paid for as Machine Grading by the Station (Station includes both side of centerline). Unless otherwise approved by the Engineer, The HMA Paving Contractor shall be required to provide fine grading of the Aggregate Base prior to paving.

Dust Control:

The Contractor shall be responsible for controlling the dust on this project through the use of Water Truck or Dust Palliative. Payment for Dust Control shall be paid for in other items. Dust shall be continuously control to the satisfaction of the Engineer.

HMA Surface, Rem:

All Sawcut to be paid for as part of HMA Surface, Rem.

HMA Paving:

HMA 4E1 shall have a design Asphalt Performance Grade of 58-28. See the attached Special Provision for Acceptance of HMA Mixture on Township Projects for HMA mixture specifications.

HMA APPLICATION TABLE					
Label	Mix	Application Rate (Lbs/Syd)	Design Performance Grade	Comments	Pay Item
T	HMA, 4E1	220	58-28		HMA, 4E1
A	HMA, 4E1	220	58-28	Approach	HMA Approach
1	AWI = 220 for all HMA, 4E1				
2	Apply HMA Bond Coat at 0.10 gallons per square yard between paving courses or as directed by the Engineer. Paid for as part of other HMA items.				

HMA surface shall be 28' wide (overall), 2% normal crown, and no driveway or mailbox bump-outs, see attached Typical Cross Section.

Driveways:

The Contractor is responsible to ensure positive drainage in all approaches. The Contractor will be responsible for repairing, at the Contractor's expense, standing water or other drainage related issues.

The Contractor shall be responsible to maintain access to driveways after paving. On any driveway that has more than 4 inches of drop off the Contractor shall provide a gravel apron that reduces the drop off to a maximum of 4 inches on the day of paving or the next calendar day. If the Contractor fails to provide such access, the Road Commission will levy liquidated damages of \$200.00 per calendar day that a drop off exceeds 4 inches in any driveway.

Gravel Driveways:

Place Approach, CI II material in gravel driveways as part of the gravel shoulder operation. Driveways shall be blended 4.0' – 6.0' from the edge of the roadway, or as directed by the Engineer.

Concrete Driveways:

Concrete driveways shall be graded to match from existing concrete to edge of new HMA surface. Any additional gravel needed to shape the paved approach areas shall be paid for as Approach, CI I. Driveways shall be graded and paved after the HMA surface on mainline is placed, unless otherwise instructed by the Engineer.

Topsoil Shoulders:

When placing the topsoil, material shall be placed directly on the shoulder. No shoulder material may be placed on the asphalt. Shoulder material shall be flushed to the edge of pavement and blended to the existing shoulder on the outside. Shoulders shall be wheel rolled with heavy equipment for density.

Restoration Items:

When placing the topsoil, material shall be placed directly on the shoulder. Topsoil material may not be placed on the asphalt. Shoulder material shall be flushed to the edge of gravel shoulder and blended to the existing shoulder on the outside. Topsoil shall be wheel rolled with heavy equipment for density.

A sample fertilizer bag and seed ticket, from the materials used on the project, must be submitted to the Engineer within 7 days of completion of restoration.

Seed Mixture shall be TDS.

Place Mulch on all topsoil surfaces.

Mailboxes:

Relocate all mailboxes so that the face of the mailbox is 14.0' – 14.5' from the road centerline. The Contractor is responsible to install the mailboxes at the appropriate height. Position 41" to 45" from the road surface to the bottom of mailbox or point of mail entry. All posts must meet MDOT requirements for mailbox posts (see Special Detail R-74-D). All mailbox posts shall be replaced with a new post unless directed by the Engineer. Costs for relocation of mailboxes, replacement posts, replacement mailboxes and disposal of old posts and mailboxes will be included in the pay item **Post, Mailbox**.

Pavement Markings:

All pavement markings, shapes and dimensions shall conform with the Michigan Department of Transportation Pavement Marking Typicals VIII-900E to VII-990E, unless otherwise indicated.

Pavement Markings shall be placed in accordance with the 2011 Michigan Manual of Uniform Traffic Control Devices. All zoning shall be the responsibility of the contractor. Payment for zoning shall be included in the items for pavement markings.

Monument Preservation:

Monument preservation will be completed by the Cheboygan County Road Commission (CCRC). The Contractor shall coordinate work with the CCRC so monument preservation can be completed prior to the start of work and for placement of monument boxes. If a Monument is found, the Contractor shall notify the Engineer Technician.

Traffic Control:

Traffic shall be maintained during the project through the use of lane closures, two-way traffic shall be open during non-working hours. The Contractor shall coordinate operations with contractors performing work on other projects within or adjacent to the Construction Influence Area (CIA).

The Construction Influence Area shall include the right-of-way of the following roadways within the approximate limits described below:

Long Lake Road from M-33 then to Pallister Road and including, 200' on all intersecting roadways.

At no time may Traffic Control Stop and Hold traffic, including loaded & unloaded asphalt trucks on the new HMA surface.

Advanced Warning signs shall be in place before any work begins.

Traffic will be maintained by the Contractor in accordance with the 2011 Michigan Manual of Uniform Traffic Control Devices.

Payment for all traffic control, signing and traffic control items shall be paid for as **Traffic Control**.

General Note:

All work shall be done in accordance with the Michigan Department of Transportation 2012 Standard Specification for Construction. All materials shall meet the requirements of the Michigan Department of Transportation Materials Source Guide.

For protection of underground utilities, and in conformance with Public act 174 of 2014, the contractor shall call MISS DIG a minimum of three full working days, excluding Saturdays, Sundays and Holidays, prior to beginning work in areas where public utilities have not been previously located. All MISS DIG participating members will be thus routinely notified. This does not relieve the Contractor from notifying utility owners who may not participate in the MISS DIG alert system.

Insurance Requirements:

The Contractor shall furnish proof of general liability insurance in amounts not less than \$1,000,000 each occurrence and general aggregate, proof of automobile liability in amounts not less than \$1,000,000 combined single limit for each accident, bodily injury per accident, and property damage per accident, and in amount not less than \$500,000 for bodily injury per person. Such proof of insurance shall include a valid certificate of insurance demonstrating that the Cheboygan County Road Commission is additional insured party on the policy. Such insurance shall cover a period not less than the term of the project and shall provide that it cannot be cancelled without 30 days advanced written notice to the Cheboygan County Road Commission, by certified mail, first class, return receipt requested. The Contract will be invalid if insurance expires during the authorized period of work described.

In addition to any liability or obligation by the Contractor that may otherwise exist, Contractor shall, to the fullest extent permitted by law, indemnify and hold harmless the Cheboygan County Road Commission and its commissioners, officers, agents and employees from and against any and all claims, actions, proceedings, liabilities, losses, and damages thereof, and any and all costs and expenses, including legal fees, associated therewith which the Cheboygan County Road Commission may sustain by reason of claims for or allegations of negligence or violation of the terms and conditions of the Contract, arising out of the work which is subject of the Contract.

Bonding Requirements:

The successful Contractor shall furnish a performance bond equal to the contract price as assurance for faithful contract performance.

The Contractor shall also furnish a separate **surety bond** equal to the contract price as security for payment to all persons performing labor and furnishing materials in connection with this contract. The Contractor shall pay the premium for all bonds.

The bonds must meet requirements of Michigan Law.

Bonds shall be submitted and approved before contract execution.

Stations:

0+00	Centerline M-33
0+30	P.O.B., HMA surface, Rem (5 Syd)
26+07 R	Gravel Driveway w/mailbox
27+25 R	Gravel Driveway
31+87 L	Gravel Driveway
32+02 R	Concrete Driveway w/2 mailbox's, HMA Approach (3 Ton)
36+54 R	Concrete Driveway w/mailbox, HMA Approach (3 Ton)
38+20 R	Mailbox
38+25 L	Gravel Driveway
41+49 R	Gravel Driveway w/mailbox
44+86 L	Gravel Driveway
46+07 L	Gravel Driveway
47+06 R	Gravel Driveway w/mailbox
47+19 L	Gravel Driveway
49+44 R	Gravel Driveway
52+26 R	Little Canada Road, 100' by 24', HMA Approach (35 Ton), Approach CI II (20 Ton)
52+26 L	Little Canada Road, 100' by 24', HMA Approach (35 Ton), Approach CI II (20 Ton)
60+66 R	Gravel Driveway w/mailbox
66+62 R	Gravel Driveway
80+70 L	Gravel Driveway
83+14 L	Gravel Driveway
87+60 R	Gravel Driveway w/mailbox
90+64 L	Gravel Driveway w/mailbox
94+69 L	Gravel Driveway w/mailbox
96+03 L	Gravel Driveway
96+99 L	Gravel Driveway w/mailbox
97+56 R	Gravel Driveway
97+97 L	Gravel Driveway
98+48 L	Gravel Driveway

102+50 L Gravel Driveway
 106+10 P.O.E., HMA surface, Rem (5 Syd)

Project Quantities:

Mobilization, 10% max	1	LSUM
Machine Grading	106	Sta
Aggregate Base (Provisional Quantity)	1100	Ton
Approach, CI I	100	Ton
Approach, CI II	150	Ton
HMA Surface, Rem	10	Syd
HMA, 4E1	3800	Ton
HMA Approach	112	Ton
Post, Mailbox	14	Ea
Pavt. Mrkg, Waterborne, 4 inch, white	21500	Ft
Pavt. Mrkg, Waterborne, 4 inch, yellow	16200	Ft
Traffic Control	1	LSUM
Slope Restoration	5600	Syd
Monument Box	3	Ea

Bid Sheet

Board of Cheboygan County Road Commissioners
5302 South Straits Highway
Indian River, Mi 49749

To whom it may concern:

The undersigned proposes to furnish any and all materials, labor, and equipment necessary for the reconstruction of Long Lake Road as spelled out in the "Invitation to Bid" for the prices below.

The Cheboygan County Road Commission reserves the right to reject any and/or all bids based on what is in the best interest of Cheboygan County.

Contractor Name: _____

Project:

A489.496 Long Lake Road

Item	Quantity	Unit	Unit Price	Total
Mobilization, 10% Max	1	LSUM		
Machine Grading	106	Sta		
Aggregate Base	1100	Ton		
Approach, CI I	100	Ton		
Approach, CI II	150	Ton		
HMA Surface, Rem	10	Syd		
HMA, 4E1	3800	Ton		
HMA Approach	112	Ton		
Post, Mailbox	14	Ea		
Pavt Mrkg, Waterborne, 4 inch, White	21500	Ft		

Pavt Mrkg, Waterborne, 4 inch, Yellow	16200	Ft		
Traffic Control	1	LSUM		
Slope Restoration	5600	Syd		
Monument Box	3	Ea		
TOTAL PROJECT COST ESTIMATE =				

Bidder: _____

Address: _____

Signature: _____

Phone No.: _____

Printed Name: _____

Date: _____

Title: _____

Email: _____

Cheboygan County Road Commission

Special Provision

For

Acceptance of HMA Mixtures on County/Township Projects

CCRC:RBS

01/09/18

a) **Description**

This Special Provision provides acceptance-testing requirements for use on this project. The HMA mixture shall be provided to meet the requirements of the standard specifications for construct except where modified herein. The HMA mixture quality assurance and acceptance shall conform to Section 501 of the 2012 Michigan Department of Transportation Standard Specifications for Construction except where modified herein. The MDOT HMA Production Manual, current edition, applies to this work.

b) **Submittals**

The contractor shall submit the following:

1. Job Mix Formula (MDOT Form 1911 or equivalent) for the project for review and approval by the Engineer. The Contractor shall not place any HMA without an approved JMF. Below are specific values that are required on the JMF (in addition to the normal requirements).
 - i. Fine Aggregate Angularity
 - ii. RAP Tiering based on JMF values
 - iii. Fines to Asphalt Ratio (based on Effective Asphalt Content)
 - iv. Soft Particle Percentage of each JMF Aggregate Type
2. Quality Control Plan.
3. A copy of all Contractor Quality Control Tests submitted within 7 working days of projection completion.
4. A copy of the Bill of Lading or Delivery Ticket for the Asphalt Binder for the project. The Bill of Lading must include the type of material that was previously hauled in the delivery tank.

c) **Materials**

Aggregates, mineral filler (if required), and asphalt binder shall be combined as necessary to produce a mixture proportioned within the master gradation limits and meeting the uniformity tolerances listed Table 1 and the quality assurance testing tolerances in Table 2 of this special provision. The master gradation range is to be used for establishing mix design only. Topsoil, clay or loam shall not be added to aggregates used in plant produced HMA mixtures.

The Maximum Percentage of Soft Particles for any given HMA mixture shall be 5%.

Table A: HMA Mixture Targets and Parameters

HMA Mix Type	VMA Minimum on any given Test (a,c)	VMA Target (c)	Asphalt Binder Content Minimum on JMF	Asphalt Binder Content Minimum on any given Test (a)	Fines to Asphalt Ratio Maximum on JMF (b)
4E1	14.0	Based on mix design parameter, the contractor shall establish & state their VMA Target on their mix design JMF, and shall adhere to the VMA Min. requirements	5.80	5.50	1.10
5E1	15.0		6.10	5.80	1.10
Ultra-Thin	15.0		6.00	5.70	1.20

a. The HMA parameter minimum is per any given QC/QA test, regardless of Tolerances listed in Table 2 of this Special Provision.
 b. Value based on Pbe (Effective Asphalt Percent) for each given mix and JMF.
 c. VMA values are based on the Gsb (Bulk Specific Gravity) of the given HMA mixture not the Gse (Effective Specific Gravity).

Table B: HMA Mixture Targets and Parameters Ultra-Thin Mix

Superpave Air Voids (%)	4.5
Superpave Gyration	35
Fine Aggregate Angularity (Min.)	40.0
Percent Crush (Min. %)	50.0
Aggregate Wear Index (AWI)	220
Sieve Size	Total % Passing
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

d) **Asphalt Binder**

Liquid Asphalt Binder shall be a Performance Graded (PG) binder as specified in the bid documents and/or approved by the Road Commission.

e) **Air Voids**

Design Air Voids shall be 4.0% and shall be regressed to 3.0% in production **by the addition of virgin liquid asphalt (4E1 and 5E1).**

f) **Recycled Asphalt Materials**

Recycled Asphalt Pavement (RAP) is allowed in the HMA mixtures subject to the following requirements. The method for determining the binder range in HMA mixtures incorporating RAP is divided into two categories designated Tier 1 and Tier 2. Each tier has a range of percentages that represent the contribution of the RAP toward the total binder replacement. Binder replacement will be determined by weight. ***The use of Reclaimed Asphalt Pavement (RAP) shall be limited to Tier 1 (0% to 17%) RAP binder by weight of the total binder in the mixture, for all mixes (4E1, 5E1, and Ultra-Thin).***

Recycled Asphalt Shingles (RAS) will not be allowed in the HMA Mixtures.

Tier 1 – 0.0% to 17.0% RAP binder by weight of the total binder in the mixture

No binder grade adjustment is required to compensate for the stiffness of the asphalt binder in the RAP.

g) Construction

After the Job Mix Formula is established, the aggregate gradation 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 1. 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 as determined by the field 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.

Random Liquid Asphalt Binder samples will be witnessed by the Engineer or Consulting Firm. The Engineer reserves the right to test any or all samples taken.

The crushed particle content of the aggregate used in the HMA mixture shall not be more than 10 percentage points above or below the crushed particle content used in the job-mix-formula nor less than the minimum specified for the aggregate in the project documents.

Quality Assurance and Acceptance testing will be as follows:

1. Asphalt Mixture Sampling

Acceptance sampling and testing will be performed by the Engineer using the sampling method and testing option agreed upon by the Engineer and Contractor. Each day of production, random samples will be obtained for each mix type. Acceptance testing will be performed at a frequency specified by the Engineer.

For each given day of production, if the daily mix tonnage per HMA mix type is under 500 tons, the Engineer reserves the right to test one sample and obtain a second sample for future testing if necessary. If the daily mix tonnage per HMA mix type is over 500 tons, the Engineer reserves the right to test one sample. If the first sample meets the Range 1 tolerances in Table 1 and Table 2, the Engineer can obtain a second sample and perform any of the following actions:

- a) Perform Full Quality Assurance testing
- b) Perform Volumetric Testing Only (Ignition, Extracted, or Calculated AC/Gmm, Air Voids, VMA)
- c) Retain custody of the sample for future testing if necessary

2. Asphalt Binder Sampling

The Contractor shall obtain the asphalt binder sample, correctly label the sample container, and complete a Sample Identification (Bituminous Material Form 1923B). The form must be filled out correctly and completely, and signed before the sample is given to the Engineer. The daily asphalt binder sample must be taken from a sampling spigot located on the pipeline supplying asphalt binder to the plant, in a position between the asphalt binder pump and the point where the asphalt binder is introduced to the aggregate mixture. Personnel safety is critical in selection the position of the sampling spigot. Give the binder sample and completed Form 1923B to the Engineer.

Daily Asphalt Binder Sample are to be in 1 pint (16 ounce), slip top, seamless ointment tins. The tin must be at least three quarters full. All containers must be labeled in a legible format with the following information provided:

- a. Project Name
- b. Binder Grade
- c. Binder Supplier Certification Number
- d. Supplier Name, City, and State
- e. Date Sampled
- f. Mixture Type

The Engineer may request to witness the sampling of the asphalt binder upon visit to the HMA Plant. The Engineer will complete the 1923B Form for the witness sample. The witness sample will be recorded as the daily asphalt binder sample. Any other asphalt binder samples from that same day will be discarded.

The Engineer may request a copy of the MDOT Binder Certification Documents. These copies must be presented to the Engineer when the respective daily binder samples and the 1923B Forms are picked up at the plant. The Engineer will review these documents and communicate any problems that may arise.

3. Mixture Testing

Mixture samples will be tested to verify gradation, binder content, and volumetric properties per Table 1 and Table 2 listed below.

If the Engineer elects not to perform Quality Assurance testing on a given day or a given project. The Contractor is required to still perform testing in accordance with Table 1 and Table 2 below. The Contractor's Quality Control test results shall be sent to the Engineer within 2 working days of each day's productions for a given HMA mixture.

Table 1: Quality Assurance/Control Tolerance Limits for HMA Mixtures

Parameter	Action Limits (Range 1)	Suspension Limits (Range 2)
% Passing the #8 and Larger Sieves	+/- 5.0%	+/- 8.0%
% Passing the #30 Sieve	+/- 4.0%	+/- 6.0%
% Passing #200 Sieve	+/- 1.0%	+/- 2.0%

Table 2: Quality Assurance/Control Testing Tolerance (+/-) from JMF or Target Values

Parameter	Action Limits (Range 1)	Suspension Limits (Range 2)
Binder Content (a)	0.30% (a)	0.50% (a)
Maximum Specific Gravity (Gmm)	0.013	0.020
Voids in Mineral Aggregate VMA (a,b)	0.75% (a,b)	0.80% (a,b)
Air Voids (c)	0.60%	0.90%
Fines to Effective Asphalt Ratio	0.65-1.20	0.60-1.25
a. Refer to minimum parameters in Table A of this special provision. b. These given limits are (+/-) from given targets in Table A of this special provision. c. Limits are (+/-) from JMF/Target Values listed in Section e. and Table B of this special provision.		

4. Density

Pavement density will be measured by the Engineer, with a Nuclear Density Gauge, using the Gmm from the JMF for the density control target. The in-place density of the HMA mixture shall be at least 92.0% of

the density control target. In-place density will be calculated by averaging four QA density test locations. Test locations will not be taken within 12 inches of any pavement edges or pavement joints.

h) Rejected Materials

1. Gradation

Action Limits - Range of values established in Table 1 – Quality Assurance/Control Tolerance Limits for HMA Mixtures. If exceeded on two consecutive tests, Contractor is required to take corrective action to bring the mixture produced into conformance with the specifications.

Suspension Limits – Range of values established in Table 1 – Quality Assurance/Control Tolerance Limits for HMA Mixtures. If exceeded on a single test, Contractor is required to suspend operations and determine, document, and correct the cause before resuming production. Prior to resuming production, the Engineer must be notified of the findings and approve correction action prior to resuming production.

2. Asphalt Binder

If a liquid asphalt binder sample does not meet the required specification, the mix produced from the point of the last liquid asphalt binder sample meeting specification to the failed sample shall be considered defective and shall be replaced at the sole expense of the Contractor.

3. Volumetric Properties

The acceptable tolerance for Binder Content, Gmm, VMA, Air Voids, and Fines to Pbe are listed in Table 2 above. Any HMA Mixture produced outside of these tolerances or any HMA Mixture that does not meet the requirements listed in the sub notes of Table 2 above will be subject to a negative adjustment or rejected. The resulting penalty will be a negative adjustment of 10% to 50% or remove/replace, to be determined by the Engineer.

4. Pavement Density

A negative 10% adjustment in the HMA Mixture contract price will be imposed if the pavement density (average of all gauge readings) is less than 92%, but equal to or greater than 91%; or if 2 or more readings are less than 91%.

A negative 25% adjustment in the HMA Mixture contract price will be imposed if the pavement density (average of all gauge readings) is less than 91%, but equal to or greater than 90%; or if 2 or more readings are less than 90%.

If the average density is less than 90% (for all gauge readings), the Contractor shall remove and replace the pavement at no cost to the Owner.

CHEBOYGAN COUNTY ROAD COMMISSION

SPECIAL PROVISION FOR
SLOPE RESTORATION

CCRC:RBS

1 of 2

01/25/2016

- a. **Description.** Work consists of preparing all lawns and slopes on the projects designated for slope restoration on the plans, or as directed by the Engineer, and applying topsoil, fertilizer, seed and mulch with mulch anchor. Turf establishment shall be in accordance with Section 816 of the Michigan Department of Transportation 2012 Standard Specifications for Construction and Standard Plan R-100 - H, except as modified herein or otherwise by the Engineer

- b. **Materials.** The materials and application rates specified in Section 816 and 917 of the 2012 Standard Specification for Construction apply unless modified by this special provision or otherwise by the Engineer. The following material must be used on the project:
 - 1. Seeding Mixture as called for on the plans or specifications.
 - 2. Fertilizer, Chemical Nutrient, Class A.
 - 3. Topsoil Surface, Furnished or Salvaged, 3 inch.
 - 4. Mulch and Mulch Anchoring.

- c. **Construction.** Construction methods must be in accordance with the subsection 816.03 of the Standard Specifications for Construction. Begin this work as soon as possible after final grading of the areas designated for slope restoration but no later than the maximum time frames stated in subsection 208.03 of the MDOT 2012 Standard Specifications for Construction. It may be necessary, as directed by the Engineer, to place materials by hand.

Shape, compact and assure all areas to be seeded are weed free prior to placing topsoil. Place topsoil to the minimum thickness indicated above, to meet the proposed finished grade. If the area being restored requires more than the minimum depth of topsoil to meet finished grade, this additional depth must be filled using topsoil or, at the Contractor's option, embankment. Furnishing and placing the additional material shall be included in the pay item for this work, and will not be paid for separately.

Topsoil must be weed and weed seed free and friable prior to placing seed. Remove any stones greater than ½ inch in diameter or other debris. Apply seed mixture and fertilizer to prepared soil surface. Incorporate seed into top ½ inch of topsoil.

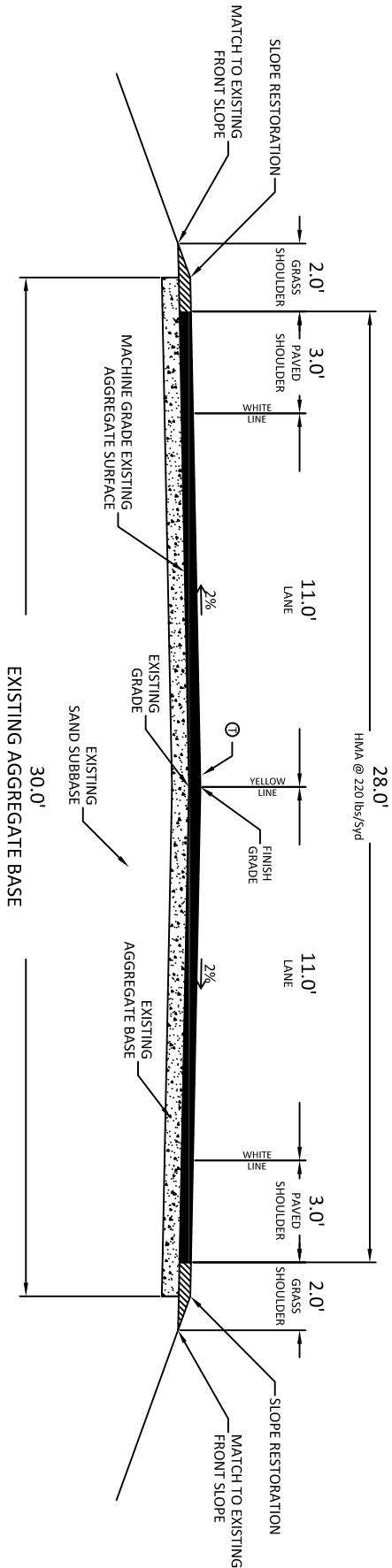
Apply mulch at a rate of 2 tons per acre. Place Mulch Anchoring over the mulch at a rate specified in Subsection 816.03F of the MDOT 2012 Standard Specifications for Construction.

If an area washes out after this work has been properly installed and approved by the Engineer, make the required corrections to prevent future washouts and replace the topsoil, fertilizer, seed and mulch. This replacement will be paid for as additional work using the applicable contract items. If an area washes out for reasons attributable to the Contractor's activity or failure to take proper precautions, replacement will be at the Contractor's expense

- 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:
Slope Restoration

Pay Unit:
Syd



LONG LAKE ROAD

TYPICAL CROSS SECTION

CHEBOYGAN COUNTY ROAD COMMISSION
 5302 S. STRAITS HWY · INDIAN RIVER, MI 49749 · (231) 238-7775

DATE:
03/08/19

JOB NUMBER: A489.496