Roscommon County Road Commission

James Porath, Commissioner
Justin Wykoff, Commissioner
Clint Stauffer, Commissioner
Brian Vaughn, Commissioner
Scott Eckstorm, Commissioner

820 E. West Branch Road
Prudenville, MI 48651

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NOTICE TO BIDDERS

The Roscommon County Road Commission will receive sealed bids until 2:00 p.m. on March 12th, 2025. Bids will be opened for tabulation and review immediately thereafter. The bid will be awarded at the Roscommon County Road Commission's regularly scheduled board meeting on March 13th, 2025 beginning at 7:00 p.m. Our office is located at 820 E. West Branch Road, Prudenville, MI 48651.

2025 County Wide Paving (Hot Mix Asphalt)

Specifications may be obtained by contacting the Roscommon County Road Commission at the above address, by calling (989)-366-0333 ext.1003, emailing Belangern@roscommoncrc.com or by going to www.roscommoncrc.com. Please check the website for any inquiries pertaining to this bid document.

Submit bids in a sealed envelope that is clearly marked with the words **"2025 County Wide Paving"** in the lower left corner.

The Roscommon County Road Commission reserves the right to reject any or all bids, to waive irregularities in any bid, and to accept the bid deemed to be in the best interest of Roscommon County Road Commission. Bids may be extended for additional years with mutual agreement.

The Roscommon County Road Commission has adopted a Local Contractor Preference Policy. Go to 'Adopted Policies' at www.roscommoncrc.com for details and application form.

ROSCOMMON COUNTY BOARD
OF ROAD COMMISSIONERS

Jim Porath, Chair
Brian Vaughn, Vice Chair
Justin Wykoff, Member
Clint Stauffer, Member
Scott Eckstorm, Member

Roscommon County Road Commission
2025 County Wide Paving (Hot Mix Asphalt)

BID REQUIREMENTS:

The undersigned has examined the location(s) of the work described herein and is fully informed as to the nature of the work and conditions relating to its performance and understands the quantities shown are approximate and are subject to either increase or decrease.

The undersigned hereby proposes to furnish all necessary equipment, tools, apparatus, and other means of construction, do all of the work, furnish all materials except as otherwise specified herein; and, for the unit prices named in the itemized bid, to complete the work herein described in strict accordance with the plans and the requirements of these bid documents.

The undersigned further proposes to perform extra work (for items that are not included with the itemized bid) that may be authorized by the Roscommon County Road Commission. Compensation for extra work will be made on the basis of an agreed upon unit price prior to performing the extra work.

The Roscommon County Road Commission (RCRC) is requesting a price per ton for equivalent mixes of the Contractor's choice for all road segments in lieu of the mix types shown in the 2025 HMA Paving Bid sheet. This is shown in the Bid Alternate #1 sheet. The alternate mix type will be subject to the RCRC approval. An equivalent mix type to a 0% RAP mix may contain up to 10% RAP. Please submit a JMF of the alternate mix design for review with the bid submittal. The JMF only needs to be representative of the mix.

MIX DESIGN AND JMF:

A mix design and JMF signed by a qualified independent source must be submitted and approved by Roscommon County Road Commission prior to start of work. Submissions must be received 1 week before the start of work. The selected contractor will be required to submit one mix design and one JMF per mix type awarded. Any changes to these after initial approval, must be approved prior to the start of work, by the County Engineer. Mix samples will be taken by Roscommon County Road Commission employees, or other certified sampler and tested by a qualified tester. Samples will be random and at the owners discretion.

SPECIFICATIONS:

All materials, equipment, and construction methods used on the project(s) shall be in accordance with the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, supplemental specifications, Roscommon County Road Commission Special Provisions and the HMA Application Estimate.

Mainline unit price includes paving of all radius areas and up to a 3 foot extension into all paved driveways to create a smooth transition. An additional quantity on each road has been included in the tonnage calculations. HMA, Curb slope and HMA, Spillway quantities are also included in the additional tonnage calculations.

HMA, Curb Slope shall consist of an 18 to 24 inch wide by variable height “wedge shape” curb. The HMA curb shall be installed at the same time as the new HMA pavement. The height of the HMA curb shall be reduced as directed through all existing or proposed driveways unless otherwise directed by the County Engineer.

The Roscommon County Road Commission shall not allow the cleaning or maintenance of any equipment or tools within the right of way of any county roads or streets. **Any debris or material left at the conclusion of paving for a segment of road must be cleaned up and removed from the Right-of-Way within 48 hours.**

The RCRC will prepare the listed roads prior to the Contractor paving. The Contractor will be required to sweep the surface and apply bond coat per section 501 of the Standard Specifications for Construction at a uniform application rate of 0.10 to 0.15 residual gallon/square yard prior to paving where applicable. This work is considered incidental to and included in the unit prices quoted.

PROGRESS SCHEDULE:

Begin all work after receiving notice of award of contract from the County, and after the County provides notification that the base preparation work has been completed and paving can begin.

All paving shall be done on Monday through Thursday or as approved by the Manager. No paving shall be allowed on Friday, Saturday, Sunday or Holidays without prior approval of the Manager. Request to vary from the above schedule must be made in writing 72 hours in advance.

All items of work shall be completed by **October 15th, 2025,** unless a different date is authorized by the County.

Contractor is required to have a Preconstruction Meeting with Roscommon County Road Commission before any work begins.

MAINTAINING TRAFFIC:

Traffic shall be maintained at all times during construction in accordance with section 812 of the Standard Specifications for Construction, and as specified herein.

The Contractor shall furnish, erect, and maintain barricades, drums or cones adjacent to the work and provide traffic regulators as the construction operations may require. The barricades, drums, or cones shall be furnished, erected and maintained in accordance with the requirements of section 812 of the Standard Specifications for Construction.

All signs, barricades, cones, drums, traffic regulators and other traffic control devices shall be in accordance with the 2011 edition of the Michigan Manual of Uniform Traffic Control Devices (MMUTCD), as amended and shall be the responsibility of the Contractor.

Temporary pavement markings shall be Type R tape and shall be placed in a single line of 4’ strips spaced 50’ center-to-center for each course of HMA paving for passing zones and a

double line of 4' strips spaced 50' center-to-center for each course of HMA paving for no-passing zones, only when directed by RCRC. Temporary Pavement Markings, Type R shall be measured and paid for separately at the bid unit price.

The furnishing, placement and maintaining of traffic control devices and traffic regulators will not be paid for separately, but is considered included with payment for HMA and HMA Approach items.

BASE PREPARATION:

The existing road surface will be prepared for paving by the County and/or its designated Contractor. Paving work on these projects will be performed on a prepared aggregate base or a crushed HMA base as noted in the bid documents. The County will maintain the prepared base in a graded and compacted condition until such time paving will be performed. Contractor delays may require the County to regrade or prepare the base at the expense of the Contractor.

Note: The Contractor may be required to perform some minor base preparation work in some locations such as the removal of temporary aggregate transitions and minor grading. This work, if required will not be paid separately, but is considered included with payment for HMA and HMA Approach items.

BID GUARANTEES:

The undersigned enclosed a certified or cashier's check, on an open solvent bank, or bid bond in the amount of not less than 5% payable to the Roscommon County Board of Road Commissioners as a guarantee of good faith. If the undersigned is the successful bidder and fails to enter into a contract or to furnish satisfactory bonds to the Board of Roscommon County Road Commissioners within fifteen (15) days after being furnished with the necessary contract and bond forms, said check or bid bond, shall be forfeited to the Board of County Road Commissioners as liquidated damages. It is understood that the check, or bid bond, of the selected bidder will not be returned until the contract has been executed, and that the proposal guarantees of all except the selected bidder will be returned promptly.

INSURANCE REQUIREMENTS:

The successful bidder shall furnish proof of insurance prior to beginning work on the project(s). The following minimum requirements must be included on the certificate of insurance.

1. $1,000,000 - General Aggregate – General Liability
2. $1,000,000 – Personal Injury – General Liability
3. $500,000 – Policy Limit – Worker's Compensation
4. $100,000 – Each Accident – Worker's Compensation
5. $1,000,000 – Automobile Liability – Combined single limit for each accident, bodily injury per accident, and property damage per accident, and in an amount not less than $500,000 for bodily injury per person.

The additional insured information must also be included to read as follows:

"ADDITIONAL INSURED: The Board of County Road Commissioners for Roscommon County, the Roscommon County Road Commission, and its officers, agents, and employees".

SAFETY PROGRAM:

The successful bidder will be required to furnish a safety program prior to beginning work on the project(s).

DELAYED ACCEPTANCE, FINAL INSPECTION AND PAYMENT TO CONTRACTOR:

A minimum of 14 days after completion of the HMA paving work, the Road Commission Manager and Engineer (or designated representatives) will inspect the project(s) with the Contractor. If deficiencies are found, corrective work is required. Complete all corrective work within seven working days of the inspection, or by an agreed upon date. All costs associated with completing this corrective work, to the satisfaction of the Road Commission, will be borne by the Contractor.

Final acceptance shall not be granted until all materials and test results pertaining to the project(s) are deemed to be satisfactory.

The Road Commission will not pay the Contractor for the work performed on the project until after the inspection is completed, corrective work is completed (if necessary), and the project is accepted by the Road Commission.

MEASUREMENT AND PAYMENT:

The completed work, including all materials, labor and equipment, as measured, will be paid for at the contract unit price for the following items (pay item), as shown on the itemized bid list for each project

Contract Item	Pay Unit
Item #1 HMA, 13A, Modified, 0% RAP	Ton
Item #2 HMA Approach, Modified, 0% RAP	Ton
Item #3 HMA, 13A, Modified, Less than 20% RAP (100% passing the 5/8" Sieve)	Ton
Item #4 HMA Approach, Modified, Less than 20% RAP (100% passing the 5/8" Sieve)	Ton
Item #5 HMA, Ultra-Thin, Medium Volume, 0% RAP	Ton
Item #6 HMA, Ultra-Thin, Approach, 0% RAP	Ton
Item #7 HMA, Curb Slope	Foot
Item #8 HMA, Spillway	Syd
Item #9 Temporary Pavement Markings, Type R	Foot

HMA and HMA Approach will be paid for by the Ton, based on delivery load tickets received for materials delivered and placed on the project(s).

HMA Ultra-Thin and HMA Ultra-Thin, Approach will be paid for by the Ton, based on delivery load tickets received for materials delivered and placed on the project(s).

HMA, Curb Slope will be paid for separately by the Foot for new curb(to include labor, equipment, etc.). Overlaying existing curb will be incidental to mainline paving. Materials shall be included in the per ton items.

HMA, Spillway will be paid for separately by the Square Yard (to include labor, equipment, etc.). Materials shall be included in the per ton items.

Temporary Pavement Markings, Type R will be paid for separately by the Foot.

Roscommon County Road Commission
2025 County Wide Paving (Hot Mix Asphalt)

- Unit Price is requested for the potential add-in of Item #4,6,7 and 8.

	Pay Unit	Unit Price	Proposed Quantity	Total
Item #1 HMA, 13A, Modified, 0% RAP	Ton	_____	16,068	_____
Item #2 HMA Approach, Modified, 0% RAP	Ton	_____	202	_____
Item #3 HMA, 13A, Modified, Less than 20% RAP (100% passing the 5/8" Sieve)	Ton	_____	157	_____
Item #4 HMA Approach, Modified, Less than 20% RAP (100% passing the 5/8" Sieve)	Ton	_____	Unit Price	_____
Item #5 HMA, Ultra-Thin, Medium Volume, 0% RAP	Ton	_____	3,194	_____
Item #6 HMA, Ultra-Thin, Approach, 0% RAP (Unit Price if Needed)	Ton	_____	Unit Price	_____
Item #7 HMA, Curb Slope	Ft	_____	Unit Price	_____
Item #8 HMA Spillway	Syd	_____	Unit Price	_____
Item #9 Temporary Pavement Marking, Type R	Ft	_____	2,032	_____

Total Bid: $_____

Company Name: _____

Street Address: _____

City: _____ State: _____ Zip Code: _____

Telephone No.: _____ Fax No.: _____

Email Address: _____

Printed Name: _____

Signature: _____ Date: _____

The RCRC has adopted a Local Contractor Preference Policy, check here_____ if registered.

Roscommon County Road Commission
2025 County Wide Paving (Hot Mix Asphalt)

ALTERNATE BID #1 FOR "Alt Mix Type"

- Unit Price is requested for the potential add-in of Item #4,6,7 and 8.

	Pay Unit	Unit Price	Proposed Quantity	Total
Item #1 _____	Ton	_____	16,068	_____
Item #2 _____	Ton	_____	202	_____
Item #3 _____	Ton	_____	157	_____
Item #4 _____	Ton	_____	Unit Price	_____
Item #5 _____	Ton	_____	3,194	_____
Item #6 _____(Unit Price if Needed)	Ton	_____	Unit Price	_____
Item #7 HMA, Curb Slope	Ft	_____	Unit Price	_____
Item #8 HMA Spillway	Syd	_____	Unit Price	_____
Item #9 Temporary Pavement Marking, Type R	Ft	_____	2,032	_____

Total Bid: $_____

Company Name: _____

Street Address: _____

City: _____ State: _____ Zip Code: _____

Telephone No.: _____ Fax No.: _____

Email Address: _____

Printed Name: _____

Signature: _____ Date: _____

The RCRC has adopted a Local Contractor Preference Policy, check here_____ if registered.

ROSCOMMON COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
HMA APPLICATION ESTIMATE

RCRC: NAB 1 of 1 2-05-25

a. Description.
This work shall be done in accordance with the requirements of Division 5 of the Standard Specifications for Construction, except as herein specified.

b. Construction Methods.
Acceptance testing will be done according to the Roscommon County Road Commission Special Provisions for HMA, Ultra-thin, Overlay Mixtures, and MDOT 20SP-501I-01.

c. Tests.
The Nuclear Gauge Method or Coring Method for testing compaction, Section 504.01C is hereby waived for this project(s). The Number of Rollers Method shall apply.

d. Materials.
Some material used in this project(s) may contain reclaimed asphalt pavement.

HMA, 13A, Modified, less than 20% RAP, yield shall be as directed.

HMA, Approach, Modified, less than 20% RAP, yield shall be as directed.

HMA, 13A, Modified, 0% RAP, yield shall be as directed.

HMA, Approach, Modified, 0% RAP, yield shall be as directed.

HMA, Ultra-thin, Medium Volume, 0% RAP, yield shall be as directed.

HMA, Ultra-Thin, Approach, 0% RAP, yield shall be as directed.

The performance graded asphalt binder for the HMA 13A mixtures shall be PG 58-28 and HMA, Ultra-thin, Medium Volume mixtures shall be PG 64-28P.

Aggregate Wear Index (AWI) for the Top course shall be a minimum AWI-260.

The Bond Coat material shall be SS-1h or approved equivalent and applied per Section 501.03.D. The uniform rate of application shall be 0.10 to 0.15 residual gallon/square yard. No separate payment shall be made for the bond coat material.

e. Measurement and Payment.
Measurement and Payment shall be at the contract unit price.

ROSCOMMON COUNTY ROAD
COMMISSION

SPECIAL PROVISION
FOR
MARSHALL HOT MIX ASPHALT MIXTURE
HMA, 13A, MODIFIED, 0% RAP
HMA, APPROACH, MODIFIED, 0% RAP

RCRC:LEC 3/21/17

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. 0%

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.
NOTE: P.G. 58-28

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				
1½ 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

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.
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.
c. Los Angeles abrasion maximum loss must be met for the composite mixture, however, each individual aggregate must be less than 50.
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.

ROSCOMMON COUNTY ROAD
COMMISSION

SPECIAL PROVISION
FOR
MARSHALL HOT MIX ASPHALT MIXTURE
HMA, 13A, MODIFIED, less than 20%
RAP HMA, APPROACH, MODIFIED, less than 20% RAP

RCRC:LEC

3/21/17

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. Less than 20% RAP allowed.

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.
NOTE: P.G. 58-28

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				
1½ inch	100				
1 inch	91-100	100			
3/4 inch	90 max.	91-100	100	100	
5/8 inch	-	-	-	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

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.
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.
c. Los Angeles abrasion maximum loss must be met for the composite mixture, however, each individual aggregate must be less than 50
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.

100% of the aggregate must pass the 5/8”sieve.

ROSCOMMON COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
HMA, Ultra-Thin, Overlay Mixtures

a. Description.

This guide specification provides acceptance testing requirements for use on HMA Ultra-Thin, Overlay Mixtures.

b. Materials.

The HMA and materials shall meet the following requirements:

1. Bond Coat. The bond coat material will be emulsified asphalt conforming to the requirements of section 904 of the Standard Specifications for Construction.

2. HMA Ultra-Thin, Overlay Mixtures. The HMA Ultra-Thin, Overlay Mixtures shall be composed of a blend of aggregate, asphalt binder, and if required, mineral filler, as listed in Table 1.

Table 1 - HMA Ultra-Thin, Overlay Mixture Requirements

Parameter	
Marshall Air Voids %	4.5
VMA % (min.) based on Gsb	15.5
Fines/Binder % Max.	1.4
Flow (0.01 in.)	8-16
Stability Min. (lbs)	1200

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	Medium Volume Comm. ADT 380 - 3400
Percent Crush (min.)	75%
Angularity Index (MTM 118) (min.)	3.0
L.A abrasion loss (max.)	35
Aggregate Wear Index (AWI)	(a)
a. AWI requirement is 260.	

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

4. 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

Medium Volume Comm. ADT 380 - 3400
PG 64 -28P
HMA Ultra-Thin, Overlay Mixtures may not contain reclaimed asphalt pavement.

c. Construction.

1. Bond Coat Application. The bond coat material will be applied to completely cover the prepared surface per subsection 501.03.D of the Standard Specification for Construction at a rate of 0.10 - 0.15 gallons per square yard.

2. Mixture Application Rate. The target application rate for the HMA, Ultra-Thin Overlay and Approach mixtures for top course shall be per the local paving list spreadsheet unless specified by the engineer to address special circumstances.

3. Mix Design. The Contractor shall submit to the Engineer a complete mix design for review 5 working days prior to the start of production.

4. Quality Control. The Contractor shall provide and follow a QC plan for the HMA, Ultra-Thin, Overlay Mixtures 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, and is allowed to take informational cores for application rates. The Engineer shall be provided a copy of the QC plan for review, 5 working days 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 5. 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 QA or 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.

Additionally, if any one test, Contractor or Engineer, indicates the binder content is more than 0.10% below the job-mix-formula, the Contractor shall suspend all operations. 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.

Table 5 – Uniformity Tolerance Limits (for QC and Acceptance)

PARAMETER	* Range 1	Range 2
Air Voids**	± 1.0	± 2.0
Binder Content	-0.30 +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
* 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. ** Air Void limits apply to QC testing and are optional for acceptance testing.		

5. Crushed Particle Content. 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.

6. Density. Thoroughly compact the mixture immediately after placement using the number of rollers method.

   Number of Rollers Method. The number of compaction and finish rollers used shall be as specified in Table 6 based on the square yards per hour of HMA, Ultra-Thin, Overlay Mixture being placed.

Table 6 – Minimum Number of Rollers Recommended based on Placement Rate

Average Laydown Rate, Square yards per hour	Number of Rollers Required (a)	
	Compaction Rollers	Finish Rollers
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.

d. 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.

e. 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.

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

Contract Item (Pay Item)	**Pay Unit**
HMA, Ultra-Thin, Medium Volume	Ton

Payment for HMA, Ultra-Thin, Overlay Mixtures includes all materials, equipment, labor for preparing the surface, placing the HMA, Ultra-Thin, Overlay Mixture and complying with all requirements. The placement includes placement of a single course of mixture for full width coverage as specified in the plans.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
ACCEPTANCE OF HOT MIX ASPHALT MIXTURE ON LOCAL AGENCY PROJECTS

CFS:KPK 1 of 7 APPR:CJB:JWB:02-26-20
FHWA:APPR:03-13-20

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

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

Table 1: Uniformity Tolerance Limits for HMA Mixtures

Parameter			Top and Leveling Course		Base Course	
Number	Description		Range 1 (a)	Range 2	Range 1 (a)	Range 2
1	% Binder Content		-0.30 to +0.40	±0.50	-0.30 to +0.40	±0.50
2	% Passing	# 8 and Larger Sieves	±5.0	±8.0	±7.0	±9.0
		# 30 Sieve	±4.0	±6.0	±6.0	±9.0
		# 200 Sieve	±1.0	±2.0	±2.0	±3.0
3	Crushed Particle Content (b)		Below 10%	Below 15%	Below 10%	Below 15%

a. This range allows for normal mixture and testing variations. The mixture must be proportioned to test as closely as possible to the Job-Mix-Formula (JMF).
b. Deviation from JMF.

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

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

c. Construction. Submit a Mix Design and a JMF to the Engineer. Do not begin production and placement of the HMA until receipt of the Engineer's approval of the JMF. Maintain the binder content, aggregate gradation, and the crushed particle content of the HMA mixture within the Range 1 uniformity tolerance limits in Table 1. For mixtures meeting the definition of top or leveling course, field regress air void content to 3.5 percent with liquid asphalt cement unless specified otherwise on HMA application estimate. For mixtures meeting the definition of base course, field regress air void content to 3.0 percent with liquid asphalt cement unless specified

otherwise on HMA application estimate.

Ensure all persons performing Quality Control (QC) and Quality Assurance (QA) HMA field sampling are "Local Agency HMA Sampling Qualified" samplers. At the pre-production or preconstruction meeting, the Engineer will determine the method of sampling to be used. Ensure all sampling is done in accordance with *MTM 313 (Sampling HMA Paving Mixtures)* or *MTM 324 (Sampling HMA Paving Mixtures Behind the Paver)*. Samples are to be taken from separate hauling loads.

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

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

Ensure all persons performing testing are Bit Level One certified or Bit QA/QC Technician certified.

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

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

Ensure all labs performing local agency acceptance testing are qualified labs per the *HMA Production Manual and the Michigan Quality Assurance Procedures Manual,* and participate in the MDOT round robin process, or they must be *AASHTO Materials Reference Laboratory* (AMRL) accredited for *AASHTO T30* or *T27*, and *AASHTO T164* or *T308*. Ensure on non-National Highway System (NHS) routes, Contractor labs are made available, and may be used, but they must be qualified labs as previously stated. Contractor labs may not be used on NHS routes. Material acceptance testing will be completed by the Engineer within 14 calendar days, except holidays and Sundays, for projects with less than 5,000 tons (plan quantity) of HMA and within 7 calendars days, except holidays and Sundays, for projects with 5,000 tons (plan quantity) or more of HMA, after the Engineer has obtained the samples. QA test results will be provided to the Contractor after the Engineer receives the QC test results. Failure on the part of the Engineer or the laboratory to provide QA test results within the specified time frame does not relieve the Contractor of their responsibility to provide an asphalt mix within specifications.

The correlation procedure for ignition oven will be established as follows. Asphalt binder content based on ignition method from MTM 319. Gradation (*ASTM D5444*) and Crushed particle content *(MTM 117)* based on aggregate from *MTM 319*. The incineration temperature will be established

at the pre-production meeting. The Contractor will provide a laboratory mixture sample to the acceptance laboratory to establish the correction factor for each mix. Ensure this sample is provided to the Engineer a minimum of 14 calendar days prior to production.

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

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

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

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

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

Option 1 - Direct Density Method

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

Option 2 - Roller Method

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

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

Use of the Roller Method requires developing and establishing density frequency curves, and

meeting the requirements of Table 2. A density frequency curve is defined as the measurement and documentation of each pass of the finished roller until the in-place density results indicate a decrease in value. The previous recording will be deemed the optimal density. The Contractor is responsible for establishing and documenting an initial or QC rolling pattern that achieves the optimal in-place density. When the density frequency curve is used, the Engineer will run and document the density frequency curve for each half day of production to determine the number of passes to achieve the maximum density. Table 5, located at the end of this special provision, can be used as an aid in developing the density frequency curve. The Engineer will perform density tests using an approved nuclear or non-nuclear gauge per the manufacturer's recommended procedures.

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

Average Laydown Rate, Square Yards per Hour	Number of Rollers Required (a)	
	Compaction	Finish
Less than 600	1	1 (b)
601 - 1200	1	1
1201 - 2400	2	1
2401 - 3600	3	1
3601 and More	4	1

a. Number of rollers may increase based on density frequency curve.
b. The compaction roller may be used as the finish roller also.

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

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

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

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

If acceptance tests, as described in section c. of this special provision, show that a Table 1 mixture parameter exceeds the Range 1, but not the Range 2, tolerance limits, that mixture parameter will be subject to a 10 percent penalty. The 10 percent penalty will be assessed based on the acceptance tests only unless the Contractor requests that the 10,000 gram sample part retained for possible dispute resolution testing be tested. The Contractor has 4 calendar days from receipt

of the acceptance test results to notify the Engineer, in writing, that dispute resolution testing is requested. The Contractors QC test results for the corresponding QA test results must result in an overall payment greater than QA test results otherwise the QA tests will not be allowed to be disputed. The Engineer has 4 calendar days to send the dispute resolution sample to the lab once dispute resolution testing is requested. The dispute resolution sample will be sent to an independent lab selected by the Local Agency, and the resultant dispute test results will be used to determine the penalty per parameter, if any. Ensure the independent lab is a MDOT QA/QC qualified lab or an AMRL HMA qualified lab. The independent lab must not have conflicts of interest with the Contractor or Local Agency. If the dispute testing results show that the mixture parameter is out-of-specification, the Contractor will pay for the cost of the dispute resolution testing and the contract base price for the material will be adjusted, based on all test result parameters from the dispute tests, as shown in Table 3 and Table 4. If the dispute test results do not confirm the mixture parameter is out-of-specification, then the Local Agency will pay for the cost of the dispute resolution testing and no price adjustment is required.

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

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

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

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

Table 3: Penalty Per Parameter

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

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

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

Table 4: Calculating Total Price Adjustment

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

Table 5: Density Frequency Curve Development

Tested by: _____ Date/Time: _____

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

Roller #1 Type:

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

Roller #2 Type:

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

Roller #3 Type:

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

Summary: _____

_____

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	2025 HMA PAVING BID** - ROSCOMMON COUNTY																			
	Township	Description	Limits	Length	HMA Item 1	Max Width LT/RT Lane Width	Application Rate	Quantity	Unit	HMA Item 2	Application Rate	Quantity	Unit	HMA Special 1	Quantity	Unit	HMA Special 2	Quantity	Unit
	Road Name		(Location to Location)	(Miles)	Mainline	Excludes Curb	(Lbs/Syd)			Approach / Wedging	(Lbs/Syd)								
AuSable																			
	E. Skyline Dr	165# Overlay	0.53 miles north of CR 603 to 0.85 miles north	0.32	HMA, 13A, Modified, 0% RAP	10.5'/10.5'	165	326	Tons	---	---	---	---	---	---	---	---	---	---
Backus																			
	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Denton																			
	Ashwood Dr	MVUT	Ottawa Ln to CR 401 (Iroquois Ave)	0.09	HMA, Ultra-Thin, Medium Volume, 0% RAP	10'/10'	100	65	Tons	---	---	---	---	---	---	---	---	---	---
	Birchwood Ave	MVUT	M-55 to Deer Park Dr	0.26	HMA, Ultra-Thin, Medium Volume, 0% RAP	10.5'/10.5'	100	168	Tons	---	---	---	---	---	---	---	---	---	---
	Shadylane Ave	MVUT	M-55 to Deer Park Dr	0.24	HMA, Ultra-Thin, Medium Volume, 0% RAP	10'/10'	100	148	Tons	---	---	---	---	---	---	---	---	---	---
	Castlewood	MVUT	Wooden Key Dr to end of cul-de-sac	0.09	HMA, Ultra-Thin, Medium Volume, 0% RAP	10.5'/10.5'	100	101	Tons	---	---	---	---	---	---	---	---	---	---
	Kristin	MVUT	Wooden Key Dr to end of cul-de-sac	0.11	HMA, Ultra-Thin, Medium Volume, 0% RAP	11'/11'	100	88	Tons	HMA, 13A, Modified, Less than 20% RAP*	135/165	14	Tons	---	---	---	---	---	---
	Chippewa	MVUT	M-55 to CR 401 (Iroquois Ave)	1.09	HMA, Ultra-Thin, Medium Volume, 0% RAP	10.5'/10.5'	100	696	Tons	---	---	---	---	---	---	---	---	---	---
	Old Trail Dr	MVUT	End of Cul-de-sac to Greenbriar Ave	1.19	HMA, Ultra-Thin, Medium Volume, 0% RAP	11'/11'	100	823	Tons	---	---	---	---	---	---	---	---	---	---
Gerrish																			
	Black Bear Dr, Highland Dr, and Bear Cub Trl	220# Overlay	Black Bear Dr to Bear Cub Trl	0.73	HMA, 13A, Modified, 0% RAP	10.5'/10.5'	220	980	Tons	HMA Approach, Modified, 0% RAP	220	38	Tons	---	---	---	---	---	---
	Highland Dr	220# Overlay	CR 104 (W Marl Lake Rd) to Bear Cub Trl	0.08	HMA, 13A, Modified, 0% RAP	10'/10'	220	128	Tons	---	---	---	---	---	---	---	---	---	---
	Marywood Dr	220# Overlay	CR 104 (W Marl Lake Rd) to Highland Dr	0.22	HMA, 13A, Modified, 0% RAP	10'/10'	220	308	Tons	HMA Approach, Modified, 0% RAP	220	8	Tons	---	---	---	---	---	---
	Mink Dr and Highland Dr	220# Overlay	Highland Dr to Black Bear Dr	0.44	HMA, 13A, Modified, 0% RAP	10'/10'	220	620	Tons	HMA Approach, Modified, 0% RAP	220	22	Tons	---	---	---	---	---	---
Higgins																			
	Southside Ct/Springside Ct	165# Overlay	Wheeler Rd to Brookside Ct	0.23	HMA, 13A, Modified, 0% RAP	10.5'/10.5'	165	246	Tons	---	---	---	---	---	---	---	---	---	---
	Brookside Ct	165# Overlay	Springside Ct to Woodmere Ct	0.13	HMA, 13A, Modified, 0% RAP	10.5'/10.5'	165	136	Tons	---	---	---	---	---	---	---	---	---	---
	Fairview Dr	165# Overlay	Brookside Ct to CR 100 (W Sunset Dr)	0.07	HMA, 13A, Modified, 0% RAP	10.75'/10.75'	165	78	Tons	---	---	---	---	---	---	---	---	---	---
	Woodmere Ct	165# Overlay	Brookside Ct to Acre Ct	0.14	HMA, 13A, Modified, 0% RAP	10.5'/10.5'	165	140	Tons	---	---	---	---	---	---	---	---	---	---
	Acre Ct	165# Overlay	Woodmere Ct to Springside Ct	0.13	HMA, 13A, Modified, 0% RAP	10.5'/10.5'	165	138	Tons	---	---	---	---	---	---	---	---	---	---
	Center Dr	165# Overlay	Acre Ct to Brookside Ct	0.13	HMA, 13A, Modified, 0% RAP	10.5'/10.5'	165	142	Tons	---	---	---	---	---	---	---	---	---	---
	E. Russel Lake Rd	165# Overlay	Ash Ave to End of HMA	0.09	HMA, 13A, Modified, 0% RAP	11'/11'	165	108	Tons	---	---	---	---	---	---	---	---	---	---
Lake																			
	Burgess St and Myrtle St	165# Overlay	Spink Rd to CR 300 (Muskegon Rd)	0.30	HMA, 13A, Modified, 0% RAP	11'/11'	165	334	Tons	HMA, 13A, Modified, Less than 20% RAP*	82	28	Tons	---	---	---	---	---	---
	West Shore Dr	165# Overlay	Yeager to Water St	1.16	HMA, 13A, Modified, 0% RAP	12'/12'	165	1387	Tons	---	---	---	---	---	---	---	---	---	---
	Spink Rd	165# Overlay	CR 300 (Muskegon Rd) to end of HMA	0.08	HMA, 13A, Modified, 0% RAP	11'/11'	165	88	Tons	HMA, 13A, Modified, Less than 20% RAP*	82	5	Tons	---	---	---	---	---	---
Lyon																			
	Barbara Dr	MVUT	CR 202 (Hillcrest Rd) to Carol Ct	0.20	HMA, Ultra-Thin, Medium Volume, 0% RAP	10.5'/10.5'	100	151	Tons	---	---	---	---	---	---	---	---	---	---
	Ellen Dr, Carol Ct, Joann Dr	MVUT	CR 202 (Hillcrest Rd) to CR 202 (Hillcrest Rd)	0.57	HMA, Ultra-Thin, Medium Volume, 0% RAP	10.5'/10.5'	100	391	Tons	---	---	---	---	---	---	---	---	---	---
	Grenoble St, Innsbruck Ave, Carinthia St, Winter Jasmine Dr	MVUT	Winter Jasmine Dr to Cherry Dr	0.66	HMA, Ultra-Thin, Medium Volume, 0% RAP	11'/11'	100	482	Tons	---	---	---	---	---	---	---	---	---	---
	Lausanne St	MVUT	Innsbruck Ave to Winter Jasmine Dr	0.10	HMA, Ultra-Thin, Medium Volume, 0% RAP	10.5'/10.5'	100	81	Tons	---	---	---	---	---	---	---	---	---	---

Markey																				
	Autumn Ln	165# Overlay	CR 104 (W Marl Lake Rd) to Autumn Ln	0.77	HMA, 13A, Modified, 0% RAP	11'/11'	165	848	Tons	---	---	---	---	---	---	---	---	---	---
	Burning Oak Ct	165# Overlay	Lansing Rd to end of cul-de-sac	0.14	HMA, 13A, Modified, 0% RAP	10.75'/10.75'	165	170	Tons	---	---	---	---	---	---	---	---	---	---
	Dees Rd and Van Y Rd	165# Overlay	CR 300 (E Houghton Lake Dr) to end of HMA	0.24	HMA, 13A, Modified, 0% RAP	10'/10'	165	295	Tons	---	---	---	---	---	---	---	---	---	---
	McDonald Dr	165# Overlay	North Curve to CR 100 (E Houghton Lake Dr)	0.20	HMA, 13A, Modified, 0% RAP	10.5'/10.5'	165	213	Tons	HMA, 13A, Modified, Less than 20% RAP*	110	5	Tons	---	---	---	---	---	---
	Windemere Dr	165# Overlay	Breaugh Ct to CR 100 (E Houghton Lake Dr)	0.18	HMA, 13A, Modified, 0% RAP	10.5'/10.5'	165	273	Tons	HMA, 13A, Modified, Less than 20% RAP*	135/220	26	Tons	---	---	---	---	---	---
Nester																				
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Richfield																				
	Kennedy St	165# Overlay	Richfield Ct to South St	0.14	HMA, 13A, Modified, 0% RAP	10.5'/10.5'	165	167	Tons	---	---	---	---	---	---	---	---	---	---
	South St/Lakewood Beach Dr	165# Overlay	Start of HMA to Airport Rd	0.51	HMA, 13A, Modified, 0% RAP	10.75'/10.75'	165	524	Tons	---	---	---	---	---	---	---	---	---	---
	McClain Dr	165# Overlay	Lolich Dr to South St	0.12	HMA, 13A, Modified, 0% RAP	10'/10'	165	150	Tons	HMA, 13A, Modified, Less than 20% RAP*	135/165	48	Tons	---	---	---	---	---	---
	Freehan St	165# Overlay	Start of HMA to Lolich Dr	0.10	HMA, 13A, Modified, 0% RAP	10.5'/10.5'	165	110	Tons	---	---	---	---	---	---	---	---	---	---
	Lolich Dr	165# Overlay	McClain Dr to South St	0.16	HMA, 13A, Modified, 0% RAP	10.5'/10.5'	165	207	Tons	HMA, 13A, Modified, Less than 20% RAP*	165	5	Tons	---	---	---	---	---	---
	Mullet Ave	165# Overlay	Houghton Ave to W Airport Rd	0.22	HMA, 13A, Modified, 0% RAP	11'/11'	165	251	Tons	---	---	---	---	---	---	---	---	---	---
	Ash Ave	165# Overlay	Artesia Beach Rd to end of HMA	0.49	HMA, 13A, Modified, 0% RAP	12'/12'	165	677	Tons	HMA, 13A, Modified, Less than 20% RAP*	265	26	Tons	---	---	---	---	---	---
Roscommon																				
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RCRC Primary																				
	F-97 (S. Maple Valley Rd)	200# Overlay	Wolverine Dr to M-55	3.67	HMA, 13A, Modified, 0% RAP	18'/18' Including Curb Overlay	200	7,024	Tons	HMA Approach, Modified, 0% RAP	200	134	Tons	Temporary Pavement Marking, Type R	2032	Feet		---	---
Village of Roscommon																				
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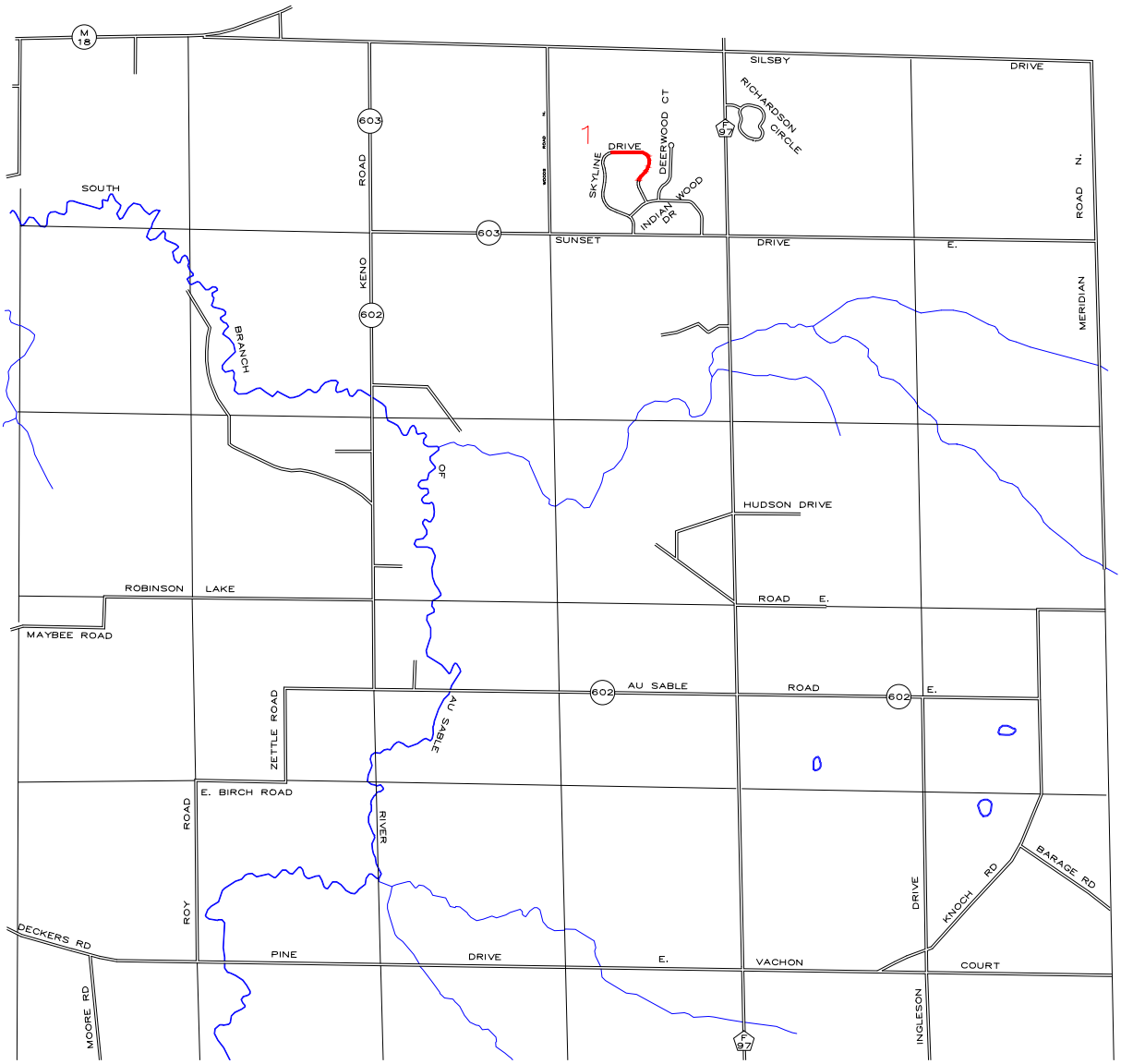
HMA Item	Item 1 Qty	Item 2 Qty	TOTAL HMA 1 & 2	Unit
HMA, 13A, Modified, 0% RAP	16068	0	16068	Ton
HMA Approach, Modified, 0% RAP	0	202	202	Ton
HMA, 13A, Modified, Less than 20% RAP*	0	157	157	Ton
HMA, 13A, Approach, Modified, Less than 20% RAP*	0	0	0	Ton
HMA, Ultra-Thin, Medium Volume, 0% RAP	3194	0	3194	Ton
HMA Curb	0	0	0	Feet
HMA Spillway	0	0	0	Syd
Temporary Pavement Marking, Type R	2032	0	2032	Feet

*100% of the aggregate must pass the 5/8" sieve.

** Some projects are not under agreement and tonnages/locations are subject to change.

ROSCOMMON COUNTY ROAD COMMISSION

AUSABLE TWP 2025 LOCAL ROAD PROJECTS

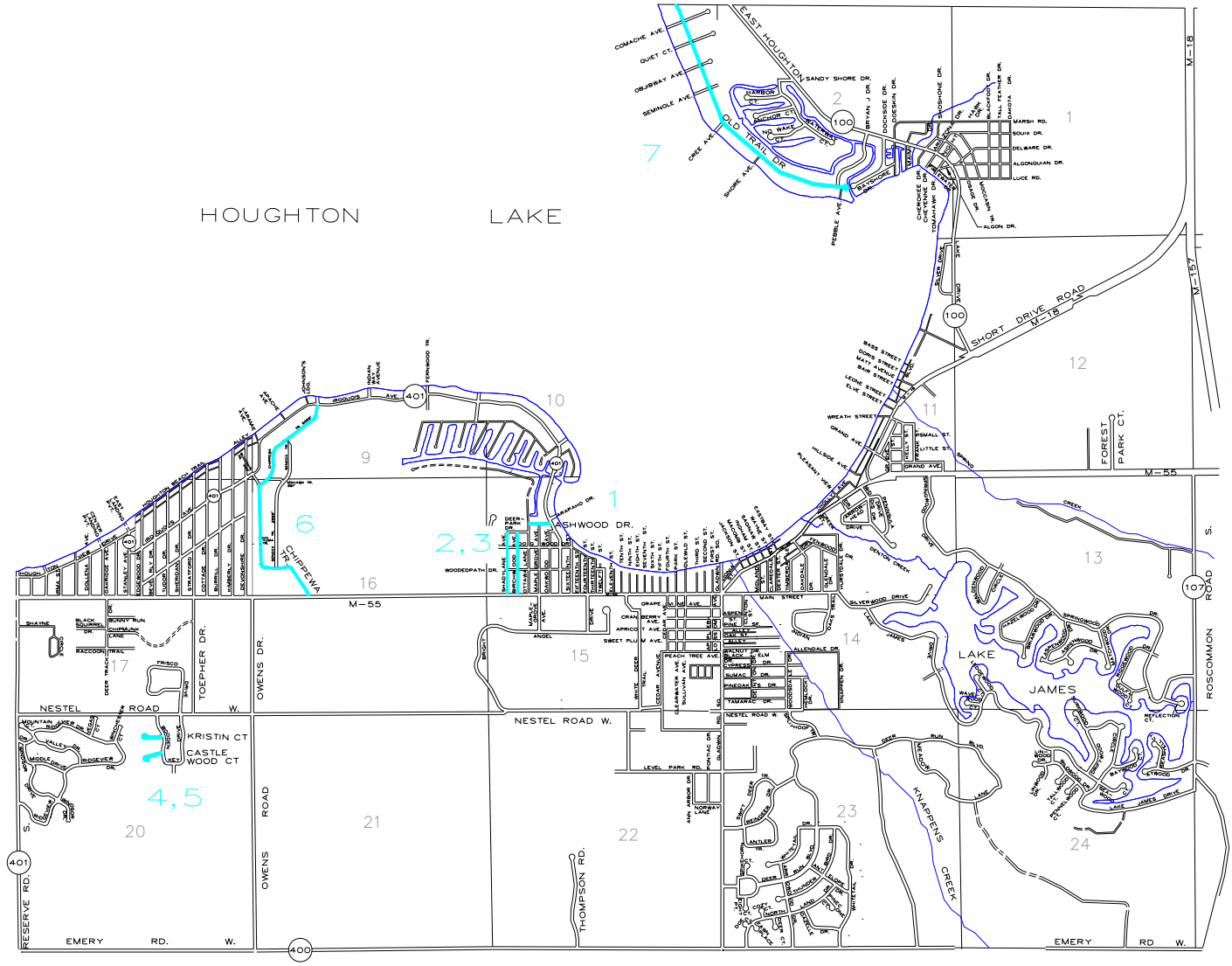


NORTH

2025 ROAD PLAN	SEGMENT	MILEAGE	TREATMENT	KEY
E Skyline Dr	0.53 Miles North of CR 603 to 0.85 Miles North of CR 603	0.32	HMA 13A	1

ROSCOMMON COUNTY ROAD COMMISSION

DENTON TWP 2025 LOCAL ROAD PROJECTS

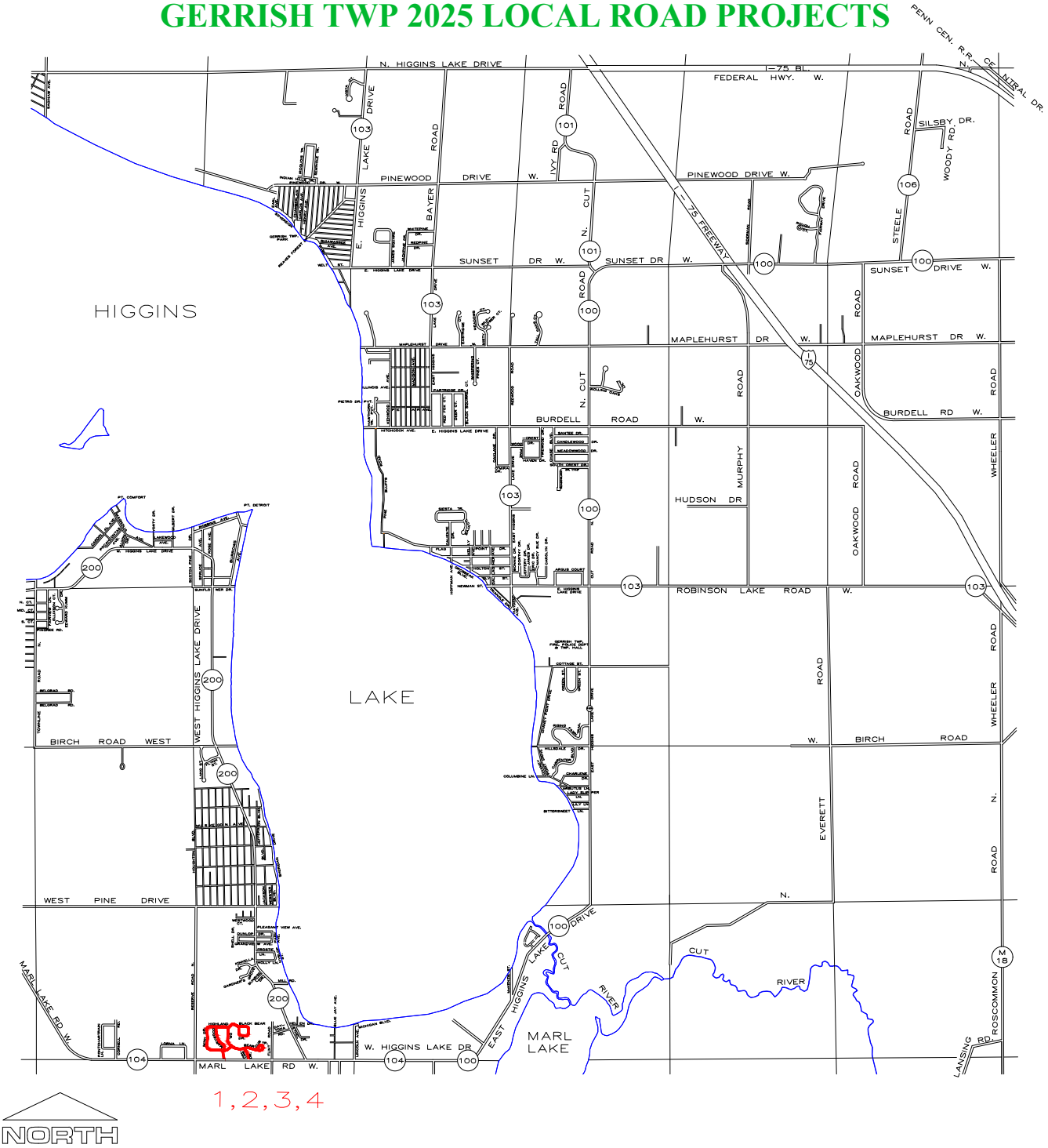


NORTH

2025 ROAD PLAN	SEGMENT	MILEAGE	TREATMENT	KEY
Ashwood Dr	Ottawa Ln to CR 401 (Iroquois Ave)	0.09	MVUT	1
Birchwood Ave	M-55 to Deer Park Dr	0.26	MVUT	2
Shadylane Ave	M-55 to Deer Park Dr	0.24	MVUT	3
Castlewood Ct	Wooden Key Dr to end of cul-de-sac	0.09	MVUT	4
Kristin Ct	Wooden Key Dr to end of cul-de-sac	0.11	MVUT	5
Chippewa Trl	M-55 to CR 401 (Iroquois Ave)	1.09	MVUT	6
Old Trail Dr	Start of HMA to Markey Twp Line	1.15	MVUT	7

ROSCOMMON COUNTY ROAD COMMISSION

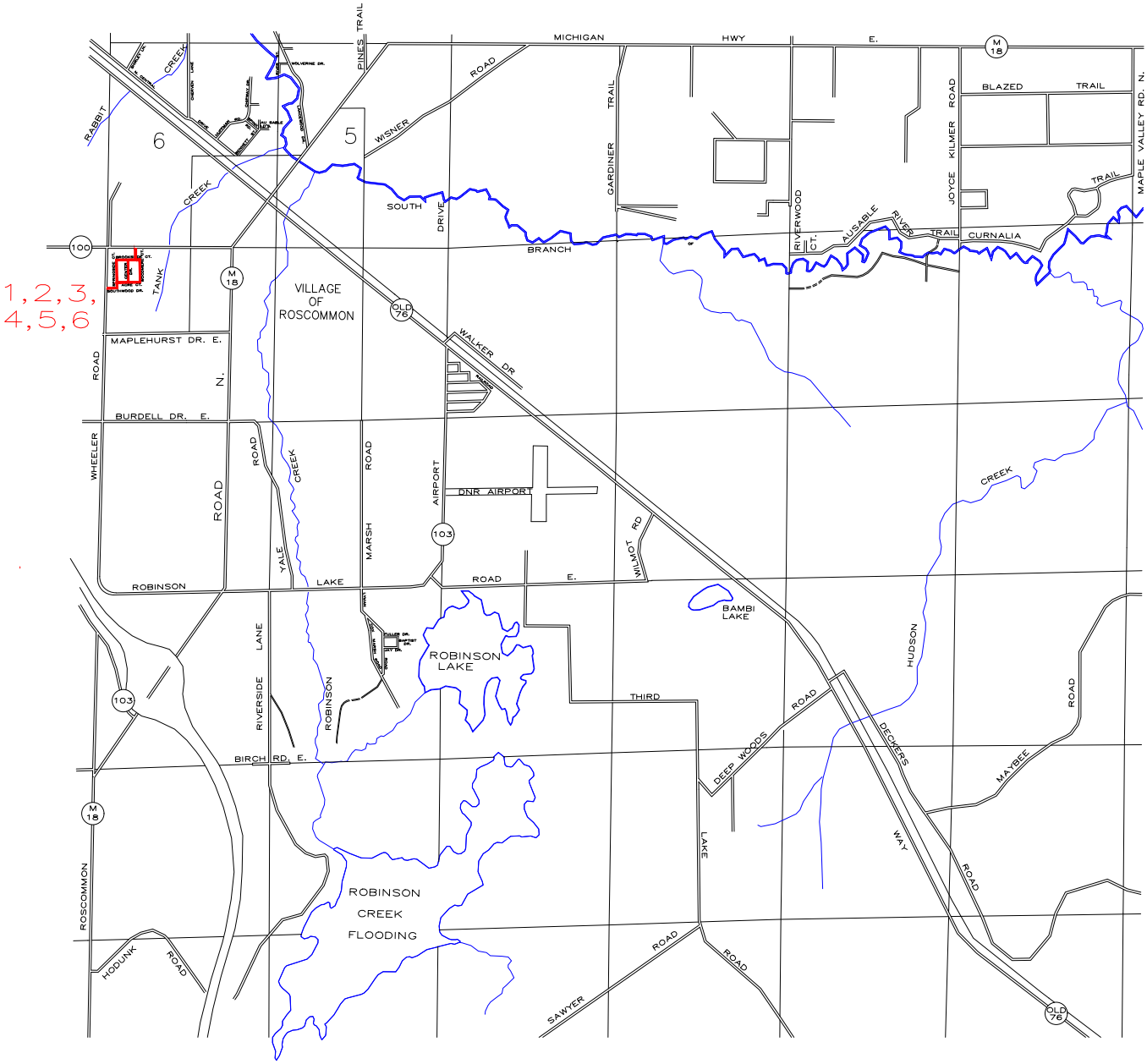
GERRISH TWP 2025 LOCAL ROAD PROJECTS



2025 ROAD PLAN	SEGMENT	MILEAGE	TREATMENT	KEY
BlackBear Dr, Highland Dr, Bear Cub Trl	Black Bear Dr to Bear Cub Trl	0.73	HMA 13A	1
Highland Dr	CR 104 (W Marl Lake Rd) to Bear Cub Trl	0.08	HMA 13A	2
Marywood Dr	CR 104 (W Marl Lake Rd) to Highland Dr	0.22	HMA 13A	3
Mink Dr, Highland Dr	Highland Dr to Black Bear Dr	0.44	HMA 13A	4

ROSCOMMON COUNTY ROAD COMMISSION

HIGGINS TWP 2025 LOCAL ROAD PROJECTS

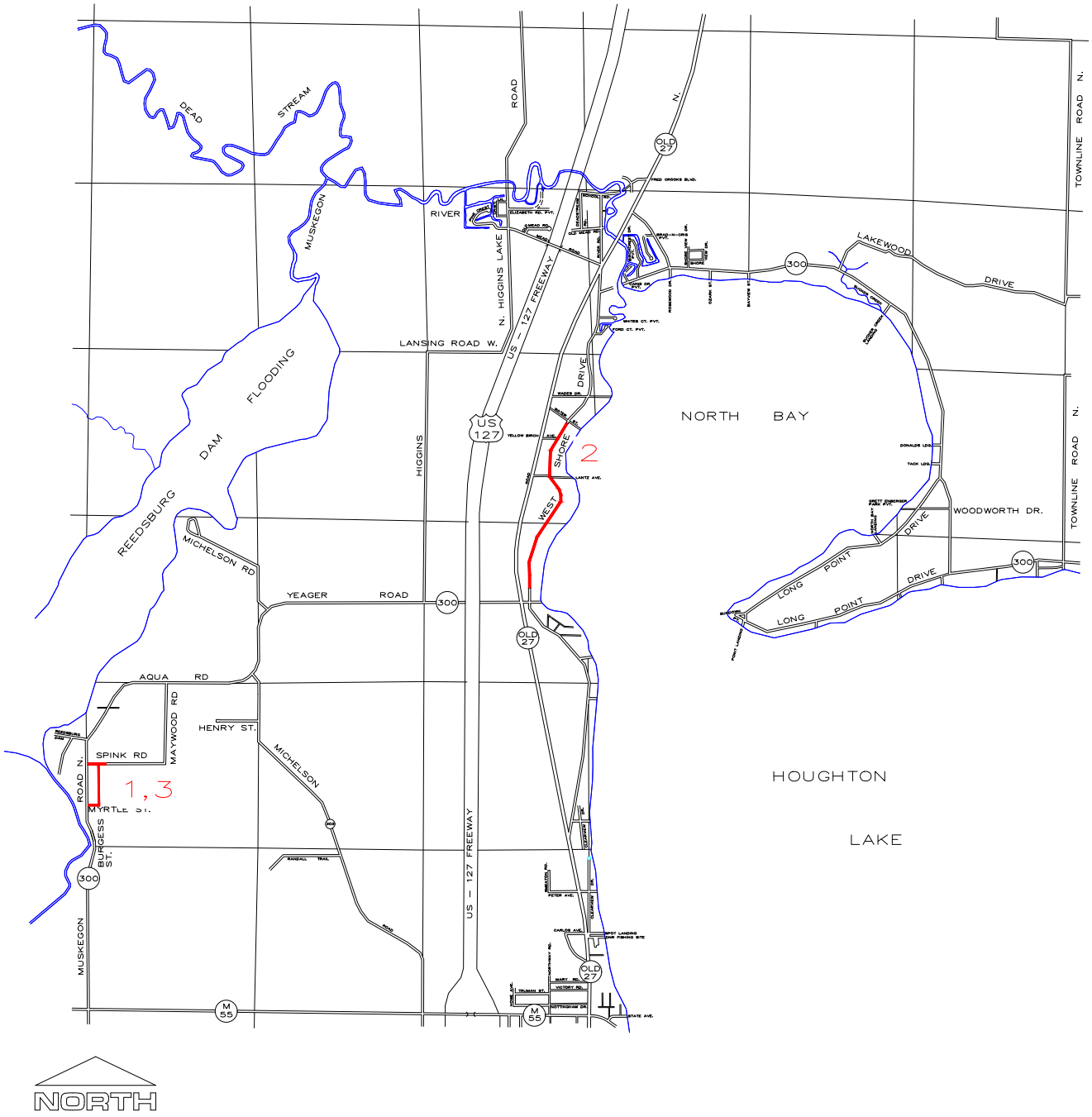


NORTH

2025 ROAD PLAN	SEGMENT	MILEAGE	TREATMENT	KEY
Southside Ct/Springside Ct	Wheeler Rd to Brookeside Ct	0.23	HMA 13A	1
Brookside Ct	Springside Ct to Woodmere Ct	0.13	HMA 13A	2
Fairview Dr	Brookside Ct to CR 100 (W Sunset Dr)	0.07	HMA 13A	3
Woodmere Ct	Acre Ct to Brookside Ct	0.14	HMA 13A	4
Acre Ct	Springside Ct to Woodmere Ct	0.13	HMA 13A	5
Center Dr	Acre Ct to Brookside Ct	0.14	HMA 13A	6
Ash Ave (See Richfield Sheet For Location)	Artesia beach Rd to Russel Lake Rd	0.5	HMA 13A	7
E. Russel Lake Rd (See Richfield Sheet For Location)	Ash Ave to End of HMA	0.09	HMA 13A	8

ROSCOMMON COUNTY ROAD COMMISSION

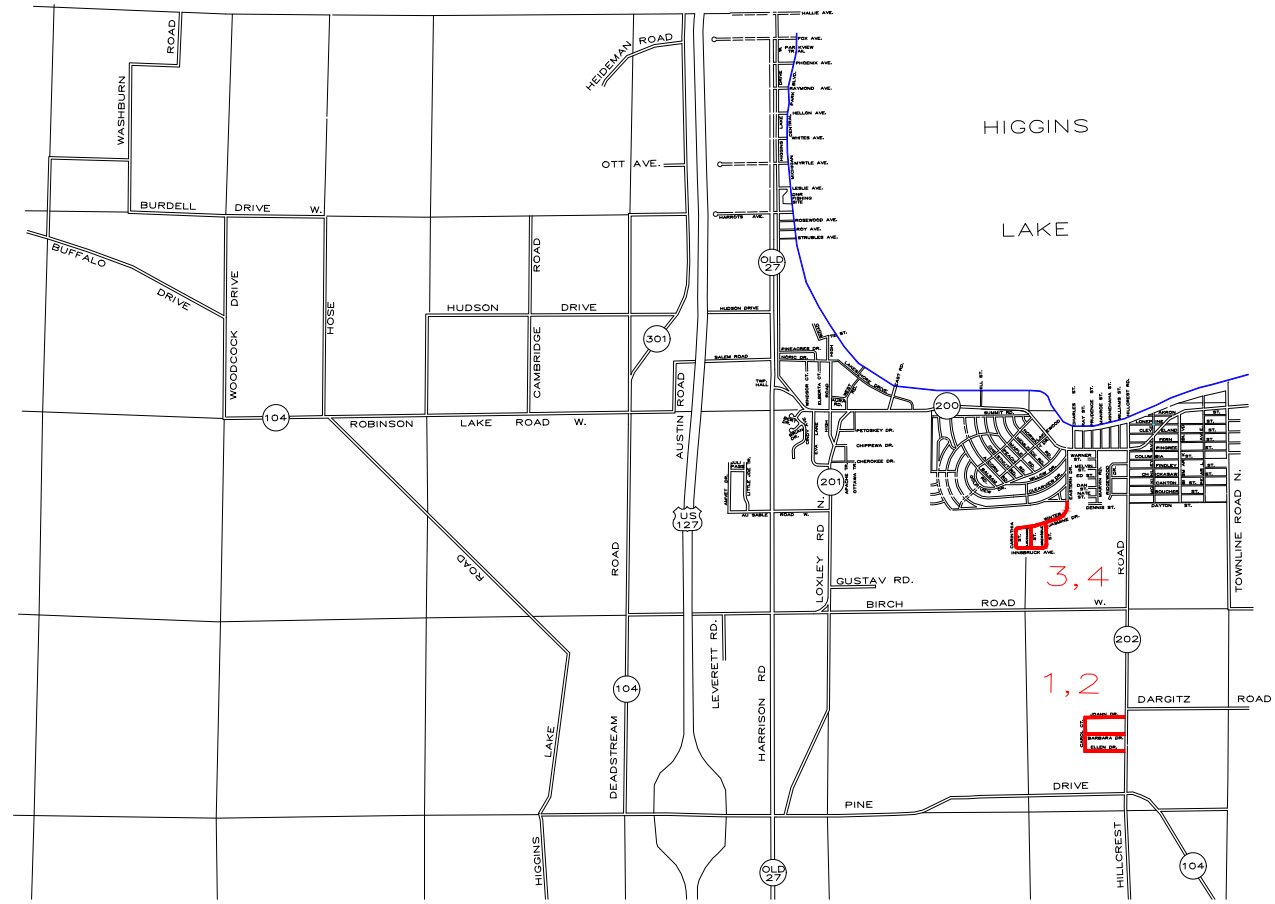
LAKE TWP 2025 LOCAL ROAD PROJECTS



2025 ROAD PLAN	SEGMENT	MILEAGE	TREATMENT	KEY
Burgess St and Myrtle St	Spink Rd to CR 300 (Muskegon Rd)	0.30	HMA 13A	1
West Shore Dr	Yeager to Water St	1.16	HMA 13A	2
Spink Rd	CR 300 (Muskegon Rd) to Burgess St	0.08	HMA 13A	3

ROSCOMMON COUNTY ROAD COMMISSION

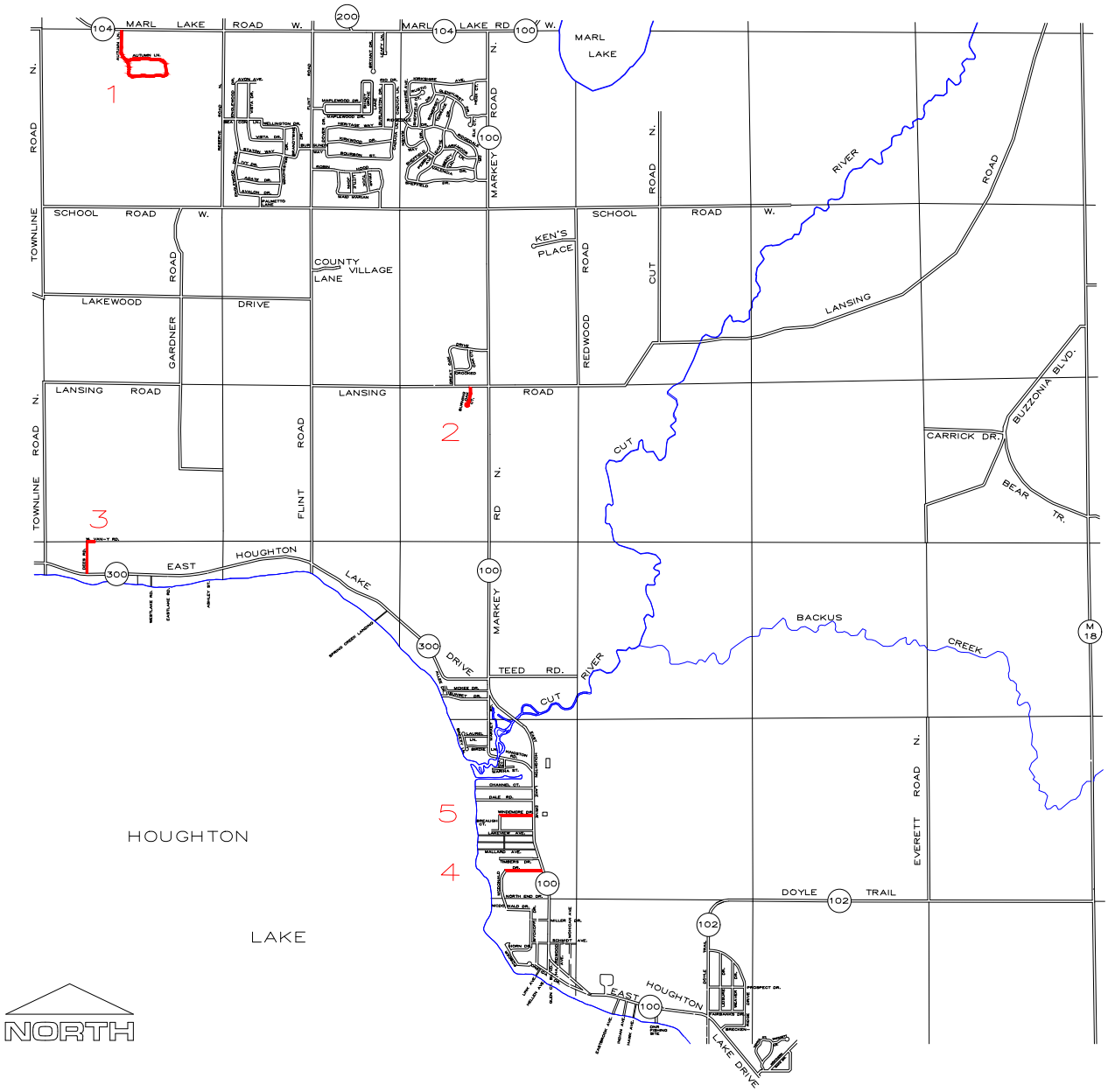
LYON TWP 2025 LOCAL ROAD PROJECTS



2025 ROAD PLAN	SEGMENT	MILEAGE	TREATMENT	KEY
Barbara Dr	ol Ct to CR 202 (Hillcrest Dr) to Carol	0.2	HMA 13A	1
Ellen Dr, Carol Ct, Joann Dr	CR (202) to CR(202)	0.58	HMA 13A	2
Grenoble St, Innsbruck Ave, Carinthia St, Winter Jasmine Dr	Winter Jasmine Dr to Cherry Dr	0.74	HMA 13A	3
Lausanne St	Innsbruck Ave to Winter Jasmine Dr	0.12	HMA 13A	4

ROSCOMMON COUNTY ROAD COMMISSION

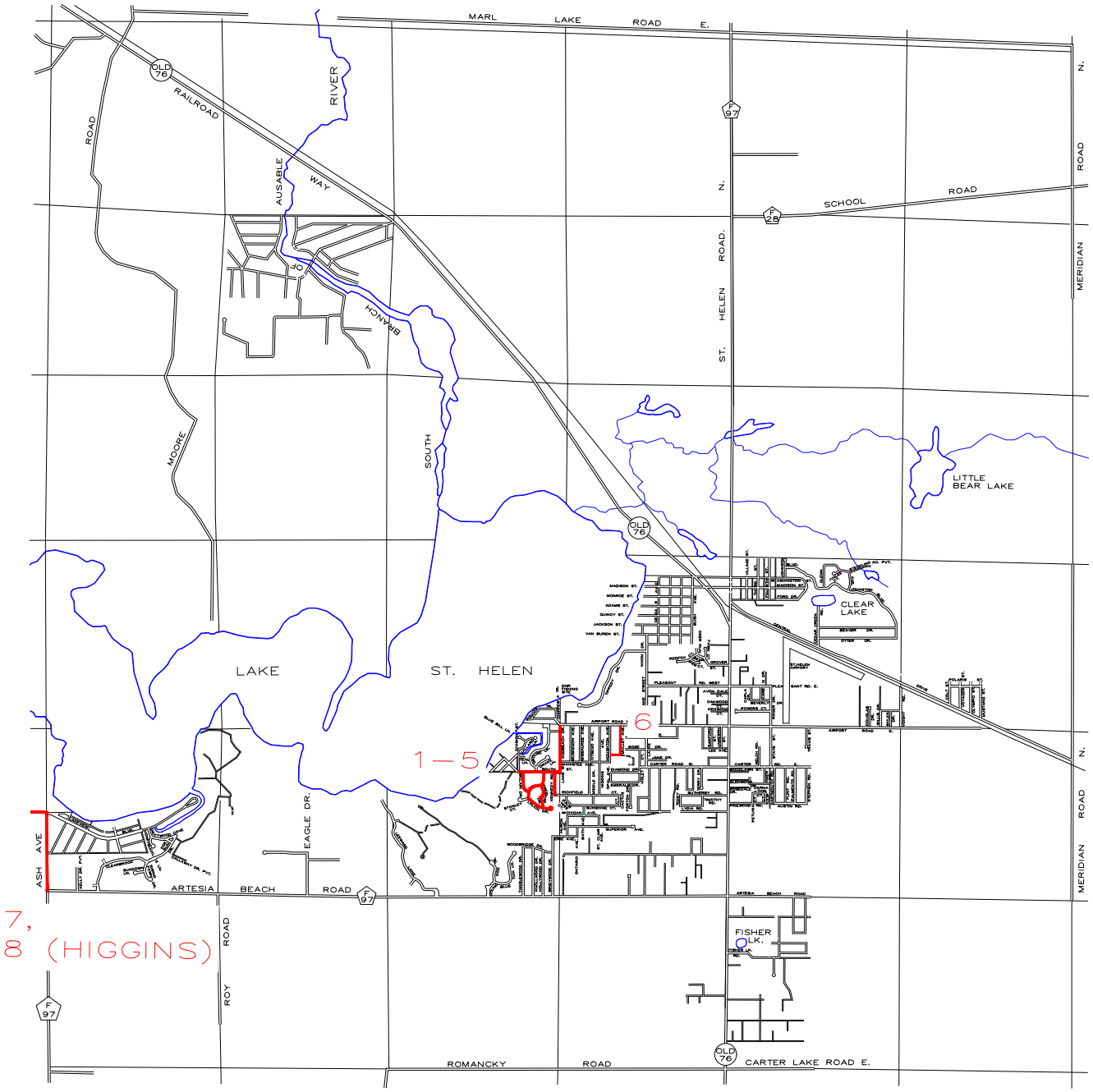
MARKEY TWP 2025 LOCAL ROAD PROJECTS



2025 ROAD PLAN	SEGMENT	MILEAGE	TREATMENT	KEY
Autumn Ln	Autumn Ln to CR 104 (W Marl Lake Rd)	0.77	HMA 13A	1
Burning Oak Ct	Start of HMA to Lansing Rd	0.14	HMA 13A	2
Dees Rd and Van Y Rd	CR 300 (E Houghton Lake Dr) to End of HMA	0.24	HMA 13A	3
McDonald Dr	North Curve to CR 100 (E Houghton Lake Dr)	0.2	HMA 13A	4
Windemere Dr	Breaugh Ct to CR 100 (E Houghton Lake Dr)	0.18	HMA 13A	5

ROSCOMMON COUNTY ROAD COMMISSION

RICHFIELD TWP 2025 LOCAL ROAD PROJECTS

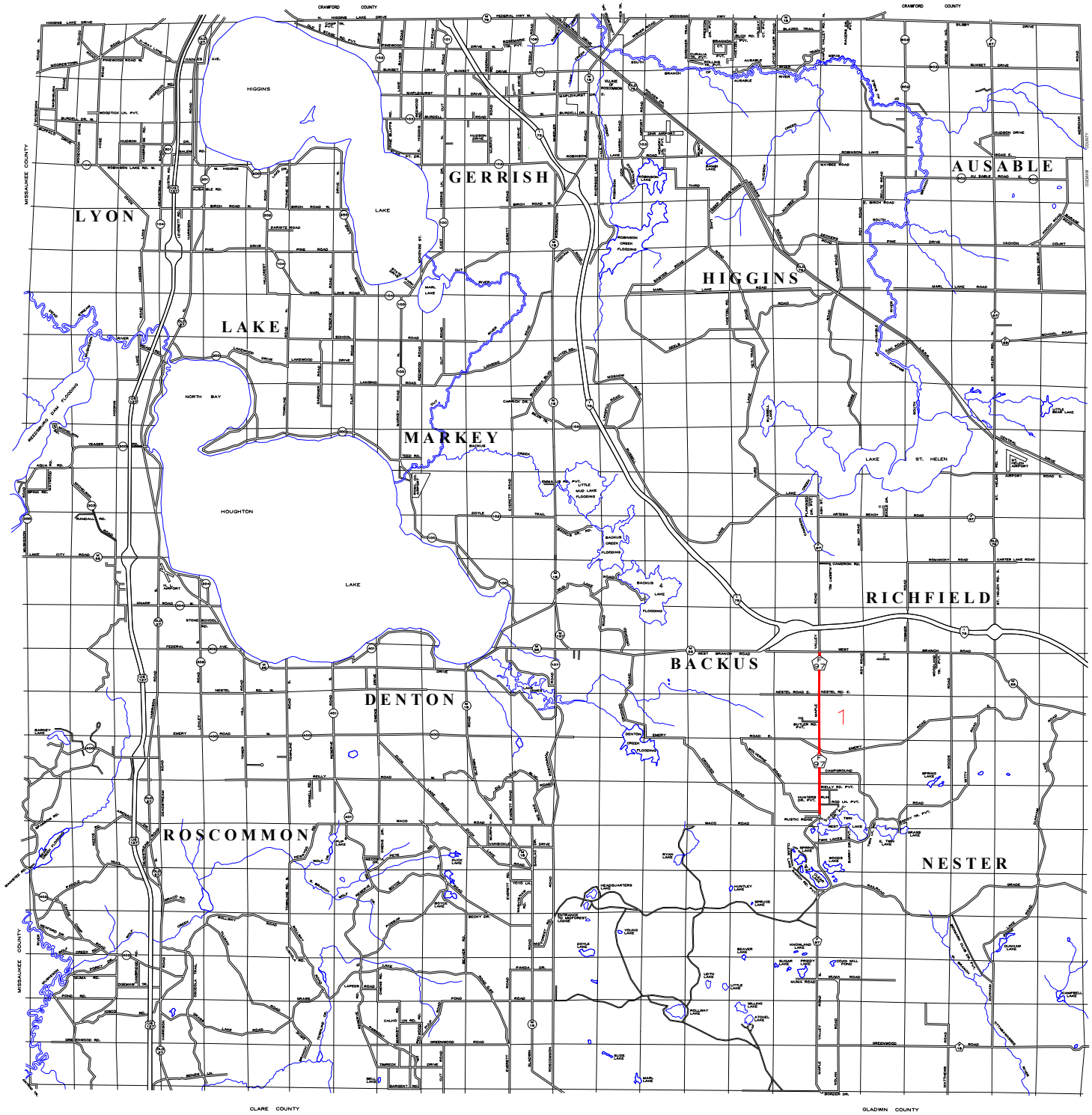


NORTH

2025 ROAD PLAN	SEGMENT	MILEAGE	TREATMENT	KEY
Kennedy St	Richfield Ct to South St	0.14	HMA 13A	1
South St/Lakewood Beach Dr	Start of HMA to Airport Rd	0.51	HMA 13A	2
McClain Dr	South St to Lolich Dr	0.12	HMA 13A	3
Freehan St	Start of HMA to Lolich Dr	0.10	HMA 13A	4
Lolich Dr	South St to McClain Dr	0.16	HMA 13A	5
Mullet Ave	W. Airport Rd to Houghten Ave	0.22	HMA 13A	6
Ash Ave	Artesia Beach to Russel Lake Rd	0.49	HMA 13A	7

ROSCOMMON COUNTY ROAD COMMISSION

RCRC 2025 PRIMARY ROAD PROJECTS



NORTH

2025 ROAD PLAN	SEGMENT	MILEAGE	TREATMENT	KEY
F-97	Rustic Ridge to M-55	3.67	HMA 13A	1