

**LAPEER COUNTY ROAD COMMISSION**  
**PROPOSAL FOR: COUNTYWIDE PAVEMENT MARKING PROGRAM**

Sealed bids will be received by the Lapeer County Road Commission at their offices, 820 Davis Lake Road, Lapeer, MI 48446, until 1:00PM, Monday, May 21, 2018, at which time and place proposals will be publicly opened and read for countywide pavement marking program of various county roads in Lapeer County.

**Bid Price**

The following is a bid price breakdown for the work listed:

**LAPEER COUNTY ALTERNATE 1 – Waterborne Pavement Marking**

BID ITEM	UNIT	QUANTITY	UNIT PRICE	AMOUNT
Waterborne Pavement Marking, Yellow, Skip	STA	2,761.37		
Waterborne Pavement Marking, Yellow, No Pass	STA	7,915.94		
Waterborne Pavement Marking, White, Edge Line	MILE	321.54		
Waterborne RR Crossing Symbol with Stop Bar, White	EACH	19		
			<b>TOTAL:</b>	

**LAPEER COUNTY ALTERNATE 2 – Regular Dry Pavement Marking**

BID ITEM	UNIT	QUANTITY	UNIT PRICE	AMOUNT
Waterborne Pavement Marking, Yellow, Skip	STA	2,761.37		
Waterborne Pavement Marking, Yellow, No Pass	STA	7,915.94		
Waterborne Pavement Marking, White, Edge Line	MILE	321.54		
Waterborne RR Crossing Symbol with Stop Bar, White	EACH	19		
			<b>TOTAL:</b>	

FIRM NAME: \_\_\_\_\_

AUTHORIZED REPRESENTATIVE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

PHONE: \_\_\_\_\_

FAX: \_\_\_\_\_

E-MAIL: \_\_\_\_\_

DATE: \_\_\_\_\_

TO: Board of Lapeer County Road Commissioners  
820 Davis Lake Road  
Lapeer, MI 48446

Gentlemen:

The signature has examined the proposal, specifications and the location of the work described herein and is fully informed as to the nature of the work and the conditions relating to its performance and understands that the quantities shown are approximate only and are subject to either increase or decrease.

The signature hereby proposes to furnish all necessary machinery, tools, apparatus, and other means of construction, do all the work, furnish the materials, and for the unit price listed, to complete the work herein described in strict accordance with the requirements of the 2012 Edition of Standard Specifications for Road and Bridge Construction of the Michigan Department of State Highways and such other special provisions and supplemental specifications as may be attached to this proposal.

The signature further proposes to do such work as may be authorized by the Lapeer County Road Commission. Compensation shall be made on the basis agreed upon before such work is begun.

The signature hereby certifies that he has submitted proof of current M.D.O.T. prequalification rating for the amount and type of work proposed prior to the opening of this proposal. Your rating will not be disclosed to other bidders and will be returned. Failure to make submittal will result in rejection of bid.

**General:**

The 2012 Edition of the Standard Specification for Road and Bridge Construction is applicable to this project unless otherwise noted:

**Description of Work**

This work shall consist of furnishing and applying specified retroreflectorized pavement markings at the attached list of locations or as directed by the Engineer in accordance with the Michigan Manual of Uniform Traffic Control Devices and as specified herein.

The Engineer is responsible for all layout work necessary for the location and placement of pavement markings shown on the attached list or as directed by the Engineer. All markings, shapes, and dimensions shall conform with the latest Michigan Department of Transportation (MDOT) typical plans for pavement markings.

**Materials**

The pavement marking materials shall be lead free and must be selected from the Qualified Product List. The specified marking materials shall be selected from the MDOT's Qualified Products List (QPL) - See current MDOT Materials Sampling Guide.

**A. Packaging and Labeling**

Each container shall be plainly marked, both on the head and side, with a durable, weather-resistant marking, showing the name and address of the

manufacturer, description of the material, product identification number, batch number, date of manufacture, and volume and weight of contents. The pavement marking material supplied shall have been manufactured in the calendar year it is to be applied.

Each roll of cold plastic tape shall be plainly labeled in the core with the same information as required on the outside of packages of multiple rolls.

The hot-applied thermoplastic material shall be packaged in suitable containers to which it will not adhere during shipment and storage. The label on the material shall inform the user that the material shall be heated to a temperature range recommended by the manufacturer.

Glass beads shall be packaged in moisture resistant bags. Containers are to be guaranteed to keep beads dry and undamaged. Each package shall be plainly marked with the name and address of manufacturer, shipping point, trademark or name, the wording "GLASS BEADS," the specification number, the weight, the lot or batch number, and the month and year of manufacture.

## **B. Glass Beads.**

1. The glass beads shall meet the following requirements:
  - a. They shall be transparent, clean, smooth and spherically shaped, free from milkiness, pits, or excessive air bubbles.
  - b. They shall have an index of refraction of not less than 1.50.
  - c. They shall have a minimum of 75 percent true spheres.
  - d. After testing for chemical stability, the residual solution shall have an alkalinity number not greater than 2.0.
  - e. They shall be colorless, very light gray, very light gray tinge, or bright white.
  - f. They shall meet the following gradation requirements:

Sieve Size (No.)	20	30	50	100
Total Percent Passing	100	75-95	15-35	0-5

2. Glass beads for specific applications shall be as follows:
  - a. **Waterborne Marking Material.** The beads used in waterborne pavement marking shall have a moisture resistant coating and a silane coating to promote adhesion. When marking rest areas, roadside parks, and car pool lots, glass beads are not required.

- b. **Regular Dry Marking Material.** The glass beads shall have no coatings.
- c. **Epoxy Pavement Marking Material.** The type of glass beads shall be determined by the manufacturer.
- d. **Thermoplastic Pavement Marking Material.** Glass beads used with thermoplastic pavement marking materials shall meet AASHTO M 247 and be applied at the recommended rate. All glass beads shall have a moisture resistant coating. Gradation, index of refraction, imperfect particles, chemical stability, and color will be tested according to MTM 711.
- e. **Sprayable Thermoplastic Pavement Marking Material.** The type, gradation, and loading rates of the glass beads shall be determined by the manufacturer.

### **Material Safety**

The Contractor shall provide the Engineer with Material Safety Data Sheets (MSDS) for all materials and supplies used for this contract. The Contractor shall properly dispose of unused material and containers in accordance with the Federal Resource Conservation Recovery Act (RCRA) of 1976 as amended, and Part III (Hazardous Waste Management) of Public Act 451 of 1994 (Natural Resources and Environmental Protection Act).

### **Equipment**

The pavement marking equipment shall be self-propelled when used to apply longitudinal lines of the specified marking material. Where the configuration or location of a pavement marking is such that the use of a self-propelled pavement marker is unsuitable, the specified material and glass beads may be applied by other methods and equipment approved by the Engineer. The Engineer will determine if other equipment is suitable for a particular use such as special marking, etc.

All self-propelled equipment must be certified by the department prior to use. A valid certificate will be presented to the Engineer prior to the start of work.

All pressurized air lines shall have water and oil traps installed and operating at all times. In general, the equipment shall be that necessary to accomplish the marking in a safe and efficient manner.

The self-propelled pavement marker used to apply centerlines shall be capable of applying three yellow, four-inch minimum width lines on a two lane road, in one pass of the equipment. A single gun truck may be used to apply the remaining edge line. The equipment shall have sufficient material capacity to enable sustained pavement marking operations and shall be equipped so as to assure uniform application of the paint and beads. The equipment shall have pressurized bead dispensers.

The Contractor shall use a dashing mechanism, capable of being easily adjusted, to retrace existing lane or centerline marking as directed by the Engineer. The pavement

marking machine shall be equipped with a method of measuring the flow rate of the material to the applied line. A flow meter, graduated tanks, or other method approved by the Engineer is acceptable for measuring flow rate.

The self-propelled pavement marker shall allow pavement marking to be applied in either direction on a given roadway and the skip cycle shall be continuous. The cycle control unit shall not zero or return to the beginning or start of a new cycle even though the skip line marking are interrupted by intersections, dual line no passing zones, school/pedestrian crossings, railroad grade crossings, etc.

It is also necessary to maintain the cycle through No Passing Zones where the centerline skip marking is omitted in double yellow markings. In most cases, this will allow for more accurate retracing and maintaining the cycle of the center skip line.

The Contractor's equipment shall include a linear footage meter to measure the length of each applied line.

The Engineer shall check the calibration of any metering device prior to the start of work and may check calibration of any metering device at the Department's discretion during the duration of the contract. The accuracy and reliability of the equipment being used shall be satisfactory to the Engineer. When the equipment is unsatisfactory other methods determined to be acceptable by the Engineer shall be used. No work shall progress until this determination has been made.

All equipment for applying hot-applied thermoplastic material shall have the capability of maintaining the material's temperature as required by the manufacturer of the material.

All traffic control devices used during the marking operation requirements shall be in accordance to the pavement marking convoy requirements in the proposal. If markings are applied when the roadway is closed to traffic, pavement marking convoy devices as shown in the pavement marking convoy requirements are not required, unless directed by the Engineer. Any corrections shall be made before continuing.

The Contractor shall provide sufficient time for the Engineer to inspect the lighted arrow and any corrections shall be made before continuing. All traffic control, protective devices, or pavement marking convoy deemed necessary by the Contractor shall be included in the unit costs for pay items included in the contract.

### **Construction Methods**

The county is responsible for all layout work or reviewing Contractor layout work necessary for the location and placement of pavement markings. For the layout of all lines see the pavement marking typical plans.

Prior to the application of pavement marking, the pavement surfaces shall be clean, dry, and free of foreign materials. The Contractor shall be responsible for removing all foreign materials which can be removed by air-blasting. The Contractor shall also be responsible for removing occasional debris or dead animals from the line track.

Line widths are a nominal 4 inches or 8 inches with a tolerance of  $\pm\frac{1}{4}$  inch. A solid line shall have no gaps or spaces. An edge line shall be a solid line. A double line shall be applied as either two solid lines or one solid line and one broken line.

A new (not retraced) broken line, shall be a nominal 12 feet 6 inches long with a tolerance of +4 inches. The cycle for new broken lines shall be 37 feet 6 inches. The lateral deviation of new (not retraced) lines shall not exceed one inch from the proposed location alignment.

When applying centerline and lane lines on new construction a minimum of five existing adjacent skips shall be retraced to match the existing pavement marking cycle.

Existing pavement markings are to be retraced with lines of equal width and length. For existing 4-inch or 8-inch wide lines (nominal), the tolerance of the retraced line shall be +¼ inch. Total line width, existing and retraced, shall not exceed 5 inches and 9 inches, respectively. For existing 12 feet 6 inch (nominal) broken lines, the longitudinal tolerance of the

retraced line shall be +4 inches. Total broken line length, existing and retraced, shall not exceed 13 feet.

All liquid materials shall be thoroughly mixed at all times during application. Thinning of materials will not be permitted. Pavement marking material shall be applied uniformly at the rate shown in Table 1. Application rates will be determined by dividing the quantity used by the length of line painted.

**Table 1**

Line Type	Waterborne		Thermoplastic		Sprayable Thermoplastic		Epoxy		Regular Dry	
	Binder (gal)	Beads (lbs)	Binder (gal)	Beads (lbs)	Binder (gal)	Beads (lbs)	Binder (gal)	Beads (lbs)	Binder (gal)	Beads (lbs)
<b>BROKEN</b>										
4 inch	4	32	455	44	180	125	5	100	4	24
8 inch	8	64	910	88	360	250	10	200	8	48
<b>SOLID</b>										
4 inch	16	128	1820	176	720	250	20	400	16	96
8 inch	32	256	3640	352	1440	500	40	800	32	192

For initial application and occasionally during the course of work, the Engineer may check application to a pre-weighed sheet specifically placed for test purposes. Prior notice to the Contractor is not required.

All pavement marking materials shall be loaded on the pavement marking machine in a manner that will not interfere with or delay traffic.

If markings are applied when the roadway is open to traffic, traffic shall be maintained at all times according to the MDOT pavement marking convoy requirements. The striping equipment shall be operated in a manner that will make it unnecessary for traffic to cross the uncured markings.

When markings are applied in off road areas such as rest areas, roadside parks, or car pool lots open to traffic, traffic shall be maintained so it is not necessary for traffic to cross the wet markings. The protection of the wet line shall be the responsibility of the painting Contractor. Suitable devices such as traffic cones shall be placed by the Contractor.

If markings are applied when the roadway is closed to traffic, maintaining traffic operations as shown in the pavement marking convoy requirements are not required, unless directed by the Engineer.

Applied markings shall be sharp and well defined and shall provide uniform application of beads. Bead guns shall be positioned so all beads are directed uniformly into the line

material. The markings shall be free of uneven edges, overspray, or other readily visible defects which, in the opinion of the Engineer, detract from the appearance or function of the pavement markings. The Contractor is responsible for taking appropriate care to prevent motorists from being sprayed.

Pavement marking lines shall be straight or of uniform curvature. Pavement markings that are not placed as specified shall be removed at the Contractor's expense and re-applied in the correct locations at no cost to the County. Pavement markings damaged by traffic, that were not protected shall be re-applied and tracked lines shall be removed at the Contractor's expense .

**Removal.** When specified, existing pavement markings on old pavement or curing compound on new concrete shall be removed. The material shall be removed by methods meeting the approval of the Engineer and cause as little damage as possible to the surface texture of the pavement. Methods which can provide acceptable results are grinding and air or shot blasting. Collected residue generated by the removal of pavement markings and curing compound must be properly disposed of.

The Contractor will not be allowed to use paint or bituminous bond coat to obliterate existing pavement markings. When special markings are removed (i.e., legends, symbols, arrows, crosswalks, and stop bars etc.), the new markings shall be installed within five working days of removal.

When removing cold plastic the removed material must be collected and disposed of properly.

Material deposited on the pavement as a result of removal shall be removed as the work progresses. Accumulation of material which might interfere with drainage or might constitute a hazard to traffic will not be permitted.

Where blast cleaning is used for the removal and such removal operation is being performed within 10 feet of a lane occupied by public traffic, the residue, including dust, shall be collected immediately after contact between the abrasive and the surface being treated. Collection shall be by a vacuum attachment operating concurrently with the blast cleaning operation, or by other equally effective methods meeting the approval of the Engineer.

**Application, Temperature and Seasonal Restrictions.** Refer to Table 2 for a summary of this information

1. **Waterborne.** Waterborne paint shall be applied when the surface temperature of the pavement is 50 °F or higher and the pavement is dry. The Contractor shall be responsible for making the decision to apply waterborne paint on any specific day when there is a high probability of rain in the forecast. If applied lines are washed away because of rain the Contractor shall be responsible for re-applying the lines at no additional expense to the Department. Waterborne pavement marking materials may be placed immediately on new bituminous pavement. Waterborne pavement marking material shall not be placed before May 1 nor after October 1.

2. **Regular Dry Paint.** This marking material shall be applied when the surface temperature of the pavement is 25 °F or higher. New bituminous wearing surface shall be in place for a period of not less than 14 days prior to application of regular dry pavement markings. When it is necessary to apply regular dry paint after November 1, the 14-day waiting period may be waived by the Engineer. No liquidated damages will be assessed if the waiting period is in effect and the project is otherwise complete. If waterborne paint cannot be placed due to temperature or date limitations, regular dry paint may be used if approved by the Engineer. It will be paid for at the same unit price as waterborne paint.

3. **Epoxy Material.** This marking material shall be applied when the surface temperature of the pavement is 35 °F or higher. All existing non-epoxy pavement marking materials shall be removed prior to placement of any epoxy materials.

4. **Thermoplastic Material.** Since subsurface moisture can be present in amounts sufficient to affect proper bonding of the hot-applied thermoplastic material, the contractor shall be responsible for insuring that the pavement is free of all excess moisture that may effect proper bonding prior to beginning work. All testing for moisture shall be documented and provided to the Engineer. The minimum ambient air temperature shall be 48 °F and rising at the start of marking operations. If work is started and the air temperature falls below 45 °F, and continual cooling is indicated, all work shall be stopped.

The thermoplastic material shall be heated and applied within the temperature range recommended by the manufacturer. Thermoplastic material shall not be placed before May 1 nor after October 1.

5. **Cold Plastic.** The primer or contact cement shall be thoroughly mixed at all times during application. Thinning of contact cement and primer shall not be permitted.

Unless otherwise specified, cold plastic tape legends, crosswalks, and stop bars shall be white as shown on the typical plans for pavement markings.



Cold plastic shall not be placed before May 1 nor after October 1. Cold plastic tape shall not be applied unless the air temperature is at least 60 °F, the pavement surface temperature is at least 70 °F, and both temperatures are rising.

Preformed thermoplastic applied with heat as per the manufacturers specifications will be used if temperatures are not sufficient for the use of adhesive applied cold plastic markings. There will be no additional cost to the department for the change in materials.

Curing compound on new concrete surfaces shall be removed prior to application of the adhesive. When there are two or more layers of existing overlay cold plastic material on the pavement, all of the existing marking material shall be removed prior to installing cold plastic.

The Contractor shall apply a contact cement recommended by the material manufacturer and approved by the Department. All stop bars and crosswalks shall be non-adhesive backed. One application of contact cement shall be applied to the back of the cold plastic and two coats shall be applied to the pavement. The contact cement shall be applied beneath the entire marking by a method recommended by the manufacturer. The Contractor shall allow adequate time for all solvents to evaporate from the adhesive before application of the marking.

Immediately after placement, all transverse and special markings shall be rolled at least four times with a minimum 200-pound roller. Additional rolling is not required for longitudinal applications when the equipment installing the line is equipped with a roller.

6. **Sprayable Thermoplastic**. Sprayable Thermoplastic material and glass beads shall be sprayed uniformly at thickness of no less than 40 mils. Since subsurface moisture can be present in amounts sufficient to affect proper bonding of the Sprayable Thermoplastic material, the contractor shall be responsible for insuring that the pavement is free of all excess moisture that may effect proper bonding prior to beginning work. All testing for moisture shall be documented and provided to the Engineer. The minimum ambient air and surface temperature shall be 50 °F and rising at the start of marking operations. If work is started and the air temperature falls below 50 °F, and continual cooling is indicated, all work shall be stopped, as directed by the Engineer.

**Table 2**

<b>Minimum Material Placement Temperature and Seasonal Restrictions</b>		
<b>Material</b>	<b>Minimum Air Temperature (a)</b>	<b>Minimum Pavement Temperature (a)</b>
Waterborne	50°F	May 1 to October 1
Thermoplastic	48°F	50°F
Sprayable Thermoplastic	50°F	50°F
Epoxy	35°F	35°F
Cold Plastic Tape	60°F	70°F
Regular Dry	(b)	25°F
Raised Pavement Markers	(b)	50°F

a. See MDOT's 2003 Standard Specifications for Construction for more detailed information  
b. If a minimum air temperature is not given the minimum pavement temperature will prevail

**Measurement and Payment for Lapeer County Bid Items.**

<b>Contract Item (Pay Item)</b>	<b>Pay Unit</b>
Waterborne Pavement Marking, Yellow, Skip . . . . .	Station
Waterborne Pavement Marking, Yellow, No Pass . . . . .	Station
Waterborne Pavement Marking, White, Edge Line . . . . .	Mile
Waterborne RR Crossing Symbol with Stop Bar . . . . .	Each
Waterborne School Crosswalk . . . . .	Each
Regular Dry Pavement Marking, Yellow, Skip . . . . .	Station
Regular Dry Pavement Marking, Yellow, No Pass . . . . .	Station
Regular Dry Pavement Marking, White, Edge Line . . . . .	Mile
Regular Dry RR Crossing Symbol with Stop Bar . . . . .	Each
Regular Dry School Crosswalk . . . . .	Each
Raised Thermoplastic Rumble Strip . . . . .	Each
Rails to Trails Road Crossing. . . . .	Each

**Quantities.**

Quantities shown are estimates and subject to increase or decrease by the Engineer. Change in quantities will not change unit prices as bid.

**Payment and Award.**

It is understood by all parties concerned that the construction of some projects in this proposal is conditioned on the Road Commission receiving the necessary participation by others. Payment will be made as funds become available.

**Completion Date.**

The completion date is September 30, 2018. Liquidated damages will be assessed at a rate per Table 108-1 of the 2012 Michigan Department of Transportation Standard Specifications for Construction.

**Liability.**

The contractor shall at all times exercise extreme care and shall assume all liability for any damages resulting from his operations and shall hold the Lapeer County Road Commission harmless from any such claims or damages.

The successful bidder must also furnish certificates or policies giving satisfactory evidence of insurance coverage to the minimum extent of \$500,000.00 property damage and \$1,000,000.00 personal

liability to insure adequate payment for any damage caused by his operations.

The contractor shall, prior to the start of work, file with the Lapeer County Road Commission a certificate that he carries Workmen's Compensation Insurance. The attached certificate of insurance is required for the successful bidder of bidders.

**Additional Projects.**

Additional projects may be added as mutually agreed on by the Road Commission and the Contractor in addition to the specific projects listed in this proposal.

**Award.**

It is the intent of the Road Commission to award these projects within forty-five (45) days after receiving notice of award of contract.

Bids will be accepted until 1:00PM, Monday, May 21, 2018.

**2018 PAVEMENT MARKING PROGRAM**  
Locations and Estimated Quantities

04/27/18

**PRIMARY ROAD LOCATIONS**

ROAD NAME	LOCATION	TOWNSHIP	P/L	SKIP	NO PASS	EDGE LINE
DRYDEN	BISHOP TO E. COUNTY LINE	ALMONT	P	18,743	15,612	63,696
FIVE LAKES	PEPPERMILL TO IMLAY CITY	ATTICA	P	3,300	2,260	10,670
IMLAY CITY	FIVE LAKES TO SUMMERS	ATTICA	P	5,840	31,608	63,658
NEWARK	FIVE LKS. TO SUMMERS	ATTICA	P	10,101	27,416	62,910
MARLETTE	E. VILL. LIMIT TO PAGE	BURLINGTON	P	8,173	5,019	26,384
BROWN CITY	CLEAR LAKE TO M-90	BURNSIDE	P	11,857	10,580	42,446
BURNSIDE	SUMMERS TO M-53	BURNSIDE	P	6,639	4,040	20,954
PECK	M-53 TO CADE	BURNSIDE	P	12,846	8,829	42,388
BURNSIDE	FISH LAKE TO FIVE LAKES	DEERFIELD	P	4,030	1,270	10,600
FISH LAKE	M-90 TO CASTLE	DEERFIELD	P	-	4,253	6,450
DRYDEN	THORNVILLE TO BISHOP EXCL. VILLAGE	DRYDEN	P	3,208	28,689	52,788
ROCHESTER	DRYDEN TO SUTTON	DRYDEN	P	1,404	12,618	20,620
DAVISON	COUNTY LINE TO LAKE NEPESSING	ELBA	P	7,738	26,185	53,582
HADLEY	STEWART TO GENESEE	ELBA	P	3,311	19,466	41,256
STEWART	HADLEY(N) TO HADLEY (S)	ELBA	P	537	673	2,420
HERD	STATE PARK TO PRATT	HADLEY	P	-	6,894	7,420
HADLEY	SAWMILL LAKE TO STEWART	HADLEY	P	4,187	41,819	66,294
IMLAY CITY	SUMMERS TO CITY LIMITS	IMLAY	P	2,268	11,494	18,186
IMLAY CITY	DORROW TO COUNTY LINE	IMLAY	P	10,529	-	21,058
NEWARK	SUMMERS TO BLACKS CORNERS	IMLAY	P	1,250	4,342	10,474
WEYER	SUMMERS TO M-53	IMLAY	P	1,138	10,967	19,406
IMLAY CITY	MYERS TO FIVE LAKES	LAPEER	P	3,142	16,941	32,062
NEWARK	BALDWIN TO FIVE LAKES (Excl. Construction)	LAPEER	P	10,308	20,881	52,302
WILDER	NEWARK TO BOWERS	LAPEER	P	10,462	18,595	43,814
COLUMBIAVILLE	NORTH LAKE TO VILLAGE LIMITS	MARATHON	P	926	2,796	5,464
MARATHON	TWP. LINE TO LEVALLEY	MARATHON	P	480	4,042	6,088
NORTH LAKE	COLUMBIAVILLE TO CASTLE	MARATHON	P	10,644	19,340	52,838
DRYDEN	M-24 TO THORNVILLE EXCL. VILLAGE	METAMORA	P	1,217	28,450	41,182
BURNSIDE	FIVE LAKES TO SUMMERS	N. BRANCH	P	10,074	26,354	62,924
BRONSON LAKE	MARATHON TO MILLVILLE	OREGON	P	1,295	19,868	25,292
ELBA	OREGON TO COLDWATER	OREGON	P	3,151	14,765	31,562
MARATHON	KLAM TO TOWNSHIP LINE	OREGON	P	7,563	18,349	40,090
CASTLE	FISH LAKE TO SILVERWOOD	RICH	P	-	3,850	4,320
SILVERWOOD	CASTLE TO CLIFFORD	RICH	P	21,146	11,523	63,682
				197,507	479,788	1,125,280

STATIONS	STATIONS	MILES
1,975.07	4,797.88	213.12

**2018 PAVEMENT MARKING PROGRAM**  
Locations and Estimated Quantities

04/27/18

**LOCAL ROAD LOCATIONS**

ROAD NAME	LOCATION	TOWNSHIP	P/L	SKIP	NO PASS	EDGE LINE
BOWERS	LK. PLEASANT TO SUMMERS	ARCADIA	L	9,785	7,050	31,750
CADE	M-90 TO BROOKS	BURNSIDE	L	1,920	3,375	10,590
HICKORY PLACE	EAST OFF M-24	DEERFIELD	L	-	5,640	5,640
WHITE	M-24 TO MILLIS	DEERFIELD	L	-	11,050	13,130
ELBA	STEWART TO LIPPINCOTT	ELBA	L	2,829	15,501	28,724
GENESEE	DEAD END TO LAKE NEPESSING	ELBA	L	-	3,940	5,700
LIPPINCOTT	HASLER LAKE TO HADLEY	ELBA	L	3,569	7,638	21,210
STEWART	ELBA TO GREEN CRS.	ELBA	L	908	-	1,816
BOWERS	SUMMERS TO M-53	GOODLAND	L	1,399	11,288	18,666
SHAW	M-53 TO BROWN CITY	GOODLAND	L	3,744	7,629	21,118
GREEN CORNERS	PRATT TO STEWART	HADLEY	L	2,682	3,551	11,294
HERD	BROCKER TO FARMERS CK. (EXCL. PRIM.)	HADLEY	L	1,675	27,275	30,700
WYNN'S MILL	PRATT TO FARMERS CREEK	HADLEY	L	1,570	4,010	7,936
HEMINGWAY LAKE	HART LAKE TO NORTH LAKE	MARATHON	L	2,158	3,893	10,224
ANGLE	MILLVILLE TO MAYFIELD	MAYFIELD	L	-	15,495	18,030
COULTER	M-24 TO FARNSWORTH	MAYFIELD	L	-	3,750	5,200
HAINES	FARNSWORTH TO ROODS LAKE	MAYFIELD	L	3,270	2,339	10,620
MILLVILLE	BRONSON LAKE TO MCKEEN LAKE	MAYFIELD	L	1,055	16,862	22,280
MCKEEN LAKE	FLINT RIVER TO MILLVILLE	OREGON	L	-	8,112	10,560
OREGON	WASHBURN TO MILLVILLE (Excl. Construction)	OREGON	L	5,810	28,945	55,310
				42,374	187,343	340,498

STATIONS	STATIONS	MILES
423.74	1,873.43	64.49

**2018 PAVEMENT MARKING PROGRAM**  
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04/27/18

**CONSTRUCTION LOCATIONS**

ROAD NAME	LOCATION	TOWNSHIP	P/L	SKIP	NO PASS	EDGE LINE
ALMONT	KIDDER TO COUNTY LINE	ALMONT	P	12,148	2,719	27,776
HOUGH	M-53 TO KIDDER	ALMONT	L	-	5,870	5,870
KIDDER	HOUGH TO TUBSPRING EXCL. VILLAGE	ALMONT	L	-	16,502	15,962
SCOTCH SETTLEMENT	BORDMAN TO ALMONT	ALMONT	L	7,723	2,979	21,404
SUTTON	LAKE PLEASANT TO ROCHESTER	ATTICA	P	-	6,530	7,712
TUBSPRING	M-53 TO KIDDER	ALMONT	L	-	11,300	11,300
PECK	M-53 TO CADE	BURNSIDE	P	12,846	8,829	42,388
ROCHESTER	BORDMAN TO DRYDEN	DRYDEN	P	654	31,330	42,882
ATTICA	SUMMERS TO BLACK CORNERS	IMLAY	P	-	7,664	11,344
FAIRGROUNDS	N. OF IMLAY CITY TO TOWNSHIP HALL	IMLAY	L	505	3,430	5,500
NEWARK	MORRIS TO BROKER	LAPEER	P	2,380	4,095	10,488
KING	ROODS LAKE TO FISH LAKE	MAYFIELD	L	-	10,220	15,840
INDIAN	NORTH OFF OREGON	OREGON	L	-	6,540	6,540
OREGON	BASSETT TO WEST OF GRAY	OREGON	L	-	6,455	6,930
				36,256	124,463	231,936

STATIONS	STATIONS	MILES
362.56	1,244.63	43.93

**(19) RAILROAD CROSSING SYMBOLS WITH STOP BAR**

- ELBA ROAD - ELBA TOWNSHIP - 2 EACH
- MAPLE LEAF ROAD - ELBA TOWNSHIP - 2 EACH
- LAKE NEPESSING ROAD - ELBA TOWNSHIP - 1 EACH
- MORRIS ROAD - LAPEER TOWNSHIP - 1 EACH
- MAPLE GROVE ROAD - LAPEER TOWNSHIP - 2 EACH
- FIVE LAKE ROAD - ATTICA TOWNSHIP - 2 EACH
- LAKE GEORGE ROAD - ATTICA TOWNSHIP - 2 EACH
- LAKE PLEASANT ROAD - ATTICA TOWNSHIP - 2 EACH
- GRAHAM ROAD - IMLAY TOWNSHIP - 2 EACH
- CADE ROAD - BURNSIDE TOWNSHIP - 1 EACH
- PECK ROAD - BURNSIDE TOWNSHIP - 2 EACH (Construction Project)