Attachment 9
REVISED (02/08/2019)

Special Notes – NYSDOT Specific Projects

Liquid Bituminous Materials - VPP
(2019 NYSDOT Specific Projects)
(Federal & State Funds)

IFB# 23151

Contents

SECTION 1: CHIP SEAL - SPECIFIC PROJECTS

1.1 Introduction

Chip seal is a pavement preventive maintenance treatment which consists of single-sized stone embedded in a liquid bituminous material. The liquid bituminous material seals cracks in the existing pavement and the stone provides a high-friction wearing surface.

1.2 Pricing Information

1.2.1 General

Price quoted for chip seal shall be net per square yard furnished, hauled, delivered, and applied with contractor's equipment totally by the contractor at the locations indicated herein including the cost of labor, surface preparation, and materials, except liquid bituminous materials and cover sand. Liquid bituminous materials used for chip seal and fog seal, and the cover sand will be paid for under separates items. Price quoted per square yard of chip seal shall also include mobilization to the project site, the provision of Work Zone Traffic Control as indicated in the Invitation for Bids, and Maintenance Materials Bond as listed in Section 4.1 - *Maintenance Materials Bonds* in the Invitation for Bids. The price quoted per gallon of liquid bituminous materials for chip seal and fog seal shall include heating, hauling, and applying the liquid bituminous materials at the project locations indicated herein. The price quoted per square yard of cover sand shall include hauling and applying the necessary cover sand at the project locations indicated herein.

1.3 Asphalt Price Adjustments

1.3.1 General

a. Asphalt price adjustments allowed will be based on the December 2018 average of the F.O.B. terminal price per ton of unmodified PG 64S-22 binder without anti-stripping agent (base average F.O.B. terminal price). The new monthly average terminal price will be determined by the New York State Department of Transportation based on prices of preapproved primary sources of performance graded binder in accordance with the New York State Department of Transportation Standard Specifications.

The December 2018 average is $558.00.

NOTE: The same grade of asphalt cement used in establishing the base average F.O.B. terminal price shall be used in establishing the new average F.O.B. terminal price.

In the event that one or more of the New York State Department of Transportation pre-approved sources discontinue posting a price for asphalt cement, the base average F.O.B. terminal **price shall not be recalculated.**

b. The new average F.O.B. terminal price will be determined based on the above F.O.B. terminal prices posted on the 20th of each month, hereafter known as the "Adjustment Date", during the contract period. However, asphalt price adjustments, in accordance with the formula below, will be effective for deliveries made on and after the first of the month following the adjustment date.

c. The unit prices of liquid bituminous materials purchased from any award based on this specification will be subject to adjustment based on the following formula:

$$\text{Price Adjustment (per gallon)} = \frac{\text{New Monthly Average FOB Terminal Price} - \text{Base Average Terminal Price}}{235} \times \text{Total Allowable Petroleum \%}$$

Positive Price Adjustment number shall be added to original per gallon Bid Price.
Negative Price Adjustment number shall be subtracted from original per gallon Bid Price.

SECTION 1: CHIP SEAL - SPECIFIC PROJECTS (Cont'd)

New Monthly Average F.O.B. Terminal Price
The average F.O.B. terminal price for unmodified PG 64S-22 binder without anti-stripping agent is as determined by the New York State Department of Transportation per New York State Department of Transportation Standard Specification.

Base Average F.O.B. Terminal Price
The average F.O.B. terminal price of unmodified PG 64S-22 binder without anti-stripping agent is as determined by the New York State Department of Transportation as of December 2018.

Total Allowable Petroleum
The percentage of total allowable petroleum for each item is as follows:

Material Designation	Grade	Asphalt %	Petroleum Allowance %	Total Allowable Petroleum %
702-3101P	RS-2	63	2.7	65.7
702-3102P	HFRS-2	63	2.7	65.7
702-3301P	HFMS-2	65	8.2	73.2
702-4101P	CRS-2	65	2.7	67.7
702-XXXXT	Diluted Tack Coat	40	0.2	40.2

Asphalt Price Adjustments will not be allowed for materials which do not have an asphalt cement base.

d. Work performed after the expiration of the contract, where no extension has been granted, resultant from purchase orders placed prior to expiration of the contract will receive the Asphalt Price Adjustments applicable in effect during the last month of the contract.

Asphalt Price Adjustments for any contracts that are extended will be based on the new average for the month in which the work is done applying the same base established for that contract.

e. Asphalt price adjustments allowed by this contract shall be calculated and applied to the original prices. There will not be asphalt price adjustments unless the change amounts to more than $0.100 per ton/$0.010 per gallon as applicable from the original price. In these instances, prices will revert back to the original prices.

f. All Asphalt Price Adjustments will be computed to three decimal places.

g. Should these provisions result in a price structure which becomes unworkable, detrimental or injurious to the State or in prices which are not truly reflective of market conditions or which are deemed by the Commissioner to be unreasonable or excessive, and no adjustment in price is mutually agreeable, the Commissioner reserves the sole right upon ten business days written notice mailed to the Contractor to terminate any contract resulting from this bid opening.

h. All asphalt price adjustments shall be published by the State and issued to all contract holders whose responsibility will be to attach the appropriate State notification (based on when the work was performed) to the payment invoice submitted to agency

SECTION 1: CHIP SEAL - SPECIFIC PROJECTS (Cont'd)

1.3.2 Asphalt Price Adjustment: Example

Material Designation 702-3301P, HFMS-2

Base Avg. Price per Ton = $558.000

New Avg. Price per Ton = $568.000

Total % Asphalt Plus Petroleum Allowance = 73.2%

$$\text{Price Adjustment (per gallon)} = \frac{(568.000 - 558.000)}{235} \times 0.732$$

$$\text{Price Adjustment (per gallon)} = +\$0.031 \text{ per gallon}$$

Positive Price Adjustment number shall be added to original per gallon Bid Price.
Negative Price Adjustment number shall be subtracted from original per gallon Bid Price.

1.4 Payment

Payment for Chip seal shall be made at contract price bid for the actual number of completed square yards of chip seal, actual numbers of gallons of bituminous materials for chip seal, actual numbers of gallons of bituminous materials for fog seal, actual number of square yards of cover sand used in the accepted portions of the work. The determination as to quantities involved in any contract shall be accepted as final and binding upon the contractor.

Payment of work zone traffic control and abrading the existing pavement markings shall be included in the payment for number of square yards of completed chip seal.

A delivery slip stating quantities of liquid bituminous materials (modified or unmodified emulsions) shall accompany each shipment. An invoice listing the quantities of surface treatment shall be sent promptly by the contractor to the resident engineer.

1.5 Pre-Chip Seal Conference

The contractor shall schedule a Pre-Chip Seal Conference with the affected Resident Engineer at least two weeks prior to the start of the work under this contract. Project level supervisors from contractor and from the state shall be present at this conference. At this conference contractor shall present their chip seal schedule, mix design, number and types of equipment, chip seal procedure, and Work Zone Traffic Control Plan to the state for approval. The mix design for the chip seal must show the quantity in gallons per square yard of fog seal, the quantity in pounds per square yard of cover sand, the quantity in gallons and the type of liquid bituminous material per square yard, the quantity in pounds per square yard of aggregate, percent of polymer used to modify the asphalt emulsion, quantity in pounds per square yards of fiber (if applicable), and the design curing time. All the component materials used in the mix design shall be representative of the material proposed by the contractors to be used on the project. Adjustment may be required during the construction based on field conditions and with the approval of the state.

The contractor shall also furnish the state the copies of the calibrations of the liquid bituminous materials distributor and the aggregate spreader at the same time. The contractor shall indicate the aggregate sources at this conference. At least one week prior to the start of work under this contract, the contractor shall coordinate the details of the chip seal with the state's representative.

SECTION 1: CHIP SEAL - SPECIFIC PROJECTS (Cont'd)

1.6 Bonding Requirements – Chip Seal

A Maintenance Materials Bond is required for chip seal projects in the Invitations for Bids. Please see sample in Attachment 10 – *Detailed Specifications – Liquid Bituminous Materials*.

Maintenance bond is to be provided to the attention of the Regional Director of Operations, or their Regional designee as determined at the Pre-Chip Seal conference, for the corresponding Region. Each bond shall be specific to each Project Number, not contract, so that they may be released upon the completion of the terms in the contract for each corresponding Project/site.

1.7 Supervision

The Department of Transportation shall provide supervision for the chip seal operation, and pavement marking abrading if applicable. The Resident Engineer shall designate a Project Supervisor who shall be in responsible charge of the operation. All orders pertaining to Work Zone Traffic Control plan from the Project Supervisor to the contractor shall be binding on the contractor. The following portions of Section 105 - CONTROL OF WORK of the Standard Specifications shall apply to these projects: 105-01 ENGINEER'S AUTHORITY, 105-05 VENDOR RESPONSIBILITY, 105-06 COOPERATION WITH UTILITIES AND OTHER CONTRACTORS.

1.8 Construction Details

The construction details shall comply with the requirements specified herein, including those appearing in the enclosed Attachment 10 - *Detailed Specifications – Liquid Bituminous Materials*. The project supervisor from the State shall have sole responsibility for determining compliance with the specifications. All orders given to the contractor regarding construction details shall be considered final.

1.9 Work Hours

Work shall not be permitted on Sundays and NYS Holidays. If the contractors desire to work overtime on other days, dispensation from NYS Labor Department must be obtained using Department of Labor Form PW-30 (09/18). Night work is prohibited unless agreed to by the Contractor and NYS Department of Transportation. All Overtime Dispensations requests shall be submitted to the Resident Engineer or his/her designee at the preconstruction meeting.

1.10 Special Note for Chip Seal

The Contractor will not be responsible for the initial conditioning of the existing pavement and shoulder surfaces as described in Section 402-3.05 of the NYSDOT Standard Specifications. Patching, joint repair, crack filling will be done by NYSDOT forces prior to the chip seal project. However, once work on the project begins, the Contractor is responsible for keeping the pavement and shoulders clean until the paving operations are completed, as per Section 633-3.01 of the NYSDOT Standard Specifications.

1.11 Restoration of Disturbed Areas

During the course of the work the vendor shall take reasonable care not to disturb areas outside the existing pavement. Any areas disturbed by the vendor shall be returned to their original condition at no expense to the State. Any and all debris generated as part of the work shall be removed by the Vendor upon completion of the project.

1.12 Damaged or Deficient Areas

Prior to acceptance and payment by the State for work under this contract, any placed pavement that ravels, delaminates, fails to properly cure, or is in any way defective shall be redone to the satisfaction of the State at the contractor's expense.

SECTION 1: CHIP SEAL - SPECIFIC PROJECTS (Cont'd)

1.13 Work Zone Traffic Control

The contractor shall responsible for Work Zone Traffic Control. Traffic shall be controlled in accordance with Manual of Uniform Traffic Control Devices (MUTCD), Section 619-1 through 619-3 of the Standard Specifications as described herein including modifications to the Standard Specifications. The contractor shall submit a Work Zone Traffic Control Plan for approval to the Resident Engineer at the Pre-Work conference. For two-way roadways, Figures TAST-C1R, TAST-C2R, TAST-C3R, TAST-C4R, TAST-C5R, TAST-C7R, TAST-C1UL, TAST-C2UL, TAST-C3UL, TAST-C4U, TAST-C7UL, TAST-C1UH, TAST-C2UH, TAST-C3UH, and TAST-C7UH included in this document may be used as a basis for development of a Work Zone Traffic Control Plan. For one-way roadways, Figures TAST-C5UL, TAST-C6UL, TAST-C8UL, TAST-C5UH, TAST-C6UH, and TAST-C8UH may be used as a basis for development of a Work Zone Traffic Control Plan. For one-way Freeways or Expressways, Figures TAST-E1, TAST-E2, TAST-E3, TAST-E4, TAST-E5, TAST-E6, and TAST-E7 may be used as a basis for development of a Work Zone Traffic Control Plan.

All necessary flaggers for Work Zone Traffic Control shall be provided by the Contractor. For two-way roadways, a minimum of three flaggers shall be provided while the work operation is underway. One shall be stationed at each end of the applicable operation and one shall be stationed with the operation. For one-way roadways, a minimum of two flaggers shall be provided while work operation is underway. One shall be stationed at the beginning of the applicable operation and one shall be stationed with the operation. The Contractor shall station flaggers such that communication is maintained between the flaggers. Hand signals, radios, pilot vehicles, or some other means of communication may be used subject to the approval of the Resident Engineer.

All costs of Work Zone Traffic Control as prescribed by this specification including flagging, temporary pavement marking and/or delineation, and construction signs, are to be included in the unit price bid. No separate payment shall be made.

1.13.1 Permanent Construction Signs

The Contractor shall provide construction signs as specified in Section 619-1 through 619-3 of the Standard Specifications and in the MUTCD. At minimum the Contractor shall install permanent construction signs as indicated on the **next page**.

Major intersecting roads are defined as through State, County, Town, Village, or City roads. The Contractor may provide Portable signs as shown in Figure 6F-2 of the MUTCD and meeting the requirements of Section 619 of the Standard Specifications for lane closures during work hours. Signs left active at night shall be rigid and reflectorized in accordance with the Standard Specifications.

With prior permission of the State's Resident Engineer, the Vendor may provide portable signs as shown in Figure 6F-2 of the MUTCD for the above referenced DO NOT PASS and NO CENTER LINE signs. The Contractor shall be responsible for assuring that these signs will be in their upright, visible positions twenty-four hours a day, seven days a week while 2' X 4" temporary yellow markings are used instead of full barrier pavement markings

1.13.2 Temporary Pavement Markings

The Contractor shall install and maintain temporary pavement markings on any paved surface without permanent pavement markings before opening it to traffic, before nightfall or before the end of the work day, whichever comes soonest except for areas that are open during the work shift with channelizing devices or flaggers. Temporary pavement markings shall meet the requirements of Section 619 of the Standard Specifications except that two-lane, two-way highways may be left without full barrier centerlines in no passing zones for a maximum of 7 calendar days provided that NO CENTER LINE (W8-12, black on orange), NO PASSING ZONE (W14-3, black on orange pennant shaped sign), and DO NOT PASS (R4-1) signs are used consistent with the MUTCD and in conjunction with yellow 2-foot by 4-inch temporary markings consisting of retroreflective removable pavement marking tape, paint or yellow temporary overlay markers installed on a 40 ft. cycle to delineate the centerline location.

The State is responsible for the final pavement markings unless otherwise indicated in the contract. If the vendor chooses to install NO CENTER LINE and DO NOT PASS signs and temporary yellow 2-foot by 4-inch pavement markings in lieu of full barrier centerline markings, the signs shall be left in place until the state has completed installing the final pavement markings. The state will normally complete final pavement markings within 7 days of the project completion. However, if unavoidable situations delay the pavement marking installation the signs shall remain in place for 14 calendar days after the project has been completed or until the state has completed installing the final pavement markings, whichever comes first. If permanent pavement marking cannot be installed within 14 days of the project completion, state must install interim pavement marking including center lines, edge lines, stop bars, and simple crosswalks with no hatching before the end of 14 days after project completion.

SECTION 1: CHIP SEAL - SPECIFIC PROJECTS (Cont'd)

All costs for Work Zone Traffic Control including flagging, temporary pavement markings, delineation, and construction signs are to be included in the prices bid per ton or square yard as applicable.

SIGN	MINIMUM SIZE	LOCATION
ROAD WORK NEXT _____ MILES	G20-1 Conventional 36" x 18" Freeways 48" x 24"	On main line upstream of project in each direction
END ROAD WORK	G20-2 Conventional 36" x 18" Freeways 48" x 24"	On main line after end of project in each direction
ROAD WORK AHEAD	W20-1 Conventional 36" x 36" Freeways 48" x 48"	On main line in advance of the affected highway segment in each direction and on major intersecting roads 300-500 ft. in advance of main line. Sign should be covered if it conflicts with temporary signing in the vicinity. (Place between the G20-1 and the first warning sign that states condition- i.e. W8-12, W8-9 or W8-15)
DO NOT PASS	R4-1 Conventional 24" x 30"	If 2'x 4" temporary yellow markings are used instead of full barrier centerline pavement markings, place the first sign at or within 100 ft. of the beginning of the unmarked area, second within 1,000 ft. and subsequent signs, spaced every ½ mile along project in each direction
NO CENTER LINE	W8-12 Conventional 36" x 36"	If 2'x 4" temporary yellow markings are used instead of full barrier centerline pavement markings, place the first sign in advance of the condition and the first "DO NOT PASS" sign: 300' urban is preferred (100' minimum), 500' rural is preferred (200' minimum). Place additional signs spaced every 2 miles on mainline in each direction and after every major intersecting road.
LOW SHOULDER	W8-9 Conventional 36" x 36" Freeways 48" x 48"	Place on mainline spaced every 2 miles along project in each direction and after every major intersecting road until shoulder back-up is installed (if conditions warrant use, place between the W8-12 and R4-1, maintaining a minimum of 200' between signs for rural roads and 100' on urban. The W8-12 can be moved upstream to accommodate the required spacing.)
LOOSE GRAVEL	W8-7 36" x 36"	Place on mainline at start of the project and spaced every ½ miles along project in each direction.
30 MPH	W13-1P 18" x 18"	Mounted on W8-7 LOOSE GRAVEL sign

**All signs should maintain an absolute minimum spacing of 200' rural or 100' urban. 500' is preferred on rural and 300' is preferred on urban. Double stacking of any of the above signs, or combination thereof, will NOT be permitted.

SECTION 1: CHIP SEAL - SPECIFIC PROJECTS (Cont'd)

1.13.3 Abrading Existing Pavement Markings

The Contractor shall remove any epoxy or thermoplastic pavement markings. Other markings shall be removed as ordered by the Resident Engineer. Care shall be taken to avoid damage to passing traffic. All damage to passing traffic caused by the Contractor's operations shall be the Contractor's responsibility. Waste material generated by the abrading operation shall be cleaned up and disposed of by the Vendor.

When the Contractor abrades the existing pavement markings, the Contractor shall place temporary pavement markings as specified elsewhere in the Invitation for Bids under Work Zone Traffic Control, unless the paving material will be placed the same day as pavement markings are abraded. The Contractor shall make every effort to expeditiously place the paving material in areas where pavement markings have been abraded and temporary pavement markings are in place. Under no circumstances will temporary pavement markings be allowed for more than five calendar days in areas where pavement markings have been abraded. In this event, the Contractor shall be required to place full pavement markings at no cost to the state. During the pavement markings abrading operation, traffic will be controlled by the Contractor in accordance with the Work Zone Traffic Control requirements included herein. The Contractor shall submit a proposed Traffic Control Plan to the Resident Engineer for approval. The plan may be based on the Work Zone Traffic Control drawings included in the Invitation for Bids.

Payment for pavement marking abrading shall be included in the price bid per square yard of chip seal. No separate payment shall be made.

1.13.4 Special Note: Work Zone Intrusion Initiative

As part of the Department of Transportation's Work Zone Intrusion Initiative, the following countermeasures shall apply to the Invitation for Bids.

Channelizing Device Spacing Reduction
A maximum channelizing device spacing of 40 ft. shall be provided at work sites where workers are exposed to traffic. This spacing shall be maintained a reasonable distance upstream of workers and shall be used throughout the work zone.

Where tapers are located less than 500 ft. from the work site, the 40-ft. spacing shall be used in the tapers as well.

Drums or vertical panels are preferred for intermediate to long-term stationary work zones, and at any locations where the risk of intrusion is high. Traffic cones are normally adequate for work zones set up and removed on a daily basis.

In long lane or shoulder closures, at least two channelizing devices shall be placed transversely at maximum 800 ft. intervals to discourage traffic from driving through the closed lane. Transversely placed devices are not required where pilot cars are in use.

Frequent checks shall be made to reset channelizing devices dislodged by traffic.

Flagger Station Enhanced Setups
Additional cones and a flag tree meeting Section 6F.62 of the MUTCD shall be used upstream of flagger stations to provide added warning to drivers. These devices shall be used for flagger stations except those that are constantly moving or are in use at one location for no more than a few minutes. If the W20-7a Flagger sign is used, the additional cones and flag tree shall also be used.

For additional details on Flagger Station Enhanced Setups, see Work Zone Traffic Control drawings in the Invitation for Bids.

Temporary Rumble Strips

a. Description
This work shall consist of the installation, maintenance and subsequent removal of temporary rumble strips in paving work zones where indicated in the Invitation for Bids or as directed by the Engineer.

SECTION 1: CHIP SEAL - SPECIFIC PROJECTS (Cont'd)

b. Materials

Rumble strips shall be either constructed in place from a raised strip of asphalt concrete or constructed in place with removable pavement marking tape. Raised removable tape rumble strips shall be formed by applying four layers of removable black non-reflectorized removable pavement marking tape. The tape shall be applied to a clean, dry pavement surface in accordance with the manufacturer's recommendations. The pavement surface shall be cleaned with compressed air just prior to application of the tape

Raised asphalt rumble strips shall be formed from hot mix asphalt meeting the requirements of Items 402.058903 or 402.098903. Tack coat meeting the requirements of Materials Designation 702-XXXXT Asphalt Emulsion Diluted Tack Coat shall be used to adhere the rumble strip to the existing pavement. Temporary rumble strips shall be formed using a specially constructed rumble strip paver (drag box) pulled transversely across the pavement, or by hand placement between forms fixed to the pavement. If forms are used, they shall be removed prior to compaction of the asphalt mixture. Compaction shall be accomplished using a plate tamper or a static roller. The roadway surface on which the rumble strips are to be attached shall be dry, free of surface contaminants such as dust or oil, and shall be 45ºF or greater unless otherwise authorized by the Engineer. The pavement surface shall be cleaned with compressed air just prior to tack coating and subsequent installation of rumble strips.

Temporary rumble strips shall be placed in a succession of three 6-Strip Patterns according to the attached "Suggested Layout Details - Temporary Rumble Strips". Each strip shall be placed on 10-foot centers and traversing the full width of each travel lane. On curbed roadways, rumble strips shall end a minimum of 3 ft. from the curb so as to not interfere with drainage. Rumble strips shall be between 6 inches and 9 inches in width and have a final compacted thickness of 0.4 inches $\pm$ 0.1 inches.

Any raised rumble strips that fail to adhere to the pavement, or become damaged or flattened such that, in the opinion of the Engineer, they are no longer performing their intended function, shall be replaced or repaired by the Contractor to the satisfaction of the Engineer. Any associated damage to the pavement shall also be repaired by the Contractor to the satisfaction of the Engineer. These replacements or repairs shall be made at no additional expense to the Purchasing Agency.

When directed by the Engineer, (e.g., prior to the start of the winter plowing season), or prior to the placement of successive pavement courses, the Contractor shall completely remove the rumble strips from the pavement. Rumble strips shall be removed upon completion of work and concurrently with the removal of other temporary traffic control signs and devices. Any pavement that is damaged in the process of removing the rumble strips shall be repaired by the Contractor to the satisfaction of the Engineer at no additional expense to the Purchasing Agency.

c. Basis of Payment

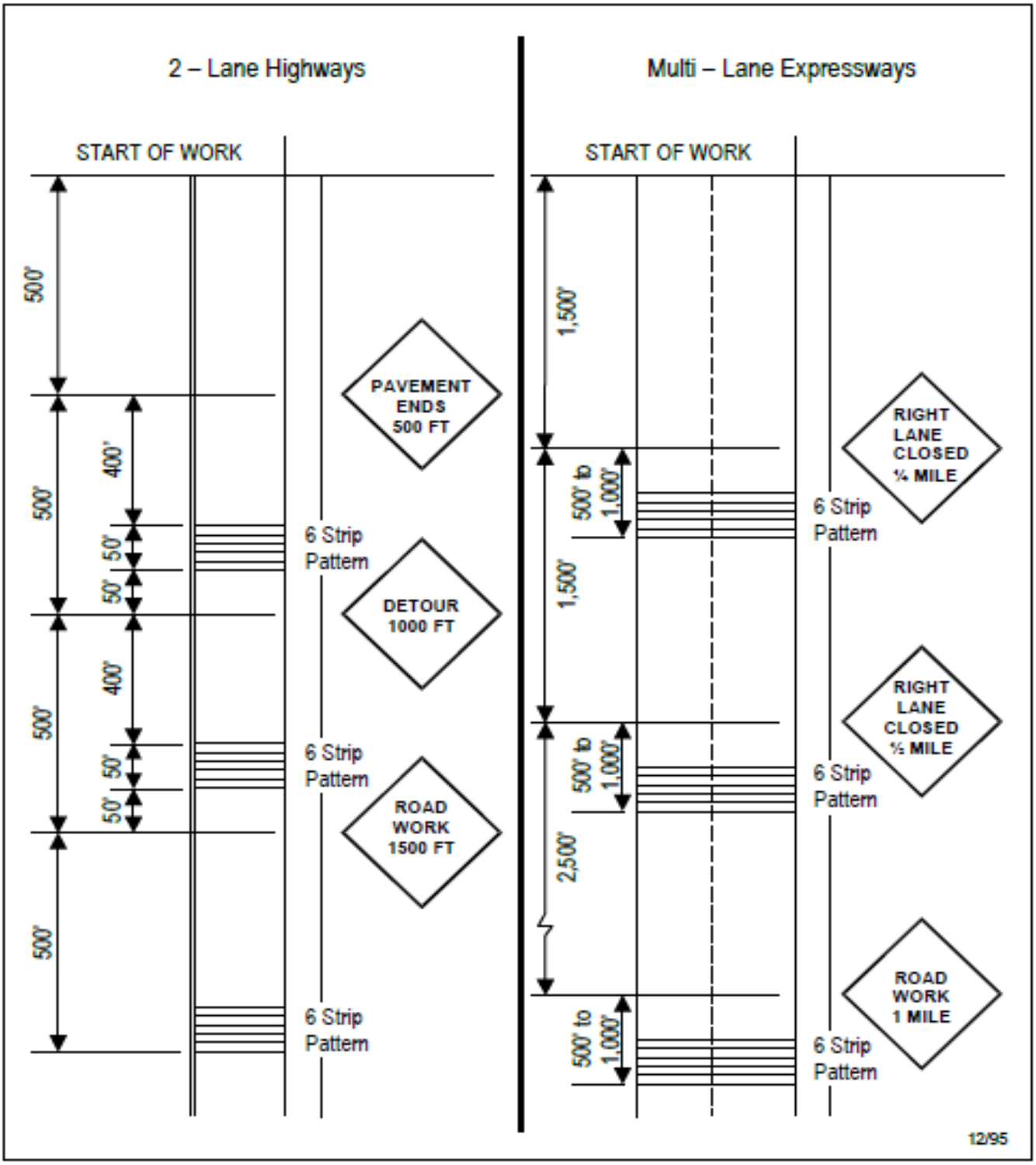
All costs for the installation, maintenance and removal of temporary rumble strips are included in the price per ton or square yard as appropriate. No separate payment shall be made.

d. Suggested Layout Details Drawing-- Temporary Rumble Strips

See the Suggested Layout Details Drawing on the **next page**.

SECTION 1: CHIP SEAL - SPECIFIC PROJECTS (Cont'd)

Suggested Layout Details – Temporary Rumble Strips



SECTION 1: CHIP SEAL - SPECIFIC PROJECTS (Cont'd)

1.14 Special Notes – Chip Seal

1.14.1 Funding Source (Chip Seal)

Project 6V1714, 6V1912B, 6V2012B, and 9V1952 will be funded by Federal Aid.

Project 9V1922, 9V1953, 9V1963, 9V1964, and 9V1965 will be a State funded project.

1.14.2 NYSDOT Region 6 Special Notes (Chip Seal)

Coordination with Other Projects:

Projects 6V1912B and 6V2012B in the Invitation for Bids involve Chip Seal as overlay to the cold recycling through separate contractor(s). These projects shall require that the chip seal contractor coordinates their work with the recycle contractor(s) to provide required curing period before placing the next course as well as to minimize disruption to the traveling public and the time traffic is running over a recycled surface.

Region 6 Specific Special Notes:

All Region 6 Chip, Fog, and Sand Overlay projects shall be completed no later than August 31, 2019. After award, a schedule reflecting this shall be submitted before start of work to the Region's Assistant Regional Director of Operations, Karen Patterson, for approval.

The Region requests all Preconstruction paperwork be submitted electronically as PDF files to Karen.Patterson@dot.ny.gov prior to the preconstruction meeting, or all documentation be brought to the Preconstruction meeting electronically as .pdf files on a CD or USB "thumb" drive that will not be returned to the contractor.

To minimize travel delays associated with major holidays, no work shall be permitted during the following periods:

- Sunrise on Friday, May 24, 2019 through Tuesday, May 28, 2019
- Sunrise on Wednesday, July 3, 2019 through Friday, July 5, 2019
- Sunrise on Friday, August 30, 2019 through Tuesday, September 3, 2019

In lieu of longitudinal cones full project length between open and closed lanes of traffic, the contractor may elect to substitute, when using pilot vehicles, use of cones placed transversely across the closed lane at intervals per Section 619-3.02 J.2 (every 800') and at strategic locations, such as intersections and driveways.

Paint with beads is the only option permitted in Region 6 for temporary and interim pavement markings, unless approved on a case by case basis by the Resident Engineer. Offset the centerline temporary/interim pavement markings so that the permanent markings will cover up the temporary/interim markings, as follows: 8" centerline offset for 2-lane roads, 6" centerline offset for multi-lane roadways.

All stockpile, spoils, and clean-out sites need to be preapproved by the Regional Maintenance Environmental Coordinator, Ruth Hart (Phone No. 604-324-8532), prior to use.

1.14.3 NYSDOT Region 9 Special Notes (Chip Seal)

Project 9V1965 – Delaware and Schoharie Counties

Micro-surfacing for Project 9V1965 will be applied from RM 1031 to 1038 within the Hamlet of Grand Gorge.

SECTION 1: CHIP SEAL - SPECIFIC PROJECTS (Cont'd)

1.15 Detailed Specifications – Chip Seal

Please, see Attachment 10 – *Detailed Specifications – Liquid Bituminous Materials*.

1.15.1 Project Dimensions - Chip Seal

Information on pavement widths for projects in the Invitation for Bids is listed for informational purposes only. The dimensions listed are the best information available, but 100% accuracy is not guaranteed. Bidders should visit the project site to confirm the dimensions given and familiarize themselves with the project particulars before submitting a bid. The Department assumes no responsibility for erroneous information listed herein.

The pavement width listed is the total width of all the travel lanes only.

The shoulder width is for one shoulder only.

Project Number	Travel Lanes Width (feet) (total)	Lane Width (feet) (one lane)	Shoulder Width (feet) (one shoulder)	Number of Lanes
6V1714	24	12	3	2
6V1912B	24	12	5	2
6V2012B	24	12	6.5	2
9V1922	22	11	4	2
9V1952	24	12	4	2
9V1953	22	11	6,8	2
9V1963	24	12	6	2
9V1964	22	11	3	2
9V1965	24	12	Varies 3 to 8	2

SECTION 2: COLD RECYCLING - SPECIFIC PROJECTS

2.1 Introduction

Cold Recycling of bituminous concrete pavements is a corrective maintenance technique. The existing pavement is milled off for a depth of 3 to 4 inches, a liquid bituminous material is added to the millings, and the resulting mixture is placed and compacted on the milled surface. A new bituminous concrete sealing layer is added later. Existing cracks are eliminated, and the resulting pavement should last for many years.

2.2 Pricing Information

2.2.1 General

Price quoted for cold recycling shall be net per square yard completed with contractor's equipment totally by the contractor at the locations indicated herein. The price quoted for cold recycling per square yard shall also include mobilization to the project site and the provision of Work Zone Traffic Control as indicated elsewhere in the Invitation for Bids.

Some projects in the Invitation for Bids include an optional bid item to supply the liquid bituminous material necessary for the cold recycling. **Bidders shall either submit a bid for an emulsion or a PG binder per project, but not both**. The price quoted per gallon for **either** the asphalt emulsion or PG 64S-22 binder (liquid bituminous material) shall include heating, hauling, and applying the liquid bituminous material at the project locations indicated herein. The price quoted per ton for aggregate shall include hauling and applying the necessary aggregate as per the mix design at the project locations indicated herein.

If fog seal is applied, it will be paid under separate item as the total volume of material used for fog seal operations. The price quoted per gallon of fog seal shall include heating, hauling, and applying the liquid bituminous material used for fog sealing operation at the project locations indicated herein.

If Portland cement is used, it will be paid under separate item as the total tons of material used at the location. The price quoted per ton of Portland cement shall include hauling, delivery, and mixing.

2.3 Asphalt Price Adjustments

2.3.1 General

a. Asphalt price adjustments allowed will be based on the December 2018 average of the F.O.B. terminal price per ton of unmodified PG 64S-22 binder without anti-stripping agent (base average F.O.B. terminal price). The new monthly average terminal price will be determined by the New York State Department of Transportation based on prices of preapproved primary sources of performance graded binder in accordance with the New York State Department of Transportation Standard Specifications.

The December 2018 average is $558.000.

NOTE: The same grade of asphalt cement used in establishing the base average F.O.B. terminal price shall be used in establishing the new average F.O.B. terminal price.

In the event that one or more of the New York State Department of Transportation pre-approved sources discontinue posting a price for asphalt cement, the base average F.O.B. terminal **price shall not be recalculated.**

b. The new average F.O.B. terminal price will be determined based on the above F.O.B. terminal prices posted on the 20th of each month, hereafter known as the "Adjustment Date", during the contract period. However, asphalt price adjustments, in accordance with the formula below, will be effective for deliveries made on and after the first of the month following the adjustment date.

SECTION 2: COLD RECYCLING - SPECIFIC PROJECTS (Cont'd)

c. The unit prices of liquid bituminous materials purchased from any award based on this specification will be subject to adjustment based on the following formula:

$$\text{Price Adjustment (per gallon)} = \frac{\text{New Monthly Average FOB Terminal Price} - \text{Base Average Terminal Price}}{235} \times \text{Total Allowable Petroleum \%}$$

Positive Price Adjustment number shall be added to original per gallon Bid Price.
Negative Price Adjustment number shall be subtracted from original per gallon Bid Price.

New Monthly Average F.O.B. Terminal Price
The average F.O.B. terminal price for unmodified PG 64S-22 binder without anti-stripping agent is as determined by the New York State Department of Transportation per New York State Department of Transportation Standard Specification.

Base Average F.O.B. Terminal Price
The average F.O.B. terminal price of unmodified PG 64S-22 binder without anti-stripping agent is as determined by the New York State Department of Transportation as of December 2018.

Total Allowable Petroleum
The percentage of total allowable petroleum for each item is as follows:

Material Designation	Grade	Asphalt %	Petroleum Allowance %	Total Allowable Petroleum %
702-3201	MS-2	65	8.2	73.2
702-3301	HFMS-2	65	8.2	73.2
702-3401	HFMS-2h	65	2.7	67.7
702-3402	HFMS-2s	65	8.2	73.2
702-3501	SS-1	65	0.2	65.2
702-3601	SS-1h	65	0.2	65.2
702-4201	CMS-2	65	10.2	75.2
702-4301	CMS-2h	65	10.2	75.2
702-4401	CSS-1	65	0.2	65.2
702-4501	CSS-1h	65	0.2	65.2
	PG 64S-22	100	0.2	100.2

Asphalt Price Adjustments will not be allowed for materials which do not have an asphalt cement base.

d. Work performed after the expiration of the contract, where no extension has been granted, resultant from purchase orders placed prior to expiration of the contract will receive the Asphalt Price Adjustments applicable in effect during the last month of the contract.

Asphalt Price Adjustments for any contracts that are extended will be based on the new average for the month in which the work is done applying the same base established for that contract.

SECTION 2: COLD RECYCLING - SPECIFIC PROJECTS (Cont'd)

e. Asphalt price adjustments allowed by this contract shall be calculated and applied to the original prices. There will not be asphalt price adjustments unless the change amounts to more than $0.100 per ton/$0.010 per gallon as applicable from the original price. In these instances, prices will revert back to the original prices.

f. All Asphalt Price Adjustments will be computed to three decimal places.

g. Should these provisions result in a price structure which becomes unworkable, detrimental or injurious to the State or in prices which are not truly reflective of market conditions or which are deemed by the Commissioner to be unreasonable or excessive, and no adjustment in price is mutually agreeable, the Commissioner reserves the sole right upon ten business days written notice mailed to the Contractor to terminate any contract resulting from this bid opening.

h. All asphalt price adjustments shall be published by the State and issued to all contract holders whose responsibility will be to attach the appropriate State notification (based on when the work was performed) to the payment invoice submitted to agency

2.3.2 Asphalt Price Adjustment: Example

This example is for illustration purposes only. Actual Base Average Price, etc., may vary:

Material Designation 702-3301, HFMS-2
Base Avg. Price per Ton = $558.000
New Avg. Price per Ton = $568.000
Total % Asphalt Plus Petroleum Allowance = 73.2%

Price Adjustment (per gallon)	=	$\frac{(568.000 - 558.000)}{235}$	X	0.732

Price Adjustment (per gallon)	=	+$0.031 per gallon

Positive Price Adjustment number shall be added to original per gallon Bid Price.
Negative Price Adjustment number shall be subtracted from original per gallon Bid Price.

2.4 Payment

Payment for cold recycling shall be made at the contract price bid for the actual number of completed square yards of cold recycling; the actual number of tons of aggregate; the actual number of gallons of either asphalt emulsion (unmodified or modified) or PG 64S-22 binder at 60 degrees F verified by the receiving agency used in the accepted portions of the work; if used, the actual number of gallons of asphalt emulsion used for fog sealing at 60 degrees F verified by the receiving agency used in the accepted portions of the work; and if used, actual number of tons of Portland cement. The determination as to quantities involved in any contract shall be accepted as final and binding upon the contractor.

A delivery slip stating quantities of liquid bituminous material (unmodified or modified emulsion or PG 64S-22 binder) shall accompany each shipment. An invoice listing the quantities of cold recycling shall be sent promptly by the contractor to the engineer.

No separate payment will be made for the use of water in the mixing process. Any work required for the maintenance and repair of the cold recycling including sweeping by the contractor during the ten-day curing period and for an additional twenty days thereafter shall be done at the contractor's expense.

Payment for work zone traffic control shall be included in the payment for the number of square yards of completed recycling.

SECTION 2: COLD RECYCLING - SPECIFIC PROJECTS (Cont'd)

2.5 Pre-Recycling Conference

The contractor shall schedule a Pre-Recycling Conference with the affected resident engineer after the acceptance of the mix design by the State and at least one week prior to the start of the recycling. Project-level supervisors for both the owner agency and the contractor shall be present at this conference. At this conference the contractor shall present Certificates of Insurance evidencing compliance with the additional insurance requirements set forth in the INSURANCE clause, their proposed recycling schedule, procedure, equipment, mix design, calibration and Work Zone Traffic Control Plan to the State for approval. Prior to the start of recycling, the contractor shall coordinate the details of the recycling with the resident engineer.

2.6 Supervision

The Department of Transportation shall provide supervision for the recycling operation, and pavement marking abrading if applicable. The Resident Engineer shall designate a Project Supervisor who shall be in responsible charge of the operation. All orders pertaining to Work Zone Traffic Control plan from the Project Supervisor to the contractor shall be binding on the contractor. The following portions of Section 105 - CONTROL OF WORK of the Standard Specifications shall apply to these projects: 105-01 ENGINEER'S AUTHORITY, 105-05 VENDOR RESPONSIBILITY, 105-06 COOPERATION WITH UTILITIES AND OTHER CONTRACTORS.

2.7 Work Hours

Work shall not be permitted on Sundays and NYS Holidays. If the contractors desire to work overtime on other days, dispensation from NYS Labor Department must be obtained using Department of Labor Form PW-30 (09/18). Night work is prohibited unless agreed to by the Contractor and NYS Department of Transportation. All Overtime Dispensations requests shall be submitted to the Resident Engineer or his/her designee at the preconstruction meeting.

2.8 Construction Details

The construction details shall comply with the requirements specified herein, including those appearing in the enclosed Attachment 10 - *Detailed Specifications – Liquid Bituminous Materials*. The project supervisor from the State shall have sole responsibility for determining compliance with the specifications. All orders given to the contractor regarding construction details shall be considered final.

2.9 Restoration of Disturbed Areas

During the course of the work the vendor shall take reasonable care not to disturb areas outside the existing pavement. Any areas disturbed by the vendor shall be returned to their original condition at no expense to the State. Any and all debris generated as part of the work shall be removed by the Vendor upon completion of the project.

2.10 Damaged or Deficient Areas

Prior to acceptance and payment by the State for work under this contract, any placed pavement that ravels, delaminates, fails to properly cure, or is in any way defective shall be redone to the satisfaction of the State at the contractor's expense.

2.11 Possible Mix Design – Cold Recycling

All NYSDOT Regions except Regions 3 and 6

The Department may core the pavement and supply those cores to the contractor. The quantities shown on price pages are estimated and indicate the amount and type of added aggregate and the type and amount of asphalt emulsion and the amount of PG 64S-22 binder (if the option is provided) to properly recycle the pavement. The contractor shall develop their bids for square yards of cold recycling, aggregate and **either emulsion (unmodified or modified) or PG binder (if the option is provided) for each project** using the estimated quantities After award, the contractor shall develop their own mix design as per the detailed specifications and submit it to the agency's representative for approval. The bidder shall submit a bid for cold recycling, aggregate, and either asphalt emulsion or PG 64S-22 binder (if the option is provided)**. If the bidder's bid does not conform to these requirements, their bid offer will be rejected**. Core results may be obtained from respective Resident Engineer or Regional Materials Engineer.

SECTION 2: COLD RECYCLING - SPECIFIC PROJECTS (Cont'd)

2.11 Possible Mix Design – Cold Recycling (Cont'd)

Regions 3 and 6

The possible mix design is shown on bid pages and indicates the amount and type of added aggregate and the type and amount of asphalt emulsion, and the amount of PG 64S-22 binder (if the option is provided) to properly recycle the pavement. The contractor shall develop their bids for square yards of cold recycling, aggregate and **either emulsion (unmodified or modified) or PG binder (if the option is provided) for each project** using the indicated possible mix design.

After award, the contractor shall take pavement cores and develop their own mix design and submit it to the agency's representative for approval. This mix design must be submitted a minimum of ten working days prior to the start of work. The bidder shall submit a bid for cold recycling, aggregate, and either asphalt emulsion or PG 64S-22 binder (if the option is provided). **If the bidder's bid does not conform to these requirements, their bid offer will be rejected**.

2.12 Work Zone Traffic Control

The contractor shall responsible for Work Zone Traffic Control. Traffic shall be controlled in accordance with Manual of Uniform Traffic Control Devices (MUTCD), Section 619-1 through 619-3 of the Standard Specifications as described herein including modifications to the Standard Specifications. The contractor shall submit a Work Zone Traffic Control Plan for approval to the Resident Engineer at the Pre-Work conference. For two-way roadways, Figures TAST-C1R, TAST-C2R, TAST-C3R, TAST-C4R, TAST-C5R, TAST-C7R, TAST-C1UL, TAST-C2UL, TAST-C3UL, TAST-C4U, TAST-C7UL, TAST-C1UH, TAST-C2UH, TAST-C3UH, and TAST-C7UH included in this document may be used as a basis for development of a Work Zone Traffic Control Plan. For one-way roadways, Figures TAST-C5UL, TAST-C6UL, TAST-C8UL, TAST-C5UH, TAST-C6UH, and TAST-C8UH may be used as a basis for development of a Work Zone Traffic Control Plan. For one-way Freeways or Expressways, Figures TAST-E1, TAST-E2, TAST-E3, TAST-E4, TAST-E5, TAST-E6, and TAST-E7 may be used as a basis for development of a Work Zone Traffic Control Plan.

All necessary flaggers for Work Zone Traffic Control shall be provided by the Contractor. For two-way roadways, a minimum of three flaggers shall be provided while the work operation is underway. One shall be stationed at each end of the applicable operation and one shall be stationed with the operation. For one-way roadways, a minimum of two flaggers shall be provided while work operation is underway. One shall be stationed at the beginning of the applicable operation and one shall be stationed with the operation. The Contractor shall station flaggers such that communication is maintained between the flaggers. Hand signals, radios, pilot vehicles, or some other means of communication may be used subject to the approval of the Resident Engineer.

All costs of Work Zone Traffic Control as prescribed by this specification including flagging, temporary pavement marking and/or delineation, and construction signs, are to be included in the unit price bid. No separate payment shall be made.

SECTION 2: COLD RECYCLING - SPECIFIC PROJECTS (Cont'd)

2.12.1 Permanent Construction Signs

The Contractor shall provide construction signs as specified in Section 619-1 through 619-3 of the Standard Specifications and in the MUTCD. At minimum the Contractor shall install the following permanent construction signs:

SIGN	MINIMUM SIZE	LOCATION
ROAD WORK NEXT _____ MILES	G20-1 Conventional 36" x 18" Freeways 48" x 24"	On main line upstream of project in each direction
END ROAD WORK	G20-2 Conventional 36" x 18" Freeways 48" x 24"	On main line after end of project in each direction
ROAD WORK AHEAD	W20-1 Conventional 36" x 36" Freeways 48" x 48"	On main line in advance of the affected highway segment in each direction and on major intersecting roads 300 -500 ft. in advance of main line. Sign should be covered if it conflicts with temporary signing in the vicinity. (Place between the G20-1 and the first warning sign that states condition- i.e. W8-12, W8-9 or W8-15)
DO NOT PASS	R4-1 Conventional 24" x 30"	If 2'x 4" temporary yellow markings are used instead of full barrier centerline pavement markings, place the first sign at or within 100 ft. of the beginning of the unmarked area, second within 1,000 ft. and subsequent signs, spaced every ½ mile along project in each direction
NO CENTER LINE	W8-12 Conventional 36" x 36"	If 2'x 4" temporary yellow markings are used instead of full barrier centerline pavement markings, place the first sign in advance of the condition and the first "DO NOT PASS" sign: 300' urban is preferred (100' minimum), 500' rural is preferred (200' minimum). Place additional signs spaced every 2 miles on mainline in each direction and after every major intersecting road.
LOW SHOULDER	W8-9 Conventional 36" x 36" Freeways 48" x 48"	Place on mainline spaced every 2 miles along project in each direction and after every major intersecting road until shoulder back-up is installed (if conditions warrant use, place between the W8-12 and R4-1, maintaining a minimum of 200' between signs for rural roads and 100' on urban. The W8-12 can be moved upstream to accommodate the required spacing.)
GROOVED PAVEMENT	W8-15 Conventional 36" x 36" Freeways 48" x 48"	On any roadway 500 ft. in advance of rebates milled under this contract, but not paved. Remove or cover after paving rebate.

**All signs should maintain an absolute minimum spacing of 200' rural or 100' urban. 500' is preferred on rural and 300' is preferred on urban. Double stacking of any of the above signs, or combination thereof, will NOT be permitted.

SECTION 2: COLD RECYCLING - SPECIFIC PROJECTS (Cont'd)

2.12.1 Permanent Construction Signs (Cont'd)

Major intersecting roads are defined as through State, County, Town, Village, or City roads. The Contractor may provide Portable signs as shown in Figure 6F-2 of the MUTCD and meeting the requirements of Section 619 of the Standard Specifications for lane closures during work hours. Signs left active at night shall be rigid and reflectorized in accordance with the Standard Specifications.

With prior permission of the State's Resident Engineer, the Vendor may provide portable signs as shown in Figure 6F-2 of the MUTCD for the above referenced DO NOT PASS and NO CENTER LINE signs. The Contractor shall be responsible for assuring that these signs will be in their upright, visible positions twenty-four hours a day, seven days a week while 2' X 4" temporary yellow markings are used instead of full barrier pavement markings

2.12.2 Temporary Pavement Markings

The Contractor shall install and maintain temporary pavement markings on any paved surface without permanent pavement markings before opening it to traffic, before nightfall or before the end of the work day, whichever comes soonest except for areas that are open during the work shift with channelizing devices or flaggers. Temporary pavement markings shall meet the requirements of Section 619 of the Standard Specifications except that two-lane, two-way highways may be left without full barrier centerlines in no passing zones for a maximum of 7 calendar days provided that NO CENTER LINE (W8-12, black on orange), NO PASSING ZONE (W14-3, black on orange pennant shaped sign), and DO NOT PASS (R4-1) signs are used consistent with the MUTCD and in conjunction with yellow 2-foot by 4-inch temporary markings consisting of retroreflective removable pavement marking tape, paint or yellow temporary overlay markers installed on a 40 ft. cycle to delineate the centerline location.

The State is responsible for the final pavement markings unless otherwise indicated in the contract. If the vendor chooses to install NO CENTER LINE and DO NOT PASS signs and temporary yellow 2-foot by 4-inch pavement markings in lieu of full barrier centerline markings, the signs shall be left in place until the state has completed installing the final pavement markings. The state will normally complete final pavement markings within 7 days of the project completion. However, if unavoidable situations delay the pavement marking installation the signs shall remain in place for 14 calendar days after the project has been completed or until the state has completed installing the final pavement markings, whichever comes first. If permanent pavement marking cannot be installed within 14 days of the project completion, state must install interim pavement marking including center lines, edge lines, stop bars, and simple crosswalks with no hatching before the end of 14 days after project completion.

All costs for Work Zone Traffic Control including flagging, temporary pavement markings, delineation, and construction signs are to be included in the prices bid per ton or square yard as applicable.

2.12.3 Special Note: Work Zone Intrusion Initiative

As part of the Department of Transportation's Work Zone Intrusion Initiative, the following countermeasures shall apply to the Invitation for Bids.

Channelizing Device Spacing Reduction

A maximum channelizing device spacing of 40 ft. shall be provided at work sites where workers are exposed to traffic. This spacing shall be maintained a reasonable distance upstream of workers and shall be used throughout the work zone.

Where tapers are located less than 500 ft. from the work site, the 40-ft. spacing shall be used in the tapers as well.

Drums or vertical panels are preferred for intermediate to long-term stationary work zones, and at any locations where the risk of intrusion is high. Traffic cones are normally adequate for work zones set up and removed on a daily basis.

In long lane or shoulder closures, at least two channelizing devices shall be placed transversely at maximum 800 ft. intervals to discourage traffic from driving through the closed lane. Transversely placed devices are not required where pilot cars are in use.

Frequent checks shall be made to reset channelizing devices dislodged by traffic.

SECTION 2: COLD RECYCLING - SPECIFIC PROJECTS (Cont'd)

Flagger Station Enhanced Setups

Additional cones and a flag tree meeting Section 6F.62 of the MUTCD shall be used upstream of flagger stations to provide added warning to drivers. These devices shall be used for flagger stations except those that are constantly moving or are in use at one location for no more than a few minutes. If the W20-7a Flagger sign is used, the additional cones and flag tree shall also be used.

For additional details on Flagger Station Enhanced Setups, see Work Zone Traffic Control drawings in the Invitation for Bids.

Temporary Rumble Strips

a. Description

This work shall consist of the installation, maintenance and subsequent removal of temporary rumble strips in paving work zones where indicated in the Invitation for Bids or as directed by the Engineer.

b. Materials

Rumble strips shall be either constructed in place from a raised strip of asphalt concrete or constructed in place with removable pavement marking tape. Raised removable tape rumble strips shall be formed by applying four layers of removable black non-reflectorized removable pavement marking tape. The tape shall be applied to a clean, dry pavement surface in accordance with the manufacturer's recommendations. The pavement surface shall be cleaned with compressed air just prior to application of the tape
Raised asphalt rumble strips shall be formed from hot mix asphalt meeting the requirements of Items 402.058903 or 402.098903. Tack coat meeting the requirements of Materials Designation 702-XXXXT Asphalt Emulsion Diluted Tack Coat shall be used to adhere the rumble strip to the existing pavement. Temporary rumble strips shall be formed using a specially constructed rumble strip paver (drag box) pulled transversely across the pavement, or by hand placement between forms fixed to the pavement. If forms are used, they shall be removed prior to compaction of the asphalt mixture. Compaction shall be accomplished using a plate tamper or a static roller. The roadway surface on which the rumble strips are to be attached shall be dry, free of surface contaminants such as dust or oil, and shall be 45ºF or greater unless otherwise authorized by the Engineer. The pavement surface shall be cleaned with compressed air just prior to tack coating and subsequent installation of rumble strips.

Temporary rumble strips shall be placed in a succession of three 6-Strip Patterns according to the attached "Suggested Layout Details - Temporary Rumble Strips". Each strip shall be placed on 10-foot centers and traversing the full width of each travel lane. On curbed roadways, rumble strips shall end a minimum of 3 ft. from the curb so as to not interfere with drainage. Rumble strips shall be between 6 inches and 9 inches in width and have a final compacted thickness of 0.4 inches $\pm$ 0.1 inches.

Any raised rumble strips that fail to adhere to the pavement, or become damaged or flattened such that, in the opinion of the Engineer, they are no longer performing their intended function, shall be replaced or repaired by the Contractor to the satisfaction of the Engineer. Any associated damage to the pavement shall also be repaired by the Contractor to the satisfaction of the Engineer. These replacements or repairs shall be made at no additional expense to the Purchasing Agency.

When directed by the Engineer, (e.g., prior to the start of the winter plowing season), or prior to the placement of successive pavement courses, the Contractor shall completely remove the rumble strips from the pavement. Rumble strips shall be removed upon completion of work and concurrently with the removal of other temporary traffic control signs and devices. Any pavement that is damaged in the process of removing the rumble strips shall be repaired by the Contractor to the satisfaction of the Engineer at no additional expense to the Purchasing Agency.

c. Basis of Payment

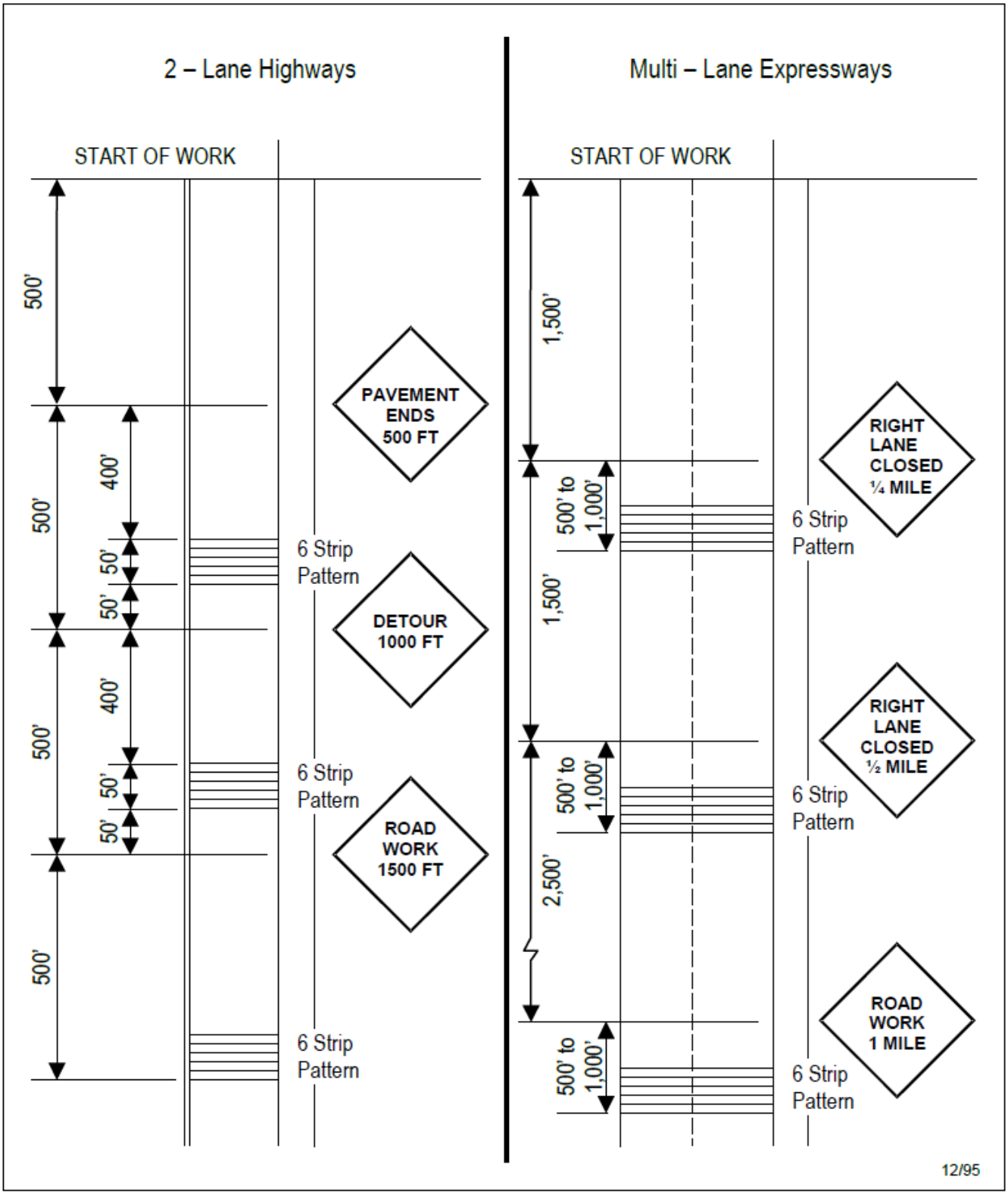
All costs for the installation, maintenance and removal of temporary rumble strips are included in the price per ton or square yard as appropriate. No separate payment shall be made.

d. Suggested Layout Details Drawing-- Temporary Rumble Strips

See the Suggested Layout Details Drawing on the **next page**.

SECTION 2: COLD RECYCLING - SPECIFIC PROJECTS (Cont'd)

Suggested Layout Details -- Temporary Rumble Strips



SECTION 2: COLD RECYCLING - SPECIFIC PROJECTS (Cont'd)

2.13 Special Notes – Cold Recycling

2.13.1 Funding Source (Cold Recycling)

Projects 1V1921, 1V1971, 1V1981, 6V1912A, 6V2012A, 6V2032, 6V2044, 9V1923, 9V1940, 9V1942 and 9V1973 will be funded by Federal Aid**.**

Project 7V1956 is 100% State funded.

2.13.2 Special Note for Coordination with Other Projects (Cold Recycling)

All the projects in the Invitation for Bids involve HMA overlay or chip seal top course as overlay to the cold recycling through separate contract(s). All projects shall require that the cold recycling contractor coordinates their work with the top course contractor(s) to provide required curing period before placing the next course as well as to minimize disruption to the traveling public and the time traffic is running over a recycled surface.

2.13.3 Special Note - Rail Road Involvement in Federal Funded Projects

Bidders are advised that there may be active at-grade railroad crossings within the limits of projects in the Invitation for Bids. The following at-grade railroad crossings have been identified, but there may be others within the limits of these projects that have not been identified:

Project Number	County	Route	Rail Road Name	Location
1V1981	Washington	Rte. 22	Battenkill Railroad	RM 22 1808/ 1149 and 1153

At the identified at-grade crossings, and any other active at grade railroad crossings encountered on the projects in the Invitation for Bids, the contractor shall conduct its work and handle the equipment such that no part of any material or equipment shall foul a track, catenary, electrical facility or signal facility. A track is fouled when any object is brought within 7.62 M (25') of the centerline of the track or the nearest point of a rail road's catenary, electrical facility or signal facility.

2.13.4 Special Note for Pilot Vehicle (Cold Recycling)

Unless otherwise specified, the highway shall be kept open to traffic at all times. Traffic shall be discontinued on the lanes where work is being performed on these projects; and as soon as recycling is done and rolled, controlled traffic may be permitted thereon. The Contractors shall provide sufficient two-way radio equipped pilot vehicles to guide traffic around recycling work at a speed not to exceed 15 mph. The pilot vehicles shall be equipped with construction signs meeting the requirements of Section 6F.58 of the Manual of Uniform Traffic Control Devices and a rotating amber beacon.

SIGN	MINIMUM SIZE	LOCATION
PILOT VEHICLE FOLLOW ME	G20-4 CONVENTIONAL 36"x18"	ON BACK OF PILOT VEHICLES

The pilot vehicle shall have the name of the Contractor prominently displayed.

All cost for Work Zone Traffic Control including flagging, temporary pavement markings, channelizing devices, construction signs, and pilot vehicles shall be included in the prices per square yard for cold recycling. No separate payment shall be made. **The use of the pilot shall be as ordered by the Resident Engineer**.

SECTION 2: COLD RECYCLING - SPECIFIC PROJECTS (Cont'd)

2.13.5 NYSDOT REGION 1 Special Notes (Cold Recycling)

All Region 1 Projects shall follow the following holiday restrictions:
There shall be no temporary lane closures permitted on the following dates:

6:00 AM May 23 to 6:00 AM May 29
6:00 AM June 28 to 6:00 AM July 5
6:00 AM Aug 30 to 6:00 AM Sept 3
6:00 AM Oct 4 to 6:00 AM Oct 8

Region 1 Projects – Pavement Markings:
It shall be the contractor's responsibility to inventory and document the existing pavement marking patterns prior to milling and/or resurfacing and submit to the Engineer a copy of the inventory prior to beginning work. The contractor shall be responsible for completing all layout work necessary for the installation of all final pavement markings. If the original markings are obliterated, the contractor shall contact the resident engineer for guidance on their location.

Region 1 Projects – Non-Vibratory Rolling:
Contractor shall use non-vibratory rolling over any bridge structure, large culvert or known utility within the project limits or as ordered by the engineer in charge.

Region 1 Recycling Operations
Recycling operations shall progress in the opposite direction of traffic. This provision may only be waived by the Region 1 Materials Engineer.

Project 1V1921 – Essex County
Lane Closure Restrictions Site Specific:

- There shall be no temporary lane closures permitted between Monday, July 15 and Monday, July 29, 2019 (Ironman).
- There shall be no temporary lane closures permitted between Thursday, September 5 and Monday, September 9, 2019 (Ironman).

The recycling operations for this project shall be complete by **August 24, 2019**. The Contractor shall submit a schedule to the Engineer, to this effect, prior to beginning operations.

Re-compaction of the Recycled Mixture (Project 1V1921)
Item 416.10 will require re-compaction of the recycled mixture at no additional cost above the bid price, and in accordance with the following:

- The re-compaction must be performed a minimum of three (3) days after the recycling process but prior to the construction of the overlay. The scheduling of the re-compaction must be after a minimum of two (2) dry and sunny days and be in concurrence with the Engineer-in-charge.
- Re-compact the recycled mixture in accordance with the requirements of 416-3.08, Compaction, including:
  - the number/type of rollers;
  - the minimum number of roller passes;
  - and the use of a density gauge/operator.

If during the re-compaction, either of the following conditions are observed, the Engineer-in-charge may change the minimum number of passes, change the vibratory effort, or stop the re-compaction process altogether:

- There is no improvement in the density after the minimum number of passes has been achieved;
- Damage (checking, cracking, etc.) to the recycled mixture is occurring;
- M&PT will be required as detailed in the contract documents.

SECTION 2: COLD RECYCLING - SPECIFIC PROJECTS (Cont'd)

2.13.5 NYSDOT REGION 1 Special Notes (Cold Recycling) (Cont'd)

Project 1V1971 – Warren County

Lane Closure Restrictions Site Specific:

- There shall be no temporary lane closures permitted between Monday, June 4 and Sunday, June 9, 2019 (Americade).

The recycling operations for this project shall be complete by **August 24, 2019**. The Contractor shall submit a schedule to the Engineer, to this effect, prior to beginning operations.

Project 1V1981 - Washington County

Lane Closure Restrictions Site Specific:

- None for Rte. 22.

The recycling operations for this project shall be complete by **August 24, 2019**. The Contractor shall submit a schedule to the Engineer, to this effect, prior to beginning operations.

2.13.6 NYSDOT REGION 3 Special Notes (Cold Recycling)

All Region 3 Projects shall follow the following holiday restrictions:
There shall be no temporary lane closures permitted on the following dates:

Friday, May 24, 2019 thru Monday, May 27, 2019 - (Memorial Day Holiday)
Wednesday, July 3, 2019 thru Sunday, July 7, 2019 - (July 4th Holiday)
Friday, August 30, 2019 thru Monday, September 2, 2019 - (Labor Day Holiday)

Project 360392 – Cayuga County

Contractor shall determine whether it is necessary to add or remove material such that the pavement profile is not changed after recycling.

In lieu of longitudinal cones full project length between open and closed lanes of traffic, the contractor may elect to substitute, when using pilot vehicles, use of cones placed transversely across the closed lane at intervals per section 619-3.02 J.2 (every 800') and at strategic locations, such as intersections and driveways.

Recycling operations shall progress in the opposite direction of traffic. This provision may only be waived by the Region 3 Materials Engineer.

Special Note on "Reduced Add-Stone" Trials (Project 360392)

Item 416.10 will require "Reduced Add-Stone" trials at no additional cost above the bid price, and in accordance with the following:

- The contractor will be required to formulate and submit three (3) mix designs of the different Add Stone applications rates in accordance with Materials Procedure (MP) 416 and the following:
  - Mix design #1 will in accordance with the requirements of MP 416 to target a Type 1 Fine Gradation with a maximum of 10% Add Stone;
  - Mix design #2 will be formulated with half of the Add Stone used in Mix #1. For example, if Mix design #1 requires 10% Add Stone, then Mix Design will require 5% Add stone;
  - Mix Design #3 will be formulated with no (0%) Add Stone.
- A one-day trial of CIPR production will be performed using Mix Design#2;
- A one-day trial of CIPR production will be performed using Mix Design#3;
- Scheduling of the trial days must be in concurrence with the Engineer in charge;
- Require a 15-day curing period before placing the HMA overlay;
- All other requirements of the specification apply.

SECTION 2: COLD RECYCLING - SPECIFIC PROJECTS (Cont'd)

2.13.7 NYSDOT REGION 6 Special Notes (Cold Recycling)

Region 6 Specific Special Notes:
To minimize travel delays associated with major holidays, no work shall be permitted during the following periods:

- Sunrise on Friday, May 24, 2019 through Tuesday, May 28, 2019
- Sunrise on Wednesday, July 3, 2019 through Friday, July 5, 2019
- Sunrise on Friday, August 30, 2019 through Tuesday, September 3, 2019

All CIPR projects are at a 3" depth unless otherwise noted in the plans.

The Region requests all Preconstruction paperwork be submitted electronically (after award) as PDF files to Karen.Patterson@dot.ny.gov prior to the preconstruction meeting, or all documentation be brought to the Preconstruction meeting electronically as .pdf files on a CD or USB "thumb" drive that will not be returned to the contractor.

The expectation of Region 6 is that fog seal shall only be used when environmental conditions (pending rain, cooler temperatures, etc.) could result in a negative impact to the mat (raveling, etc.); Contractors should not plan to fog seal a mat at the close of business daily as part of their normal operations. Region 6 does not anticipate paying for fog seal, so Contractors should plan accordingly.

In lieu of longitudinal cones full project length between open and closed lanes of traffic, the contractor may elect to substitute, when using pilot vehicles, use of cones placed transversely across the closed lane at intervals per section 619-3.02 J.2 (every 800') and at strategic locations, such as intersections and driveways.

All Region 6 Cold Recycling projects shall be completed no later than August 31, 2019. A schedule reflecting this shall be submitted before start of work to the Region's Assistant Regional Director of Operations, Karen Patterson, for approval.

Paint with beads is the only option permitted in Region 6 for temporary and interim pavement markings, unless approved on a case by case basis by the Resident Engineer. Offset the centerline temporary/interim pavement markings so that the permanent markings will cover up the temporary/interim markings, as follows: 8" centerline offset for 2 lane roads, 6" centerline offset for multi-lane roadways.

3 Rollers will be required to be used on all Region 6 cold recycling projects. The same roller cannot be substituted as the "knock-down" and "finish" roller.

All coring shall be coordinated with the Regional Materials Engineer, Dennis Cotton (Phone No. 607-324-8450). The mix design submittal for approval shall include all data associated with each core, this shall include but not limited to locations and all laboratory results used to develop the mix design. Additionally, the Regional Materials Engineer may designate companion cores to be taken for QA testing in the regional lab, this shall be done in the presence of the RME or his designee.

Region 6 will waive the requirement to have the nuclear gage inspector on site at the start of the operation for the cold recycling operation. This inspector shall be on site within 4 hours of the start of the operation or as required by the Resident Engineer.

A reminder that per Code Rule 753, a "Dig Safe" ticket shall be submitted for each project notifying of "…the movement or removal…of pavement…". Some of these utilities may request "no vibratory rolling" for a distance up to 100' over interstate/intercontinental gas/petroleum transverse crossings. Contractors can visit the following website to view whether there is a likelihood for these utilities in the project limits: https://www.npms.phmsa.dot.gov/ , and then click the NPMS public map viewer link and follow the instructions.

All stockpile, spoils, and clean-out sites need to be preapproved by the Regional Maintenance Environmental Coordinator, Ruth Hart (Phone No. 604-324-8532), prior to use.

SECTION 2: COLD RECYCLING - SPECIFIC PROJECTS (Cont'd)

2.13.7 NYSDOT REGION 6 Special Notes (Cold Recycling) (Cont'd)

The following bridges are within the project limits and are not to receive the cold recycle treatment:

Project Number	BIN/CIN	Reference Marker
6V1912	1045450	305-6102-1035
	1045460	305-6102-1065
	C610218	305-6102-1073
6V2012	7012470	17-6103-1242
	1012480	17-6103-1246
	1012490	17-6103-1254
	1012500	17-6103-1274
	C610279	17-6103-1297
6V2032	1090770	226-6301-1073
6V2044	1046880	371-6401-1004

Project 6V1912A

The area from RM 305-6102-1062 to 1066 is not to be recycled; it will receive a mill and fill next season.

Project 6V2012A

The contractor should be aware of the annual Wellsville Balloon Rally that takes place during the 3rd weekend of July. Restrictions on work zones during that time may apply. Coordinate with Residency 6-1 Resident Engineer, Jonathan Engels (Ph. 585-973-2171).

Project 6V2032

The intent of this project is to tie in to 6V1942 at RM 226-6302-1047. Coordinate with Residency 6-3 Resident Engineer, John MacDowell (Ph. 607-535-4992)

Project 6V2044

Project 6V1842 will be progressing near this project at the intersection of SR 21 South and SR 371. WZTC coordination with PIN 6V1842 will be required if work coincides.

2.13.8 NYSDOT REGION 7 Special Notes (Cold Recycling)

Project 7V1956 - St. Lawrence County

The contractor shall mill the shoulders prior to the recycling of the travel lanes. Millings will become the property of NYSDOT and will be loaded into NYSDOT trucks to be hauled away to stockpile. Cost for milling the shoulders shall be included in the price bid for the cold recycling item. The material recycled from the travel lanes will be spread over the entire 29 ft. of the width of the roadway (24 ft. of travel lane and 2 shoulders at 2.5 ft. each). Quantities for the add-stone and emulsion shall be based on the number of square yards of travel lane recycled.

SECTION 2: COLD RECYCLING - SPECIFIC PROJECTS (Cont'd)

2.13.9 NYSDOT REGION 9 Special Notes (Cold Recycling)

Project 9V1923 - Chenango County

The contractor shall mill the shoulders 4' wide and 4" deep and remove this material, contractor is responsible for disposing of material. It is intended to include a shoulder break for the 3' wide shoulder. The contractor shall include the method to be used for this in their MMP. Payment for the shoulder milling/removal will be made under item 416.10.

Use of Portland Cement
Item 416.10 in Project 9V1923 will require Portland cement be used for 2 production days at no additional cost above the bid price, and in accordance with the following:

- Use material meeting the requirements of Section 701-01 of the Standard Specifications, Type I/II Cement. Other cements may be used with the approval of the Director of the Materials Bureau.
- Portland cement will be added at a rate of 1% by weight of material to be recycled.
- Apply the cement using a method approved by the Engineer-in-charge (EIC)
- Scheduling of this work must be in concurrence with the EIC.

Project 9V1940 - Delaware County

The contractor shall mill the shoulders 4' wide and 4" deep and remove this material, contractor is responsible for disposing of material. It is intended to include a shoulder break for the 3' wide shoulder. The contractor shall include the method to be used for this in their MMP. Payment for the shoulder milling/removal will be made under item 416.10. No work RM 30-9301-1147 to 1153.

Project 9V1942 Delaware County

The overall project limits for the cold-in-place recycle work is from reference marker 10-9301-1000 to 10-9301-1774 and 8-9301-1434 to 8-9301-1435. Due to the critical elevation under the NY Rte. 17 Eastbound overpass, the cold-in-place recycle will not be required between reference marker 10-9301-1000 + 240' to 10-9301-1000 +440' as this section will be a mill and fill. Due to the curbed drainage within the project limits, the cold-in-place recycle will not be required between reference markers 10-9301-1004 + 200' to 10-9301-1761 – 165' as this section will also be a mill and fill. The contract quantities reflect the actual quantity of recycling required with these areas omitted. The Contractor will coordinate with the Residency and milling contractor.

The contractor shall mill the shoulders 4' wide and 4" deep and remove this material to stockpile immediately ahead of the recycling operation. This material can be hauled by the contractor to the NYSDOT Sub-Residency in Deposit at 291 State Highway 10, Deposit, NY. It is intended to include a shoulder break for the 3' wide shoulder. The contractor shall include the method to be used for this in their MMP. Payment for the shoulder milling/removal will be made under item 416.10. All material removed from this operation will become the property of NYSDOT. The Contractor will supply all equipment necessary to manage the stockpile.

Use of Portland Cement
Item 416.10 in Project 9V1942 will require Portland cement be used for 2 production days at no additional cost above the bid price, and in accordance with the following:

- Use material meeting the requirements of Section 701-01 of the Standard Specifications, Type I/II Cement. Other cements may be used with the approval of the Director of the Materials Bureau;
- Portland cement will be added at a rate of 1% by weight of material to be recycled;
- Apply the cement using a method approved by the Engineer-in-charge (EIC);
- Scheduling of this work must be in concurrence with the EIC.

SECTION 2: COLD RECYCLING - SPECIFIC PROJECTS (Cont'd)

2.13.9 NYSDOT REGION 9 Special Notes (Cold Recycling) (Cont'd)

Project 9V1973 - Sullivan County

The contractor shall mill the shoulders 4' wide and 4" deep and remove this material, contractor is responsible for disposing of material. It is intended to include a shoulder break for the 3' wide shoulder. The contractor shall include the method to be used for this in their MMP. Payment for the shoulder milling/removal will be made under item 416.10.

2.14 Detailed Specifications – Cold Recycling

Please see Attachment 10 – *Detailed Specifications – Liquid Bituminous Materials*.

2.14.1 Project Dimensions - Cold Recycling

Information on pavement widths for projects in the Invitation for Bids is listed for informational purposes only.

The dimensions listed are the best information available, but 100% accuracy is not guaranteed. Bidders should visit the project site to confirm the dimensions given and familiarize themselves with the project particulars before submitting a bid. The Department assumes no responsibility for erroneous information listed herein.
The pavement width listed is the total width of all the travel lanes only.

The shoulder width is for one shoulder only.

Project Number	Recycling Depth (inch)	Travel Lanes Width (feet) (total)	Lane Width (feet) (one lane)	Shoulder Width (feet) (one shoulder)	Number of Lanes
1V1921	4	22	11	4	2
1V1971	4	22	11	5	2
1V1981	4	22	11	8	2
360392	4	20	10	4	2
6V1912A	3	24	12	5	2
6V2012A	3	24	12	6.5	2
6V2032	3	23	11.5	3.5	2
6V2044	3	24	12	4	2
7V1956	4	24	12	2.5	2
9V1923	4	22	11	4	2
9V1973	4	24	12	4	2
9V1940	4	24	12	Varies	2
9V1942	4	24	12	Varies	2

SECTION 3: JOINT AND CRACK FILLER/SEALER - SPECIFIC PROJECTS

3.1 Introduction

Joint and crack sealers are hot poured liquid bituminous materials (rubberized asphalt) used to seal cracks and joints in the surface of highway pavements.

3.2 Pricing Information

3.2.1 General

Price quoted for joint & crack filler/sealer shall be net lane mile, furnished, delivered, heated, and applied by the contractor at the locations indicated herein. Price calculations, if any, will be calculated on the basis of lane miles of crack/joint sealing/filling actually furnished. Work Zone Traffic Control, cleaning of cracks/joints, and disposal of debris shall be included in the price quoted per lane mile of crack sealer. Cracks within shoulder area are to be sealed and included in the price bid per lane mile.

The contractor is to furnish all necessary labor and equipment to complete the indicated projects except that the State will supervise and control the operation. The equipment supplied to complete the crack sealing projects shall conform with the specifications included in the Invitation for Bids.

3.3 Asphalt Price Adjustment

3.3.1 General

a. Asphalt price adjustments allowed will be based on the December 2018 average of the F.O.B. terminal price per ton of unmodified PG 64S-22 binder without anti-stripping agent (base average F.O.B. terminal price). The new monthly average terminal price will be determined by the New York State Department of Transportation based on prices of preapproved primary sources of performance graded binder in accordance with the New York State Department of Transportation Standard Specifications.

The December 2018 average is $558.000 per ton.

NOTE: The same grade of asphalt cement used in establishing the base average F.O.B. terminal price shall be used in establishing the new average F.O.B. terminal price.
In the event that one or more of the New York State Department of Transportation pre-approved sources discontinue posting a price for asphalt cement, the base average F.O.B. terminal **price shall not be recalculated.**

b. The new average F.O.B. terminal price will be determined based on the above F.O.B. terminal prices posted on the 20th of each month, hereafter known as the "Adjustment Date", during the contract period. However, asphalt price adjustments, in accordance with the formula below, will be effective for deliveries made on and after the first of the month following the adjustment date.

c. The unit prices of liquid bituminous materials purchased from any award based on this specification will be subject to adjustment based on the following formula:

$$\text{Price Adjustment (per lane mile)} = \frac{\text{New Monthly Average FOB Terminal Price} - \text{Base Average Terminal Price}}{2.35} \times \text{Total Allowable Petroleum \%}$$

Positive Price Adjustment number shall be added to original per lane mile Bid Price.
Negative Price Adjustment number shall be subtracted from original per lane mile Bid Price.

New Monthly Average F.O.B. Terminal Price

The average F.O.B. terminal price for unmodified PG 64S-22 binder without anti-stripping agent is as determined by the New York State Department of Transportation per New York State Department of Transportation Standard Specification.

SECTION 3: JOINT AND CRACK FILLER/SEALER - SPECIFIC PROJECTS (Cont'd)

Base Average F.O.B. Terminal Price

The average F.O.B. terminal price of unmodified PG 64S-22 binder without anti-stripping agent is as determined by the New York State Department of Transportation as of December 2018.

Total Allowable Petroleum

The percentage of total allowable petroleum for each item is as follows:

Material Designation	Grade	Asphalt %	Petroleum Allowance %	Total Allowable Petroleum %
ASTM D6690 Type II		56	0.2	56.2%

Asphalt Price Adjustments will not be allowed for materials which do not have an asphalt cement base.

d. Work performed after the expiration of the contract, where no extension has been granted, resultant from purchase orders placed prior to expiration of the contract will receive the Asphalt Price Adjustments applicable in effect during the last month of the contract.

e. Asphalt Price Adjustments for any contracts that are extended will be based on the new average for the month in which the work is done applying the same base established for that contract.

f. Asphalt price adjustments allowed by this contract shall be calculated and applied to the original prices. There will not be asphalt price adjustments unless the change amounts to more than $1.000 per lane mile from the original price. In these instances, prices will revert back to the original prices.

g. All Asphalt Price Adjustments will be computed to three decimal places.

h. Should these provisions result in a price structure which becomes unworkable, detrimental or injurious to the State or in prices which are not truly reflective of market conditions or which are deemed by the Commissioner to be unreasonable or excessive, and no adjustment in price is mutually agreeable, the Commissioner reserves the sole right upon ten business days written notice mailed to the Contractor to terminate any contract resulting from this bid opening.

i. All asphalt price adjustments shall be published by the State and issued to all contract holders whose responsibility will be to attach the appropriate State notification (based on when the work was performed) to the payment invoice submitted to agency

3.3.2 Asphalt Price Adjustment: Example

This example is for illustration purposes only. Actual Base Average Price, etc., may vary:

Item ASTM D6690 Type II
Base Avg. Price per Ton = $558.000
New Avg. Price per Ton = $568.000
Total Allowable Petroleum = 56.2%

$$\text{Price Adjustment (per lane mile)} = \frac{(568.000 - 558.000)}{2.35} \times 0.562$$

$$\text{Price Adjustment (per lane mile)} = +\$\ 2.400 \text{ per lane mile}$$

Positive Price Adjustment number shall be added to original per lane mile Bid Price.
Negative Price Adjustment number shall be subtracted from original per lane mile Bid Price.

SECTION 3: JOINT AND CRACK FILLER/SEALER - SPECIFIC PROJECTS (Cont'd)

3.4 Payment

Payment for crack filler/sealer shall be made at contract price per lane mile for the actual quantities furnished to and verified by the receiving agency. This determination as to quantities involved in any contract shall be accepted as final and binding upon the Contractor. An invoice shall be sent promptly by the Contractor to the Engineer of the Region placing the order. Measurement shall be based on actual lane miles of crack filler/sealer performed. racks sealed within shoulder area shall be included in the price per lane mile.

3.5 Pre-Crack Sealing Conference

The contractor shall coordinate a schedule for a Pre-Crack Sealing Conference with the Resident Engineer (RE), Resident Operation Engineer (ROE) and his or her project quality Assurance Representative within one month after the award of the contract and at least two weeks prior to the start of the crack sealing. At this conference the contractor shall present Certificates of Insurance evidencing compliance with the additional Insurance Requirements set forth in the insurance clause, their proposed crack sealing schedule, equipment, and crack sealing procedure and Work Zone Traffic Control Plan to the State for approval. At least one week prior to the start of crack sealing, the contractor shall coordinate the details of the crack sealing with the Resident Engineer.

3.6 Supervision

The Department of Transportation shall provide supervision for the crack sealing operation, and pavement marking abrading if applicable. The Resident Engineer shall designate a Project Supervisor who shall be in responsible charge of the operation. All orders pertaining to Work Zone Traffic Control plan from the Project Supervisor to the contractor shall be binding on the contractor. The following portions of Section 105 - CONTROL OF WORK of the Standard Specifications shall apply to these projects: 105-01 ENGINEER'S AUTHORITY, 105-05 VENDOR RESPONSIBILITY, 105-06 COOPERATION WITH UTILITIES AND OTHER CONTRACTORS.

3.7 Work Hours

Work shall not be permitted on Sundays and NYS Holidays. If the contractors desire to work overtime on other days, dispensation from NYS Labor Department must be obtained using Department of Labor Form PW-30 (09/18). Night work is prohibited unless agreed to by the Contractor and NYS Department of Transportation. All Overtime Dispensations requests shall be submitted to the Resident Engineer or his/her designee at the preconstruction meeting.

3.8 Construction Details

The construction details shall comply with the requirements specified herein, including those appearing in the enclosed Attachment 10 - *Detailed Specifications – Liquid Bituminous Materials*. The project supervisor from the State shall have sole responsibility for determining compliance with the specifications. All orders given to the contractor regarding construction details shall be considered final.

3.9 Restoration Disturbed Areas

During the course of the work the vendor shall take reasonable care not to disturb areas outside the existing pavement. Any areas disturbed by the vendor shall be returned to their original condition at no expense to the State. Any and all debris generated as part of the work shall be removed by the Vendor upon completion of the project.

3.10 Damaged or Deficient Areas

Prior to acceptance and payment by the State for work under this contract, any placed pavement that ravels, delaminates, fails to properly cure, or is in any way defective shall be redone to the satisfaction of the State at the contractor's expense.

SECTION 3: JOINT AND CRACK FILLER/SEALER - SPECIFIC PROJECTS (Cont'd)

3.11 Work Zone Traffic Control

The contractor shall responsible for Work Zone Traffic Control. Traffic shall be controlled in accordance with Manual of Uniform Traffic Control Devices (MUTCD), Section 619-1 through 619-3 of the Standard Specifications as described herein including modifications to the Standard Specifications. The contractor shall submit a Work Zone Traffic Control Plan for approval to the Resident Engineer at the Pre-Work conference. For two-way roadways, Figures TAST-C1R, TAST-C2R, TAST-C3R, TAST-C4R, TAST-C5R, TAST-C7R, TAST-C1UL, TAST-C2UL, TAST-C3UL, TAST-C4U, TAST-C7UL, TAST-C1UH, TAST-C2UH, TAST-C3UH, and TAST-C7UH included in this document may be used as a basis for development of a Work Zone Traffic Control Plan. For one-way roadways, Figures TAST-C5UL, TAST-C6UL, TAST-C8UL, TAST-C5UH, TAST-C6UH, and TAST-C8UH may be used as a basis for development of a Work Zone Traffic Control Plan. For one-way Freeways or Expressways, Figures TAST-E1, TAST-E2, TAST-E3, TAST-E4, TAST-E5, TAST-E6, and TAST-E7 may be used as a basis for development of a Work Zone Traffic Control Plan.

All necessary flaggers for Work Zone Traffic Control shall be provided by the Contractor. For two-way roadways, a minimum of three flaggers shall be provided while the work operation is underway. One shall be stationed at each end of the applicable operation and one shall be stationed with the operation. For one-way roadways, a minimum of two flaggers shall be provided while work operation is underway. One shall be stationed at the beginning of the applicable operation and one shall be stationed with the operation. The Contractor shall station flaggers such that communication is maintained between the flaggers. Hand signals, radios, pilot vehicles, or some other means of communication may be used subject to the approval of the Resident Engineer.

All costs of Work Zone Traffic Control as prescribed by this specification including flagging, temporary pavement marking and/or delineation, and construction signs, are to be included in the unit price bid. No separate payment shall be made.

3.11.1 Temporary Construction Signs

The vendor shall provide temporary construction signs as specified in Section 619-1 through 619-3 of the Standard Specifications and in the MUTCD. All costs for Work Zone Traffic Control including flagging, construction signs and shadow vehicles are to be included in the price per gallon. No separate payment shall be made.

3.11.2 Shadow Vehicle Requirements

The shadow vehicles shall have a gross vehicle weight of 18,000 lb. to 20,000 lb. each. The shadow vehicles shall be equipped with a combination of four (4) rotary lights and strobes, two front and two rear and four (4) flashing amber lights, two (2) front and two (2) rear. All equipment on the shadow vehicle furnished under this contract shall be in full compliance with the latest edition of the New York State Vehicle and Traffic Law, Article 9, Sections 375 and 376. The shadow vehicles shall each be equipped with a Mobile Construction Zone Impact Attenuator, as per Section 712-06 of the NYSDOT Standard Specifications, and one Type B Arrow Panel, as described in Section 294.5 of the MUTCD. Contractor shall supply all necessary operators for the shadow vehicles.

3.11.3 Special Note: Work Zone Intrusion Initiative

As part of the Department of Transportation's Work Zone Intrusion Initiative, the following countermeasures shall apply to the Invitation for Bids.

Channelizing Device Spacing Reduction

A maximum channelizing device spacing of 40 ft. shall be provided at work sites where workers are exposed to traffic. This spacing shall be maintained a reasonable distance upstream of workers and shall be used throughout the work zone.

Where tapers are located less than 500 ft. from the work site, the 40-ft. spacing shall be used in the tapers as well.

Drums or vertical panels are preferred for intermediate to long-term stationary work zones, and at any locations where the risk of intrusion is high. Traffic cones are normally adequate for work zones set up and removed on a daily basis.

In long lane or shoulder closures, at least two channelizing devices shall be placed transversely at maximum 800 ft. intervals to discourage traffic from driving through the closed lane. Transversely placed devices are not required where pilot cars are in use. Frequent checks shall be made to reset channelizing devices dislodged by traffic.

SECTION 3: JOINT AND CRACK FILLER/SEALER - SPECIFIC PROJECTS (Cont'd)

Flagger Station Enhanced Setups

Additional cones and a flag tree meeting Section 6F.62 of the MUTCD shall be used upstream of flagger stations to provide added warning to drivers. These devices shall be used for flagger stations except those that are constantly moving or are in use at one location for no more than a few minutes. If the W20-7a Flagger sign is used, the additional cones and flag tree shall also be used.

For additional details on Flagger Station Enhanced Setups, see Work Zone Traffic Control drawings in the Invitation for Bids.

Temporary Rumble Strips

a. Description

This work shall consist of the installation, maintenance and subsequent removal of temporary rumble strips in paving work zones where indicated in the Invitation for Bids or as directed by the Engineer.

b. Materials

Rumble strips shall be either constructed in place from a raised strip of asphalt concrete or constructed in place with removable pavement marking tape. Raised removable tape rumble strips shall be formed by applying four layers of removable black non-reflectorized removable pavement marking tape. The tape shall be applied to a clean, dry pavement surface in accordance with the manufacturer's recommendations. The pavement surface shall be cleaned with compressed air just prior to application of the tape.

Raised asphalt rumble strips shall be formed from hot mix asphalt meeting the requirements of Items 402.058903 or 402.098903. Tack coat meeting the requirements of Materials Designation 702-XXXXT Asphalt Emulsion Diluted Tack Coat shall be used to adhere the rumble strip to the existing pavement. Temporary rumble strips shall be formed using a specially constructed rumble strip paver (drag box) pulled transversely across the pavement, or by hand placement between forms fixed to the pavement. If forms are used, they shall be removed prior to compaction of the asphalt mixture. Compaction shall be accomplished using a plate tamper or a static roller. The roadway surface on which the rumble strips are to be attached shall be dry, free of surface contaminants such as dust or oil, and shall be 45ºF or greater unless otherwise authorized by the Engineer. The pavement surface shall be cleaned with compressed air just prior to tack coating and subsequent installation of rumble strips.

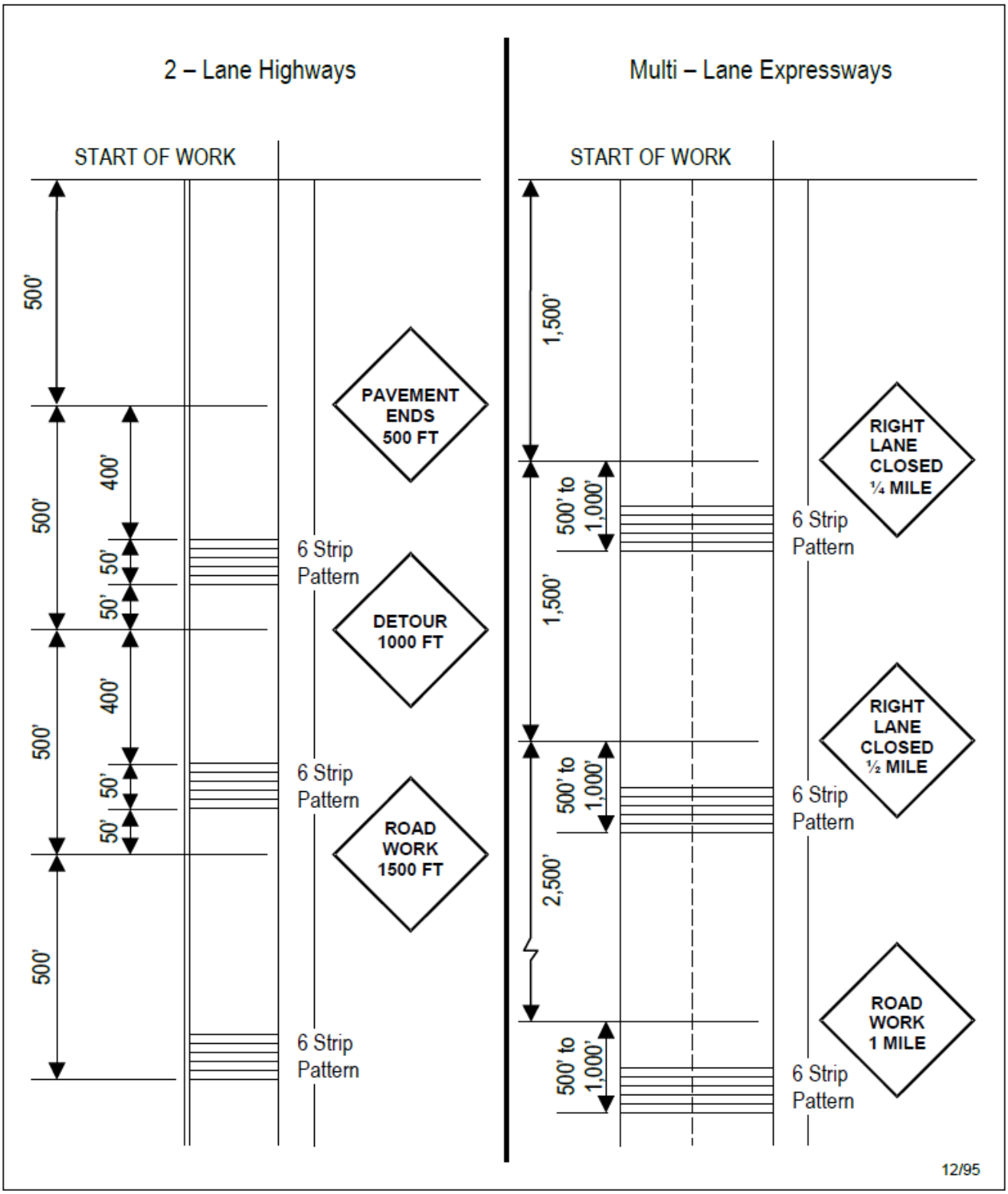
Temporary rumble strips shall be placed in a succession of three 6-Strip Patterns according to the attached "Suggested Layout Details - Temporary Rumble Strips". Each strip shall be placed on 10-foot centers and traversing the full width of each travel lane. On curbed roadways, rumble strips shall end a minimum of 3 ft. from the curb so as to not interfere with drainage. Rumble strips shall be between 6 inches and 9 inches in width and have a final compacted thickness of 0.4 inches $\pm$ 0.1 inches.

Any raised rumble strips that fail to adhere to the pavement, or become damaged or flattened such that, in the opinion of the Engineer, they are no longer performing their intended function, shall be replaced or repaired by the Contractor to the satisfaction of the Engineer. Any associated damage to the pavement shall also be repaired by the Contractor to the satisfaction of the Engineer. These replacements or repairs shall be made at no additional expense to the Purchasing Agency.

When directed by the Engineer, (e.g., prior to the start of the winter plowing season), or prior to the placement of successive pavement courses, the Contractor shall completely remove the rumble strips from the pavement. Rumble strips shall be removed upon completion of work and concurrently with the removal of other temporary traffic control signs and devices. Any pavement that is damaged in the process of removing the rumble strips shall be repaired by the Contractor to the satisfaction of the Engineer at no additional expense to the Purchasing Agency.

SECTION 3: JOINT AND CRACK FILLER/SEALER - SPECIFIC PROJECTS (Cont'd)

Suggested Layout Details -- Temporary Rumble Strips



SECTION 3: JOINT AND CRACK FILLER/SEALER - SPECIFIC PROJECTS (Cont'd)

c. Basis of Payment
All costs for the installation, maintenance and removal of temporary rumble strips are included in the price per ton or square yard or lane mile as appropriate. No separate payment shall be made.

d. Suggested Layout Details Drawing-- Temporary Rumble Strips
See the Suggested Layout Details Drawing on the previous page.

3.12 Special Notes – Crack Sealing

3.12.1 Funding Source (Crack Sealer)

Projects 5V19CS, 9CRS91, 9CRS92, and 9CRS93 will be funded by Federal Aid**.**

Project 4T5319 and 6M1901 are State funded projects.

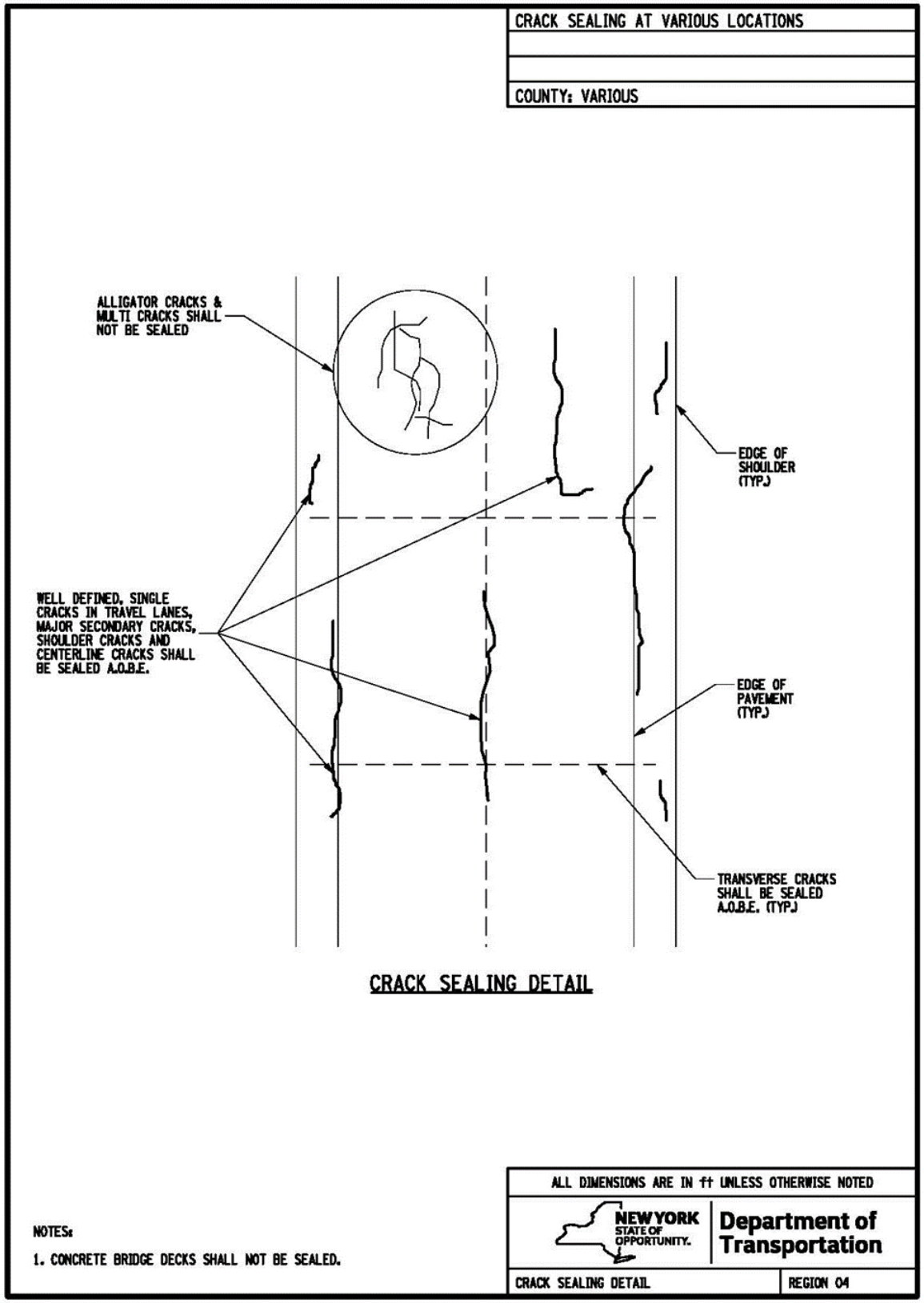
3.12.2 NYSDOT REGION 4 Special Notes (Crack Sealing)

Project 4T5319 – Crack Sealing

1. The purpose of this project is to seal the cracks and joints in the paved roadway areas at various locations in Region 4. This work shall consist of cleaning and sealing the cracks and joints in the HMA pavement and shoulders.
2. The Contractor shall furnish for the Engineer's use, two ambient air thermometers and two "gun type" pavement thermometers per work crew. After completion of the project construction, the Engineer will return the thermometers back to the Contractor.
3. Pavement Markings: The Contractor shall use care when filling cracks and/or joints near existing pavement markings, to keep from obscuring its intended function or reflectivity. Centerline, lane line, and gore markings shall not be covered or obscured. If the Engineer determines, the pavement markings are covered or obscured, the Contractor shall restore the markings to their original condition at no additional cost to the State.
4. The application of sealant shall be allowed if the ambient temperature is between 40 degrees and 85 degrees Fahrenheit.
5. Preconstruction crack sealing meeting is required at least one week prior to start of any work. The meeting will discuss the intent of the work to ensure all parties understand the procedures to be followed. The Contractor should be prepared to discuss work staging, schedule, work zone traffic control, and overall procedures for completing work. The following people shall attend the meeting:
    a. Contractor Superintendent
    b. Crack Sealing Personnel
    c. Resident Engineer
    d. EIC/Inspection Staff
    e. Regional Materials Engineer
    f. Contractor Work Zone Traffic Control Supervisor
    g. Regional Construction Safety Coordinator and/or Representative from Operations division (Traffic and Safety Group)
6. Coordination with other projects: The Contractor shall coordinate their work so as not to conflict with other projects occurring within or abutting the contract limits.

SECTION 3: JOINT AND CRACK FILLER/SEALER - SPECIFIC PROJECTS (Cont'd)

3.12.2 NYSDOT REGION 4 Special Notes (Crack Sealing) (Cont'd)



SECTION 3: JOINT AND CRACK FILLER/SEALER - SPECIFIC PROJECTS (Cont'd)

3.12.2 NYSDOT REGION 4 Special Notes (Crack Sealing) (Cont'd)

Project 4T5319 – Work Zone Traffic Control (WZTC) Requirements

Time restrictions shall apply to this project. Refer to the following pages for location specific time restrictions.

The time restrictions listed are to be implemented throughout the duration of the project. No deviations are allowed without prior approval from the Regional Traffic Engineer or designee. If, in the opinion of the EIC or the Traffic Management Center (TMC), short term lane closures are creating excessive delays to traffic or are creating a safety concern due to slow or stopped traffic, the closures shall be removed, and the roadway opened to traffic.

The time restrictions listed are based on anticipated traffic volumes. If, at the time of construction, the traffic volumes appear to allow extended work hours, an adjustment to the time restrictions may be proposed. Any requests for revisions to the time restrictions shall be submitted in writing to the EIC for approval by the Regional Traffic Engineer or designee. Bidders should not assume that revisions to the stated time restrictions will be permitted.

2019 VPP CRACK SEALING - TIME RESTRICTIONS

Crack Seal Location	Reference Markers	Flagging/Intersection Flagging	Single Lane Closures
		Prohibited	
GENESEE COUNTY			
Rte. 5: Fargo Rd. to Leroy WVL	3022 - 3075	7 AM-8 AM & 3 PM-6 PM	
Rte. 5: Rte. 77 to Wortendyke Rd.	1030 - 1103	3 PM-5 PM	
Rte. 33: Seven Springs Rd. to Rte. 237	3011 - 3048	3 PM-5 PM	
Rte. 63: Oakfield NVL to Knowlesville Rd.	3062 - 3088	No Restrictions	
Rte. 77: Rte. 5 to Corfu NVL	1088 - 1070	7 AM-8 AM & 3 PM-5 PM	
LIVINGSTON COUNTY			
Rte. 70: Rte. 436 to Allegany CL	1000 - 1032 1000 - 1037	No Restrictions	
Rte. 408: Nunda NVL to Mt..Morris WVL	1068 - 1165	No Restrictions	
Rte. 408: Rte. 36 to Canaseraga Creek	1178 - 1195	7 AM-8 AM & 3 PM-5 PM	
Rte. 63: Rte. 408 to Wyoming CL	1170 - 1292	1170-1198: 3 PM-6PM 1198-1206: 6-9 AM & 2-7 PM 1206-1217: 3 PM-5 PM 1217-1292: No Restrictions	
Rte. 256: Stagecoach Rd. to Sliker Hill Rd.	1053 - 1110	No Restrictions	
Rte. 20A: Geneseo EVL to Rte. 256	1102 - 1146	1102-1135: 7-9 AM & 3-6 PM 1135-1146: No Restrictions	
Rte. 15: Sliker Hill Rd. to Livonia SVL	1116 - 1187	No Restrictions	
Rte. 15: Steuben CL to Rte. 15A	1000 - 1036	No Restrictions	
Rte. 15A: Rte. 15 to Ontario CL	1000 - 1024	No Restrictions	
Rte. 15A: Ontario CL to Stone Hill Rd.	1000 - 1046	No Restrictions	
Rte. 15A: Lima SVL to Monroe CL	1094 - 1121	3 PM-6 PM	
Rte. 5/20: Village of Lima	1164 - 1176	7 AM-8 AM & 3 PM-6 PM	

SECTION 3: JOINT AND CRACK FILLER/SEALER - SPECIFIC PROJECTS (Cont'd)

3.12.2 NYSDOT REGION 4 Special Notes (Crack Sealing) (Cont'd)

Project 4T5319 – Work Zone Traffic Control (WZTC) Requirements (Cont'd)

2019 VPP CRACK SEALING - TIME RESTRICTIONS

Crack Seal Location	Reference Markers	Flagging/Intersection Flagging	Single Lane Closures
		Prohibited	
LIVINGSTON COUNTY (Cont'd)			
Rte. 5/20: Village of Avon	1093 - 1109	1093-1097: No Restrictions 1097-1109: 6-8 AM & 3-6 PM	
Rte. 5: Caledonia SVL to Rte. 20	1036 - 1088	No Restrictions	
I-390: Steuben CL to Exit 5	1000 - 1032		NB & SB: No Restrictions
I-390: Exit 6 to Exit 7	1115 - 1176		NB & SB: No Restrictions
MONROE EAST			
Rte. 251: Genesee River to Rte. 15	1130- 1160	No Restrictions	
Rte. 251: Rte. 64 to Monroe CL	1249- 1259	No Restrictions	
MONROE WEST			
Rte. 18: Rte.259 to Rte. 261	1130 - 1149	No Restrictions	
Rte. 33: Churchville EVL to Rte. 259	1035 - 1062	No Restrictions	
Rte. 33: Monroe CL to Churchville WVL	1000 - 1021	No Restrictions	
Rte. 31: County Line Rd. to HWY 31	1000 - 1015	No Restrictions	
ONTARIO COUNTY			
Rte. 20A: Livingston CL to Rte. 64	1000- 1108	1000-1059: No Restrictions 1059-1079 & 1091-1108: 3-6 PM 1079-1091 (Flagging and/or Lane Shift): 7-8 AM & 3-6 PM	
Rte 21: Steuben CL to Naples SVL	1000- 1028	No Restrictions	
Rte. 21: Village of Naples	1028- 1046	3 PM-6 PM	
Rte. 21: Naples NVL to Yates CL	1046- 1071	No Restrictions	
Rte. 21: Yates CL to Cheshire STL	1000- 1114	No Restrictions	
Rte. 21: Cheshire NTL to Rte. 5/20	1119- 1155	No Restrictions	
Rte. 21: Canandaigua ECL to Rte. 96	3000 - 3062	7 AM-8 AM & 3 PM-6 PM	
Rte. 88: Rte. 96 to Wayne CL	2132- 2168	7 AM-8 AM & 3 PM-6 PM	
Rte. 247: Lake to Lake Rd. to Rte. 245	1017- 1073	No Restrictions	
Rte. 444: Rte. 5/20 to Rte. 96	1000- 1068	1000-1013: 7-8 AM & 3-6 PM 1013-1053: 6-8 AM & 3-5 PM 1053-1068: 7-8 AM & 3-6 PM	
Rte. 96: Phelps EVL to RR	1046 - 1085	No Restrictions	

SECTION 3: JOINT AND CRACK FILLER/SEALER - SPECIFIC PROJECTS (Cont'd)

3.12.2 NYSDOT REGION 4 Special Notes (Crack Sealing) (Cont'd)

Project 4T5319 – Work Zone Traffic Control (WZTC) Requirements (Cont'd)

2019 VPP CRACK SEALING - TIME RESTRICTIONS

Crack Seal Location	Reference Markers	Flagging/Intersection Flagging	Single Lane Closures
		Prohibited	
ORLEANS COUNTY			
Rte.279: Rt 98 to Rt 104	1000 - 1019	No Restrictions	
Rte. 98: Rte. 31A to Rte. 104	1056 - 1107	1056-1091 (Flagging and/or Lane Shift): 7-8 AM & 3-6 PM 1091-1107: No Restrictions	
Rte. 31: Salt Works Rd. to Niagara CL	1024 - 1000	7 AM-8 AM & 3 PM-5 PM	
Rte. 18: Rte. 272 to Transit Rd.	1194 - 1260	No Restrictions	
WAYNE COUNTY			
Rte. 31F: Canandaigua Rd. to Rte. 350	1027- 1053	1027-1037: 7-8 AM & 4-6 PM 1037-1053 (Flagging and/or Lane Shift): 7-9 AM & 3-6 PM	
Rte. 31: Newark EVL to Clyde WVL	1057- 1155	Flagging and/or Lane Shift: 3 PM-6 PM	
Rte. 31: Village of Clyde	1155- 1194	1155-1168: 3 PM-6 PM 1168-1194: No Restrictions	
Rte. 414: Village of Clyde	1041- 1061	1041-1047: 3 PM-6 PM 1047-1061: No Restrictions	
Rte. 31/89 OLAP: Start to End	1230- 1263	No Restrictions	
Rte. 441: Wayne CL to Rte. 350	1000- 1042	6 AM-8 AM & 4 PM-6 PM	
Rte. 21: Rte. 104 to Rte. 31	1023- 1149	7 AM-8 AM & 3 PM-6 PM	
Rte. 14: Rte. 104 to Sodus Point	1140- 1170	No Restrictions	
Rte. 370: Rte. 104 to Cayuga CL	1000- 1028	No Restrictions	
Rte. 21: Palmyra SVL to Rte. 31	1011 - 1016	No Restrictions	

SECTION 3: JOINT AND CRACK FILLER/SEALER - SPECIFIC PROJECTS (Cont'd)

3.12.2 NYSDOT REGION 4 Special Notes (Crack Sealing) (Cont'd)

Project 4T5319 – Work Zone Traffic Control (WZTC) Requirements (Cont'd)

2019 VPP CRACK SEALING - TIME RESTRICTIONS

Crack Seal Location	Reference Markers	Flagging/Intersection Flagging	Single Lane Closures
		Prohibited	
WYOMING COUNTY			
Rte. 39: Castile NVL to Perry SVL	1254 - 1300	1254-1289: 3 PM-6 PM 1289-1300: 7-8 AM & 3-6 PM	
Rte. 39: Perry NVL to Livingston CL	1322 - 1342	7 AM-8 AM & 4 PM-6 PM	
Rte. 98: Rte. 78 to Rte. 20A	1103 - 1206	No Restrictions	
Rte. 98: Attica SVL to Genesee CL	1282 - 1292	1282-1286: No Restrictions 1286-1292: 7-9 AM & 3-6 PM	
Rte. 20A: Erie CL to Rte. 238	1000 - 1145	1000-1039: 3 PM-6 PM 1039-1080 & 1089-1145: No Restrictions 1080-1089: 7-8 AM & 3-6 PM	
Rte. 20A: Warsaw WVL to Rte. 19	1164 - 1177	7 AM-8 AM & 3 PM-6 PM	
Rte. 354: Erie CL to Rte. 77	1000 - 1047	No Restrictions	
Rte. 238: Bantam Rd. to Genesee CL	1030 - 1112	1030-1095: No Restrictions 1095-1112: 7-9 AM & 3-6 PM	
Rte. 19A: Allegany CL to Portageville	1000 - 1035	No Restrictions	
Rte. 246: Rte. 20A to Rte. 63	1023 - 1103	No Restrictions	
Rte. 63: Livingston CL to Genesee CL	1000 - 1036	No Restrictions	

SECTION 3: JOINT AND CRACK FILLER/SEALER - SPECIFIC PROJECTS (Cont'd)

3.12.3 NYSDOT REGION 5 Special Notes (Crack Sealing)

Time Restrictions

Region 5 Crack Seal must be completed within 60 days of award or June 1st whichever is later.

All Region 5 Projects shall follow the time restrictions outlined in the "Work Zone Traffic Control - for Design/Construction on State Highways in Region 5" available on the NYSDOT website or through the Regional Transportation Systems Operations group excepting those projects listed on the Region 5 project specific special notes.

Project 5V19CS

The Inspector reserves the right to modify the limits of sealing based on needs and field conditions.

I-86 – Cattaraugus County, RM 17-5112/3124 – 5011
No ramps are included.

I-86 – Cattaraugus County, RM 17-5112/5011 – 5059 (WB)
Only ramp included is WB on ramp at Exit 27.

I-990 – North Erie – RM 990 530/1000 – 1039
No ramps are included.

3.12.4 NYSDOT REGION 6 Special Notes (Crack Sealing)

Region 6 Specific Special Notes:
To minimize travel delays associated with major holidays, no work shall be permitted during the following periods:

- Sunrise on Friday, May 24, 2019 through Tuesday, May 28, 2019
- Sunrise on Wednesday, July 3, 2019 through Friday, July 5, 2019
- Sunrise on Friday, August 30, 2019 through Tuesday, September 3, 2019

The Region requests all Preconstruction paperwork be submitted electronically (after award) as PDF files to Karen.Patterson@dot.ny.gov prior to the preconstruction meeting, or all documentation be brought to the Preconstruction meeting electronically as pdf files on a CD or USB "thumb" drive that will not be returned to the contractor.

All Region 6 Crack Seal projects shall be completed no later than October 31, 2019. A schedule reflecting this shall be submitted before start of work to the Region's Assistant Regional Director of Operations, Karen Patterson, for approval.

All Region 6 Crack Seal projects on I-86, I-390, Rte. 17, and Rte. 15 shall follow R6-TAST-1L and R6-TAST-1R WZTC plans on the following two pages.

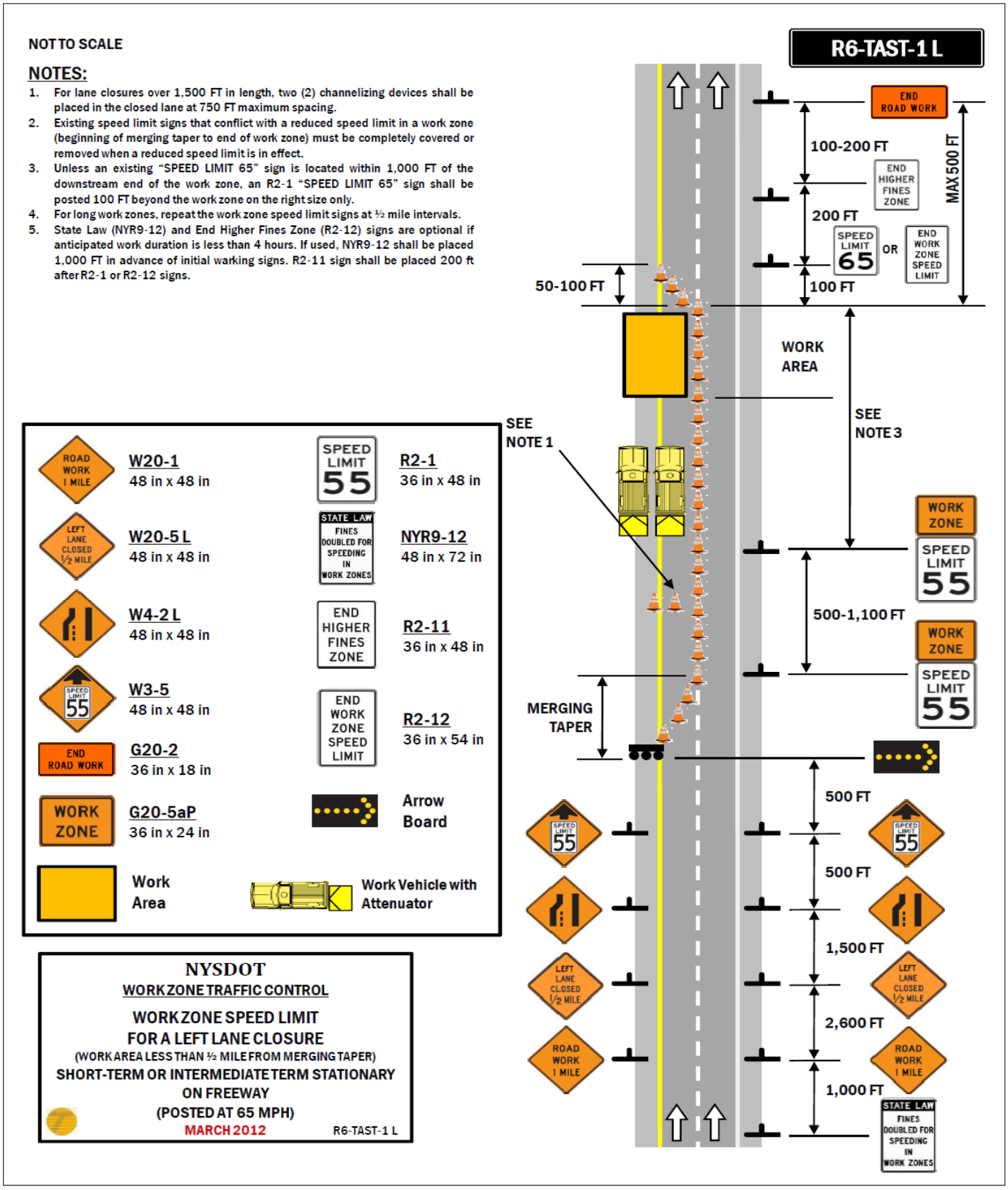
All crack seal sites denoted as "(concrete)" are only intended to receive crack seal at the longitudinal joint between the concrete pavement and the asphalt guiderail strip.

See Attachment 12 – *Region 6 – Regional Priority Network (RPN)* for a map depicting the Region 6 - Regional Priority Network Restricted Area. No lanes closures are permitted in the restricted area Monday thru Friday, between the hours of 3:00PM and 6:00PM without the expressed written approval of the Regional Traffic Engineer, or his designee.

3.13 Detailed Specifications – Crack Sealing

Please, see Attachment 10 – *Detailed Specifications – Liquid Bituminous Materials*.

SECTION 3: JOINT AND CRACK FILLER/SEALER - SPECIFIC PROJECTS (Cont'd)

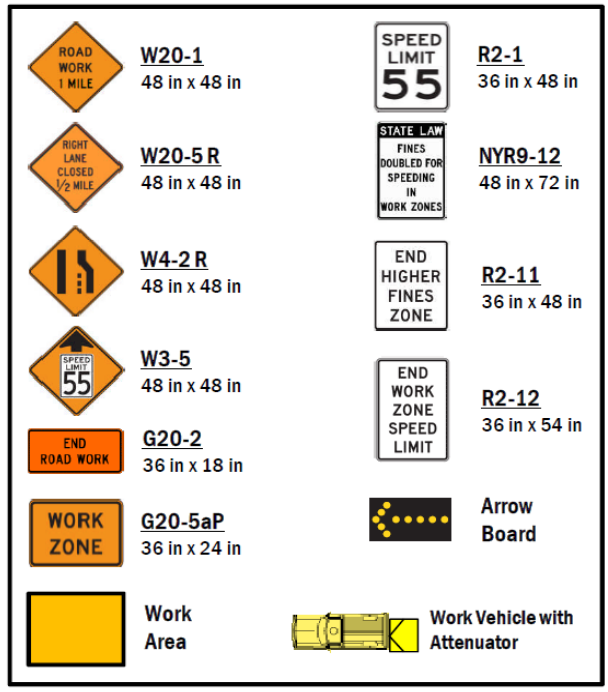


SECTION 3: JOINT AND CRACK FILLER/SEALER - SPECIFIC PROJECTS (Cont'd)

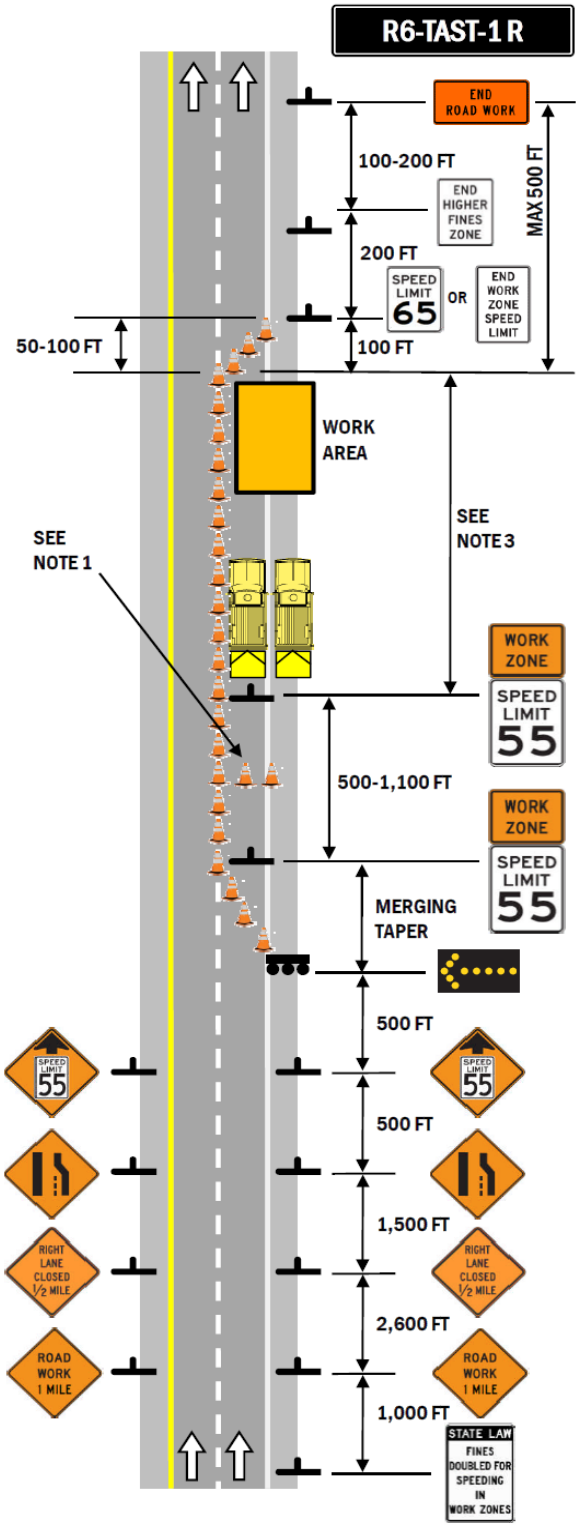
NOT TO SCALE

NOTES:

1. For lane closures over 1,500 FT in length, two (2) channelizing devices shall be placed in the closed lane at 750 FT maximum spacing.
2. Existing speed limit signs that conflict with a reduced speed limit in a work zone (beginning of merging taper to end of work zone) must be completely covered or removed when a reduced speed limit is in effect.
3. Unless an existing "SPEED LIMIT 65" sign is located within 1,000 FT of the downstream end of the work zone, an R2-1 "SPEED LIMIT 65" sign shall be posted 100 FT beyond the work zone on the right size only.
4. For long work zones, repeat the work zone speed limit signs at ½ mile intervals.
5. State Law (NYR9-12) and End Higher Fines Zone (R2-12) signs are optional if anticipated work duration is less than 4 hours. If used, NYR9-12 shall be placed 1,000 FT in advance of initial warking signs. R2-11 sign shall be placed 200 ft after R2-1 or R2-12 signs.



NYSDOT
WORK ZONE TRAFFIC CONTROL
WORK ZONE SPEED LIMIT
FOR A RIGHT LANE CLOSURE
(WORK AREA LESS THAN ½ MILE FROM MERGING TAPER)
SHORT-TERM OR INTERMEDIATE TERM STATIONARY
ON FREEWAY
(POSTED AT 65 MPH)
AUGUST 2014 R6-TAST-1 R



SECTION 4: MICRO-SURFACING - SPECIFIC PROJECTS

4.1 Introduction

Micro-surfacing is a pavement preventive maintenance treatment which offers minor improvements to rideability and has excellent friction characteristics.

4.2 Pricing Information

4.2.1 General

Price quoted for micro-surfacing shall be net per ton, furnished, hauled, delivered, and applied with Contractor's equipment totally by the Contractor at locations indicated herein. The price quoted for micro-surfacing per ton shall also include abrading the existing pavement markings, the provision of Work Zone Traffic Control as indicated elsewhere in the Invitation for Bids and Maintenance Materials Bond as listed in the *Maintenance Materials Bonds* section in the Invitation for Bids. Price calculations, if any, will be calculated on the basis of the material actually furnished.

4.3 Asphalt Price Adjustments

4.3.1 General

a. Asphalt price adjustments allowed will be based on the December 2018 average of the F.O.B. terminal price per ton of unmodified PG 64S-22 binder without anti-stripping agent (base average F.O.B. terminal price). The new monthly average terminal price will be determined by the New York State Department of Transportation based on prices of preapproved primary sources of performance graded binder in accordance with the New York State Department of Transportation Standard Specifications.

The December 2018 average is $558.000.

NOTE: The same grade of asphalt cement used in establishing the base average F.O.B. terminal price shall be used in establishing the new average F.O.B. terminal price.

In the event that one or more of the New York State Department of Transportation pre-approved sources discontinue posting a price for asphalt cement, the base average F.O.B. terminal **price shall not be recalculated.**

b. The new average F.O.B. terminal price will be determined based on the above F.O.B. terminal prices posted on the 20th of each month, hereafter known as the "Adjustment Date", during the contract period. However, asphalt price adjustments, in accordance with the formula below, will be effective for deliveries made on and after the first of the month following the adjustment date.

c. The unit prices of liquid bituminous materials purchased from any award based on this specification will be subject to adjustment based on the following formula:

$$\text{Price Adjustment (Per Ton)} = \left(\text{New Monthly Average F.O.B. Terminal Price} - \text{Base Average F.O.B. Terminal Price}\right) \times \text{Total Allowable Petroleum \%}$$

Positive Price Adjustment number shall be added to original per ton Bid Price.
Negative Price Adjustment number shall be subtracted from original per ton Bid Price.

New Monthly Average F.O.B. Terminal Price
The average F.O.B. terminal price for unmodified PG 64S-22 binder without anti-stripping agent is as determined by the New York State Department of Transportation per New York State Department of Transportation Standard Specification.

Base Average F.O.B. Terminal Price
The average F.O.B. terminal price of unmodified PG 64S-22 binder without anti-stripping agent is as determined by the New York State Department of Transportation as of December 2018.

SECTION 4: MICRO-SURFACING - SPECIFIC PROJECTS (Cont'd)

Total Allowable Petroleum

The percentage of total allowable petroleum for each item is as follows:

Item #	Material Designation	Asphalt %	Petroleum Allowance %	Total Allowable Petroleum %
413.02010118	Microsurfacing, Type II, F1	9.0	0.2	9.2
413.02020118	Microsurfacing, Type II, F2	9.0	0.2	9.2
413.02030118	Microsurfacing, Type II, F3	9.0	0.2	9.2
413.03010118	Microsurfacing, Type III, F1	7.5	0.2	7.7
413.03020118	Microsurfacing, Type III, F2	7.5	0.2	7.7
413.03030118	Microsurfacing, Type III, F3	7.5	0.2	7.7
413.04030118	Microsurfacing, Type III Rut Filling	7.5	0.2	7.7

Asphalt Price Adjustments will not be allowed for materials which do not have an asphalt cement base.

d. Work performed after the expiration of the contract, where no extension has been granted, resultant from purchase orders placed prior to expiration of the contract will receive the Asphalt Price Adjustments applicable in effect during the last month of the contract.

Asphalt Price Adjustments for any contracts that are extended will be based on the new average for the month in which the work is done applying the same base established for that contract.

e. Asphalt price adjustments allowed by this contract shall be calculated and applied to the original prices. There will not be asphalt price adjustments unless the change amounts to more than $0.100 per ton/$0.010 per gallon as applicable from the original price. In these instances, prices will revert back to the original prices.

f. All Asphalt Price Adjustments will be computed to three decimal places.

g. Should these provisions result in a price structure which becomes unworkable, detrimental or injurious to the State or in prices which are not truly reflective of market conditions or which are deemed by the Commissioner to be unreasonable or excessive, and no adjustment in price is mutually agreeable, the Commissioner reserves the sole right upon ten business days written notice mailed to the Contractor to terminate any contract resulting from this bid opening.

h. All asphalt price adjustments shall be published by the State and issued to all contract holders whose responsibility will be to attach the appropriate State notification (based on when the work was performed) to the payment invoice submitted to agency

4.3.2 Asphalt Price Adjustment: Example

This example is for illustration purposes only. Actual Base Average Price, etc., may vary:

Item 18410.1021
Base Average Price = $558.000
New Average Price = $568.000
% Total Allowable Petroleum = 9.2%

Price Adjustment (per ton)	=	(568.000 - 558.000)	X	0.092

Price Adjustment (per ton)	=	+$0.920 per ton

Positive Price Adjustment number shall be added to original per ton Bid Price.
Negative Price Adjustment number shall be subtracted from original per ton Bid Price.

SECTION 4: MICRO-SURFACING - SPECIFIC PROJECTS (Cont'd)

4.4 Payment

Payment for micro-surfacing shall be made at contract prices per net ton for the actual quantity of material placed by the Contractor and actual numbers of gallons of bituminous materials for fog seal (if used).

Payment for work zone traffic control and abrading the existing pavement markings shall be included in the payment for the number of tons of completed micro-surfacing

A delivery slip stating quantities of micro-surfacing shall accompany each shipment. An invoice listing the quantities of micro-surfacing in place shall be sent promptly by the contractor to the address indicated on the purchase order.

4.5 Pre- Micro-Surfacing Conference

The contractor shall schedule a Pre-Micro-Surfacing Conference with the affected Resident Engineer within one month after award of the Contract and at least two weeks prior to the start of the micro-surfacing. Project level supervisors for both the owner agency and the Vendor should be present at this conference. At this conference the contractor shall present Certificates of Insurance evidencing compliance with the additional insurance requirements set forth in the INSURANCE clause, their proposed micro-surfacing schedule, equipment, pavement marking abrading plan, mix design, calibration, micro-surfacing procedure, and Work Zone Traffic Control plan to the State for approval. At least one week prior to the start of micro-surfacing, the Vendor shall coordinate the details of the project with the Resident Engineer.

4.6 Bonding Requirements – Micro-Surfacing

A Maintenance Materials Bond is required for micro-surfacing projects in the Invitation for Bids. Please see sample in Attachment 10 - *Detailed Specifications – Liquid Bituminous Materials*.

4.7 Supervision

The Department of Transportation shall provide supervision for the micro-surfacing operation, and pavement marking abrading if applicable. The Resident Engineer shall designate a Project Supervisor who shall be in responsible charge of the operation. All orders pertaining to Work Zone Traffic Control plan from the Project Supervisor to the contractor shall be binding on the contractor. The following portions of Section 105 - CONTROL OF WORK of the Standard Specifications shall apply to these projects: 105-01 ENGINEER'S AUTHORITY, 105-05 VENDOR RESPONSIBILITY, 105-06 COOPERATION WITH UTILITIES AND OTHER CONTRACTORS.

4.8 Work Hours

Work shall not be permitted on Sundays and NYS Holidays. If the contractors desire to work overtime on other days, dispensation from NYS Labor Department must be obtained using Department of Labor Form PW-30 (09/18). Night work is prohibited unless agreed to by the Contractor and NYS Department of Transportation. All Overtime Dispensations requests shall be submitted to the Resident Engineer or his/her designee at the preconstruction meeting.

4.9 Construction Details

The construction details shall comply with the requirements specified herein, including those appearing in the enclosed Attachment 10 - *Detailed Specifications – Liquid Bituminous Materials*. The project supervisor from the State shall have sole responsibility for determining compliance with the specifications. All orders given to the contractor regarding construction details shall be considered final.

4.10 Special Note for Micro-surfacing

The Contractor will not be responsible for the initial conditioning of the existing pavement and shoulder surfaces as described in Section 402-3.05 of the NYSDOT Standard Specifications. Patching, joint repair, crack filling will be done by NYSDOT forces prior to the micro-surfacing, chip seal or paver placed surface treatment project. However, once work on the project begins, the Contractor is responsible for keeping the pavement and shoulders clean until the paving operations are completed, as per Section 633-3.01 of the NYSDOT Standard Specifications.

SECTION 4: MICRO-SURFACING - SPECIFIC PROJECTS (Cont'd)

4.11 Restoration of Disturbed Areas

During the course of the work the vendor shall take reasonable care not to disturb areas outside the existing pavement. Any areas disturbed by the vendor shall be returned to their original condition at no expense to the State. Any and all debris generated as part of the work shall be removed by the Vendor upon completion of the project.

4.12 Damaged or Deficient Areas

Prior to acceptance and payment by the State for work under this contract, any placed pavement that ravels, delaminates, fails to properly cure, or is in any way defective shall be redone to the satisfaction of the State at the contractor's expense.

4.13 Work Zone Traffic Control

The contractor shall responsible for Work Zone Traffic Control. Traffic shall be controlled in accordance with Manual of Uniform Traffic Control Devices (MUTCD), Section 619-1 through 619-3 of the Standard Specifications as described herein including modifications to the Standard Specifications. The contractor shall submit a Work Zone Traffic Control Plan for approval to the Resident Engineer at the Pre-Work conference. For two-way roadways, Figures TAST-C1R, TAST-C2R, TAST-C3R, TAST-C4R, TAST-C5R, TAST-C7R, TAST-C1UL, TAST-C2UL, TAST-C3UL, TAST-C4U, TAST-C7UL, TAST-C1UH, TAST-C2UH, TAST-C3UH, and TAST-C7UH included in this document may be used as a basis for development of a Work Zone Traffic Control Plan. For one-way roadways, Figures TAST-C5UL, TAST-C6UL, TAST-C8UL, TAST-C5UH, TAST-C6UH, and TAST-C8UH may be used as a basis for development of a Work Zone Traffic Control Plan. For one-way Freeways or Expressways, Figures TAST-E1, TAST-E2, TAST-E3, TAST-E4, TAST-E5, TAST-E6, and TAST-E7 may be used as a basis for development of a Work Zone Traffic Control Plan.

All necessary flaggers for Work Zone Traffic Control shall be provided by the Contractor. For two-way roadways, a minimum of three flaggers shall be provided while the work operation is underway. One shall be stationed at each end of the applicable operation and one shall be stationed with the operation. For one-way roadways, a minimum of two flaggers shall be provided while work operation is underway.

One shall be stationed at the beginning of the applicable operation and one shall be stationed with the operation. The Contractor shall station flaggers such that communication is maintained between the flaggers. Hand signals, radios, pilot vehicles, or some other means of communication may be used subject to the approval of the Resident Engineer.
All costs of Work Zone Traffic Control as prescribed by this specification including flagging, temporary pavement marking and/or delineation, and construction signs, are to be included in the unit price bid. No separate payment shall be made.

SECTION 4: MICRO-SURFACING - SPECIFIC PROJECTS (Cont'd)

4.13.1 Permanent Construction Signs

The Contractor shall provide construction signs as specified in Section 619-1 through 619-3 of the Standard Specifications and in the MUTCD. At minimum the Contractor shall install the following permanent construction signs:

SIGN	MINIMUM SIZE	LOCATION
ROAD WORK NEXT _____ MILES	G20-1 Conventional 36" x 18" Freeways 48" x 24"	On main line upstream of project in each direction
END ROAD WORK	G20-2 Conventional 36" x 18" Freeways 48" x 24"	On main line after end of project in each direction
ROAD WORK AHEAD	W20-1 Conventional 36" x 36" Freeways 48" x 48"	On main line in advance of the affected highway segment in each direction and on major intersecting roads 300 -500 ft. in advance of main line. Sign should be covered if it conflicts with temporary signing in the vicinity. (Place between the G20-1 and the first warning sign that states condition- i.e. W8-12, W8-9 or W8-15)
DO NOT PASS	R4-1 Conventional 24" x 30"	If 2'x 4" temporary yellow markings are used instead of full barrier centerline pavement markings, place the first sign at or within 100 ft. of the beginning of the unmarked area, second within 1,000 ft. and subsequent signs, spaced every ½ mile along project in each direction
NO CENTER LINE	W8-12 Conventional 36" x 36"	If 2'x 4" temporary yellow markings are used instead of full barrier centerline pavement markings, place the first sign in advance of the condition and the first "DO NOT PASS" sign: 300' urban is preferred (100' minimum), 500' rural is preferred (200' minimum). Place additional signs spaced every 2 miles on mainline in each direction and after every major intersecting road.
LOW SHOULDER	W8-9 Conventional 36" x 36" Freeways 48" x 48"	Place on mainline spaced every 2 miles along project in each direction and after every major intersecting road until shoulder back-up is installed (if conditions warrant use, place between the W8-12 and R4-1, maintaining a minimum of 200' between signs for rural roads and 100' on urban. The W8-12 can be moved upstream to accommodate the required spacing.)
GROOVED PAVEMENT	W8-15 Conventional 36" x 36" Freeways 48" x 48"	On any roadway 500 ft. in advance of rebates milled under this contract, but not paved. Remove or cover after paving rebate.

**All signs should maintain an absolute minimum spacing of 200' rural or 100' urban. 500' is preferred on rural and 300' is preferred on urban. Double stacking of any of the above signs, or combination thereof, will NOT be permitted.

SECTION 4: MICRO-SURFACING - SPECIFIC PROJECTS (Cont'd)

Major intersecting roads are defined as through State, County, Town, Village, or City roads. The Contractor may provide Portable signs as shown in Figure 6F-2 of the MUTCD and meeting the requirements of Section 619 of the Standard Specifications for lane closures during work hours. Signs left active at night shall be rigid and reflectorized in accordance with the Standard Specifications.

With prior permission of the State's Resident Engineer, the Vendor may provide portable signs as shown in Figure 6F-2 of the MUTCD for the above referenced DO NOT PASS and NO CENTER LINE signs. The Contractor shall be responsible for assuring that these signs will be in their upright, visible positions twenty-four hours a day, seven days a week while 2' X 4" temporary yellow markings are used instead of full barrier pavement markings

4.13.2 Temporary Pavement Markings

The Contractor shall install and maintain temporary pavement markings on any paved surface without permanent pavement markings before opening it to traffic, before nightfall or before the end of the work day, whichever comes soonest except for areas that are open during the work shift with channelizing devices or flaggers. Temporary pavement markings shall meet the requirements of Section 619 of the Standard Specifications except that two-lane, two-way highways may be left without full barrier centerlines in no passing zones for a maximum of 7 calendar days provided that NO CENTER LINE (W8-12, black on orange), NO PASSING ZONE (W14-3, black on orange pennant shaped sign), and DO NOT PASS (R4-1) signs are used consistent with the MUTCD and in conjunction with yellow 2-foot by 4-inch temporary markings consisting of retroreflective removable pavement marking tape, paint or yellow temporary overlay markers installed on a 40 ft. cycle to delineate the centerline location.

The State is responsible for the final pavement markings unless otherwise indicated in the contract. If the vendor chooses to install NO CENTER LINE and DO NOT PASS signs and temporary yellow 2-foot by 4-inch pavement markings in lieu of full barrier centerline markings, the signs shall be left in place until the state has completed installing the final pavement markings. The state will normally complete final pavement markings within 7 days of the project completion. However, if unavoidable situations delay the pavement marking installation the signs shall remain in place for 14 calendar days after the project has been completed or until the state has completed installing the final pavement markings, whichever comes first. If permanent pavement marking cannot be installed within 14 days of the project completion, state must install interim pavement marking including center lines, edge lines, stop bars, and simple crosswalks with no hatching before the end of 14 days after project completion.

All costs for Work Zone Traffic Control including flagging, temporary pavement markings, delineation, and construction signs are to be included in the prices bid per ton or square yard as applicable.

4.13.3 Abrading Existing Pavement Markings

The Contractor shall remove any epoxy or thermoplastic pavement markings. Other markings shall be removed as ordered by the Resident Engineer. Care shall be taken to avoid damage to passing traffic. All damage to passing traffic caused by the Contractor's operations shall be the Contractor's responsibility. Waste material generated by the abrading operation shall be cleaned up and disposed of by the Vendor.

When the Contractor abrades the existing pavement markings, the Contractor shall place temporary pavement markings as specified elsewhere in the Invitation for Bids under Work Zone Traffic Control, unless the paving material will be placed the same day as pavement markings are abraded. The Contractor shall make every effort to expeditiously place the paving material in areas where pavement markings have been abraded and temporary pavement markings are in place. Under no circumstances will temporary pavement markings be allowed for more than five calendar days in areas where pavement markings have been abraded. In this event, the Contractor shall be required to place full pavement markings at no cost to the state. During the pavement markings abrading operation, traffic will be controlled by the Contractor in accordance with the Work Zone Traffic Control requirements included herein. The Contractor shall submit a proposed Traffic Control Plan to the Resident Engineer for approval. The plan may be based on the Work Zone Traffic Control drawings included in the Invitation for Bids.

Payment for pavement marking abrading shall be included in the price bid per ton of micro-surfacing. No separate payment shall be made.

SECTION 4: MICRO-SURFACING - SPECIFIC PROJECTS (Cont'd)

4.13.4 Special Note: Work Zone Intrusion Initiative

As part of the Department of Transportation's Work Zone Intrusion Initiative, the following countermeasures shall apply to the Invitation for Bids.

Channelizing Device Spacing Reduction

A maximum channelizing device spacing of 40 ft. shall be provided at work sites where workers are exposed to traffic. This spacing shall be maintained a reasonable distance upstream of workers and shall be used throughout the work zone.

Where tapers are located less than 500 ft. from the work site, the 40-ft. spacing shall be used in the tapers as well.

Drums or vertical panels are preferred for intermediate to long-term stationary work zones, and at any locations where the risk of intrusion is high. Traffic cones are normally adequate for work zones set up and removed on a daily basis.

In long lane or shoulder closures, at least two channelizing devices shall be placed transversely at maximum 800 ft. intervals to discourage traffic from driving through the closed lane. Transversely placed devices are not required where pilot cars are in use.

Frequent checks shall be made to reset channelizing devices dislodged by traffic.

Flagger Station Enhanced Setups

Additional cones and a flag tree meeting Section 6F.62 of the MUTCD shall be used upstream of flagger stations to provide added warning to drivers. These devices shall be used for flagger stations except those that are constantly moving or are in use at one location for no more than a few minutes. If the W20-7a Flagger sign is used, the additional cones and flag tree shall also be used.

For additional details on Flagger Station Enhanced Setups, see Work Zone Traffic Control drawings in the Invitation for Bids.

Temporary Rumble Strips

a. Description

This work shall consist of the installation, maintenance and subsequent removal of temporary rumble strips in paving work zones where indicated in the Invitation for Bids or as directed by the Engineer.

b. Materials

Rumble strips shall be either constructed in place from a raised strip of asphalt concrete or constructed in place with removable pavement marking tape. Raised removable tape rumble strips shall be formed by applying four layers of removable black non-reflectorized removable pavement marking tape. The tape shall be applied to a clean, dry pavement surface in accordance with the manufacturer's recommendations. The pavement surface shall be cleaned with compressed air just prior to application of the tape
Raised asphalt rumble strips shall be formed from hot mix asphalt meeting the requirements of Items 402.058903 or 402.098903. Tack coat meeting the requirements of Materials Designation 702-XXXXT Asphalt Emulsion Diluted Tack Coat shall be used to adhere the rumble strip to the existing pavement. Temporary rumble strips shall be formed using a specially constructed rumble strip paver (drag box) pulled transversely across the pavement, or by hand placement between forms fixed to the pavement. If forms are used, they shall be removed prior to compaction of the asphalt mixture. Compaction shall be accomplished using a plate tamper or a static roller. The roadway surface on which the rumble strips are to be attached shall be dry, free of surface contaminants such as dust or oil, and shall be 45ºF or greater unless otherwise authorized by the Engineer. The pavement surface shall be cleaned with compressed air just prior to tack coating and subsequent installation of rumble strips.

Temporary rumble strips shall be placed in a succession of three 6-Strip Patterns according to the attached "Suggested Layout Details - Temporary Rumble Strips". Each strip shall be placed on 10-foot centers and traversing the full width of each travel lane. On curbed roadways, rumble strips shall end a minimum of 3 ft. from the curb so as to not interfere with drainage. Rumble strips shall be between 6 inches and 9 inches in width and have a final compacted thickness of 0.4 inches $\pm$ 0.1 inches.

SECTION 4: MICRO-SURFACING - SPECIFIC PROJECTS (Cont'd)

Any raised rumble strips that fail to adhere to the pavement, or become damaged or flattened such that, in the opinion of the Engineer, they are no longer performing their intended function, shall be replaced or repaired by the Contractor to the satisfaction of the Engineer. Any associated damage to the pavement shall also be repaired by the Contractor to the satisfaction of the Engineer. These replacements or repairs shall be made at no additional expense to the Purchasing Agency.

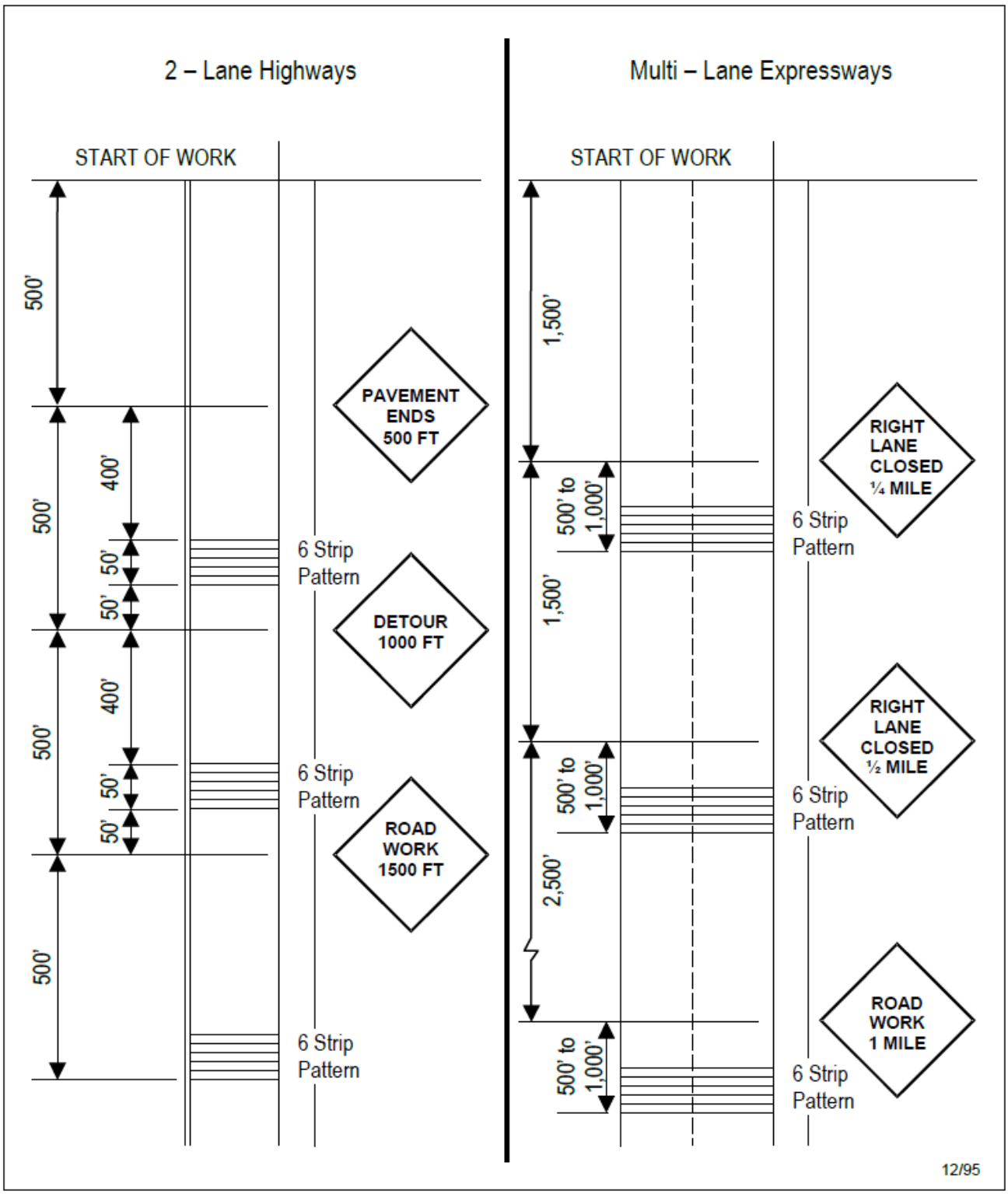
When directed by the Engineer, (e.g., prior to the start of the winter plowing season), or prior to the placement of successive pavement courses, the Contractor shall completely remove the rumble strips from the pavement. Rumble strips shall be removed upon completion of work and concurrently with the removal of other temporary traffic control signs and devices. Any pavement that is damaged in the process of removing the rumble strips shall be repaired by the Contractor to the satisfaction of the Engineer at no additional expense to the Purchasing Agency.

c. Basis of Payment
All costs for the installation, maintenance and removal of temporary rumble strips are included in the price per ton or square yard as appropriate. No separate payment shall be made.

d. Suggested Layout Details Drawing-- Temporary Rumble Strips
See the Suggested Layout Details Drawing on the **next page**.

SECTION 4: MICRO-SURFACING - SPECIFIC PROJECTS (Cont'd)

Suggested Layout Details -- Temporary Rumble Strips



SECTION 4: MICRO-SURFACING - SPECIFIC PROJECTS (Cont'd)

4.14 Special Notes – Micro-surfacing

4.14.1 Funding Source (Micro-surfacing)

Projects 7M1913 and 7M1914 will be funded by Federal Aid**.**

Projects 409671, 406357 and 438314, are 100% State funded.

4.14.2 NYSDOT REGION 4 General Special Notes (Micro-surfacing)

REGION 4 General Special Notes

1. Local fire, police, ambulance, and school authorities shall be notified by the Contractor prior to commencing work in order to maintain sufficient emergency services and to allow school officials sufficient time to plan alternative bus routes, if necessary
2. Prior to the start of work, the contractor shall inventory all pavement markings and provide the engineer with a copy of the inventory. As part of a pavement marking program update, the Regional Traffic and Safety group is reviewing all pavement markings within the limits of paving projects. Upon their review, there may need to be adjustments to the pavement marking layout. The contractor shall be responsible for completing striping layout, including changes as indicated by the Regional Traffic and Safety Group.
3. The contractor shall remove any plowable reflective markers in the pavement, if present, prior to paving. The hole left in the existing pavement, shall then be filled with a hot mix asphalt material; 9.5 mixture, or mixture approved by the Resident Engineer. Cost to be included in the bid price for the associated project.
4. Contractor shall use non-vibratory rolling over culverts or known utilities within the project limits or as ordered by the engineer in charge. Specific locations for non-vibratory rolling will be discussed at the pre-pave meeting.
5. Some projects may require loop detectors to be re-established prior to or once micro-surfacing has been completed. This shall be done by others and coordinated by the Resident Engineer.
6. The installation of temporary rumble strips at the beginning of each project work zone shall be at the discretion of the engineer.
7. Any and all debris generated as part of the work shall be removed by the Vendor within five days of completion of micro-surfacing operations.

SECTION 4: MICRO-SURFACING - SPECIFIC PROJECTS (Cont'd)

4.14.2 NYSDOT REGION 4 General Special Notes (Micro-surfacing) (Cont'd)

REGION 4 Temporary Lane closure Restrictions for Major Holidays

There shall be no temporary lane/shoulder closures on roadway facilities owned and/or maintained by NYSDOT on the major holidays listed below.

Construction activities that will result in temporary lane/shoulder closures shall be suspended to minimize travel delays associated with road work for major holidays as follows:

Holiday	Falls on	Temporary lane closures are NOT allowed from
Memorial Day	Monday	6:00 AM Friday before to 6:00 AM Tuesday after
Independence Day	Thursday	6:00 AM Thursday to 6:00 AM Monday after
Labor Day	Monday	6:00 AM Friday before to 6:00 AM Tuesday after
Thanksgiving Day	Thursday	6:00 AM Wednesday before to 6:00 AM Monday after
Christmas Day	Wednesday	6:00 AM Tuesday before to 6:00 AM Thursday after (starting at 6:00 AM Saturday before to 6:00 AM Thursday after for Christmas Day)

Exceptions can only be made under the following conditions:

- Emergency work.
- Work within long-term stationary lane/shoulder closures.
- Safety work that does not adversely impact traffic mobility and has been authorized by the Regional Traffic Engineer.

Note: The Department reserves the right to cancel any work operations, including lane closures and/or total road closures, that would create traffic delays by unforeseen events. The Contractor would be notified at least seven (7) calendar days prior to the proposed work.

Project 406357 – Genesee County

1. The micro-surfacing will be applied to the full pavement width, from curb to curb and/or travel lanes and shoulders.
2. Time Restrictions:
   a) Rte. 63 (South Village Line to Rte. 262) – Flagging Prohibited 7 AM to 8 AM & 3 PM to 6 PM.
   b) Rte. 63 (Rte. 262 to North Village Line) – No Time Restrictions.
   c) Rte. 262 – No Time Restrictions.
   d) Major Holiday Lane Restriction Special Note applies to this project.
3. Abrading of pavement centerline, fog lines, special markings, and associated Work Zone Traffic Control, shall be included in the bid price for the micro-surfacing item.

SECTION 4: MICRO-SURFACING - SPECIFIC PROJECTS (Cont'd)

4.14.2 NYSDOT REGION 4 General Special Notes (Micro-surfacing) (Cont'd)

Project 409671 – Ontario County

1. From RM 96-4404-1209 to 1232 the micro-surfacing will be applied to the travel lanes only. The Contractor will be required to apply Micro-surfacing over the white edge line (fog line) to the shoulder break between RM 96-4404-1209 to 1232.

   From RM 96-4404-1232 to 1240 the micro-surfacing will be applied to the full pavement width, from curb to curb (including parking lanes).

   At the intersection of Rte. 96 and High Street (RM 96-4404-1240) the micro-surfacing shall be applied around the curb radius and up High St. (approximately 170 ft.) to the existing pavement joint.

   From RM 96-4404-1209 to 1232 the contractor shall Fog Seal the shoulders following the micro-surfacing operation. Fog Seal asphalt emulsion sealer shall meet the requirements specified in Section 702 and the material requirements in Table 702-7, Diluted Tack Coat. The Fog Seal Asphalt Emulsion shall be applied at a rate of 0.10 GAL / SY. Cost for fog sealing shall be included in the bid price for the micro-surfacing item.

2. Time Restrictions:
   a) Rte. 96 (Rte. 332 to Lynaugh Rd.) – Flagging Prohibited 7 AM to 7 PM (MON. – SUN.)
   b) Rte. 96 (Lynaugh Rd. to High St.) – Flagging Prohibited 6 AM to 9 PM (MON. – SUN.)
   c) Major Holiday Lane Restriction Special Note applies to this project.

   Based on time restrictions, night time work is anticipated. The cost for additional requirements associated with night time work shall be included in the bid price for the micro-surfacing item. The contractor will be required to submit a lighting plan.

3. Abrading of pavement centerline, fog lines, special markings, and associated Work Zone Traffic Control, shall be included in the bid price for the micro-surfacing item.

4. **The Contractor is advised that approximately 2.2 miles of Centerline Audible Roadway Delineators (CARDs) exist within the proposed project limits on NYS Rte. 96. The Contractor is required to record the existing locations of CARDs and re-establish them, after the completion of micro-surfacing, in accordance with Item 649.11 and NYS Standard Sheet 649-03. The Contactor shall shim the existing CARDs prior to scratch course with a 2' (two foot) wide pass of Item 413.02020118, Micro-Surfacing, Type II, F2. The cost of all associated work, including any additional temporary pavement striping as well as work zone traffic control, shall be included in the bid price per ton of the micro-surfacing Item.**

Project 438314 – Monroe County (See map for Project 438314 on the next page)

1. The micro-surfacing will be applied to the full pavement width, from curb to curb (including parking lanes) and/or travel lanes and shoulders.

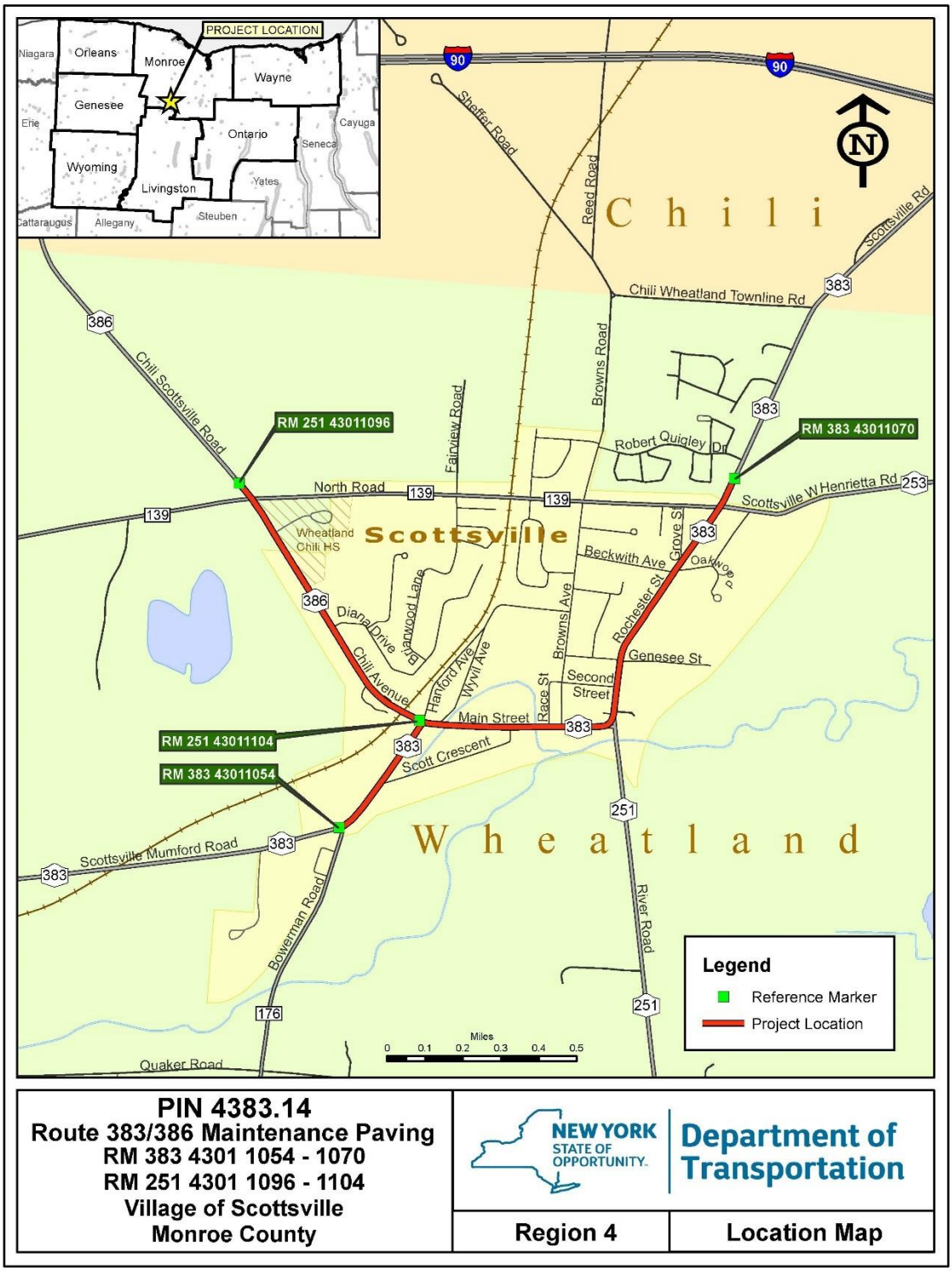
   At the intersection of Rte. 383 and Rte. 251, micro-surfacing shall be applied to all legs of the triangular shaped intersection and to the north bridge joint of the Rte. 251 bridge.

2. Time Restrictions:
   a) Rte. 383 (South Village Line to Rte. 386) – No Time Restrictions
   b) Rte. 383 (Rte. 386 to North Village Line) – Flagging Prohibited 7 AM to 8 AM & 4 PM to 6 PM.
   c) Rte. 386 – No Time Restrictions
   d) Major Holiday Lane Restriction Special Note applies to this project.

3. Abrading of pavement centerline, fog lines, special markings, and associated Work Zone Traffic Control, shall be included in the bid price for the micro-surfacing item.

SECTION 4: MICRO-SURFACING - SPECIFIC PROJECTS (Cont'd)

Map for Project 438314



SECTION 4: MICRO-SURFACING - SPECIFIC PROJECTS (Cont'd)

4.15 Detailed Specifications – Micro-surfacing

Please see Attachment 10 – *Detailed Specifications – Liquid Bituminous Materials*

4.15.1 Project Dimensions - Micro-surfacing

Information on pavement widths for projects in the Invitation for Bids is listed for informational purposes only. The dimensions listed are the best information available, but 100% accuracy is not guaranteed. Bidders should visit the project site to confirm the dimensions given and familiarize themselves with the project particulars before submitting a bid. The Department assumes no responsibility for erroneous information listed herein.

The pavement width listed is the total width of all the travel lanes only.

The shoulder width is for one shoulder only.

Project Number	Item	Travel Lanes Width (feet) (total)	Lane Width (feet) (one lane)	Shoulder Width (feet) (one shoulder)	Number of Lanes
406357	413.02020118	Varies 22-36	Varies 11-14	Varies 5-8	Varies 2-3
409671	413.02020118	Varies 24-60	Varies 11-12	Varies 0-4	Varies 2-5
438314	413.02020118	Varies 22-24	Varies 11-12	Varies 0-13	2
7M1913	413.02030118	55	14	0	4
7M1914	413.02030118	22	11	8	2

SECTION 5: HEATER SCARIFICATION - SPECIFIC PROJECTS

5.1 Introduction

Heater scarification is a continuous multi-step process in which the existing hot mix asphalt (HMA) pavement surface is recycled using specialized equipment. The HMA pavement surface is heated causing the asphalt to soften. The softened asphalt surface is then immediately scarified and milled to a specified depth. The reclaimed asphalt pavement is then mixed with a recycling agent that rejuvenates the asphalt. The recycled mix is then placed and compacted back onto the roadway. A new bituminous concrete sealing layer is added later. Existing cracks are eliminated, and the resulting pavement should provide a longer life.

5.2 Pricing Information

5.2.1 General

Price quoted for heater scarification shall be net per square yard completed with contractor's equipment totally by the contractor at the locations indicated herein. The price quoted for heater scarification per square yard shall also include mobilization to the project site and the provision of Work Zone Traffic Control as indicated elsewhere in the Invitation for Bids.

The price quoted per gallon for recycling agent shall include heating, hauling, and applying the recycling agent at the project locations indicated herein.

5.3 Asphalt Price Adjustments

5.3.1 General

a. Asphalt price adjustments allowed will be based on the December 2018 average of the F.O.B. terminal price per ton of unmodified PG 64S-22 binder without anti-stripping agent (base average F.O.B. terminal price). The new monthly average terminal price will be determined by the New York State Department of Transportation based on prices of preapproved primary sources of performance graded binder in accordance with the New York State Department of Transportation Standard Specifications.

The December 2018 average is $558.000.

NOTE: The same grade of asphalt cement used in establishing the base average F.O.B. terminal price shall be used in establishing the new average F.O.B. terminal price.

In the event that one or more of the New York State Department of Transportation pre-approved sources discontinue posting a price for asphalt cement, the base average F.O.B. terminal **price shall not be recalculated.**

b. The new average F.O.B. terminal price will be determined based on the above F.O.B. terminal prices posted on the 20th of each month, hereafter known as the "Adjustment Date", during the contract period. However, asphalt price adjustments, in accordance with the formula below, will be effective for deliveries made on and after the first of the month following the adjustment date.

SECTION 5: HEATER SCARIFCATION - SPECIFIC PROJECTS (Cont'd)

c. The unit prices of liquid bituminous materials (recycling agent) purchased from any award based on this specification will be subject to adjustment based on the following formula:

$$\text{Price Adjustment (per gallon)} = \frac{\text{New Monthly Average FOB Terminal Price} - \text{Base Average Terminal Price}}{235} \times \text{Total Allowable Petroleum \%}$$

Positive Price Adjustment number shall be added to original per gallon Bid Price.
Negative Price Adjustment number shall be subtracted from original per gallon Bid Price.

New Monthly Average F.O.B. Terminal Price
The average F.O.B. terminal price for unmodified PG 64S-22 binder without anti-stripping agent is as determined by the New York State Department of Transportation per New York State Department of Transportation Standard Specification.

Base Average F.O.B. Terminal Price
The average F.O.B. terminal price of unmodified PG 64S-22 binder without anti-stripping agent is as determined by the New York State Department of Transportation as of December 2018.

Total Allowable Petroleum
The percentage of total allowable petroleum for each item is as follows:

Item	Grade	Asphalt %	Petroleum Allowance %	Total Allowable Petroleum %
417.0101	Recycling Agent	65.0	1.0	66.0%

Asphalt Price Adjustments will not be allowed for materials which do not have an asphalt cement base.

d. Work performed after the expiration of the contract, where no extension has been granted, resultant from purchase orders placed prior to expiration of the contract will receive the Asphalt Price Adjustments applicable in effect during the last month of the contract.

Asphalt Price Adjustments for any contracts that are extended will be based on the new average for the month in which the work is done applying the same base established for that contract.

e. Asphalt price adjustments allowed by this contract shall be calculated and applied to the original prices. There will not be asphalt price adjustments unless the change amounts to more than $0.100 per ton/$0.010 per gallon as applicable from the original price. In these instances, prices will revert back to the original prices.

f. All Asphalt Price Adjustments will be computed to three decimal places.

g. Should these provisions result in a price structure which becomes unworkable, detrimental or injurious to the State or in prices which are not truly reflective of market conditions or which are deemed by the Commissioner to be unreasonable or excessive, and no adjustment in price is mutually agreeable, the Commissioner reserves the sole right upon ten business days written notice mailed to the Contractor to terminate any contract resulting from this bid opening.

All asphalt price adjustments shall be published by the State and issued to all contract holders whose responsibility will be to attach the appropriate State notification (based on when the work was performed) to the payment invoice submitted to agency

SECTION 5: HEATER SCARIFCATION - SPECIFIC PROJECTS (Cont'd)

5.3.2 Asphalt Price Adjustment: Example

This example is for illustration purposes only. Actual Base Average Price, etc., may vary:

Item 417.0101
Base Avg. Price per Ton = $558.000
New Avg. Price per Ton = $568.000
Total % Asphalt Plus Petroleum Allowance = 73.2%

Price Adjustment (per gallon)	=	$\frac{(568.000 - 558.000)}{235}$	X	0.66

Price Adjustment (per gallon)	=	+$0.028 per gallon

Positive Price Adjustment number shall be added to original per gallon Bid Price.
Negative Price Adjustment number shall be subtracted from original per gallon Bid Price.

5.4 Payment

Payment for heater scarification shall be made at the contract price bid for the actual number of completed square yards of heater scarification; the actual number of gallons of recycling agent at 60 degrees F verified by the receiving agency used in the accepted portions of the work. The determination as to quantities involved in any contract shall be accepted as final and binding upon the contractor.

A delivery slip stating quantities of recycling agent shall accompany each shipment. An invoice listing the quantities of heater scarification and recycling agent shall be sent promptly by the contractor to the engineer.

No separate payment will be made for the use of water in the mixing process. Any work required for the maintenance and repair of the heater scarification including sweeping by the contractor during the ten-day curing period and for an additional twenty days thereafter shall be done at the contractor's expense.

Payment for work zone traffic control shall be included in the payment for the number of square yards of completed heater scarification.

5.5 Pre-Heater Scarification Conference

The contractor shall schedule a Pre-Heater Scarification Conference with the affected resident engineer after the acceptance of the mix design by the State and at least one week prior to the start of the heater scarification. Project-level supervisors for both the owner agency and the contractor shall be present at this conference. At this conference the contractor shall present Certificates of Insurance evidencing compliance with the additional insurance requirements set forth in the INSURANCE clause, their proposed work schedule, procedure, equipment, mix design, calibration and Work Zone Traffic Control Plan to the State for approval. Prior to the start of heater scarification, the contractor shall coordinate the details of the heater scarification with the resident engineer.

SECTION 5: HEATER SCARIFCATION - SPECIFIC PROJECTS (Cont'd)

5.6 Supervision

The Department of Transportation shall provide supervision for the heater scarification operation, and pavement marking abrading if applicable. The Resident Engineer shall designate a Project Supervisor who shall be in responsible charge of the operation. All orders pertaining to Work Zone Traffic Control plan from the Project Supervisor to the contractor shall be binding on the contractor. The following portions of Section 105 - CONTROL OF WORK of the Standard Specifications shall apply to these projects: 105-01 ENGINEER'S AUTHORITY, 105-05 VENDOR RESPONSIBILITY, 105-06 COOPERATION WITH UTILITIES AND OTHER CONTRACTORS.

5.7 Work Hours

Work shall not be permitted on Sundays and NYS Holidays. If the contractors desire to work overtime on other days, dispensation from NYS Labor Department must be obtained using Department of Labor Form PW-30 (09/18). Night work is prohibited unless agreed to by the Contractor and NYS Department of Transportation. All Overtime Dispensations requests shall be submitted to the Resident Engineer or his/her designee at the preconstruction meeting.

5.8 Construction Details

The construction details shall comply with the requirements specified herein, including those appearing in the enclosed Attachment 10 - *Detailed Specifications – Liquid Bituminous Materials*. The project supervisor from the State shall have sole responsibility for determining compliance with the specifications. All orders given to the contractor regarding construction details shall be considered final.

5.9 Restoration of Disturbed Areas

During the course of the work the vendor shall take reasonable care not to disturb areas outside the existing pavement. Any areas disturbed by the vendor shall be returned to their original condition at no expense to the State. Any and all debris generated as part of the work shall be removed by the Vendor upon completion of the project.

5.10 Damaged or Deficient Areas

Prior to acceptance and payment by the State for work under this contract, any placed pavement that ravels, delaminates, fails to properly cure, or is in any way defective shall be redone to the satisfaction of the State at the contractor's expense.

5.11 Work Zone Traffic Control

The contractor shall responsible for Work Zone Traffic Control. Traffic shall be controlled in accordance with Manual of Uniform Traffic Control Devices (MUTCD), Section 619-1 through 619-3 of the Standard Specifications as described herein including modifications to the Standard Specifications. The contractor shall submit a Work Zone Traffic Control Plan for approval to the Resident Engineer at the Pre-Work conference. For two-way roadways, Figures TAST-C1R, TAST-C2R, TAST-C3R, TAST-C4R, TAST-C5R, TAST-C7R, TAST-C1UL, TAST-C2UL, TAST-C3UL, TAST-C4U, TAST-C7UL, TAST-C1UH, TAST-C2UH, TAST-C3UH, and TAST-C7UH included in this document may be used as a basis for development of a Work Zone Traffic Control Plan. For one-way roadways, Figures TAST-C5UL, TAST-C6UL, TAST-C8UL, TAST-C5UH, TAST-C6UH, and TAST-C8UH may be used as a basis for development of a Work Zone Traffic Control Plan. For one-way Freeways or Expressways, Figures TAST-E1, TAST-E2, TAST-E3, TAST-E4, TAST-E5, TAST-E6, and TAST-E7 may be used as a basis for development of a Work Zone Traffic Control Plan.

All necessary flaggers for Work Zone Traffic Control shall be provided by the Contractor. For two-way roadways, a minimum of three flaggers shall be provided while the work operation is underway. One shall be stationed at each end of the applicable operation and one shall be stationed with the operation. For one-way roadways, a minimum of two flaggers shall be provided while work operation is underway. One shall be stationed at the beginning of the applicable operation and one shall be stationed with the operation. The Contractor shall station flaggers such that communication is maintained between the flaggers. Hand signals, radios, pilot vehicles, or some other means of communication may be used subject to the approval of the Resident Engineer.

All costs of Work Zone Traffic Control as prescribed by this specification including flagging, temporary pavement marking and/or delineation, and construction signs, are to be included in the unit price bid. No separate payment shall be made.

SECTION 5: HEATER SCARIFCATION - SPECIFIC PROJECTS (Cont'd)

5.11.1 Permanent Construction Signs

The Contractor shall provide construction signs as specified in Section 619-1 through 619-3 of the Standard Specifications and in the MUTCD. At minimum the Contractor shall install the following permanent construction signs:

SIGN	MINIMUM SIZE	LOCATION
ROAD WORK NEXT _____ MILES	G20-1 Conventional 36" x 18" Freeways 48" x 24"	On main line upstream of project in each direction
END ROAD WORK	G20-2 Conventional 36" x 18" Freeways 48" x 24"	On main line after end of project in each direction
ROAD WORK AHEAD	W20-1 Conventional 36" x 36" Freeways 48" x 48"	On main line in advance of the affected highway segment in each direction and on major intersecting roads 300 -500 ft. in advance of main line. Sign should be covered if it conflicts with temporary signing in the vicinity. (Place between the G20-1 and the first warning sign that states condition- i.e. W8-12, W8-9 or W8-15)
DO NOT PASS	R4-1 Conventional 24" x 30"	If 2'x 4" temporary yellow markings are used instead of full barrier centerline pavement markings, place the first sign at or within 100 ft. of the beginning of the unmarked area, second within 1,000 ft. and subsequent signs, spaced every ½ mile along project in each direction
NO CENTER LINE	W8-12 Conventional 36" x 36"	If 2'x 4" temporary yellow markings are used instead of full barrier centerline pavement markings, place the first sign in advance of the condition and the first "DO NOT PASS" sign: 300' urban is preferred (100' minimum), 500' rural is preferred (200' minimum). Place additional signs spaced every 2 miles on mainline in each direction and after every major intersecting road.
LOW SHOULDER	W8-9 Conventional 36" x 36" Freeways 48" x 48"	Place on mainline spaced every 2 miles along project in each direction and after every major intersecting road until shoulder back-up is installed (if conditions warrant use, place between the W8-12 and R4-1, maintaining a minimum of 200' between signs for rural roads and 100' on urban. The W8-12 can be moved upstream to accommodate the required spacing.)
GROOVED PAVEMENT	W8-15 Conventional 36" x 36" Freeways 48" x 48"	On any roadway 500 ft. in advance of rebates milled under this contract, but not paved. Remove or cover after paving rebate.

**All signs should maintain an absolute minimum spacing of 200' rural or 100' urban. 500' is preferred on rural and 300' is preferred on urban. Double stacking of any of the above signs, or combination thereof, will NOT be permitted.

SECTION 5: HEATER SCARIFCATION - SPECIFIC PROJECTS (Cont'd)

Major intersecting roads are defined as through State, County, Town, Village, or City roads. The Contractor may provide Portable signs as shown in Figure 6F-2 of the MUTCD and meeting the requirements of Section 619 of the Standard Specifications for lane closures during work hours. Signs left active at night shall be rigid and reflectorized in accordance with the Standard Specifications.

With prior permission of the State's Resident Engineer, the Vendor may provide portable signs as shown in Figure 6F-2 of the MUTCD for the above referenced DO NOT PASS and NO CENTER LINE signs. The Contractor shall be responsible for assuring that these signs will be in their upright, visible positions twenty-four hours a day, seven days a week while 2' X 4" temporary yellow markings are used instead of full barrier pavement markings

5.11.2 Temporary Pavement Markings

The Contractor shall install and maintain temporary pavement markings on any paved surface without permanent pavement markings before opening it to traffic, before nightfall or before the end of the work day, whichever comes soonest except for areas that are open during the work shift with channelizing devices or flaggers. Temporary pavement markings shall meet the requirements of Section 619 of the Standard Specifications except that two-lane, two-way highways may be left without full barrier centerlines in no passing zones for a maximum of 7 calendar days provided that NO CENTER LINE (W8-12, black on orange), NO PASSING ZONE (W14-3, black on orange pennant shaped sign), and DO NOT PASS (R4-1) signs are used consistent with the MUTCD and in conjunction with yellow 2-foot by 4-inch temporary markings consisting of retroreflective removable pavement marking tape, paint or yellow temporary overlay markers installed on a 40 ft. cycle to delineate the centerline location.

The State is responsible for the final pavement markings unless otherwise indicated in the contract. If the vendor chooses to install NO CENTER LINE and DO NOT PASS signs and temporary yellow 2-foot by 4-inch pavement markings in lieu of full barrier centerline markings, the signs shall be left in place until the state has completed installing the final pavement markings. The state will normally complete final pavement markings within 7 days of the project completion. However, if unavoidable situations delay the pavement marking installation the signs shall remain in place for 14 calendar days after the project has been completed or until the state has completed installing the final pavement markings, whichever comes first. If permanent pavement marking cannot be installed within 14 days of the project completion, state must install interim pavement marking including center lines, edge lines, stop bars, and simple crosswalks with no hatching before the end of 14 days after project completion.

All costs for Work Zone Traffic Control including flagging, temporary pavement markings, delineation, and construction signs are to be included in the prices bid per ton or square yard as applicable.

5.11.3 <u>Special Note</u>: Work Zone Intrusion Initiative

As part of the Department of Transportation's Work Zone Intrusion Initiative, the following countermeasures shall apply to the Invitation for Bids.

<u>Channelizing Device Spacing Reduction</u>
A maximum channelizing device spacing of 40 ft. shall be provided at work sites where workers are exposed to traffic. This spacing shall be maintained a reasonable distance upstream of workers and shall be used throughout the work zone.

Where tapers are located less than 500 ft. from the work site, the 40-ft. spacing shall be used in the tapers as well.

Drums or vertical panels are preferred for intermediate to long-term stationary work zones, and at any locations where the risk of intrusion is high. Traffic cones are normally adequate for work zones set up and removed on a daily basis.

In long lane or shoulder closures, at least two channelizing devices shall be placed transversely at maximum 800 ft. intervals to discourage traffic from driving through the closed lane. Transversely placed devices are not required where pilot cars are in use.

Frequent checks shall be made to reset channelizing devices dislodged by traffic.

SECTION 5: HEATER SCARIFCATION - SPECIFIC PROJECTS (Cont'd)

Flagger Station Enhanced Setups

Additional cones and a flag tree meeting Section 6F.62 of the MUTCD shall be used upstream of flagger stations to provide added warning to drivers. These devices shall be used for flagger stations except those that are constantly moving or are in use at one location for no more than a few minutes. If the W20-7a Flagger sign is used, the additional cones and flag tree shall also be used.

For additional details on Flagger Station Enhanced Setups, see Work Zone Traffic Control drawings in the Invitation for Bids.

Temporary Rumble Strips

e. Description

This work shall consist of the installation, maintenance and subsequent removal of temporary rumble strips in paving work zones where indicated in the Invitation for Bids or as directed by the Engineer.

f. Materials

Rumble strips shall be either constructed in place from a raised strip of asphalt concrete or constructed in place with removable pavement marking tape. Raised removable tape rumble strips shall be formed by applying four layers of removable black non-reflectorized removable pavement marking tape. The tape shall be applied to a clean, dry pavement surface in accordance with the manufacturer's recommendations. The pavement surface shall be cleaned with compressed air just prior to application of the tape
Raised asphalt rumble strips shall be formed from hot mix asphalt meeting the requirements of Items 402.058903 or 402.098903. Tack coat meeting the requirements of Materials Designation 702-XXXXT Asphalt Emulsion Diluted Tack Coat shall be used to adhere the rumble strip to the existing pavement. Temporary rumble strips shall be formed using a specially constructed rumble strip paver (drag box) pulled transversely across the pavement, or by hand placement between forms fixed to the pavement. If forms are used, they shall be removed prior to compaction of the asphalt mixture. Compaction shall be accomplished using a plate tamper or a static roller. The roadway surface on which the rumble strips are to be attached shall be dry, free of surface contaminants such as dust or oil, and shall be 45ºF or greater unless otherwise authorized by the Engineer. The pavement surface shall be cleaned with compressed air just prior to tack coating and subsequent installation of rumble strips.

Temporary rumble strips shall be placed in a succession of three 6-Strip Patterns according to the attached "Suggested Layout Details - Temporary Rumble Strips". Each strip shall be placed on 10-foot centers and traversing the full width of each travel lane. On curbed roadways, rumble strips shall end a minimum of 3 ft. from the curb so as to not interfere with drainage. Rumble strips shall be between 6 inches and 9 inches in width and have a final compacted thickness of 0.4 inches $\pm$ 0.1 inches.

Any raised rumble strips that fail to adhere to the pavement, or become damaged or flattened such that, in the opinion of the Engineer, they are no longer performing their intended function, shall be replaced or repaired by the Contractor to the satisfaction of the Engineer. Any associated damage to the pavement shall also be repaired by the Contractor to the satisfaction of the Engineer. These replacements or repairs shall be made at no additional expense to the Purchasing Agency.

When directed by the Engineer, (e.g., prior to the start of the winter plowing season), or prior to the placement of successive pavement courses, the Contractor shall completely remove the rumble strips from the pavement. Rumble strips shall be removed upon completion of work and concurrently with the removal of other temporary traffic control signs and devices. Any pavement that is damaged in the process of removing the rumble strips shall be repaired by the Contractor to the satisfaction of the Engineer at no additional expense to the Purchasing Agency.

g. Basis of Payment

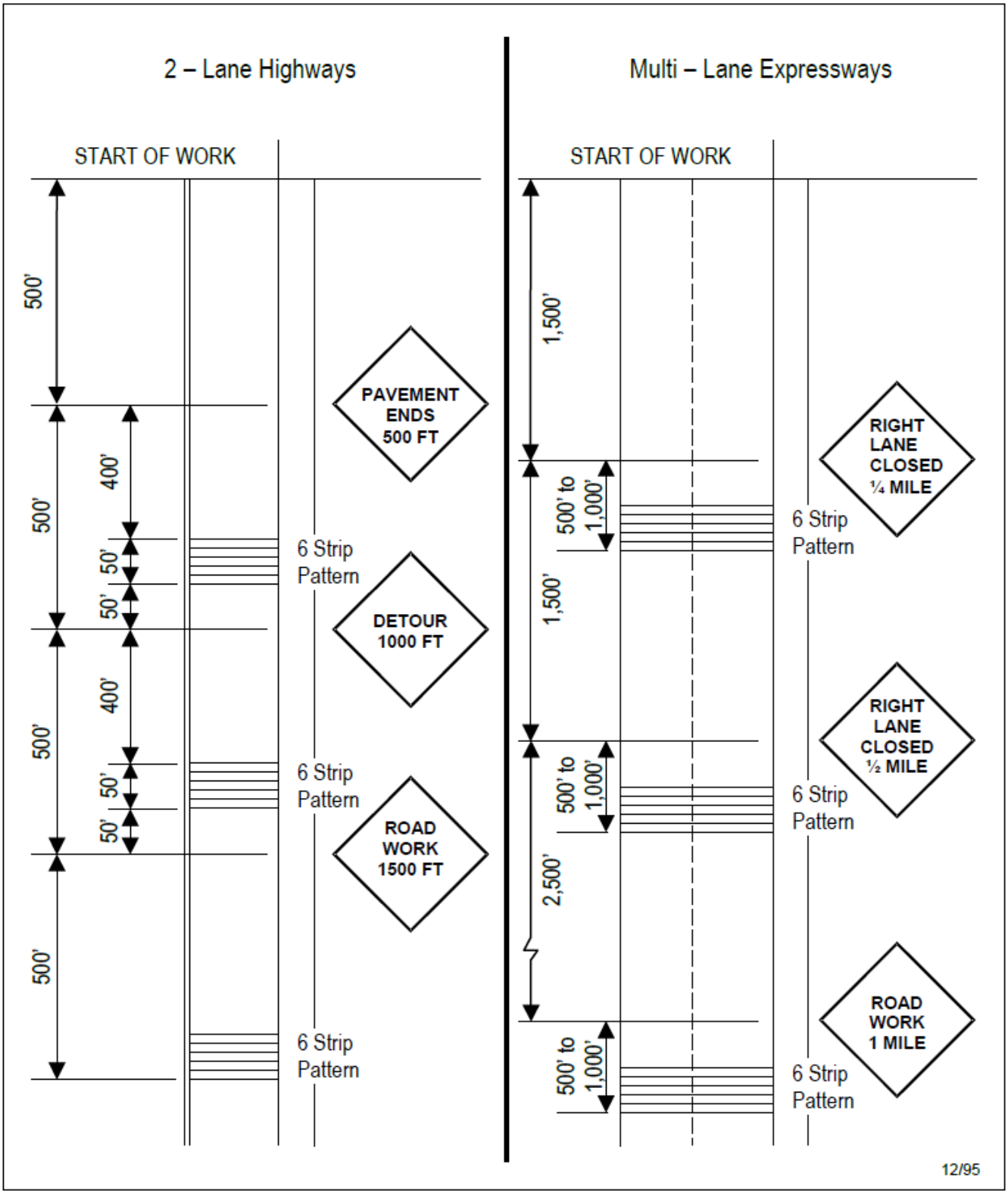
All costs for the installation, maintenance and removal of temporary rumble strips are included in the price per ton or square yard as appropriate. No separate payment shall be made.

h. Suggested Layout Details Drawing-- Temporary Rumble Strips

See the Suggested Layout Details Drawing on the **next page**.

SECTION 5: HEATER SCARIFCATION - SPECIFIC PROJECTS (Cont'd)

Suggested Layout Details -- Temporary Rumble Strips



SECTION 5: HEATER SCARIFCATION - SPECIFIC PROJECTS (Cont'd)

5.12 Special Notes – Heater Scarification

5.12.1 Funding Source (Heater Scarification)

Project 6V1921 will be funded by Federal Aid**.**

5.12.2 Special Note for Coordination with Other Projects (Heater Scarification)

All the projects in the Invitation for Bids involve HMA overlay to the heater scarification through separate contract(s). All projects shall require that the heater scarification contractor coordinates their work with the top course contractor(s) to provide required curing period before placing the next course as well as to minimize disruption to the traveling public and the time traffic is running over a recycled surface.

5.12.3 Special Note for Pilot Vehicle (Heater Scarification)

Unless otherwise specified, the highway shall be kept open to traffic at all times. Traffic shall be discontinued on the lanes where work is being performed on these projects; and as soon as heater scarification is done and rolled, controlled traffic may be permitted thereon. The Contractors shall provide sufficient two-way radio equipped pilot vehicles to guide traffic around heater scarification work at a speed not to exceed 15 mph. The pilot vehicles shall be equipped with construction signs meeting the requirements of Section 6F.58 of the Manual of Uniform Traffic Control Devices and a rotating amber beacon.

SIGN	MINIMUM SIZE	LOCATION
PILOT VEHICLE FOLLOW ME	G20-4 CONVENTIONAL 36"x18"	ON BACK OF PILOT VEHICLES

The pilot vehicle shall have the name of the Contractor prominently displayed.

All cost for Work Zone Traffic Control including flagging, temporary pavement markings, channelizing devices, construction signs, and pilot vehicles shall be included in the prices per square yard for heater scarification. No separate payment shall be made. **The use of the pilot shall be as ordered by the Resident Engineer**.

5.12.4 NYSDOT REGION 6 Special Notes (Heater Scarification)

Region 6 Specific Special Notes:
To minimize travel delays associated with major holidays, no work shall be permitted during the following periods:

- Sunrise on Friday, May 24, 2019 through Tuesday, May 28, 2019
- Sunrise on Wednesday, July 3, 2019 through Friday, July 5, 2019
- Sunrise on Friday, August 30, 2019 through Tuesday, September 3, 2019

SECTION 5: HEATER SCARIFCATION - SPECIFIC PROJECTS (Cont'd)

5.12.4 NYSDOT REGION 6 Special Notes (Heater Scarification) (Cont'd)

Project 6V1921

There is an area in the project between RM 1064 and 1069 that will be production cold milled by others. Coordination with the WOC contractor will be required, no heater scarification will be performed in this area.

For the remainder of the project, heater scarification will be performed on the travel lanes and 1-foot over the white edge line. Shoulders will not be heater scarified.

The Region requests all Preconstruction paperwork be submitted electronically as .pdf files to Karen.Patterson@dot.ny.gov prior to the preconstruction meeting, or all documentation be brought to the Preconstruction meeting electronically as .pdf files on a CD or USB "thumb" drive that will not be returned to the contractor.

In lieu of longitudinal cones full project length between open and closed lanes of traffic, the contractor may elect to substitute, when using pilot vehicles, use of cones placed transversely across the closed lane at intervals per section 619-3.02 J.2 (every 800') and at strategic locations, such as intersections and driveways.

All Region 6 Heater Scarify projects shall be completed no later than August 31, 2019. A schedule reflecting this shall be submitted before start of work to the Region's Assistant Regional Director of Operations, Karen Patterson, for approval.

Paint with beads is the only option permitted in Region 6 for temporary and interim pavement markings, unless approved on a case by case basis by the Resident Engineer. Offset the centerline temporary/interim pavement markings so that the permanent markings will cover up the temporary/interim markings, as follows: 8" centerline offset for 2 lane roads, 6" centerline offset for multi-lane roadways.

All stockpile, spoils, and clean-out sites need to be preapproved by the Regional Maintenance Environmental Coordinator, Ruth Hart (Phone No. 604-324-8532), prior to use.

5.13 Detailed Specifications – Heater Scarification

Please see Attachment 10 – *Detailed Specifications – Liquid Bituminous Materials*.

5.13.1 Project Dimensions – Heater Scarification

Information on pavement widths for projects in the Invitation for Bids is listed for informational purposes only.

The dimensions listed are the best information available, but 100% accuracy is not guaranteed. Bidders should visit the project site to confirm the dimensions given and familiarize themselves with the project particulars before submitting a bid. The Department assumes no responsibility for erroneous information listed herein.
The pavement width listed is the total width of all the travel lanes only.

The shoulder width is for one shoulder only.

Project Number	Recycling Depth (inch)	Travel Lanes Width (feet) (total)	Lane Width (feet) (one lane)	Shoulder Width (feet) (one shoulder)	Number of Lanes
6V1921	1.5	22	11	1	2