



Merrimack Valley Planning Commission

Invitation for Bid

2025-26 Road Services Bid

Bid Due Date: Friday, May 2, 2025, 1:00 P.M.

**Merrimack Valley Planning Commission
160 Main Street
Haverhill, MA 01830**

Telephone: (978) 374 - 0519

**Merrimack Valley Planning Commission
150 Main Street
Haverhill, MA 01830-5875**

2025-26 Road Services Bid

I. General Information and Bid Submission Requirements

- A. Sealed bids are requested by the Merrimack Valley Planning Commission (MVPC) from qualified firms for Highway Maintenance Services to include Catch Basin Cleaning: Clam Shell and Vacuum Truck; Street Sweeping; Random Crack Sealing; Pavement Markings; Guardrails; Bituminous Concrete, Construction Services: Patching Sidewalks and Streets and Street and Sidewalk Resurfacing, and the Disposal of Debris. The following communities comprise the MVPC and are eligible to participate in this bid: Amesbury, Boxford, Georgetown, Groveland, Hamilton, Ipswich, Merrimac, Methuen, Newbury, Newburyport, North Andover, Rockport, Rowley, Salisbury, Topsfield, and West Newbury, ("Municipalities"). Envelopes containing sealed bids will be accepted at the Merrimack Valley Planning Commission, 160 Main Street, Haverhill, Massachusetts 01830 until the time indicated and will be opened and read.
- B. Bids are due by 1:00 p.m., Friday, May 2, 2025, at which time they will be opened and read. Postmarks will not be considered. Bids submitted on any other form will not be accepted as valid bids. Bids should be clearly marked "2025-26 MVPC Road Services". Bids will be available on the MVPC website, www.mvpc.org, for public inspection three (3) business days after the bid opening.
- C. Each Municipality will award the contract within sixty (60) days after the bid opening. The actual award may be extended up to thirty (30) days by mutual agreement between each Municipality and the lowest responsive and responsible bidder.
- D. Addenda: If any changes are made to the Invitation for Bid (IFB), an addendum will be issued. Addenda will be mailed, faxed, or emailed to all bidders on record as having downloaded / picked up the IFB. Contractors shall be responsible for ensuring that all addenda are in receipt prior to bid deadline. The MVPC will require acknowledgement of any addenda issued to be included on the bid form.
- E. Questions concerning this bid must be submitted in writing to Tony Collins, email: tcollins@mvpc.org, before 2:00 pm on Monday, April 14, 2025. Question may be delivered, mailed, emailed, or faxed. Written responses will be mailed, emailed, or faxed to all bidders on record as having picked up the IFB.
- F. A bidder may correct, modify, or withdraw a bid by written notice received prior to the time and date set for the bid opening. Bid modifications must be submitted in a sealed envelope clearly labeled "Modification No. ____." Each modification must be numbered in sequence and must reference the original IFB.
- G. After the bid opening, a bidder may not change any provision of the bid in a manner prejudicial to the interests of the Municipalities or fair competition. Minor informalities will be waived, or the bidder will be allowed to correct them. If a mistake and the intended bid are evident on the face of the bid document, the mistake will be corrected to reflect the intended correct bid, and the bidder will be notified in writing.
- H. Bid Bond: This proposal shall be accompanied by a bid deposit in the form of a bid bond, or a certified check on, or a treasurer's or cashier's check issued by, a responsible bank or trust company, payable to the MVPC. A bid bond shall be (a) in a form satisfactory to the awarding authority, (b) with a surety company qualified to do business in the commonwealth and satisfactory to the awarding authority and (c) conditioned upon the faithful performance by the principal of the agreements contained in the bid. The amount of such bid deposit shall be five (5) per cent of the value of the bid.

- I. **Payment Bond:** The successful bidder must furnish a Payment Bond for fifty (50) of the full sums of the guaranteed maximum price by a surety company licensed to do business in the commonwealth and whose name appears on the United States Treasury Department Circular 570.
- J. The MVPC may cancel this IFB or reject in whole or in part any and all bids, if the MVPC determines that the cancellation or rejection serves the best interests of the MVPC and the Municipalities.
- K. All bid prices submitted for this IFB must remain firm for sixty (60) days following the bid opening.
- L. Each bidder will submit two (2) copies of all required forms. All Bids must include a Bid Pricing Sheet – Appendix C; Non-Collusion and Tax Compliance Form – Appendix D, References – Appendix E and the Payment Bond.
- M. A bid must be signed as follow: 1) if the bidder is an individual, by her/him personally; 2) if the bidder is a partnership, by the name of the partnership, followed by the signature of each general partner; and 3) if the bidder is a corporation, by the authorized officer.

II. Purchase Description:

- A. The Municipalities are eligible to purchase Highway Maintenance Services to include Catch Basin Cleaning, Street Sweeping, , Random Crack Sealing, Pavement Markings, Guardrails and Bituminous Concrete; Construction Services: Patching Sidewalks and Streets and Street and Sidewalk Resurfacing, and the Disposal of Debris to include Catch Basins, Street Sweepings and Leaves.
- B. The Municipalities have provided estimated quantities for planning purposes for each bid item and cannot be guaranteed. See Appendix B – Estimated Volumes by Municipality.
- C. Road Maintenance Service work done under this Contract shall be in conformance with the 1988 Massachusetts DOT Department Standard Specifications for Highways and Bridges, the Supplemental Specifications, and the 2003 Manual on Uniform Traffic Control Devices, all as amended, and these Special Provisions.
- D. It is the MVPC's intent to contract for one (1) year commencing on or about May 12, 2025, and will expire on May 31, 2026. The MVPC, at its sole discretion, reserves the right to renew the contract for one (1) additional one (1) year period.
- E. Price Adjustments: Portland Cement. The March 2025 Base Price, as determined by MassDOT Contract Price Adjustments, for this agreement is \$425.53 / ton.
 - i. The Base Price of Portland cement on a project is a fixed price determined at the time of bid by the Department by using the same method as for the determination of the Period Price (see below) and found in the Notice to Contractors.
 - ii. The Period Price of Portland cement will be determined by using the latest published price, in dollars per ton (U.S.), for Portland cement (Type I) quoted for Boston, U.S.A. in the Engineering News-Record (ENR), Construction Economics section or at ENR website <http://www.enr.com> under "Construction Economics". The Period Price will be posted on the MassHighway website at <https://www.mass.gov/info-details/massdot-current-contract-price-adjustments>.
 - iii. The Contract Price of the Portland cement concrete mix will be paid under the respective item in the Contract. The price adjustment, as herein provided, upwards or downwards, will be made after the work has been performed, using the monthly period price for the month during which the work was performed.
 - iv. The price adjustment applies only to the actual Portland cement content in the mix placed on the job in accordance with the Standard Specifications for Highways and Bridges, Division III, Section M4.02.01. No adjustments will be made for any cement replacement materials such as fly ash or ground granulated blast furnace slag.
 - v. The Price Adjustment will be a separate payment item. It will be determined by multiplying the number of cubic yards (cubic meters) of Portland cement concrete placed during each monthly period times the Portland cement content percentage times the variance in price between the Base Price and Period Price of Portland cement.

- vi. This Price Adjustment will be paid only if the variance from the Base Price is 5% or more for a monthly period. The complete adjustment will be paid in all cases with no deduction of the 5% from either upward or downward adjustments.
- vii. No Price Adjustment will be allowed beyond the Completion Date of this Contract unless there is a Department-approved extension of time.

II. **Rule for Award:** Contract(s) will be awarded as follows:

- A. By each Municipality to the responsive and responsible bidder offering the lowest cost for each line item for the following Services: Catch Basin Cleaning; Clam Shell Cleaning; Catch Basin Cleaning; Vacuum Truck; Street Sweeping; Random Crack Sealing – Process A: Linear Feet and Gallons; Random Crack Sealing – Process B: Linear Feet and Gallons; Random Crack Sealing – Process B – Day Rate; Guardrails; Bituminous Concrete , Construction Services: Patching and Resurfacing and Debris Disposal.
- B. By each Municipality to the responsive and responsible bidder offering the lowest Total Cost for the following Services: Pavement Markings: Water Based; Pavement Markings: Chlorinated Rubber and Pavement Markings: Thermoplastic.
- C. Successful Bidders are reminded that all Municipalities are eligible to contract for services contained in this bid, even if no estimate is defined in Appendix B – Estimated Quantities by Municipality For Planning Purposes Only.

IV. **Bid Pricing Sheet:** See Appendix C.

V. **Non Collusion Form and Tax Compliance Form:** See Appendix D.

VI. **References:** Complete Appendix E with the following information.

- A. Commercial: Three (3) communities that you have provided similar services in the last three (3) years.
- B. Financial References demonstrate a stable and secure financial position. Successful bidders may be requested by the Municipality to provide a business information report or business profile from a credit reporting agency dated no earlier than sixty (60) days prior to bid submission date.

VII. **Additional Contract Terms & Conditions:**

- A. The successful bidder shall comply with all applicable federal, state, and local laws and regulations.
- B. Purchases made by the Municipalities are exempt from taxes and bid prices must exclude any taxes. Tax exemption certificates will be furnished upon request.
- C. All words, signatures and figures submitted on the bid shall be in ink. Proposals, which are conditional, obscure or which contain additions not called for, erasures, alterations or irregularities, or any prices, which contain abnormally high or low amounts for any item, may be rejected as informal. More than one proposal from the same bidder will not be considered.
- D. Unless otherwise provided by law, the Contractor will indemnify and hold harmless the Municipalities against any and all liability, loss, damages, costs or expenses for personal injury or damage to real or tangible personal property that the each Municipality may sustain, incur or be required to pay, arising out of or in connection with the performance of the Contract by reason of any negligent action/inaction or willful misconduct by the Contractor, its agents, servants or employees.

- E. Failure to perform when such failure is due to an Act of God, public enemy, fire, earthquake, floods, transportation, embargoes, or other similar causes beyond the control of the contractor, shall be good and sufficient reason for excuse from contractual liability.
- F. No subletting of the award, or assignment of monies due or to become due, shall be made without written consent of the awarding authority.
- G. Indemnification: The contractor shall assume the defense, indemnify and hold harmless the municipality, the municipality's agents and employees from and against all losses and all claims, demands, payments, suits, actions, recoveries and judgments of every nature and description brought or recovered against them, including attorney's fees, by reasons of acts, inactions, omissions, negligence, reckless or intentional misconduct caused by or related to any and all activities of the Contractor, its agents, officers, employees or subcontractors.
- H. Massachusetts Prevailing Wages: The Division of Occupational Safety issues prevailing wage schedules to cities, towns, counties, districts, authorities, and agencies of the commonwealth for construction projects and several other types of public work. These prevailing wage schedules contain hourly wage rates that workers must receive when working on a public project. Based on the wage classification system, separate wage rates have been issued: Highway Services to include Random Crack Sealing; Pavement Markings; Guardrails; Bituminous Concrete and Construction Services: Patching Sidewalks Streets and Street and Sidewalk Resurfacing; Catch Basin Cleaning to include Clam Shell and Vacuum Truck; Street Sweeping and Disposal of Catch Basin and Street Sweeping Debris (Amesbury, Groveland, Ipswich, Methuen, Newbury & West Newbury) as well as the Leaf Disposal (Amesbury, Methuen & Topsfield). The wage schedules for this IFB are attached in Appendix F.
- I. Funding: All contracts awarded as part of this bid shall be subject to availability of funds from each Municipalities appropriation. If funds are not appropriated for this purpose, the Municipality may terminate this contract and shall not be obligated to make any further payments.

Appendix A
2025-26 MVPC Road Services
Specifications

GENERAL TERMS AND CONDITIONS

WORK SCHEDULE

The successful bidder may be required to commence SITE work within ten (10) working days of receiving a Notice to proceed from a Municipality. Work is restricted to a normal eight-hour day, five-day week, with the successful bidder and all subcontractors working on the same shift. No Work shall be done on this Contract on Saturdays, Sundays, or holidays or on the day before or the day after a long weekend, which involves a holiday without prior approval, by the specific Community.

PROGRESS OF WORK

The successful bidder shall promptly start and continue actual construction work under this Contract with the necessary equipment to properly execute and complete this Contract in the specified time. No cessation of Contractor's operations will be allowed without the approval of the Municipality. The rate of progress shall be satisfactory to the Municipality. The successful bidder shall furnish to the Engineer a schedule for the Work prior to the start of construction.

ROAD SAFETY and POLICE SERVICES

Each Municipality shall provide all Police Detail services at no cost to the Contractor to direct traffic when such protection is deemed required by the Municipality. The successful bidder shall be solely responsible for contacting, ordering and scheduling police traffic details with the local Police Department and DPW. If the Contractor must cancel police services, he must be aware of and do so within the time limits set by the respective Police Department.

PUBLIC SAFETY AND CONVENIENCE & TRAFFIC CONTROL

The successful bidder shall be required without additional compensation to provide safe and convenient access to all abutters during the prosecution of the Work. Where traffic cones are the standard operating procedure for any tasks specified herein, the successful bidder shall have sufficient cones, personnel, and trucks to conform to this procedure to provide safety within the work zone and for the motoring public. The successful bidder's equipment shall have high intensity flashing lights or rotary beacon(s) installed to provide adequate warning to motorists approaching the work area or work equipment from the front and rear.

CLEANUP

Cleanup shall be done on a daily basis. At the end of each working period, the successful bidder shall remove all equipment from the traveled way. The successful bidder shall ensure that all safety marking and warning devices are satisfactorily in place prior to leaving any job.

During the course of the Work, the successful bidder shall keep the site of his operations in as clean and neat condition as is possible. He shall dispose of any and all residue resulting from the construction work and, at the conclusion of the work; he shall remove and haul away any surplus excavation and any other refuse remaining from the construction operations, and shall leave the entire site of the work in a neat and orderly condition.

Sweeping and cleaning of surfaces beyond the limits of the Project to clean up material caused by spillage or vehicular tracking during the various phases of the work shall be considered as incidental to the Work being performed under the Contract and there will be no additional compensation.

EMERGENCY CONTACTS

A list of personnel and their telephone numbers shall be submitted to the Municipality and the Public Works Director and also to the local Police Departments

PROVISIONS FOR TRAVEL AND PROSECUTION OF THE WORK

For services that require traffic control, the successful bidder shall supply and use traffic control devices, positioning and methodology, conforming with the Manual on Uniform Traffic Control Devices (MUTCD) and MHD Work Zone Safety Guidelines at no additional cost to the Municipality. Traffic control devices required only during working hour operations shall be removed at the end of each working day. Signs having messages that are irrelevant to normal traffic conditions shall be removed or properly covered at the end of each work period. Signs shall be kept clean at all times and legends shall be distinctive and unmarred.

Particular care should be taken to establish and maintain methods and procedures that will not create unnecessary or unusual hazards to public safety.

DISPOSAL OF SURPLUS or CONTAMINATED MATERIALS

All materials not required or needed for use on the Project, and not required to be removed and stacked, shall become the property of the successful bidder, and shall be removed from the site and legally disposed of.

It is noted that any Catch Basins or Drain Lines that may contain hazardous or contaminated materials will become the property of the successful bidder and disposed of in accordance with DEP Rules and Regulations. Such disposal shall be documented and a copy of the disposal Bill of Lading or Receipt of disposed contaminated material shall be provided to the Municipality by the successful bidder.

WEATHER LIMITATIONS

The WEATHER can and will affect the successful bidder's work performance. The Municipality reserves the right and sole discretion to prohibit work of days when weather is of sufficient intensity that would impede effective prosecution of work tasks due to conditions of street surface conditions.

Where it has been determined that a Local Police Detail service is necessary for public safety in any work locations specified in contract documents linked to these bid documents, it is incumbent on the Contractor to notify the local Police Department that contract will not be performed on the day of the scheduled Police Detail service. If the Contractor, or his representative does not give such notice, the contractor will be responsible for said detail.

CATCH BASIN CLEANING

The Work under this item consists of the cleaning of existing catch basins and drainage pipes. Work under this item shall be performed under the direction and to the satisfaction of the Director of Public Works, or his designated agent.

Catch Basin cleaning will be paid for at the Contract unit price. The Contract unit price shall include all labor, equipment, transportation within the Community and incidental costs required to complete the Work. The Work under this item **may** include the removal and legal disposal of hazardous material.

Catch Basin and Drain Manhole Cleaning.

The work to be done under this contract shall consist of removing the accumulated dirt, refuse and other debris from each catch basin, the gutter mouth of curb inlets, and properly disposing of the materials removed. Drain manholes are considered catch basins in this contract.

Communities will predetermine, at a minimum, at least 30 catch basins for performance evaluation, which will be inspected by the DPW after they have been cleaned. The Contractor shall in each case remove the

grate, clean the catch basin, including scraping the sides of the basin, to the satisfaction of the Director of Public Works or his designee, and carefully replace the grate. The catch basin shall be considered clean when remaining material in the catch basin is not more than four inches in depth, if leveled, and there is no visual evidence that would impede free flow of storm water.

Sequence of Cleaning

The Community will make available to the Contractor Work Route Maps showing the sequence in which the Contractor will proceed in cleaning the catch basin. The Contractor shall provide to the Public Works Department on a weekly basis a report containing the location and number of catch basins cleaned during the week, estimated quantity of material removed and the total number of catch basins cleaned year to date.

Start/Completion Time

The time frame for cleaning of catch basins will be from April to November.

Basin/Drain Cleaning Methods

Each catch basin is to be thoroughly cleaned of sand, silt, and debris from the lower portion of the basin (i.e., basin sump) by mechanical means or hand labor. Jetting or rodding may be required to loosen debris materials to assure complete removal.

The Contractor is to remove the basin grate, thoroughly clean the catch basin and reset the grate prior to leaving the basin. It is anticipated that clam trucks or Vacuum Trucks, will be utilized for this contract award. The Contractor shall notify the Utilities Superintendent of any broken grates or frames, undermined basins, plugged or broken pipe connections, or any suspicious pipe inlets observed during the cleaning operations. Any deficiencies shall be noted in a weekly written report. If a basin does not have a sump, it shall be noted in the report. During the operation, the contractor shall take care not to damage grate, frame, catch basin, pipe, or curbing. If damage is caused by the negligence of the Contractor, the damaged parts shall be satisfactory repaired or replaced at the Contractor's expense. The material removed from the catch basins shall be transported immediately to the approved disposal area in trucks that will not spill or leak the material along the roadway. Any material falling on the roadway shall be noted in the report.

Traffic Control: The Contractor is solely responsible for all traffic control, signage and personnel as is necessary to provide for the safety of workmen, equipment, and the traveling public. The Contractor shall not block or stop the normal flow of traffic.

Method of Measurement: Each basin satisfactorily cleaned will be measured as a complete unit. Basins not satisfactorily cleaned will be brought to the Contractor's attention and re-cleaned at no additional cost. A basin, which cannot be cleaned due to a structural defect or absence of a sump, will not be measured for payment. The Contractor shall mark the top of the catch basin grate with paint after it has been cleaned.

Basis of Payment: All cleaned and approved catch basins will be paid for at the contract unit price. This price shall include all equipment, fuel, tools, transportation, traffic control, and labor incidental to the completion of the removal of the material in accordance with the provisions of these specifications.

STREET SWEEPING

Curb Mile: A curb mile equals 5,280 feet measured along the edge of road from the edge of the roadway's pavement to the center of the pavement's cross-sectional width.

Scope of Work: The Contractor shall provide sweepers and operators to perform street sweeping service, in accordance with their requirements as identified by their respective Director of Public Works, or his designated agent.

Contractor's service is based on removal of a regular day-to-day build-up of material and debris. Any excessive, out of the ordinary, or unusual build-up or residue of any dirt, debris or material is covered by the price quoted in this agreement under the curb mile rate. These items include leaves, deeper than one-half the height of the curb face, debris, or material as a result of construction work, or large amount debris or material from a storm, high winds, lightning, or flooding. By mutual agreement, these items may be cleaned up at the curb mile plus disposal. At no time shall sweeping be performed against the flow of traffic.

Contract Hours: Work to be performed during designated hours, which may be other than normal work hours of the Department of Public Works. It shall be the awarded Contractor's responsibility to contact each Participating Community to determine and potential work schedules.

Specific intersections, routes or other high traffic areas may be designated as Non-Peak Hour Work Zones by the DPW.

Sweeping Operations: The Communities shall provide route maps, authorized access to use of hydrants for water, and either a dump truck or designated dumpsite for emptying sweepers at the option of the Director of Public Works, or his designated agent.

No cleaning operation shall be conducted when there are climatic conditions present or forecast that would make such an operation ineffectual or dangerous. The climatic conditions include, but not limited to, heavy rain, fog, snow, ice, sleet, and high winds.

Disposal: Street sweepings may be disposed of within the limits of the Participating Community at a place(s) designated by said community.

Equipment: All equipment provided by the awarded Contractor shall be of good condition and have all systems working properly. All brooms and pick-up assemblies shall be of good quality. All broom cycles shall operate independently of ground speed such that a reduction of ground speed will not affect brooming action. Each sweeper shall have independent wet system capable of controlling dust.

Communication: The Community may choose to loan a portable radio to the contract sweeper such that communications may be made with Community support truck designated to haul road sweepings. This radio shall be the Contractor's responsibility and subject to replacement in kind if the contractor loses or damages said radio. Replacement of radio will be new, and no allowance will be made for depreciation.

Response Time: After award of contract and a "request for service" has been issued by the Director of Public Works, the Contractor is obligated to provide service within three (3) working days of said request. The "request for service" may be made either by phone, FAX, letter, or email. The Contractor shall respond back to the Municipality within two (2) hours by an employee in authority who can speak on behalf of the Contractor. Failure to meet these obligations may subject the Contractor to penalties of non-compliance, after one written warning by the Director of Public Works. Continued non-compliance to this obligation may subject the Contractor to loss of Contract and that the Contractor may be assessed the difference in unit cost between their bid and the next lowest bidder.

Use of Fire Hydrant

The Contractor shall be allowed the use of certain hydrants, as assigned by the Director of Public Works, as may be necessary to prosecute the specified work. Water will be furnished free of charge by the Community for the tasks specified in the contract only. However, accurate records will be required of the Contractor as to the date location time and estimated amount of water drawn from the hydrant. Reports must be submitted to the DPW at the end of each workday. The Contractor must be familiar with the process

of drawing hydrant water and closing of the valves and must supply all tools, hoses, and equipment to make the connections.

Basis for Payment: All roads sweep per the approval of the DPW will be paid for at the contract unit price of Curb Mile. Odometer miles of the sweeping equipment does not meet this requirement. This price shall include all equipment, fuel, tools, transportation, and labor incidental to the completion of the removal of the material in accordance with the provisions of these specifications.

RANDOM CRACK SEALING

Crack Sealing Process “A” (8% Fiber Content)

SCOPE OF WORK The Work covered by this section of the specification consists of furnishing all plant, labor, equipment, and materials to perform all operations in connection with the cleaning and sealing of construction and random cracks in bituminous concrete pavement, and vegetation removal and sterilization of cracks where necessary.

MATERIAL

The crack filling material shall be a modified asphalt-fiber compound designed especially for improving strength and performance of the parent asphalt sealant.

- a. The asphalt binder shall consist of a blend of neat asphalt binder and chemically modified crumb rubber (CMCR) that meets the following specifications:

PG 64-34 or PG 70-34 after modification.

Viscosity of not more than 3PaS at 300 degrees F.

Modification at a minimum shall consist of 5% CMCR and the maximum particle size for the CMCR shall be 80 mesh (#80 sieve).

The performance grade of the neat asphalt binder shall not exceed a PG 58-XX.

The asphalt supplier shall provide testing for the neat asphalt binder and modified asphalt binder in accordance with AASHTO M320.

- b. Fiber reinforcing materials shall be short-length polyester fibers having the following properties:

Length* 0.25in. +0.02

Elongation at Break; ASTM D2256-90 38%

Melting Point; ASTM D3418-82 >475 degrees F (246 degrees C)

Crimps/Inc.; ASTM D3937-90 None

Cross Section Round

Denier; ASTM D1577-90 4.5 Nominal dpf

Tensile Strength; ASTM D2256-90 >70,000 psi

Diameter 0.0085 in. **

Specific Gravity; ASTM D792-91 1.32 to 1.40

* At temperatures ranging from ambient to maximum finished product mix temperature

** Subject to Normal Variations

Modified asphalt-fiber compound shall be mixed at a rate of 8% fiber weight to weight of asphalt cement. This compound having the same chemical base provides compatibility and exhibits excellent bond strengths. The fiber functions to redistribute high stress and strain concentrations that are imposed on the sealant by thermal sources, traffic loading, etc.

EQUIPMENT: Equipment used in the performance of the work shall be subject to engineer approval and maintained on a satisfactory condition at all times.

Air Compressor: Air compressors shall be portable and capable of furnishing not less than 160 cubic feet of air per minute at not less than 90 psi at the nozzle. The compressors shall be equipped with traps that will maintain the compressed air free of oil and water.

In addition to air compression, any manually operated, gas powered air-broom or self-propelled sweeper designed especially for use in cleaning highway pavements shall be used to remove debris, dirt, and dust from the cracks.

Melter: The unit used to melt or maintain the crack sealant compound at the recommended application temperature shall be the indirect fire type. It shall be equipped with a remote heat exchanger and air circulation pump capable of maintaining a consistent temperature of the heat transfer oil. The heat transfer oil shall be circulated to all sides and the bottom of the vat containing the crack sealant compound making a continuous loop back to the heat exchanger and having a flash point of not less than 660 degrees F. The melter shall be equipped with a satisfactory means of agitating the crack sealant at all times. This may be accomplished by continuous stirring with mechanically operated paddles and/or by a circulating gear pump attached to the melter. The melter must be equipped with a thermostatic control calibrated between 200 degrees F and 550 degrees F. and must be capable of pumping an 8% fiber content blend.

PREPARATION OF CRACKS

Debris and Vegetation Removal: All cracks shall be clean and sterilized by use of a propane air torch generating 2000 degrees F. and 3000 foot/second velocity to eliminate all vegetation, dirt, moisture, and seeds. All debris removed from the cracks shall be removed from the pavement surface immediately by means of a power sweeper, hand, or air broom.

General: No crack sealant material shall be applied in wet cracks or where frost, snow or ice is present or when the ambient temperature is below 25 degrees F.

PREPARATION AND PLACEMENT OF SEALANT:

The asphalt –fiber sealant compound shall be thoroughly mixed for a minimum of one hour before application can begin. Whenever material is added to the tank, sealing operations shall be suspended for one hour to allow for the minimum required mixing time. Minimum application temperature shall be 320 degrees F.

Sealant shall be delivered to the pavement cracks through a high-pressure hose line and application shoe. Once the pavement cracks are sealed the width of the sealant on the pavement, “over banding” shall not exceed 3 inches. When traffic requires immediate use of the roadway, a boiler slag aggregate shall be broadcast over the cracks to prevent the sealant from being picked up.

WORKMANSHIP: All workmanship shall be of the highest quality and any excess of spilled sealant shall be removed from the pavement by approved methods and discarded. Any workmanship determined to be below the high standards of the particular craft involved will not be accepted, and will be corrected and /or replaced as required by the engineer in charge.

PERFORMANCE: A Municipality will not award a contract for this work if the bidder cannot furnish satisfactory evidence that it has the ability and experience to perform this class of work and that it has sufficient capital and equipment to enable it to perform this class of work successfully and to complete it within the time requested.

Properly formulated and mixed asphalt fiber compound over banding shall not exceed three inches (3") in width. Penalties will be imposed upon the contractor by the community for over banding beyond three inches.

A Municipality may require a contractor to successfully perform a 200-foot test strip in the field prior to commencing work using this method.

Manufacturer's certificate of material compliance shall be furnished to the engineer in charge certifying conformance with the above materials specification and prior to its application.

Crack Sealing Process "B" (6-8% Fiber Content)

SCOPE OF WORK The Work covered by this section of the specification consists of furnishing all plant, labor, equipment, and materials to perform all operations in connection with the cleaning and sealing of construction and random cracks in bituminous concrete pavement, and vegetation removal and sterilization of cracks where necessary.

MATERIAL The crack sealer shall be a modified asphalt-fiber compound designed especially for improving strength and performance of the parent asphalt sealant Modified asphalt-fiber compound shall be mixed at a rate of 6-8% fiber weight to weight of asphalt cement.

- a. Asphalt Sealant shall be a Grade PG 58-28 (formerly AC-10), GP 64-22, or PG 64-28 (formally AC-20) with a penetration of 75-100.
- b. Fiber reinforcing materials shall be short-length polyester fibers having the following properties:
 - Length 7mm
 - Elongation at Break 33% plus or minus 9% (Fully Drawn)
 - Melting Temperature 480 degrees F minimum
 - Ignition Temperature 1,000 degrees F. minim
 - Tensile Strength 75,000 psi plus or minus 5,000 psi
 - Diameter 0.0008 inch plus or minus 0.0001 inch
 - Specific Gravity; ASTM D792-91 1.32 to 1.40

This compound having the same chemical base provides compatibility and exhibits excellent bond strength. The fiber functions to redistribute high stress and strain concentrations that are imposed on the sealant by thermal sources, traffic loading, etc.

EQUIPMENT: Equipment used in the performance of the work shall be subject to engineer approval and maintained on a satisfactory condition at all times.

Air Compressor: Air compressors shall be portable and capable of furnishing not less than 100 cubic feet of air per minute at not less than 90 psi at the nozzle. The compressors shall be equipped with traps that will maintain the compressed air free of oil and water.

In addition to air compression, any manually operated, gas powered air-broom or self-propelled sweeper designed especially for use in cleaning highway pavements shall be used to remove debris, dirt, and dust from the cracks.

Melter: The unit used to melt or maintain the crack sealant compound at the recommended application temperature shall be the indirect fire type. It shall be equipped with a remote heat exchanger and air

circulation pump capable of maintaining a consistent temperature of the heat transfer oil. The heat transfer oil shall be circulated to all sides and the bottom of the vat containing the crack sealant compound making a continuous loop back to the heat exchanger and having a flash point of not less than 660 degrees F. The melter shall be equipped with a satisfactory means of agitating the crack sealant at all times. This may be accomplished by continuous stirring with mechanically operated paddles and/or by a circulating gear pump attached to the melter. The melter must be equipped with a thermostatic control calibrated between 200 degrees F and 550 degrees F. and must be capable of pumping an 8% fiber content blend.

PREPARATION OF CRACKS

Debris Removal: All cracks shall be blown clean by high-pressure air. All old material and debris removed from the cracks shall be removed from the pavement surface immediately by means of a power sweeper, hand, or air broom.

Vegetation – When cracks show evidence of vegetation, it shall be removed and sterilized by use of propane torch unit generating 2000 degrees and 3000 foot/second velocity to eliminate all vegetation, dirt moisture and seeds.

General: No crack sealant material shall be applied in wet cracks or where frost, snow or ice is present or when the ambient temperature is below 25 degrees F.

PREPARATION AND PLACEMENT OF SEALANT:

Joint sealing material shall be heated and applied at a temperature specified by the manufacturer and approved by the engineer. Minimum application temperature shall be 320 degrees F.

Sealant shall be delivered to the pavement cracks through a high-pressure hose line and application shoe. Once the pavement cracks are sealed the width of the sealant on the pavement, “over banding” shall not exceed **4 inches**. When traffic requires immediate use of the roadway, a boiler slag aggregate shall be broadcast over the cracks to prevent the sealant from being picked up.

WORKMANSHIP: All workmanship shall be of the highest quality and any excess of spilled sealant shall be removed from the pavement by approved methods and discarded. Any workmanship determined to be below the high standards of the particular craft involve will not be accepted, and will be corrected and /or replaced as required by the engineer in charge.

PERFORMANCE: A Municipality will not award a contract for this work if the bidder cannot furnish satisfactory evidence that it has the ability and experience to perform this class of work and that it has sufficient capital and equipment to enable it to perform this class of work successfully and to complete it within the time requested.

Properly formulated and mixed asphalt fiber compound over banding shall not exceed three inches (3”) in width. Penalties will be imposed upon the contractor by the community for over banding beyond three inches. A Community **may** require a contractor to successfully perform a 200-foot test strip in the field prior to commencing work using this method.

Manufacturer’s certificate of material compliance shall be furnished to the engineer in charge certifying conformance with the above materials specification and prior to its application.

PAVEMENT MARKINGS (Not Reflectorized Paint)

4” TRAFFIC LINE (WATER BASED PAINT) Including ARROWS/LEGENDS (PAINTED)

The Work shall include the furnishing and installing of traffic paint. The white and yellow traffic paint shall be installed as 4" wide double solid, single solid and broken lines.

The Contractor shall supply 1 long line spray truck, manufactured with stainless steel components to properly apply fast-dry water borne traffic paint, capable of applying solid lines in a sharp and true manner. The unit must have a minimum paint tank capacity of 400 gallons. The long line spray truck must be capable of producing an acceptable 4" wide single or double line at the application rate 320 lineal feet per one gallon of paint while traveling at a minimum of 7 miles per hour.

The Contractor shall supply 1 cone truck (rack body with hydraulic tail gate) with 300 cones.

The above units shall include protective devices and warning signs for the painting operation. Each unit shall be radio controlled with a portable unit available for the Highway Division lead truck.

The Contractor shall supply 2 operating personnel for the spray truck and 3 cone setters/retriever personnel for the traffic cone setting truck. The Contractor will place traffic cones on all freshly painted lines to reduce tracking.

The Contractor shall complete the painting as indicated herein, subject to weather conditions, such as wet or extremely cold pavement. The interruptions for weather will be at the discretion of the Municipality. The Contractor shall have backup equipment available to him in the event of a breakdown.

The successful bidder shall have a supervisor or foreman, experienced in this field of work, available to direct operations. The supervisor or foreman will report to the Highway Division Superintendent or his designee, any problem, as well as give daily progress reports.

The successful bidder must show by past performance that he is capable of performing a Contract of this magnitude.

4" TRAFFIC LINES (CHLORINATED RUBBER PAINT) - Including ARROWS/LEGENDS

The Work shall include the installation traffic paint. The white and yellow traffic paint shall be installed as 4" or 6" wide double solid, single solid and broken lines.

The application rates shall be 1 gallon of paint per 320 linear feet of 4" and 6" wide line.

The Contractor shall supply 1 long line spray truck, manufactured with stainless steel components to properly apply fast-dry chlorinated rubber traffic paint, capable of applying solid lines in a sharp and true manner. The unit must have a minimum paint tank capacity of 400 gallons. The long line spray truck must be capable of producing an acceptable 4" or 6" wide single or double line at the application rate 320 lineal feet per one gallon of paint while traveling at a minimum of 7 miles per hour.

The Contractor shall supply 1 cone truck (rack body with hydraulic tail gate) with 300 cones. The above units shall include protective devices and warning signs for the painting operation. Each unit shall be radio controlled with a portable unit available for the Highway Division lead truck.

The Contractor shall supply 2 operating personnel for the spray truck and 3 cone setters/retriever personnel for the traffic cone setting truck. The Contractor will place traffic cones on all freshly painted lines to reduce tracking.

The Contractor shall complete the painting as indicated herein, subject to weather conditions, such as wet or extremely cold pavement. The interruptions for weather will be at the discretion of the Highway Division. The Contractor shall have backup equipment available to him in the event of a breakdown.

The Contractor shall have a supervisor or foreman, experienced in this field of work, available to direct operations. The supervisor or foreman will report to the Highway Division Superintendent or his designee, any problem, as well as give daily progress reports.

The Contractor must show by past performance that he is capable of performing a Contract of this magnitude.

The Contractor shall be responsible for satisfying the paint manufacturer's requirements for keeping the interior of the totes free from skins, paint buildup, etc. during the length of the Contract.

Thermoplastic Pavement Marking Removal including lines and arrows/legends.

The Work shall include the removal of existing thermoplastic traffic paint by a method that is not injurious to the roadway surface and is acceptable to the Engineer/Highway Division, cleaning the roadway surface and preparing the surface for application of new markings.

Equipment

The Contractor shall supply the equipment and personnel necessary for paint removal operation.

The Contractor shall also supply protective devices and warning signs for the paint removal operation.

Contractor Responsibilities

The Contractor shall complete the paint removal as indicated herein, subject to weather conditions. The interruptions for weather will be at the discretion of the Engineer/Highway Division.

The Contractor shall have backup equipment available to him in the event of a breakdown.

The successful bidder shall have a supervisor or foreman, experienced in this field of work, available to direct operations. The supervisor or foreman will report to the Highway Division Superintendent or his designee, any problem, as well as give daily progress reports.

The successful bidder must show by past performance that he is capable of performing a Contract of this magnitude.

EPOXY PAVEMENT MARKING PAINT

A. Composition Requirements

The epoxy resin composition shall be specifically formulated for use as a durable pavement marking material and for hot spray application at elevated temperatures not exceeding 150° F. The type and amounts of epoxy resins and curing agents shall be at the option of the manufacturer, providing the other composition and physical requirements of this specification are met.

The marking material shall be a two-component (Part A and Part B), 100% solids type system

formulated and designed to provide a simple volumetric mixing ratio (e.g. two volumes of Part A to one volume of Part B).

The component A of both white and yellow shall be within the following limits:

Pigments	White	Yellow
- Titanium Dioxide (ASTM D-476-73 Type II & III)	18 - 25%	
- Chrome Yellow (ASTM D-211-67 (73) Type III) <i>--23-30% (ASTM D-211-67(73) Type III)</i>	—	23 - 30%
Binder--Epoxy Resin*		
75-82%		70-77%

*NOTE: Epoxy resin binder must be completely free of TMPTA (Tri-Methylol Propane Tri-Acrylate) and other multi-functional monomers.

Epoxy Number: The epoxy number of the epoxy resin shall be 0.40 ± 0.1 as determined by ASTM D-1652 for both white and yellow Component A on a pigment free basis.

Amine Number: The amine number of the curing agent (Component B) shall not be less than 400 as per ASTM D-2074-66(76).

Toxicity: The material shall not exude fumes, which are toxic or injurious to persons or property.

B. Physical Properties of End Product

Unless otherwise noted, all samples are to be prepared and tested at an ambient temperature of $73 \pm 5^\circ\text{F}$.

1. Color and Weather Resistance: The mixed epoxy compound, both white and yellow, when applied to 3" x 6" aluminum panels at 15 ± 1 mil in thickness with no glass beads and exposed in a Q.U.V. Environmental Testing Chamber, as described in ASTM G-53-77, shall conform to the following minimum requirements. (The test shall be conducted for 75 hours at 50°C ., 4 hours humidity and 4 hours U.V., in alternating cycles. The prepared panels shall be cured at 77°F . for 72 hours prior to exposure.) The color of the white epoxy system shall not be darker than Federal Standard No. 595A-17778. The color of the yellow epoxy system shall be reasonably close to Federal Standard No. 595A-13538.
2. Directional Reflectance
The white epoxy composition (without glass spheres) shall have a daylight directional reflectance of not less than 84% relative to a magnesium oxide standard when tested in accordance with ASTM E-97.

The yellow composition (without glass spheres) shall have a daylight directional reflectance of not less than 55% relative to a magnesium oxide standard when tested in accordance with ASTM E-97.

3. Drying Time (Field)

The material used shall be Type II – slow dry material Mark 55 as manufactured by Polycarb, Inc. or LS 60 as manufactured by Epoplex. The Contractor may provide equivalent materials from other manufacturers only if the material has been approved in writing by the Engineer. It shall be in a “no tracking” condition in 45 minutes or less. “No tracking” condition shall be determined by actual application on the pavement of the pigmented binder at 20 mils wet, covered with glass beads at the rate of 30 pounds per gallon. No visual deposition of the epoxy marking to the pavement surface shall be visible from a distance of 50 feet after a vehicle’s tires have passed over the line.

4. Abrasion Resistance

The wear index of the epoxy composition shall not exceed 82 mg when tested in accordance with ASTM C501 using a CS-17 wheel and under a load of 1000 grams for 1000 cycles.

5. Hardness

The epoxy composition when tested in accordance with ASTM D2240 shall have a Shore D hardness of between 75 and 100. Samples shall be allowed to cure for not less than 72 hours nor more than 96 hours prior to testing.

6. Adhesion to Concrete

The catalyzed epoxy pavement marking materials, when tested according to ACI Method 503, shall have such a high degree of adhesion to the specified (4,000 psi minimum) concrete surface that there shall be a 100% concrete failure in the performance of this test. The prepared specimens shall be conditioned at room temperature (75±2°F.) for a minimum of 24 hours and a maximum of 72 hours prior to the performance of the tests indicated.

7. Adhesion to Asphalt

100 % failure in asphalt

ACI-503

C. Reflective Media

All Epoxy markings shall use a Glass bead that meets the following requirements: All beads shall be coated. The Drop-On glass beads shall be a double drop system comprised of:

1. Particle-1, a conglomerate bead visible in wet night conditions, pigmented to match the binder and initial color shall fall within the color box coordinates below:

WHITE

X	.355	.305	.285	.335
Y	.355	.305	.325	.375

YELLOW

X	.475	.490	.495	.520
Y	.450	.433	.475	.450

Crush Strength – The crush strength of the glass or ceramic bead system is important for the

long life of the marking; the beads and elements shall resist crushing to 30,000 psi minimum when tested according to ASTM Method D 1213-54.

2. Particle-2, AASHTO M247 Type 1 bead or as approved by the Engineer and binder manufacturer.
3. Drop-On Reflective Bead System:
The high reflective bead system and AASHTO M-247 TYPE 1 glass spheres, as described under part A & B shall be applied in a double drop operation. Particle-1 shall be applied first from the bead dispenser directly behind the marking application gun followed immediately by the application of Particle-2 AASHTO M-247 TYPE 1 beads from a second bead dispenser. The application rates of each of the reflective media shall conform to the manufacturer of the marking and the manufacturer of the bead system suppliers and be approved by the Engineer in the field. The application rate shall be 3 lbs. per gallon for Particle-1 and 16 lbs. per gallon for Particle-2.

a.1. APPLICATION EQUIPMENT

In general, the applying equipment shall be mobile, truck mounted and self-contained pavement marking machine, specifically designed to apply epoxy materials and reflective glass spheres in continuous and skip-line patterns. The applying equipment shall be maneuverable to the extent that straight lines can be followed, and normal curves can be made in a true arc. In addition, the truck-mounted unit shall be provided with accessories to allow for the marking of legends, symbols, crosswalks, and other special patterns.

The Engineer and the material manufacturer together may approve the use of a portable applicator in lieu of truck mounted accessories, for use in applying special markings only, provided such equipment can demonstrate satisfactory application of reflectorized markings in accordance with these Specifications.

The mobile applicator shall include the following features:

- A. The mobile applicator shall provide individual material reservoirs, or space, for the storage of Part A and Part B of the resin composition.
- B. The applicator shall be equipped with heating equipment of sufficient capacity to maintain the individual resin components at the manufacturer's recommended temperature for spray application.
- C. The applicator shall be equipped with glass bead dispensing equipment and capable of applying the spheres at the rate of 3 lbs. per gallon for particle-1, and 16 lbs. per gallon for particle-2 of epoxy resin composition.
- D. The applicator shall be equipped with metering devices or pressure gauges on the proportioning pumps, as well as stroke counters to monitor gallon usage. Metering devices or pressure gauge and stroke counters shall be visible to the

Engineer.

- E. The applicator shall be equipped with all the necessary spray equipment, mixers, compressors, and other appurtenances to allow for the placement of reflectorized pavement markings in a simultaneous sequence of operations.
- F. The application equipment must have a minimum of a 24" long static mixer unit as manufacture by Kenics Company or equal for proper mixing of the two components, or other mixing apparatus equivalent in performance and certified by the epoxy manufacturer.
- G. The mobile applicator must be equipped with a completely enclosed flush and purge system to clean the lines and the guns without exuding any solvents into the environment.

Guardrails

Steel W Beam Highway Guard (Single Faced)

- Guardrail panels -13' - 6" long, 6" overlap at each end, type SS, (single faced) 12 gauge, galvanized.
- Guardrail Posts - Steel "H" posts, WIF 6, 6' - 6" long, 8.5 lbs./ft., galvanized. Post spacing shall be 6' - 3" on center.
- All necessary connecting hardware and modular offset blocks.
- All posts to be machine driven and set plumb to a depth of approximately four feet.
- All materials shall be hot dipped galvanized and new.

Where applicable, all materials and details shall meet or exceed Commonwealth of Massachusetts Department of Public Works, Standard Specifications for Highways and Bridges and construction and Traffic Standard Details, as most recently amended.

CONSTRUCTION METHODS

Wood guard posts or steel posts shall be set plumb in hand dug or mechanically dug holes, then backfilled with acceptable material placed in layers and thoroughly compacted.

Wood guard posts or steel posts to be set in areas of proposed bituminous concrete or cement concrete shall be erected prior to laying the surrounding finished surface unless otherwise permitted by the Projects Engineer.

Where standard embedment of a post is not feasible because of underground obstructions, such as utilities, footings, culverts and ledge, a modified post installation shall be made as so directed by the Projects Engineer.

Steel beam rail shall be erected so as to form a smooth continuous rail conforming to the required line and grade. The splicing of the rail elements shall be lapped so that the exposed end of each element is away from approaching traffic. The holes in the rail element nearer the posts shall be slotted to facilitate erection and to permit expansion. The rail elements shall make contact with each other at each splice.

All bolts, except where otherwise required at expansion joints, shall be drawn tight. Bolts through expansion shall be drawn up as tightly as possible without being too tight to prevent the rail elements from sliding past one another longitudinally.

This work shall consist of the installation of guardrails in accordance with these specifications and in close conformity with the lines and grades as established by the Town.

Where applicable, all materials and details shall meet or exceed Commonwealth of Massachusetts Department of Public Works, Standard Specifications for Highways and Bridges and construction and Traffic Standard Details, as most recently amended.

COMPENSATION: Steel Beam Highway Guard will be measured along the top of the rail element from the center to center of end posts of required guardrail.

Details:

- Traffic Control: The contractor shall be responsible for maintenance of traffic and protection of the work site during his work.
- Amount of Work: Work will be scheduled and performed as needed to the limit of the available funds.
- Clean Up: The contractor shall remove all construction materials; excess excavation materials equipment and other debris remaining as a result of his construction operation and shall restore the site to a neat and orderly condition.

Steel W-Beam Highway Guard Rail (Single Faced/Corten Steel Specification: A588 Weathering steel with wooden posts and terminal ends. The work to be done under these items shall conform to relevant provisions of the Standard Specifications for Highways, Section 601 as follows:

The Contractor shall furnish and install highway guardrail components of weathering steel at up to eleven (11) locations within the Town of Boxford. Eleven of the locations will be on Georgetown Road between approximate house numbers 145 to 225. The new guardrail will replace old sections of concrete post and wire. The majority of these locations shall require straight lengths of guardrail. Curved lengths shall be approximately 10% of the total lineal footage.

The steel W-Beam highway guardrail shall conform to AASHTO-M180, Class A, Type 4 weathering steel and dimensionally identical to the MassDOT Steel W-Beam Guard (Standard W-Beam).

Posts and offset blocks shall be rough sawn lumber of the same species and treated with ACA or CCA preservative to a minimum retention of 0.60 lbs./cu.ft. in accordance with American Wood Protection Association standards.

Hardware shall be ASTM A-307. Steel W-Beam guardrail splices shall occur at post locations and shall be connected using weathering hardware. Through bolt connection to posts shall be hot dipped galvanized.

Zinc lap plates (aka zinc foil inserts) shall be installed between all overlapping pieces of corrosion resistant steel panels. The zinc foil shall be 12 1/2 " in length, have a nominal thickness of 20 mils and shall be shaped to conform to the W-Beam dimensions. The bolt holes shall be shop punched.

Zinc used for the manufacture of the inserts shall meet the requirements of ASTM B 6-Standard Specification for Zinc and shall meet the requirements of ASTM B 69-Standard Specification for Rolled Zinc. The material shall be Special High Grade, with a minimum of 99.99% zinc. A certificate of compliance shall be supplied by the manufacturer certifying compliance with the applicable specifications.

The DPW's will be responsible for disposing of the old existing sections of concrete post and wire guard rail. The contractor shall remove the old posts and rail and deposit it in DPW trucks, which will be made available for that purpose on the day the contractor schedules this work. The DPW will also be responsible to prep the shoulder after the removal of the old post and wire via sweeping and removal of excess material prior to the start of the installation of the new guard rail. The contractor and the DPW shall work together to schedule these activities such that it will not delay the work to be done by the contractor. The contractor and the DPW will agree to the layout of the new guardrail before installation begins.

COMPENSATION

The contract unit price under the respective pay item shall be full compensation for all costs for materials and labor, necessary for the satisfactory completion of the work, including all hardware and incidentals required.

Bituminous Concrete

MATERIALS

Materials shall meet the requirements in the current subsections of *Standard Specifications for Highway Bridges*, Section M-3, Bituminous Materials, and any related amendment. Award of bituminous concrete FOB will be made to pick up sites within a twenty-five miles of the respective Public Works facility.

Bituminous concrete FOB unit cost shall be for year round mix; no increase for "winter mix" will be considered. Temperature of bituminous concrete shall be 325-350 degrees Fahrenheit at the plant. Municipality reserves the right to inspect and refuse any loads due to graduation, consistency, weight, temperature, or any other area it deems necessary to maintain the highest quality of material received.

Delivery of 4,000 psi, $\frac{3}{4}$ "non-state" exterior 610 cement to be delivered on-site for the construction of sidewalk panels. The delivery time is not to exceed 1 hour, 15 minutes. A 6 yard (cubic yard) minimum load is required for every delivery. The Municipality will be responsible for the installation work.

MEASUREMENT AND PAYMENT

Payment for Bituminous Concrete installed in place shall be made at the contract unit price per ton times the number

Disposal of Contaminated Debris / Materials

Disposal of Catch Basin Screenings

Catch basin cleanings from storm water-only drainage systems may be disposed at any landfill that is permitted by MassDEP to accept solid waste. MassDEP does not routinely require stormwater-only catch basin cleanings to be tested before disposal, unless there is evidence that they have been contaminated by a spill or some other means.

Screenings may need to be placed in a drying bed to allow water to evaporate before proper disposal. In this case, ensure that the screenings are managed to prevent pollution.

Sweepings Reuse and Disposal

- The reuse of sweepings is recommended by MassDEP. If street sweepings are reused (e.g., as anti-skid material or fill in parking lots), they should be properly filtered to remove solid waste, such as paper or trash, in accordance with their intended reuse. All reuse and/or disposal of street sweepings will be managed in accordance with current MassDEP policies and regulations.
- Sweepings intended for reuse can be stored for up to one year in approved temporary storage areas. Storage areas should be protected to prevent erosion and runoff and should be located away from wetland resource areas and buffer zones, surface water, or groundwater.
- Sweepings are classified as solid waste. If not reused, they should be disposed of at solid waste disposal sites. For additional information on approved reuses of sweepings and storage/disposal policies, refer to MassDEP policy #BAW-18-001: Reuse and Disposal of Street Sweeping

Construction Services: Patching & Resurfacing Sidewalks and Streets
Strip and Dispose Existing Pavement, Sidewalk, Curb, and Subbase Materials

Payment will be based on the actual square yards of surface area stripped, fine grade and and compacted measured by the Town. Removal and disposal of pavement, curb, sidewalk, and subbase materials as required in other Bid Items including road base repairs, road base preparation, reclaiming and cold planing and within areas disturbed by construction will not be measured for payment. Furnishing and installing gravel subbase will be measured under Item No. 2. Stripping and disposing materials outside the project area without prior authorization from the Town will not be measured for payment.

Payment will be based on the Unit Price bid for this item. Under the Unit Price for this item, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals required to strip and dispose existing pavement, curb, sidewalk and pavement subbase materials; and grade and compact subgrade as directed by the Town. The work includes saw-cutting existing pavement and sidewalks at project limits as directed; protection of all existing castings and valve and service boxes from damage or accumulating debris, removal and replacement of castings and boxes if required, cleaning of all structures to remove construction debris; excavation, removal, and disposal of pavement, curbs, sidewalk, concrete, unsuitable pavement subbase and subgrade as determined by the Town based on review of sieve analysis testing done by Contractor as directed by the Town, and all soils within project limits to a minimum depth of 12-inches below existing pavement grades; collection of samples and sieve analysis testing of existing subbase and subgrade materials as directed by the Town; protection of existing trees and tree roots to remain within project area, protecting, supporting, and replacing overhead utilities and buried utilities, repair of any utility lines and services broken during construction; fine grading and compacting remaining subgrade subbase to meet existing grades, allowing 8½-inches of new gravel subbase in areas to be paved and 6-inches of new gravel subbase in all other areas as directed by the Town, and all work incidental thereto and all work not specifically included for payment under other items.

Furnish and Install Gravel Subbase

Measurement for payment will be based on the actual cubic yards of gravel subbase furnished, installed, spread, fine grade and and compacted outside the areas disturbed by construction as directed and measured by the Town based on certified weight slips produced by the Contractor after each truckload measured for payment and laboratory results for compacted soil density. Furnishing, installing, spreading, and compacting gravel subbase as required in other Bid Items within the trench limit of payment and areas disturbed by construction will not be measured for payment. Furnishing and installing gravel subbase outside the project area without prior authorization from the Town will not be measured for payment.

Payment will be based on the Unit Price bid for this item in the proposal. Under the Unit Price for this item, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals required to furnish, install, spread, grade and compact gravel subbase as directed by the Town. The work includes protection of all existing castings and valve and service boxes from damage or accumulating debris, removal and replacement of castings and boxes if required, cleaning of all structures to remove construction debris; protection of existing trees to remain within project area, protecting, supporting, and replacing overhead

utilities and buried utilities, repair of any utility lines and services broken during construction; furnishing, hauling, delivery, spreading, compaction, and compaction testing of new gravel subbase so a minimum 6-inch thickness of suitable gravel subbase as determined by the Town exists in all areas and 8½-inch thickness of suitable gravel subbase as determined by the Town exists under proposed pavement; fine grading and compacting suitable gravel subbase to meet final sidewalk, and pavement grades, allowing for 3½-inch pavement thickness, and as directed by the Town; and all work incidental thereto and all work not specifically included for payment under other items.

Install Cement Concrete Sidewalks

Measurement for payment will be based on the actual square yards of cement concrete sidewalk installed complete and as measured by the Town. The Contractor will not be compensated for removing and replacing concrete sidewalks damaged during construction outside the work limits.

Payment will be based on the Unit Price bid for this item in the proposal. Under the Unit Price bid for this item, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals required to replace or install concrete sidewalks, complete as directed by the Town. The work includes saw-cutting, removal and disposal of cut-back sidewalk or pavement, restoring and re-grading the gravel base course, compaction; raising and resetting of existing castings and boxes to grade, power sweeping; installation of minimum 4-inch minimum thickness cement concrete sidewalks with mesh or fiber reinforcement as directed, constructing concrete sidewalks in accordance with ADA requirements, finishing, expansion joints; backing up edges of concrete with gravel, removal and resetting of all existing appurtenances including but not limited to signs, bollards, gate boxes and castings not measured elsewhere for payment, and all incidental work not specifically included for payment under other items.

Install Cement Concrete Wheelchair Ramps and Driveway Crossings

Measurement for payment will be based on the actual square yards of cement concrete sidewalk installed for driveway crossing sidewalks and ADA ramps complete as directed and as measured by the Town. The Contractor will not be compensated for removing and replacing concrete sidewalks damaged during construction outside work limits.

Payment will be based on the Unit Price bid for this item in the proposal. Under the Unit Price bid for this item, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals required to replace or install concrete sidewalks across driveways and ADA ramps, complete as directed by the Town. The work includes saw-cutting and disposal of cut-back sidewalk and pavement materials, restoring and re-grading the gravel base course, compaction; removal and resetting of existing castings and boxes to grade, installation of minimum 6-inch minimum thickness cement concrete sidewalks with mesh or fiber reinforcement as directed, constructing concrete sidewalks in accordance with ADA requirements, furnishing and installing ADA pads, furnishing and installing concrete curb(s) as required, finishing, installing expansion joints; removal and resetting of all existing appurtenances including but not limited to signs, bollards, gate boxes and castings not measured elsewhere for payment, power sweeping, and all incidental work not specifically included for payment under other items.

Install Monolithic Bituminous Concrete Curb Sidewalk

Measurement for payment will be based on the actual square yards of bituminous concrete sidewalk and monolithic curbs installed complete and as measured by the Town. The Contractor will not be compensated for removing and replacing sidewalks damaged during construction outside the work limits.

Payment will be based on the Unit Price bid for this item in the proposal. Under the Unit Price bid for this item, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals required to install bituminous concrete sidewalks with monolithic bituminous concrete curbs, complete as directed by the Town. The work includes saw-cutting, removal and disposal of cut-back sidewalk or pavement materials, restoring and re-grading the gravel base course, compaction; raising and resetting of existing castings and boxes to grade; installation of minimum 3-inch minimum thickness bituminous concrete sidewalks as directed, in accordance with ADA requirements, finishing; backing up edges of sidewalk with gravel,

removal and resetting of all existing appurtenances including but not limited to signs, bollards, gate boxes and castings not measured elsewhere for payment, and all incidental work not specifically included for payment under other items.

Furnish and Install Bituminous Concrete Curb/Berm

Measurement for payment will be based on the actual length of bituminous cement concrete curb/berm installed complete as directed and as measured by the Town. The Contractor will not be compensated for removing and replacing bituminous curb/berm damaged during construction outside the work limits.

Payment will be based on the Unit Price bid for this item in the proposal. Under the Unit Price bid for this item, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals required to replace or install bituminous concrete curb/berm, complete as directed by the Town. The work includes saw-cutting and disposal of cut-back asphalt as required, excavation of existing soil materials, power sweeping; installation of bituminous concrete curb installed by machine with mold/shape selected by the Town; installation of tack coat before installation and along joint afterwards if overlay pavement is not installed afterwards; backing up curbing with gravel or loam as directed; and all incidental work not specifically included for payment under other items.

Remove and Stack Granite Curb

Measurement for payment will be based on the actual linear feet of straight and curved granite curb removed, delivered, and stacked at a location directed and measured by the Town along the long end of straight curb or around the outer radius of the curved curb. Granite curb removed but not selected by the Town for salvage or curb broken during construction will not be measured for payment.

Payment shall be based on the Unit Price bid for this item in the proposal. Under the Unit Price bid for this item, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals required to remove, deliver, and stack straight and curved granite curb complete as directed by the Town. The work includes saw-cutting pavement, excavation, removal and disposal of existing pavement and concrete curb encasement and backfill, removal of curb, cleaning dirt and concrete from all curb selected by the Town for salvage, delivery and stacking of salvaged curb at a location directed by the Town, disposal of all granite curb broken during construction or not selected by the Town for salvage, all incidental work not included for payment elsewhere.

Remove and Reset Straight Granite Curb

Measurement for payment will be based on the actual linear feet of straight granite curb removed and reset as directed and measured by the Town. The Contractor will brace, protect, and leave in place granite curb wherever possible and during service trenching and installation. The Contractor will not be compensated for removal and resetting granite curb broken by the Contractor during construction.

Payment will be based on the unit price bid for this item in the proposal. Under the Unit Price for this item, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals required to remove, protect, store and reset straight or curved sections of granite curb at the same grade or proposed grade including tapered sections, complete as directed by the Town. The work includes removing, protecting, storing, and resetting granite curb, saw-cutting, removing and disposing of existing subgrade and subbase providing and compacting suitable base material, placement and alignment of curb, concrete encasement and backfill around curbs as shown on details, and all incidental work not included for payment elsewhere.

Furnish and Install Straight Granite Curb

Measurement for payment will be based on the actual linear feet of straight granite curb provided and installed complete as measured by the Town along the line of installation. Straight granite curb furnished and installed to replace straight granite curb broken during construction will not be measured for payment.

Payment shall be based on the Unit Price bid for this item in the proposal. Under the Unit Price bid for this item, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals required to provide, protect, store and install straight sections of granite complete as directed by the Town. The work includes

providing, protecting, storing, and installing straight (6"x18" Type VA-4) granite curb (including tapered sections and curb inlet sections around catch basins) at the proposed grade and as directed; including saw-cutting pavement, excavation, removal and disposal of existing pavement and concrete curb encasement and backfill, removal and disposal of existing subgrade and subbase, providing and compacting suitable base material, placement and alignment of curb, installing concrete encasement and backfill around curbs as shown on details, removal and replacement of existing subbase with 6-inch minimum thickness of new gravel subbase within disturbed areas, and all incidental work not included for payment elsewhere.

Remove and Reset Curved Granite Curb

Measurement for payment will be based on the actual linear feet of curved granite curb removed and reset as directed and measured by the Town around the outer radius of the curve. The Contractor will brace, protect, and leave in place granite curb wherever possible and during service trenching and installation. The Contractor will not be compensated for removal and resetting of granite curbing for service trenching and installation if removal is not necessary in the opinion of the Town. The Contractor will not be compensated for removal and resetting granite curb broken by the Contractor during construction.

Payment will be based on the unit price bid for this item in the proposal. Under the Unit Price for this item, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals required to remove, protect, store and reset straight or curved sections of granite curb at the same grade or proposed grade including tapered sections, complete as directed by the Town. The work includes removing, protecting, storing, and resetting granite curb, saw-cutting, removing and disposing of existing subgrade and subbase providing and compacting suitable base material, placement and alignment of curb, concrete encasement and backfill around curbs as shown on details, and all incidental work not included for payment elsewhere.

Furnish and Install Curved Granite Curb

Measurement for payment will be based on the actual linear feet of curved granite curb provided and installed complete as measured by the Town around the outer radius of the curve. Curved granite curb furnished and installed to replace curved granite curb broken during construction will not be measured for payment.

Payment shall be based on the Unit Price bid for this item in the proposal. Under the Unit Price bid for this item, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals required to provide, protect, store and install curved sections of granite complete as directed by the Town. The work includes providing, protecting, storing, and installing (6"x18" Type VA-4) granite curb of varied radius (including tapered sections, driveway returns, or "D/bullnose" curb cut boundary sections of curb as directed by Town) at the proposed grade and as directed; including saw-cutting pavement, excavation, removal and disposal of existing pavement and concrete curb encasement and backfill, removal and disposal of existing subgrade and subbase, providing and compacting suitable base material, placement and alignment of curb, installing concrete encasement and backfill around curbs as shown on details, removal and replacement of existing subbase with 6-inch minimum thickness of new gravel subbase within disturbed areas, and all incidental work not included for payment elsewhere.

Hot Mix Asphalt Intermediate & Top

Measurement for payment will be based on the actual tonnage of 3 to 3½-inch minimum compacted thickness permanent bituminous concrete installed as directed and approved by the Town based on certified weight slips and Towns calculations to confirm yield. The Contractor will not be compensated for removing and replacing concrete or bituminous concrete damaged during construction outside the work limits.

Payment will be based on the Unit Price bid for this item in the proposal. Under the Unit Price for this item, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals required to furnish and install 3 to 3½-inch minimum compacted thickness (as directed) of permanent bituminous concrete sidewalks as directed and measured by the Town. The work includes saw-cutting, fine grading subbase; removal and disposal of cut-back sidewalks or pavement; restoring and re-grading the gravel base course, compaction; raising and resetting existing castings and boxes to grade; power sweeping, applying tack coat

to saw cut pavement edges; installation of 3 or 3½-inch minimum compacted thickness (as directed) of bituminous concrete; application of emulsion to entire surface prior to each binder course and to surface joints after paving is completed; backing up edges of pavement with gravel; and all incidental work not specifically included for payment under other items.

Pavement & Road Base Reclaiming: All labor, equipment and materials required for satisfactory reclaiming of existing surfaces, and any incidental work needed to blend additional material if needed to the roadway shall be included in the Bid price bid.

Asphalt Excavation Cold Planing: All labor, equipment and materials required for satisfactory milling/cold planing of existing surfaces, and any incidental work needed to remove any/all access material from the roadway shall be included in the bid price.

Base Pavement Repairs (Leveling Course)

The work shall be as directed by the DPW Director or his designee, areas of existing pavement and pavement patches that are settled, loose, rocking or excessively deteriorated shall be removed and replaced with an equivalent depth of hot mix asphalt, binder or top course, before placement of the pavement overlay. After removal of the existing pavement or pavement patch, the underlying sub-base material shall be graded to provide a uniform pavement replacement depth and compacted to not less than 95 percent of the maximum dry density of the material before placement of the new hot mix asphalt material. The edges of the existing pavement in removal areas shall be sawcut to provide a vertical uniform face and shall be sprayed or painted with a uniform thin coat of RS-1 asphalt emulsion immediately before placement of the new hot mix asphalt material.

All labor, equipment and materials required for satisfactory leveling of existing surfaces using hot mix asphalt, and any incidental work needed to properly prepare the existing surfaces to allow the leveling course to be properly installed shall be included in the contract unit price bid for this item.

3 to 3½-inch Bituminous Concrete Sidewalks

Measurement for payment will be based on the actual tonnage of 3 to 3½-inch minimum compacted thickness permanent bituminous concrete sidewalks installed as directed and approved by the Town based on certified weight slips and Towns calculations to confirm yield. The Contractor will not be compensated for removing and replacing concrete or bituminous concrete sidewalks damaged during construction outside the work limits.

Payment will be based on the Unit Price bid for this item in the proposal. Under the Unit Price for this item, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals required to furnish and install 3 to 3½-inch minimum compacted thickness (as directed) of permanent bituminous concrete sidewalks as directed and measured by the Town. The work includes all items included in this Section's Paragraph 1.1.B, above, as well as saw-cutting, fine grading subbase; removal and disposal of cut-back sidewalks or pavement; restoring and re-grading the gravel base course, compaction; raising and resetting existing castings and boxes to grade; power sweeping, applying tack coat to saw cut pavement edges; installation of 3 or 3½-inch minimum compacted thickness (as directed) of bituminous concrete sidewalk; application of emulsion to entire surface prior to each binder course and to surface joints after paving is completed; backing up edges of pavement with gravel; and all incidental work not specifically included for payment under other items.

3 to 3½-inch Permanent Hand Placed Bituminous Concrete Pavement

Measurement for payment will be based on the actual tonnage of 3 to 3½-inch minimum compacted thickness permanent bituminous concrete binder and/or surface course hand placed behind the curb line on driveways, aprons, sidewalks, walks, and elsewhere outside the trench limits of pavement as directed and approved by the Town based on certified weight slips and Towns calculations to confirm yield. Temporary

pavement and/or pavement that can be placed with paving machine in the opinion of the Town will not be measured for payment. Pavement placed outside the project limits will not be measured for payment.

Payment will be based on the Unit Price bid for this item in the proposal. Under the Unit Price for this item, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals required to furnish and install 3 or 3½-inch minimum compacted thickness (as directed) of permanent bituminous concrete binder and/or surface course as directed, behind the curb line on driveways, aprons, sidewalks, walks, and elsewhere outside the trench limits of payment as directed and measured by the Town. The work includes saw-cutting pavement at the project limits or at 1-foot offset to limits of temporary trench pavement to create smooth edges and remove all pavement damaged by construction; removal and disposal of cut-back pavement, and temporary trench pavement, and soil to required depth; restoring and re-grading the gravel base course, compaction testing; raising and resetting existing castings and boxes to grade; constructing exterior concrete collars surrounding masonry and frame to bottom depth of proposed binder; adjusting all valve and service boxes to proposed grades with exterior concrete collars; power sweeping, applying tack coat to saw cut pavement edges; installation of 3 or 3½-inch minimum compacted thickness of bituminous concrete binder and/or surface course in two courses as directed; application of emulsion to entire road surface prior to each binder course and to surface joints after paving is completed; backing up edges of pavement with gravel; and all incidental work not specifically included for payment under other items.

Remove & Reset Castings

The work under this item shall consist of adjusting the frames, grates and covers in conformity with the lines and grades. The frames, grates, and covers shall not be adjusted upward until after installation of the leveling course, but before placement of the top course. In no circumstance shall the structure be adjusted to the final elevation and left for more than three days and any structure damaged between the final adjustment and placement of the top course shall be readjusted at no cost to the Owner. It is the responsibility of the Contractor to coordinate with the various Utility Companies to have the manhole frames and covers they own adjusted. Manhole frames shall be set with the tops conforming accurately to the grade of the pavement or finished ground surface or as directed. Frames shall be set concentric with the top of the masonry and in full bed of mortar so that the space between the top of the manhole masonry and the bottom flange of the frame shall be completely filled and made watertight. A thick ring of mortar extending to the outer edge of the masonry shall be placed all around and on the top of the bottom flange. The mortar shall be smoothly finished and have a slight slope to shed water away from the frame.

During the work, the contractor shall take measures to assure that construction materials and debris do not enter the structures. At the completion of the work the Contractor shall clean all existing structures selected by the DPW Director or his designee of any accumulation of silt, debris or foreign matter of any kind. The Contractor's operations shall, at all times, be conducted in a manner that shall not damage manholes, catch basins, storm drain lines, and sanitary sewer lines, and shall not cause injury to persons or property. Under no circumstances shall liquids, solids or any other materials resulting from the cleaning operations be dumped onto public property, or into ditches or water courses. All sludge, dirt, sand, gravel and other debris resulting from the cleaning operation shall be removed and disposed of offsite.

If existing castings are damaged, new castings required shall be supplied by the Town. Installation of new castings to replace broken ones shall be considered incidental to this item with no additional compensation allowed. If a casting is damaged due to improper construction techniques, it will be the Contractor's responsibility to supply and set in place a new casting to the satisfaction of the Utility Company and/or the DPW Director or his designee.

Risers will not be allowed unless approved in writing by the DPW Director or his designee.

Payment shall be paid for at the contract unit price bid per structure frame, grate and cover adjusted, which price shall constitute full and complete compensation for all materials, bricks, removing, stacking, storing and resetting castings, for all excavation and backfill, equipment, tools, labor and incidentals required to finish the work of this item to the satisfaction of the DPW Director or his designee.

No separate payment will be made for cleaning of structure and associated lines, but all costs in connection therewith shall be included in the unit price bid for this item including tools, labor, supervision, equipment,

removal and disposal of all debris and in performing all other operations in connection with the cleaning of existing structures.

Utility Structure Reconstructed

The work under this item shall consist of reconstructing existing catch basins or manholes found in need of rehabilitation as directed by the DPW Director or his designee. Work shall consist of removing and stockpiling the existing castings, removing a portion of the existing structure and constructing a new catch basin or manhole top (corbel cone) in conformity with the lines, grades.

Frames and grates shall be carefully removed and stockpiled on the site for reuse on the reconstructed catch basin or manhole. Existing castings will be reset on the catch basin or manhole if the grate is bicycle safe. If the grate is not bicycle safe, a new frame and grate as directed by the DPW Director or his designee will be installed. The walls of the existing structures shall be removed to a depth necessary to make the transition to the required lines, grade and dimensions of the reconstructed catch basin as directed by the DPW Director or his designee. Any excavation required around the structure shall be done in a manner to cause the least disturbance to the surrounding area. When the mortar has set, the backfill shall be compacted to 95% density as defined in AASHTO-180, Method A or D.

If existing castings are damaged, new castings required shall be supplied by the Town. Installation of new castings to replace broken ones shall be considered incidental to this item with no additional compensation allowed. If a curb stop is damaged due to improper construction techniques, it will be the Contractor's responsibility to supply and set in place a new curb stop box to the satisfaction of the Utility Company and the DPW Director or his designee.

Payment shall be paid for at the contract unit price bid per vertical foot measured in tenths of feet from the bottom of rebuilt masonry to the bottom of the casting, which price shall constitute full and complete compensation for all materials, bricks or concrete blocks, removing, stacking, storing and resetting castings, removing and disposing existing walls, constructing new walls, for all excavation and backfill, equipment, tools, labor and incidentals required to finish the work of this item to the satisfaction of the DPW Director or his designee.

Gate Box Adjusted

The work under this item shall consist of adjusting the gate boxes in conformity with the lines and grades. The gate boxes shall not be adjusted upward until after leveling course operation, but before placement of the top course. In no circumstance shall the structure be adjusted to the final elevation and left for more than three days and any structure damaged between the final adjustment and placement of the top course shall be readjusted at no cost to the Owner.

Any new gate boxes required shall be supplied by the Town. Installation of new gate boxes to replace broken ones shall be considered incidental to this item with no additional compensation allowed.

Risers will not be allowed unless approved in writing by the DPW Director or his designee.

Payment shall be paid for at the contract unit price bid per structure gate box adjusted, which price shall constitute full and complete compensation for all materials, removing, stacking, storing and resetting castings, for all excavation and backfill, equipment, tools, labor and incidentals required to finish the work of this item to the satisfaction of the DPW Director or his designee.

Mobilization

This item shall consist of preparatory work and operations including, but not limited to, those necessary for the movement of personnel, equipment, supplies, and incidentals to the project site, for the establishment of all contractor's field offices, buildings, and other facilities necessary for work on the project and all other work and operations which must be performed or for costs which must be incurred prior to beginning work. As well as, the necessary cleanup work to the job site after construction i.e. removal of any access material, trash or other nuisances. The work required to provide facilities and services for mobilization shall be done in a safe and workmanlike manner and shall conform to any pertinent local or state law, regulation or code. Good housekeeping and safety shall be maintained.

Payment will be made on a lump sum basis per mobilization with 50% of the lump sum being paid upon arrival and the remaining 50% will be paid upon satisfactory cleanup of the site and departure of all equipment.

Furnish and Install Loam and Seed

Measurement and payment will be based on the actual square yards of surface area loamed and seeded within the project limits as directed and as measured by the Town. Loaming and seeding outside the project area and in staging or stockpile areas to repair construction damage without prior authorization from the Town will not be measured for payment.

Payment will be based on the Unit Price bid for this item in the proposal. Under the Unit Price for this item, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals required to furnish and install (weed free seed) loam and seed as directed by the Town. The work includes furnishing, hauling, and delivery of suitable top soil "loam", installing loam in all areas directed by the Town to a minimum depth of 6-inches; grading, compacting, and raking loam; furnishing and installing hydro-seed grass seed mixture, surrounding planted grass areas with stakes and caution tape as directed, watering and maintaining grass until growth requires second cutting as determined by the Town, cutting grass once to height of 2-inches, removal and disposal of stakes and caution tape and all work incidental thereto and all work not specifically included for payment under other items.

Install, Maintain and Remove Erosion and Sediment Barrier

Measurement and payment will be based on the actual linear feet of erosion and sediment barrier (staked straw wattles or buried siltation fencing as directed) installed, maintained, and removed complete as measured by the Town. Erosion and sedimentation barrier installed to replace or maintain damaged or missing barriers will not be measured for payment.

Payment will be based on the Unit Price bid for this item in the proposal. Under the Unit Price for this item, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals required to install erosion and sedimentation barriers, complete. The work includes coordination with the Conservation Commission and property owners regarding layout locations if required, notification of affected property owners prior to installation; furnishing and installing staked 8-inch diameter straw wattles or as directed; or furnishing and installing buried and staked siltation fence as directed; backfilling and compacting buried fencing, maintain erosion and sedimentation barriers throughout construction, removal and disposal of erosion and sedimentation barriers following construction and authorization from the Conservation Commission, restoring areas, and all incidental work not specifically included for payment elsewhere.

Saw Cutting

Measurement for payment will be based on the actual linear feet of saw cutting, completed as measured by the Town in connection to required and associated work.

Payment will be based on the Unit Price bid for this item in the proposal.

Supply and Install Gravel to back up Pavement Edges

Measurement for payment will be based on the cubic yards of gravel supplied and installed as measured by the Town in connection to required and associated work.

Payment will be based on the Unit Price bid for this item in the proposal.

Appendix B - Estimated Quantities by Municipality

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Clam Shell Cleaning & Street Sweeping

	Catch Basin Clam Shell Cleaning (# of Basins)	Catch Basin Vacuum Truck Cleaning (# of Basins)	Disposal of Catch Basin Debris (Tons)	Street Sweeping (Curb Miles)	Disposal of Street Sweeping Debris (Tons)	Leaf Disposal (??)
Amesbury	4,000	40	300	310	100	135,000
Boxford	850	25	0	200	0	0
Georgetown	1,200	0	0	120	0	0
Groveland	900	0	150	100	25	0
Ipswich	1,100	50	200	20	200	0
Merrimac	747	30	0	0	0	0
Methuen	2,500	800	5,000	200	5,000	5,000
Newbury	400	40	70	0	0	0
Newburyport	800	50	0	0	0	0
North Andover	500	500	0	75	0	0
Rowley	550	50	0	50	0	0
Salisbury	775	0	0	0	0	0
Topsfield	0	0	0	60	2,025	0
West Newbury	450	6	24	96	4	0
Total	14,772	1,591	5,744	1,231	7,354	140,000

Random Crack Sealing

	Process A (Linear Feet)	Process A (Gallons)	Process B (Linear Feet)	Process B (Day Rate)	Process B (Gallons)
Amesbury	0	0	0	5	0
Georgetown	0	0	0	6	0
Groveland	0	0	0	0	1,000
Hamilton	0	0	0	10	0
Ipswich	25,000	0	20,000	10	0
Merrimac	0	1,700	0	0	0
Methuen	20,000	0	20,000	5	0
North Andover	1,000	0	1,000	20	0
Topsfield	0	0	0	5	0
West Newbury	0	0	0	6	0
Total	46,000	1,700	41,000	67	1,000

Guardrails and Bituminous Concrete

	Single Face Galvanized Guard Rail (Linear Feet)	Steel W-Beam Highway Guard Rail (Single Faced/Corten Steel) (Linear Feet)	Steel Beam Highway Guard Rail Flared End Treatment (Corten Steel) (Each)	Type I Bituminous Concrete (picked up at plant) (Tons)
Amesbury	100	0	4	250
Hamilton	0	200	10	0
Ipswich	200	200	6	250
Merrimac	1,079	0	0	0
Newbury	700	0	0	0
Newburyport	0	0	0	2,000
North Andover	1,000	1,000	20	250
Rockport	0	0	0	200
Rowley	0	100	6	250
Salisbury	0	0	0	200
West Newbury	200	0	0	0
Total	3,279	1,500	46	3,400

Appendix B - Estimated Quantities by Municipality

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Pavement Marking: Water Based

	4" White Line (Linear Feet)	4" Yellow Line (Linear Feet)	12" Painted White Line (Cross Walks) (Linear Feet)	Painted Bike Route Symbol Marking (Each)	4" White Fog Line (Linear Feet)	4" Double Yellow Line (Linear Feet)	4" Single Line (Linear Feet)	12' Cross Walk & Stop Line (Linear Feet)	4" Yellow Center Line (Linear Feet)
Amesbury	0	18,000	10,000	0	218,000	250,000	0	2,000	0
Boxford	0	0	0	0	340,000	180,000	0	0	0
Georgetown	0	0	1,600	0	70,000	99,300	0	0	0
Groveland	0	0	1,000	0	40,000	50,000	0	300	0
Hamilton	0	0	0	0	150,000	75,000	0	0	7,000
Ipswich	0	0	2,000	20	0	0	0	500	0
Merrimac	0	0	0	0	141,300	139,410	40,000	600	0
Newburyport	0	0	70,000	0	0	75,000	0	30,000	0
North Andover	0	0	200	0	5,000	2,500	0	100	0
Rowley	0	0	0	0	34,100	91,400	0	0	0
Salisbury	0	0	0	0	0	0	0	0	0
Topsfield	1,500	0	5,000	0	58,000	29,000	0	5,000	0
West Newbury	4,100	0	0	0	65,000	65,000	4,500	0	0
	5,600	18,000	89,800	20	1,121,400	1,056,610	44,500	38,500	7,000

Pavement Marking: Chlorinated Rubber

	4" Double Yellow Line (Linear Feet)	4" Single White Line (Linear Feet)	4" Single Yellow Line (Linear Feet)	Straight Arrows (Each)	Double Arrows (Each)	Curved Arrows (Each)	"Only" Signs (Each)
Georgetown	0	0	0	0	0	6	6
Methuen	166,250	342,500	50,000	10	10	10	10
Rowley	0	0	0	0	0	3	3
	166,250	342,500	50,000	10	10	19	19

Pavement Marking: Thermoplastic

	4" Double Yellow Line (Linear Feet))	12" Yellow Line (Linear Feet)	4" Single White Line (Linear Feet)	12' Cross Walk & Stop Line (Linear Feet)	Straight Arrows (Each)	Double Arrows (Each)	Curved Signs (Each))	"Only" Signs (Each)
Amesbury	35,000	0	66,000	0	0	0	0	0
Boxford	180,000	340,000	0	0	0	0	0	0
Methuen	50,000	1,0000	10,000	2,000	10	10	10	10
Newburyport	2,000	8,0000	4,000	20,000	15	15	15	15
North Andover	4,000	500	8,000	500	10	10	10	10
Rockport	35,000	0	66,000	0	0	0	0	0
	306,000	349,500	154,000	22,500	35	35	35	35

Appendix B - Estimated Quantities by Municipality
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Thermoplastic Markings

Pavement Marking			Thermoplastic Marking Removal							
	Left & Right Arrow - Straight Arrow (Each)	Left & Right Arrow - Combined Arrow (Each)	Left & Right Arrow - Legend (Each)	Left Arrow (Each)	Right Arrow (Each)	Center Arrow (Each)		4" Single Line (Linear Feet)	Legends (Each)	Remove Pavement Markings (Sq. Yds)
Methuen	10	10	10	10	10	10		500	10	0
North Andover	5	5	0	5	5	5		0	0	250
	15	15	10	15	15	15		500	10	250

Construction Services: Patching Sidewalks and Streets

	Amesbury	Georgetown	Hamilton	North Andover	Topsfield	Total
Strip/Dispose Existing Materials (Sq. Yds)	1,200	0	0	120	0	1,320
Furnish/Install Gravel Subbase (Cubic Yds)	3,000	0	0	0	0	3,000
Install Cement Concrete Sidewalks (Sq. Yds)	2,000	0	0	120	0	2,120
Install Cement Concrete Wheelchair Ramps & Driveway Crossings (Sq. Yds)	2,000	0	0	120	100	2,220
Furnish and Install Bituminous Concrete Curbs & Berms (Linear Ft)	500	0	0	500	11,000	12,000
Remove/Stack Granite Curb (Linear Ft)	2,000	0	0	500	0	2,500
Remove/Reset Straight Granite Curb (Linear Ft)	1,000	0	0	1,000	0	2,000
Furnish/Install Straight Granite Curb (Linear Ft)	2,000	0	0	1,000	2,000	5,000
Remove/Reset Curved Granite Curb (Linear Ft)	500	0	0	1,000	0	1,500
Furnish/Install Curved Granite Curb (Linear Ft)	500	0	0	500	2,000	3,000
3-3.5 Inch Bituminous Concrete Sidewalk (Ton)	110	0	0	250	0	360
Hot Mix Asphalt Intermediate & Top (Ton)	0	0	0	250	0	250

Appendix B - Estimated Quantities by Municipality

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Construction Services: Street and Sidewalk Resurfacing

	Amesbury	Georgetown	Hamilton	North Andover	Topsfield	Total
Asphalt Excavation Cold Planing (Sq. Yds)	8,000	0	12,000	3,000	0	23,000
Base Pavement Repairs (Leveling Course) (Ton)	600	0	500	150	0	1,250
Hot Mix Asphalt Intermediate & Top (Ton)	1,200	2,000	1,500	700	0	5,400
Strip/Dispose Existing Material (Sq. Yds)	8,000	0	2,500	1,500	0	12,000
Furnish/Install Gravel Subbase (Cubic. Yds)	0	0	100	1,000	0	1,150
Install Cement Concrete Sidewalks (Sq. Yds)	0	0	0	1,500	0	1,500
Install Monolithic Bituminous Concrete Curb Sidewalk (Sq. Yds)	0	0	0	500	0	500
Install Cement Concrete Wheelchair Ramps & Driveway Crossings (Sq. Yds)	0	0	100	500	0	600
Furnish and Install Bituminous Concrete Curbs & Berms (Linear Ft)	0	0	100	500	0	600
Remove/Stack Granite Curb (Linear Ft)	0	0	0	500	0	500
Remove/Reset Straight Granite Curb (Linear Ft)	0	0	100	500	0	600
Furnish and Install Straight Granite Curb (Linear Ft)	0	0	100	500	2,000	2,600
Remove/Reset Curved Granite Curb (Linear Ft)	0	0	0	500	0	500
Furnish/Install Curved Granite Curb (Linear Ft)	0	0	0	500	2,000	2,500
3-3.5 Inch Bituminous Concrete Sidewalk (Ton)		500	500	400	0	1,400
3-3.5 Inch Bituminous Concrete Pavement (Ton)	120	0	100	400	0	620
Remove & Reset Castings Each)	15	0	10	25	0	50
Utility Structure Reconstructed (Vertical Ft)		0	30	200	0	230
Gate Box Adjusted (Each)	15	0	0	30	0	45
Mobilization (Lump Sum)		0	0	5	0	5
Furnish and Install Loam and Seed (Sq. Yd)	115	0	500	500	0	1,115
Erosion and Sediment Barrier (Linear Ft)	0	0	0	500	0	500
Saw Cutting (Linear Ft)	0	0	0	1,000	4,500	5,000
Gravel to back up Pavement Edges (Cubic Yds)	180	0	0	100	0	280

Appendix C – Bid Pricing Sheet

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Service	Unit of Measure	Estimated Quantity	Unit Price with Disposal	Unit Price without Disposal
Catch Basin				
Catch Basin: Clam Shell Cleaning	# of Catch Basins	14,722		
Catch Basin: Vacuum Truck Cleaning	# of Catch Basins	1,591		
Street Sweeping	Curb Miles	1,231		
Random Crack Sealing	Unit of Measure	Estimated Quantity	Unit Price	Total Cost
Random Crack Sealing – Process A	Linear Feet	46,000		
Random Crack Sealing – Process A	Gallons	1,700		
Random Crack Sealing – Process B	Linear Feet	41,000		
Random Crack Sealing – Process B	Day Rate	67		
Random Crack Sealing – Process B	Gallons	1,000		
Guardrails	Unit of Measure	Estimated Quantity	Unit Price	Total Cost
Single Face Galvanized Guard Rail	Linear Feet	3,279		
Steel W-Beam Highway Guard Rail (Single Faced/Corten Steel)	Linear Feet	1,500		
Steel Beam Highway Guard Rail Flared End Treatment (Corten Steel)	Linear Feet	46		
Bituminous Concrete	Unit of Measure	Estimated Quantity	Unit Price	Total Cost
Type I Bituminous Concrete (picked up at plant)	Ton	3,400		
Pavement Markings				
Pavement Markings: Water Based	Unit of Measure	Estimated Quantity	Unit Price	Total Cost
4" White Line	Linear Feet	5,000		
4" Yellow Line	Linear Feet	18,000		
12" Painted White Line (Cross Walks)	Linear Feet	89,800		
Painted Bike Route Symbol Marking	Each	20		
4" White Fog Line	Linear Feet	1,121,400		
4" Double Yellow	Linear Feet	1,056,610		
4" Single Line	Linear Feet	44,500		
12" Cross Walk & Stop Line	Linear Feet	38,500		
4" Yellow Center Line	Linear Feet	7,000		

Appendix C – Bid Pricing Sheet
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Pavement Markings: Chlorinated Rubber	Unit of Measure	Estimated Quantity	Unit Price	Total Cost
4" Double Yellow Line	Linear Feet	166,250		
4" Single White Line	Linear Feet	342,500		
4" Single Yellow Line	Linear Feet	5,000		
Straight Arrows	Each	10		
Double Arrows	Each	10		
Curved Arrows	Each	19		
"Only" Sign	Each	19		
Pavement Markings: Thermoplastic	Unit of Measure	Estimated Quantity	Unit Price	Total Cost
4" Double Yellow Line	Linear Feet	306,000		
12" Yellow Line	Linear Feet	349,500		
4" Single Yellow Line	Linear Feet	154,000		
12" Cross Walk & Stop Line	Linear Feet	22,500		
Straight Arrows	Each	35		
Double Arrows	Each	35		
Curved Arrows	Each	35		
"Only" Sign	Each	35		
Left & Right Arrow – Straight Arrow	Each	15		
Left Arrow	Each	15		
Right Arrow	Each	15		
Center Arrow	Each	15		
Thermoplastic Marking Removal	Unit of Measure	Estimated Quantity	Unit Price	Total Cost
4" Single Line	Linear Feet	500		
Legends	Each	10		
Remove Pavement Markings	Sq. Yds.	250		
Debris Disposal	Unit of Measure	Estimated Quantity	Unit Price	Total Cost
Catch Basin Debris	Tons	5,744		
Street Sweeping Debris	Tons	7,354		
Leaf Disposal	Cubic Feet	140,000		

Appendix C – Bid Pricing Sheet

Page 3 of 4

Construction Services: Patching Sidewalks and Streets	Unit of Measure	Estimated Quantity	Unit Price	Total Cost
Strip/Dispose Existing Materials	Sq. Yds	1,320		
Furnish/Dispose Gravel Subbase	Cubic Yds	3,000		
Install Cement Concrete Sidewalks	Sq. Yds	2,120		
Install Cement Concrete Ramps & Crossings	Sq. Yds	2,220		
Bituminous Concrete Curbs & Berms	Linear Ft	12,000		
Remove/Stack Granite Curb	Linear Ft	2,500		
Remove/Reset Straight Granite Curb	Linear Ft	2,000		
Furnish/Install Straight Granite Curb (Linear Ft	5,000		
Remove/Reset Curved Granite Curb	Linear Ft	1,500		
Furnish/Install Curved Granite Curb	Linear Ft	3,000		
3-3.5 Inch Bituminous Concrete Sidewalk	Ton	360		
Hot Mix Asphalt Intermediate & Top	Ton	250		

Construction Services: Street and Sidewalk Resurfacing	Unit of Measure	Estimated Quantity	Unit Price	Total Cost
Asphalt Excavation Cold Planing	Sq. Yds	23,000		
Base Pavement Repairs (Leveling Course)	Ton	1,250		
Hot Mix Asphalt Intermediate & Top	Ton	5,400		
Strip/Dispose Existing Material	Sq. Yds	12,000		
Furnish/Install Gravel Subbase	Cubic Yds	1,100		
Install Cement Concrete Sidewalks	Sq. Yds	1,500		
Monolithic Bituminous Concrete Curb Sidewalk	Sq. Yds	500		
Cement Concrete Ramps & Crossings	Sq. Yds	600		
Bituminous Concrete Curbs & Berms	Linear Ft	600		
Remove/Stack Granite Curb	Linear Ft	500		
Remove/Reset Straight Granite Curb	Linear Ft	600		
Furnish and Install Straight Granite Curb	Linear Ft	2,600		
Remove/Reset Curved Granite Curb	Linear Ft	500		

Appendix C – Bid Pricing Sheet
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Furnish/Install Curved Granite Curb	Linear Ft	2,500		
3-3.5 Inch Bituminous Concrete Sidewalk	Ton	1,400		
3-3.5 Inch Bituminous Concrete Pavement	Ton	620		
Remove & Reset Castings	Each	50		
Utility Structure Reconstructed	Vertical Ft	230		
Gate Box Adjusted	Each	45		
Mobilization	Lump Sum	5		
Furnish and Install Loam and Seed	Sq. Yds	1,115		
Erosion and Sediment Barrier	Linear Ft	500		
Saw Cutting	Linear Ft	5,000		
Gravel to back up Pavement Edges	Cubic Yds	280		

This IFB includes addenda numbered _____

Bidder _____

Address _____

Signature of Company Official _____

Print Name of Company Official _____

Phone _____

E-Mail _____

Date _____

Appendix D
Non-Collusion Form & Tax Compliance Form

I. CERTIFICATE OF NON-COLLUSION

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee club, or other organization, entity, or group or individuals.

Signature of individual submitting bid or proposal

Name of Business

II. TAX COMPLIANCE CERTIFICATION

Pursuant to M.G.L. Chapter 62C, Sec. 49A, I certify under the penalties of perjury that, to the best of my knowledge and belief, I am in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

Signature of individual submitting bid or proposal

Name of Business

Appendix E References

Provide the names of three (3) municipalities that you have provided Road Services in the last three (3) years.

Company	Contact	Address	Phone Number

Appendix F
Massachusetts Prevailing Wages

The wage schedules for this IFB are attached.

Municipality	Prevailing Wage Request Number: Highway Services	Prevailing Wage Number: Street Sweeping	Prevailing Wage Number: Catch Basins	Prevailing Wage Number: Debris
Amesbury	20250317-074-1	TBD	20250314-022-1	20250314-025-1
Boxford	20250317-074-2	20250325-069-2	20250314-022-2	
Georgetown	20250317-074-3	20250130-045	20250314-022-3	
Groveland	20250317-074-4	20250325-069-4	20250314-022-4	20250314-025-2
Hamilton	20250317-074-5			
Ipswich	20250317-074-6	20250325-069-5	20250314-022-5	20250314-025-3
Merrimac	20250317-074-7		20250314-022-6	
Methuen	20250317-074-8	TBD	20250314-022-7	20250314-025-4
Newbury	20250317-074-9		20250314-022-8	20250314-025-5
Newburyport	20250317-074-10		20250314-022-9	
North Andover	20250317-074-11	20250325-069-7	20250314-022-10	
Rockport	20250317-074-12			
Rowley	20250317-074-13	20250325-069-8	20250314-022-11	
Salisbury	20250317-074-14		20250314-022-12	
Topsfield	20250317-074-15	20250325-069-9		20250314-025-6
West Newbury	20250317-074-16	20250320-069-10	20250314-022-13	20250314-025-6