

CITY OF NEWPORT, RHODE ISLAND
PURCHASING DIVISION
NOTICE TO BIDDERS

SEALED BID/PROPOSAL
BID #2026-PS-018

Sealed Bids/Proposals are being requested to provide **Concrete Roadway Improvements 2026, BID #2026-PS-018**, in accordance with all terms and specifications contained herein, will be received in the Purchasing Office, City Hall, 43 Broadway, Newport, RI, until:

Eleven (11:00) A.M., Local Time May 26, 2026
at which time they will be publicly opened and read.

There will be a **Non-Mandatory Pre-Bid** conference for this bid package at **11:00 AM on May 18, 2026**, in the **GROUND**-floor conference room, City Hall, 43 Broadway. For more information about the project or its intent please contact **William Boardman, PE, City Engineer**, at wboardman@cityofnewport.com (preferred), or **(401) 845-5842**.

All Questions shall be provided by **Noon on May 21, 2026**.

The Contractor shall submit two copies (one of these copies shall satisfy R.I. Gen. Law §37-2-18(j), referenced below) of the Bids/Proposals in sealed envelopes addressed to the Purchasing Office, City Hall, 43 Broadway, Newport, R.I. 02840, and must be plainly marked in the lower left-hand corner, **"Concrete Roadway Improvements 2026, BID #2026-PS-018"**. The City requests that each bidder provide one (1) electronic copy on a CD (or flash drive) with your hardcopy submittal.

We encourage all bidders to read the entire bid package to fully understand the scope of the project and the requirements set forth by the City. Each Bidder must submit, at a minimum, the completed proposal pages; including the acknowledgement of addendum, unit bid prices, questionnaire, corporate information page and a certified check or proposal bond in the amount of five percent (5%) of the total bid amount, satisfactory to and payable to the order of the City of Newport, RI. **Failure to submit all required documentation may result in disqualification of the bid.**

Per R.I. Gen. Laws §37-2-18(j), Effective January 1, 2013, any bid or proposal that exceeds Five Hundred Thousand (\$500,000) dollars must include a copy to be available for public inspection upon the opening of the bids. **Any bid or proposal in excess of Five Hundred Thousand (\$500,000) dollars which does not include a copy for public inspection shall be deemed to be non-responsive.**

Note: Bid Tabulations will be posted on <https://www.bidnetdirect.com/> generally within twenty-four (24) hours of the closing date.

It is the bidder's responsibility to see that the bid is delivered within the time and at the place prescribed. Bids received prior to the time of opening will be securely kept, unopened. Bids may be withdrawn on written request (on the letterhead of the bidder and signed by the person signing the bid) which must be received prior to the time fixed for opening. Bids may be modified in the same manner. No bid or modification thereof received after the time set for opening will be

considered, even if it is determined by the City that such non-arrival before the time set for opening was due solely to the delay in the mails for which the bidder is not responsible.

Any bidder taking exception to, or questioning any of the provisions, procedures, conditions or specifications herein stated should make such exceptions known to the undersigned, in writing, not less than five (5) days before the bid opening.

Any change or interpretation made as a result thereof will be published in an addendum and mailed to all prospective bidders. Should a bidder still not be satisfied, he may, in the bid, set out and stipulate the exception, with enough explanation to be understood by the City and, within the stipulation, the INCREASE or DECREASE in the bid price because of the exception shall be stated. The City may, at its discretion, accept or reject any or all exceptions.

Federal Excise Taxes and/or Rhode Island Use Taxes are not to be included in the bid. The City will execute exemption certificates if furnished by the bidder when submitting his invoice.

The bidder will state the approximate delivery date in the bid, or the time required to make delivery after notification of award.

The right is reserved, as the interest of the City may require, to reject any or all bid proposals, to waive any technical defect or informality in bids received, and to accept or reject any bid or portion thereof. The City of Newport reserves the right to reject any or all proposals or to accept any proposals deemed to be for the best interest of the City.

The technical point of contact for this package is **William Boardman, PE, City Engineer, at wboardman@cityofnewport.com (preferred), or (401) 845-5842.**

Note: All bidders are responsible for insuring that all **addenda** have been received and incorporated into the original bid package.

Prevailing Wage - Any construction over \$1,000.00 is required by state law to pay state prevailing wage. A current copy of the most recent Prevailing Wage scale is obtained from the State of Rhode Island, Department of Labor and Training, Division of Professional Regulation or at the Davis-Bacon Wage Determination link <https://sam.gov/content/wage-determinations>. It is also available by request for each construction bid document. All vendors supplying construction services must submit certified payrolls from any contractor and sub-contractor who work on the project showing the corresponding classification and rate of pay. Wage determinations are updated on the date the contract is enacted and every July 1st, at which time the contractor shall update its wages accordingly. No payments are made until all payrolls are up to date, and correct. Certified Payrolls shall be submitted on a form in accordance with the Rhode Island Department of Labor and Training – Division of Workforce Regulations & Safety.

Prevailing Wages also applies to ALL other (Non-Construction) Requirements. If the City's requirement is sealed bid, the DAVIS-BACON Wage Determination applies.

Buy American Act (1933- Sections 10 (a-n-d) of Title 41) and **Buy American Act Provision** (1982 - Section 5323(j) of Title 49) apply to this requirement, and therefore, documentation may be requested in support.

CITY OF NEWPORT, RHODE ISLAND
Kevin Cortes, Purchasing Agent

GENERAL CONDITIONS

1. The City reserves the right to reject any and all proposals, to waive any informality, to request interviews of Service Providers prior to award and to select and negotiate the Service Provider services in the best interest of the City.
2. The Service Provider shall guarantee to perform the services offered and the total price of the proposal for a period of not less than 60 days from the deadline for submission of proposals.
3. The City reserves the right to accept all or part of any proposal, and to negotiate a contract for services and cost with the selected Service Provider.
4. The Service Provider shall provide all necessary personnel, materials and equipment to perform and complete all work under this proposal.
5. All original documents and drawings shall become the property of the City after completion of the Service Provider's work.
6. The City of Newport intends to recommend award of a contract to the City Council for the requested services within two (2) weeks of receipt of the proposals. The Service Provider shall be prepared to commence work immediately upon execution of a contract with the City.
7. Awards will not be made to any person, firm or company in default of a contract with the City, the State of Rhode Island or the Federal Government.
8. The Service Provider hereby agrees that it will assign to the City of Newport all cause of action that it may acquire under the anti-trust laws of Rhode Island and the United States as the result of conspiracies, combination of contracts in restraint of trade which affect the price of goods or services obtained by the City under this contract if so requested by the City of Newport.
9. Unless otherwise stated, invoices are to be submitted (to Accounting Office) in duplicate upon delivery of service to the City. The invoice must include an itemization of all services provided, including unit list price, net price, extensions and total amount(s) due.
10. Unless otherwise stated, payment will be made within thirty (30) days of the completion of the service, in an acceptable fashion, to the City and receipt of invoice, whichever is later.
11. City is exempt from all sales and Federal excise taxes. Our exemption number is 05-6000-260. Please bill less these taxes.
12. The City of Newport's obligations to pay any amount due under a contract are contingent upon availability and continuation of funds for the purpose. The City may terminate the contract, for non-appropriation of funds, and all payment obligations of the City cease on the date of termination.
13. None of the services covered by the contract shall be assigned in full or in part, or sub-contracted without the prior approval of the City.
14. This contract will be for the services described above; however, this agreement should not be considered exclusive. As deemed necessary, the City reserves the right to obtain these services from any other vendor.
15. Unless otherwise specified all costs listed are firm for the term of the contract.
16. Neither party shall be liable for any inability to perform its' obligations under any subsequent agreement due to war, riot, insurrection, civil commotion, fire, flood, earthquake, storm or other act of God.
17. Notification of the parties shall be considered to have been constructively received when it is mailed via the United States Postal Service or delivered in hand to the parties as stated in the contract.
18. If any of the GENERAL TERMS AND CONDITIONS is held to be invalid or unenforceable, it will be construed to have the broadest interpretation which would make it valid and enforceable under such holding. Invalidity or unenforceability of a term or condition will not affect any of the other GENERAL TERMS AND CONDITIONS.

19. Each and every provision and clause required by law to be inserted in any subsequent Contract shall be deemed to be inserted herein and the Contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the Contract shall forthwith be physically amended to make such insertion or correction.
20. Proposal shall also mean quotation, bid, offer, qualification/experience statement, and services. Proposers shall also mean vendors, offerors, bidders, or any person or firm responding to a Request for Proposals.
21. All contracts entered into by the City of Newport shall be governed by the Laws of the State of Rhode Island. Any disputes shall be resolved within the venue of the State of Rhode Island and Newport County.
22. The Service Provider selected for this project shall procure and maintain the following types of insurance in accordance with Paragraph 8 of the Information for Bidders.

INFORMATION FOR BIDDERS

1. PROPOSALS RECEIVED

The City of Newport, Rhode Island, through its Purchasing Division (hereinafter called the Owner), will receive proposals for **Concrete Roadway Improvements 2026, BID #2026-PS-018**, and appurtenant works at the time and place and under the conditions stated in the Notice to Bidders.

2. PROPOSAL

Each proposal must be made upon forms contained herein. The proposal, as submitted, shall not be separated from the volume containing the other contract documents that are bound with it. The blank spaces in the proposal must be filled in correctly where indicated for each and every item, and the bidder must state, both in words and in numerals, written or printed in ink, the prices for which he proposes to do each item of the work contemplated. In case of discrepancy between the words and the numerals, the words shall govern. Ditto marks are not considered writing or printing and shall not be used. The bidder shall sign his proposal correctly. If the proposal is made by an individual, his name and post office address must be shown. If made by a firm, partnership, or corporation, the proposal must be signed by an official of the firm, partnership, or corporation authorized to sign contracts, and must show also the post office address of the firm, partnership, or corporation.

3. IRREGULAR PROPOSALS

Proposals may be rejected if they show any omissions, alterations of form, additions not called for, conditional or alternate bids, or irregularities of any kind. Bids which are considered to be unbalanced or unreasonable as to the amount bid for any lump sum or unit price item may be rejected.

4. COMPETENCY OF BIDDERS

Bidders shall be experienced in the kind of work to be performed and shall have the necessary equipment therefore and sufficient capital to properly execute the work within the time allowed. Bids received from bidders who previously failed to complete contracts within the time required, or who have previously performed similar work in an unsatisfactory manner, may be rejected. A bid may be rejected if the bidder cannot show that he has the necessary plant to commence the work at the time prescribed and thereafter to prosecute and complete the work at the rate or within the time specified. It also may be rejected if he is already obligated for the performance of other work that would delay the commencement, prosecution or completion of the work. The City may make such investigations as deemed necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the City all such information and data for this purpose as the City may request.

5. CERTIFIED CHECK OR PROPOSAL BOND

Each bid must be accompanied by a certified check or proposal bond in the sum of five per cent (5%) of the amount of the bid, satisfactory to and payable to the order of the City. The proposal bond (or bonds) and the surety shall be licensed or have surplus line approval to do business in the state of Rhode Island. Such checks or bonds will be returned to all except the three lowest bidders within three (3) banking days after the formal opening of bids. The checks or bonds will be returned to the three lowest bidders within

five (5) days after the execution of the Contract and the furnishing of the required security by the successful bidder.

6. PERFORMANCE AND PAYMENT BOND

The successful bidder, at the time of the execution of the contract, must deposit with the City a surety company bond (or bonds) for the satisfactory completion of the work and the payment of all debts pertaining to materials and labor used or employed in the execution of the contract, in an amount equal to the amount of the contract award. The form of the bond (or bonds) and the surety shall be licensed or have surplus line approval to do business in the State of Rhode Island.

Prior to payment of the final estimate, the Contractor shall furnish a certificate from his surety stating that the performance bond covers the one-year defective workmanship and materials guarantee period.

7. EXECUTION OF CONTRACT

The party to whom the Contract is awarded or his authorized representative will be required to execute the Contract within ten (10) days (not including Sunday) from the Notice to Proceed and, in case of his failure or neglect so to do, the City may, at its option, determine that the bidder has abandoned the Contract, and thereupon the proposal and acceptance shall be null and void, and the security accompanying the proposal shall be forfeited to the City.

8. CONTRACTOR'S INSURANCE

The Contractor shall secure and maintain such insurance from an insurance company authorized to write casualty insurance in the State of Rhode Island and with an AM rating of A or better as will protect himself, his sub-contractors, and the City from claims which may include for bodily injury, death or property damage which may arise from operations under this contract. The Contractor shall not commence work under this contract until he has obtained all insurance required under this section and until he shall have filed the certificate of insurance or the certified copy of the insurance policy with the City. Each insurance policy shall contain a clause providing that it shall not be canceled by the insurance company without ten (10) days written notice to the City of intention to cancel. The following insurance shall be secured and maintained in amounts not less than indicated:

(a) Worker's Compensation and Employers' Liability Insurance shall be secured and maintained as required by the Laws of the State of Rhode Island.

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|--|-------------|
| 1. Bodily Injury or death by accident each accident: | \$1,000,000 |
| 2. Bodily Injury by disease, policy limit: | \$1,000,000 |
| 3. Bodily Injury by disease, each employee: | \$1,000,000 |

(b) General Liability in an amount of \$1,000,000 per occurrence and \$2,000,000 annual aggregate limit with a property damage limit of \$1,000,000

1. The City of Newport is to be listed as an Additional Insured.
2. The Contractors coverage is to include ongoing and completed operations and is to be primary and non-contributory to any other collectable insurance.
3. The Contractors insurance is to include a waiver of subrogation in favor of the City of Newport.

(c) Automobile and Truck Liability, Bodily Injury and Property Damage, including sudden and accidental pollution coverage:

1. Written to include Owned, Hired, and Non-owned autos with a combined single limit of \$1,000,000.

(d) Contractor Professional Liability Insurance: \$2,000,000 per occurrence and in the annual aggregate

(e) Contractor's Pollution coverage: \$1,000,000 (if applicable)

(f) Commercial umbrella or excess liability policy, following form in the amount of \$5,000,000

(g) Cyber Insurance coverage: \$2,000,000 (if applicable)

If the Contractor maintains broader coverage or higher limits, then the minimum limit shown above shall not limit the coverage available. The City shall be entitled to the coverage maintained by the Contractor.

9. RESPONSIBILITY OF CONTRACTOR

Attention is directed here particularly to the provisions of the Contract and Specifications whereby the Contractor shall be responsible for any loss or damage that may happen to the work or any part thereof during its progress; and also whereby the Contractor shall make good any defects or faults that may occur within one (1) year after its completion and acceptance. He shall indemnify and save harmless the City from any damages or costs to which it may be put by reason of injury to the person or property of another resulting from negligence or carelessness in the performance of the work under this Contract.

10. FAMILIARITY WITH THE WORK

Bidders are required to carefully examine all Contract drawings and specifications and to make a thorough investigation of conditions at the location of the proposed work. It is the obligation of the bidder to ascertain for himself all the facts concerning conditions to be found at the location of the project, including all physical characteristics above, on and below the surface of the ground, to consider fully these and all other matters which can, in any way, affect the work under this Contract and to make necessary investigations relating thereto, and he agrees to this responsibility with respect to ascertaining for the Contractor such facts concerning physical characteristics at the site of the project. The Contractor agrees that he will make no claim for, and has no right to, additional payment or extension of time for completion of the work or any other concession because of any misinterpretation or misunderstanding on his part of this Contract or because of any failure on his part to fully acquaint himself with all conditions relating to the work.

11. INTERPRETATIONS

If any person contemplating submitting bids for the proposed work is in doubt as to the true meaning of any part of these proposed Contract documents, he may submit to the City a written request for an interpretation thereof. Any interpretation of such documents will be made only by addenda duly issued and a copy of each addendum will be mailed or delivered to each person receiving a set of said documents. The City will not be responsible

for any other explanations or interpretations of such documents that anyone presumes to make on behalf of the City before expiration of the time set for the receipt of bids.

12. RIGHT TO REJECT

The City reserves the right to reject any or all proposals or to accept any bid deemed to be for its best interest.

13. WITHDRAWAL OF PROPOSALS

Bids may be withdrawn on written request (on the letterhead of the bidder and signed by the person signing the bid) which must be received prior to the time fixed for opening. Bids may be modified in the same manner.

14. ESTIMATE OF WORK

For bidding purposes, the work has been subdivided into the items identified within the proposal pages of this document. The quantities provided for the items are to be considered as approximate and are given solely for comparison of bids. The City does not expressly or by implication agree that the actual quantity shown for any item will correspond therewith and it reserves the right to increase or decrease the amount of any class or portion of the work as may be deemed necessary by the Director of Public Services.

15. TIME FOR COMPLETING WORK

The attention of bidders is especially directed to the time for completion of work under this Contract: **June 30, 2027.**

16. TAXES

The bidders' attention is directed to the fact that certain taxes, including Federal excise and/or Rhode Island Use Taxes are not applicable to City work. The City will execute exemption certificates for the materials and equipment used in the work.

17. WAGES

The attention of bidders is called to the requirements for compliance with the applicable provisions of Rhode Island General Laws, Chapter 37-12 and 37-13. The Department of Labor determines the customary and prevailing rate of wages paid to craftsmen, teamsters, and laborers in construction of public works by the State, and by Cities, towns, and by persons contracting therewith for such construction. The latest general wage decision as determined by State Law at the time of this project shall be implemented by the Contractor for this project. The Contractor is responsible for complying with all wage laws. Attached are sections 37-13-5, 37-13-6, and 37-13-7 of the General Laws of Rhode Island as required to be inserted by Section 37-13-9. Further information may be obtained from the Office of the Department of Labor, 220 Elmwood Avenue, Providence, Rhode Island.

18. ENVIRONMENTAL PERMIT

The City is in the process of obtaining a permit for the work through the Coastal Resource Management Council (CRMC), United States Army Corps of Engineers (USACE), and the Rhode Island Department of Environmental Management (RIDEM). The City reserves the right to cancel the bid or delay the start of, and subsequent completion of, the work pending the outcome of the permit application.

SPECIAL PROVISIONS

Concrete Roadway Improvements 2026, BID #2026-PS-018

WORK SUMMARY

The Contractor shall furnish all labor, materials, tools and equipment necessary to for permanently restoring the specified roadways and to perform the work of these Contract Documents and all included Items, their associated Specifications and Details under the direction of the City. Construction items are identified within the City of Newport Standard Specifications for Construction within City Right-of-Way (latest edition with all latest revisions and amendments), the Rhode Island Department of Transportation's (RIDOT) Rhode Island Standard Specifications for Road and Bridge Construction (latest edition with all latest revisions and amendments), and the Department of Justice American's with Disabilities Act Standards for Accessible Design (latest edition with all latest revisions and amendments All terms and prices shall remain in effect throughout the term of Agreement.

A small quantity of work has been identified for "FURNISH, INSTALL, AND SEAL INNOVATIVE REPAIR" methods and materials. Contractor shall work with manufacturers to identify appropriate materials, means, and methods to make a high-quality repairs under the direct supervision of the manufacturer's representative. The contractor shall assess products from manufacturers and submit for approval by the Engineer those product(s) selected for installation (e.g., SikaTop-111 Plus, Sikacrete-421 CI Rapid, etc.). Specifications for FURNISH, INSTALL, AND SEAL INNOVATIVE REPAIR shall follow Specification 3.12, FURNISH, INSTALL, AND SEAL FAST SETTING CONCRETE PAVEMENT, except for MATERIALS where the materials will be substituted for the approved innovative material(s).

Items of work and approximate quantities included in this contract can be found in the Proposal Pages of this document.

NOTE: The quantities shown in the Proposal Pages are to be considered as approximate and are given solely for comparison of bids. The City does not expressly, or by implication, agree that the actual quantity shown for any item will correspond therewith and it reserves the right to increase or decrease the amount of any class or portion of the work as may be deemed necessary by the Director of Public Services.

SUBSTANTIAL COMPLETION DATE OF PROJECT: November 20, 2026

LIST OF STREETS

Bellevue Avenue

TRAFFIC CONTROL

The Contractor shall take special care during construction to maintain and keep the associated and adjacent roadways passable at the end of each day during construction and at all times for emergency vehicles. Sidewalks shall be kept safe and passable at the end of each day to the greatest extent feasible. All driveways must be accessible at the end of each day.

Traffic shall be adequately controlled by the Contractor; however, as requested by the Contractor, the City Engineer shall approve in writing the need and schedule for all police details throughout the project. Police details shall be paid for by the City. Note that the **cost of traffic control devices** (e.g., construction signage) is included in the cost of the total construction. The City will **not make a separate payment** for this item.

Flagger Traffic Control shall be paid prevailing wage with no additional mark up to the Contractor should Police Traffic Control not be available.

The Contractor will be required to conform to the City's Standards and Specifications, Rhode Island Department of Transportation specifications and standards, Manual of Uniform Traffic Control Devices (MUTCD), State law, and City ordinances. The Contractor will be required to maintain at least one lane of travel at all times unless a proper detour plan is submitted and approved by the City Engineer and Newport Police Department. Contractor shall allow local access to homes and businesses during construction operations with minimal interruptions.

The Contractor will also post construction signs, barriers, and channelization devices as required and in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD).

BID ITEMS

This project includes the reconstruction of roadway pavement and sidewalks. The work will include, but not be limited to, the following: removal of pavement, bituminous concrete paving, curb construction, sidewalk construction, line striping, traffic signage, traffic control, line striping, and other miscellaneous items of work.

BID PREPARATION

Bidding shall be done by unit price. The total payment made to the contractor shall equal the sum of each unit price times the quantities actually used. Be advised that no other payments will be made to the contractor. The bid items listed shall include all other work which is not listed but which must be done in order to complete the project in its entirety.

Items of work and approximate quantities included in this contract can be found in the Proposal Pages of this document.

TITLE 37
Public Property and Works

CHAPTER 37-13

Labor and Payment of Debts by Contractors

SECTION 37-13-5

§ 37-13-5 Payment for trucking or materials furnished – Withholding of sums due. – A contractor or subcontractor on public works authorized by a proper authority shall pay any obligation or charge for trucking and material which have been furnished for the use of the contractor or subcontractor, in connection with the public works being performed by him or her, within one hundred eighty (180) days after the obligation or charge is incurred or the trucking service has been performed or the material has been delivered to the site of the work, whichever is later. When it is brought to the notice of the proper authority in a city or town, or the proper authority in the state having supervision of the contract, that the obligation or charge has not been paid by the contractor or subcontractor, the proper authority may deduct and hold for a period not exceeding sixty (60) days, from sums of money due to the contractor or subcontractor, the equivalent amount of such sums certified by a trucker or material man creditor as due him or her, as provided in this section, and which the proper authority determines is reasonable for trucking performed or materials furnished for the public works.

SECTION 37-13-6

§ 37-13-6 Ascertainment of prevailing rate of wages and other payments – Specification of rate in call for bids and in contract. – Before awarding any contract for public works to be done, the proper authority shall ascertain from the director of labor and training the general prevailing rate of the regular, holiday, and overtime wages paid and the general prevailing payments on behalf of employees only, to lawful welfare, pension, vacation, apprentice training, and educational funds (payments to the funds must constitute an ordinary business expense deduction for federal income tax purposes by contractors) in the city, town, village, or other appropriate political subdivision of the state in which the work is to be performed, for each craft, mechanic, teamster, laborer, or type of worker needed to execute the contract for the public works. The proper authority shall, also, specify in the call for bids for the contract and in the contract itself the general prevailing rate of the regular, holiday, and overtime wages paid and the payments on behalf of employees only, to the welfare, pension, vacation, apprentice training, and education funds existing in the locality for each craft, mechanic, teamster, laborer, or type of worker needed to execute the contract or work.

SECTION 37-13-7

§ 37-13-7 Specification in contract of amount and frequency of payment of wages. – (a) Every call for bids for every contract in excess of one thousand dollars (\$1,000), to which the state of Rhode Island or any political subdivision thereof is a party, for construction, alteration, and/or repair, including painting and decorating, of public buildings or public works of the state of Rhode Island or any political subdivision thereof, and which requires or involves the employment of employees, shall contain a provision stating the minimum wages to be paid various types of employees which shall be based upon the wages that will be determined by the director of labor and training to be prevailing for the corresponding types of employees employed on projects of a character similar to the contract work in the city, town, village, or other appropriate political subdivision of the state of Rhode Island in which the work is to be performed. Every contract shall contain a stipulation that the contractor or his or her subcontractor shall pay all the employees employed directly upon the site of the work, unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment computed at wage rates not less than those stated in the call for

bids, regardless of any contractual relationships which may be alleged to exist between the contractor or subcontractor and the employees, and that the scale of wages to be paid shall be posted by the contractor in a prominent and easily accessible place at the site of the work; and the further stipulation that there may be withheld from the contractor so much of the accrued payments as may be considered necessary to pay to the employees employed by the contractor, or any subcontractor on the work, the difference between the rates of wages required by the contract to be paid the employees on the work and the rates of wages received by the employees and not refunded to the contractor, subcontractors, or their agents.

(b) The terms "wages", "scale of wages", "wage rates", "minimum wages", and "prevailing wages" shall include:

- (1) The basic hourly rate of pay; and
- (2) The amount of:
 - (A) The rate of contribution made by a contractor or subcontractor to a trustee or to a third person pursuant to a fund, plan, or program; and
 - (B) The rate of costs to the contractor or subcontractor which may be reasonably anticipated in providing benefits to employees pursuant to an enforceable commitment to carry out a financially responsible plan or program which was communicated in writing to the employees affected, for medical or hospital care, pensions on retirement or death, compensation for injuries or illness resulting from occupational activity, or insurance to provide any of the foregoing, for unemployment benefits, life insurance, disability and sickness insurance, or accident insurance, for vacation and holiday pay, for defraying costs of apprenticeship or other similar programs, or for other bona fide fringe benefits, but only where the contractor or subcontractor is not required by other federal, state, or local law to provide any of the benefits; provided, that the obligation of a contractor or subcontractor to make payment in accordance with the prevailing wage determinations of the director of labor and training insofar as this chapter of this title and other acts incorporating this chapter of this title by reference are concerned may be discharged by the making of payments in cash, by the making of contributions of a type referred to in subsection (b)(2), or by the assumption of an enforceable commitment to bear the costs of a plan or program of a type referred to in this subdivision, or any combination thereof, where the aggregate of any payments, contributions, and costs is not less than the rate of pay described in subsection (b)(1) plus the amount referred to in subsection (b)(2).
 - (C) The term "employees", as used in this section, shall include employees of contractors or subcontractors performing jobs on various types of public works including mechanics, apprentices, teamsters, chauffeurs, and laborers engaged in the transportation of gravel or fill to the site of public works, the removal and/or delivery of gravel or fill or ready-mix concrete, sand, bituminous stone, or asphalt flowable fill from the site of public works, or the transportation or removal of gravel or fill from one location to another on the site of public works, and the employment of the employees shall be subject to the provisions of subsections (a) and (b).

SECTION 37-13-9

§ 37-13-9 statutory provisions included in contracts. – A copy of §§ 37-13-5, 37-13-6, and 37-13-7 shall be inserted in all contracts for public works awarded by the state, any city, town, committee, an authorized agency, or awarding authority thereof, or any person or persons in their behalf in which state or municipal funds are used if the contract price is in excess of one thousand dollars (\$1,000).

GENERAL CONDITIONS OF CONTRACT

SEC. 1 - CONTRACT DOCUMENTS

The Contract Documents shall consist of Notice to Bidders, Information for Bidders, Labor and Wage Requirements, Proposal Form, Draft Contract and Agreement, General and Special Conditions of the Contract, Specifications, and Details, including all modifications and addenda thereof incorporated in any of the documents before execution of the Contract.

SEC. 2 - SPECIFICATIONS AND PLANS SUPPLEMENTARY

The specifications and details are intended to supplement each other, and together constitute one complete set of instructions, so that any work exhibited in the one and not in the other shall be executed just as if it had been set forth in both, in order that the work shall be completed in every respect according to the complete design or design as decided and determined by the Engineer. In the event of a conflict, the specifications shall be considered as prevailing. Should the Contractor find that anything is omitted from the specifications, plans or details which are necessary for a clear understanding of the work, or that there is an error in either, the Contractor shall promptly notify the Engineer. From time to time during the progress of the work, the Engineer will furnish supplementary or working drawings as are necessary to show changes or define the work in more detail, and these shall also be considered as contract plans.

SEC. 3 - DEFINITIONS

The word "City" as used herein shall mean the "Party of the First Part," acting through its properly authorized representatives.

The word "Engineer" shall mean the Director of Public Services whether acting directly or through properly authorized agents, inspectors or representatives of the Engineer, acting within the scope of duties entrusted to them.

The word "Contractor" shall mean the "Party of the Second Part," of this Contract, or his or their duly authorized agents.

The word "Contractors Engineer" or "Designer" shall mean the third party engineer authorized by Contractor to perform designer services.

The word "Addendum" shall mean a modification of the Contract documents issued by writing by the Engineer prior to the opening of the bids.

The term "ASTM" shall mean the American Society for Testing Materials.

The term "AWWA" shall mean the American Water Works Association.

The term "ASA" shall mean the American Standards Association.

The term "ANSI" shall mean the American National Standards Institute.

The term "NBFU" shall mean the National Board of Fire Underwriters.

The words "as described," "as required," "as permitted," "as allowed," or phrases of like effect or import as used herein shall mean that the direction, requirement, permission or allowance of the Engineer is intended, and similarly the words "approved," "reasonable," "suitable," "properly," "satisfactory," or words of the like effect or import, unless otherwise particularly

specified herein, shall mean approved, reasonable, suitable, properly or satisfactory in the judgment of the Engineer.

SEC. 4 - ENGINEER'S DECISION

All work under this Contract shall be done to the satisfaction of the Engineer, who shall determine the amount, quality, acceptability and fitness of the several items of work and materials that are to be paid for hereunder. He shall decide also all questions that may arise as to the fulfillment of the terms of the Contract by the Contractor, and as to the intent and purpose of the Contract or specifications. The determination of the Engineer in all such matters shall be final and binding upon the parties thereto.

SEC. 5 - INSPECTION

The City, at its own expense, has appointed and employed the Engineer whose duty it is to observe and inspect, in the City's interest, the materials furnished and the work done as the work progresses in order to insure full and complete compliance with the Contract. It is agreed that the City may also, at its pleasure and at its own expense, appoint and employ such other persons as may be necessary for those purposes. The Engineer and all such other persons referred to shall have unrestricted access to all parts of the work and to other places at and which the preparation of the materials and other parts of the work to be done under this Contract are carried on and conducted and shall be given by the Contractor all facilities and assistance required to carry out their work of observation and inspection.

The Engineer and his authorized representatives and agents shall have free access to Contractor's payrolls, records of personnel, invoices of materials and other data and records.

It is not the function of the Engineer to supervise or direct the manner in which the work to be done under this Contract is carried on or conducted. Nevertheless, the Contractor agrees that any method or procedure, which in the opinion of the Engineer does not achieve the required results or quality of the work specified, shall be discontinued immediately upon the order of the Engineer.

The Engineer shall have the authority to reject any work, or materials, or any part thereof, which does not in his opinion conform to the specifications and Contract, and it, shall be permissible for him to do so at any time during the progress of the work and until its acceptance.

No work shall be done except in the presence of the Engineer or his assistants. No material of any kind shall be used upon the work until it has been inspected and accepted by the Engineer. All materials rejected shall be removed immediately from the work area and not again offered for inspection. Any material or workmanship found at any time to be defective or not of the quality or character required by the specifications shall be remedied at once regardless of previous inspection.

Such inspection shall not relieve the Contractor from any obligation to perform said work strictly in accordance with the specifications and work not so constructed shall be removed and made good by the Contractor at his own expense, and free of all expense to the City whenever so ordered by the City without reference to any previous oversight or error in inspection.

SEC. 6 - OBLIGATION OF CONTRACTOR

The Contractor shall, at his own cost and expense, provide any and all manner of superintendence, insurance, taxes, labor, materials, apparatus, scaffolding, appliances, tools,

machinery, power, transportation and whatever else may be required of every description necessary to do and complete the work, and shall be solely answerable for the same and for the safe, proper and lawful construction, maintenance and use thereof. The Contractor shall cover and protect the work from damage, and make good all injury to the same occurring before the completion of this Contract. The Contractor shall employ only competent men and shall provide an experienced superintendent who shall be present at all times that work is in progress. The Contractor shall also provide experienced foreman on each part of the work. Should the Engineer determine that any of the Contractor's employees is incompetent or irresponsible toward public health and safety or any other reason detrimental to the work he can order the removal of such person or persons from the work and the Contractor shall comply with such order.

The Contractor shall, at his own expense wherever necessary or required, maintain fences, provide watchmen, maintain lights, place additional timber and braces, and take such other precautions as may be necessary to protect life, property, existing utilities and services, and structures, and shall be liable for all damages occasioned in any way by his act or neglect, or that of his agents, employees or workmen. He shall provide access at all times to private property.

SEC. 7 - PATENT RIGHTS

The Contractor shall indemnify and save harmless the City and its officers, agents and representatives from all claims and damages, arising from the infringement or alleged infringement of any Letters Patent or patent rights covering any material, appliance or device used in or upon the work or any part thereof.

All royalties for patents or patent infringement claims that might be involved in the construction or use of the work shall be included in the Contract amount, and the Contractor shall satisfy all demands that may be made at any time for such, and shall be liable for any damages or claims for Patent infringements; and the Contractor shall, at his own expense, defend any and all suits or proceedings that may be instituted against the City for infringement or alleged infringement of any patent or patents involved or alleged to be involved in the work; and in case of an award of damages, the said Contractor shall pay such award.

SEC. 8 - DEFENSE OF SUITS

In case any action at law or suit in equity may or shall be brought against the City or any of its representatives or agents for or on account of the failure, omission or neglect of the Contractor or his sub-contractors or his or their employees or agents to do and perform any of the covenants, acts, matters or things by this Contract undertaken or to be done or performed by the Contractor or his sub-contractors, or his or their employees or agents, or for any injury or damage caused by the negligence or alleged negligence of the Contractor or his sub-contractors, his or their employees or agents, the Contractor shall indemnify and save harmless the City, its representatives, agents and servants and the Engineer of and from all loss, cost, damage, expense, judgment or decrees whatever arising out of such actions or suits as may or shall be damaged as aforesaid.

SEC. 9 - PERMITS, LAWS, AND ORDINANCES

The Contractor shall keep himself fully informed of all existing and current ordinances and regulations and Municipal, County, State or National laws in any way limiting or controlling the actions or operations of those engaged upon the work or affecting the materials supplied to or by them. He shall at all times observe and comply with all such valid and legally binding

ordinances, Laws and regulations and shall protect and indemnify the City and its representatives and agents against any claim or liability arising from or based on any violation of the same. He shall take out and carry appropriate employers' liability insurance and public liability insurance. He shall obtain and pay for all necessary permits and pay all fees required in connection with the Contract.

SEC. 10 - ASSIGNMENT OF CONTRACT

The Contractor shall have no right or power to assign this Contract, in whole or in part, nor to assign any right arising or moneys due or to grow due thereunder, without formal approval of the City.

SEC. 11 - SUBLETTING

No part of the work embraced in this Contract shall be sublet or subcontracted in any way except with the written consent of the City, but this provision shall not apply to the purchase and delivery of materials necessarily manufactured and provided elsewhere.

SEC. 12 - COMPLETION OF WORK BY CITY

If the work to be done under this Contract shall be abandoned by the Contractor, or if this Contract shall be assigned, or the work sublet by him, otherwise than as herein specified, or if at any time the Engineer shall be of the opinion that the performance of the Contract is unnecessarily or unreasonably delayed or that the Contractor is willfully violating any of the conditions or covenants of this Contract, or of the specifications, or is executing the same in bad faith or not in accordance with the terms thereof; or if the work be not fully completed within the time named in this Contract for its completion, or within the time to which the completion of the Contract may be extended by the City, the City may notify the Contractor to discontinue all work, or any part thereof under this Contract, by a written notice to be served upon the Contractor, as herein provided; and the Contractor shall within five (5) days of the service of said notice, discontinue the work, or such part thereof, and the City shall thereupon have the power to contract for the completion of the Contract in the manner prescribed by law, or to place such and so many persons as it may deem advisable, by Contract or otherwise, to work, and complete the work herein described, or such part thereof; to take possession of and use any of the materials, plant, tools, equipment, supplies and property of every kind provided by the Contractor for the purpose of his work and to procure other materials and equipment for the completion of the same, and to charge the expense of said labor and materials to the Contractor. The expense so charged shall be deducted and paid by the City out of such moneys as may be due or may at any time thereafter grow due to the Contractor under and by virtue of this Contract, or any part thereof. And in case such expense shall exceed the amount which would have been payable under the Contract if the same had been completed by the Contractor, the Contractor or his surety shall pay the amount of such excess to the City; and in case such expense shall be less than the amount which would have been payable under this Contract if the same had been completed by the Contractor, the City shall pay such difference to the Contractor.

SEC. 13 - CLAIMS FOR LABOR AND MATERIALS

The Contractor shall indemnify and save harmless the City from all claims for labor done and for materials furnished under this Contract, or any alterations or modifications thereof and shall furnish the City with satisfactory evidence, when called for by it, that all persons who have done work, or furnished materials under the laws of the State, have been fully paid or satisfactorily secured, and in case such evidence is not furnished, an amount necessary or sufficient within the discretion of the City to meet the claims of the persons aforesaid shall be retained, in

addition to any other money due the Contractor under this Contract, until the liabilities aforesaid shall be fully discharged or satisfactorily secured.

SEC. 14 - MODIFICATIONS AND EXTRA WORK

The Contractor in entering into this Contract understands that the City reserves the right to modify the arrangement, character, or size of the work or appurtenances whenever in its opinion it shall deem it necessary or advisable so to do. Minor changes in the work not involving extra cost and not inconsistent with the purpose of the work may be made by verbal order, but no modifications involving substantial extra work or changes shall be made unless ordered in writing by the Engineer. The Contractor shall and will accept such modifications when ordered in writing by the Engineer, and the same shall not vitiate or void this Contract. Any such modifications so made shall not, however, subject the Contractor to increased expense without equitable compensation. If such modifications result in a decrease in the cost of the work involved, an equitable deduction from the Contract price shall be made.

SEC. 15 - PAYMENT FOR EXTRA WORK

The Contractor agrees that he will accept as full compensation for extra work, the unit prices bid, where such are applicable; and for such items as are not properly covered by unit prices, a lump sum agreed upon as reasonable by the Engineer and the Contractor. If an agreement cannot be made on payment for the extra work on a unit price or lump sum basis, the Contractor will accept as full compensation the reasonable cost, as determined by the Engineer, of all necessary labor, including insurance and payroll taxes, equipment rental and materials, plus twenty per cent (20%) which covers superintendence, the use of tools and plant, and other overhead expense and profit. In case the extra work is performed by a previously approved subcontractor, the total allowance that covers superintendence, the use of tools and plant, and other overhead expenses and profit shall be twenty-five per cent (25%) instead of twenty per cent (20%) as stated above.

Equipment rental charges shall be the pro-rated charge actually paid by the Contractor in the case where equipment is rented, except that this rental charge shall not exceed the latest rental rates compiled by the Associated Equipment Distributors. If the equipment is owned by the Contractor, the equipment rental charge shall be pro-rated on the basis of the monthly rates compiled by the Associated Equipment Distributors. All fuel and lubrication costs will be paid for separately.

The Contractor agrees to prosecute such extra work with all reasonable diligence, and to employ thereon competent men. The Contractor shall give the Engineer access to all accounts, bills, payrolls, and vouchers relating to extra work not covered by unit prices, and he agrees that he shall have no claim for compensation for such extra work in the case of items not covered by unit prices unless a statement in writing of the actual cost of the same, fully itemized as to labor and materials, is presented to the engineer before the thirtieth (30th) day of the month following that during which each specific order was complied with by him.

SEC. 16 - CLAIMS FOR UNAUTHORIZED EXTRA WORK

If the Contractor performs work which he considers is not included under any of the items of the Contract and which has not been specifically ordered in writing by the Engineer as extra work, he shall make a claim for extra payment for such work by immediate oral notice followed by written notice within seven (7) days after the occurrence to the Engineer, with detailed cost data to support his claim within thirty (30) days after the said work is performed. Should such

work extend over a period of more than thirty (30) days, he shall submit monthly records of all cost data relating to the claim for extra payment of such work.

SEC. 17 - GUARANTEE

The Contractor guarantees the work done under this Contract, and that the materials furnished by him and used in the construction of the same are free from defects or flaws, and the guarantee is for a term of one (1) year from and after the date upon which the final estimate of the Engineer is formally approved by the party of the first part. It is hereby, however, agreed and understood that this guarantee shall not include any repairs made necessary by any cause or causes other than defective materials furnished by or defective work done by the Contractor.

SEC. 18 - REPAIRS FOR ONE YEAR

The Contractor agrees that he/she will furnish prior to payment of the final estimate, a certificate from his surety stating that the performance bond covers the above one-year guarantee. The Contractor shall make such repairs on the work as may be required by the Contractor's guarantee.

SEC. 19 - RATE OF PROGRESS AND SEQUENCE OF WORK

The Contractor shall, within two (2) calendar days after the date of the pre-construction meeting and before commencing work, submit to the City Engineer for approval a construction schedule showing dates of starting and completion of various parts of the work to be consistent with the sequence and timelines as described herein. No work shall begin until an approved construction schedule is in effect and a Notice to Proceed has been issued by the City. Thenceforth, the rate of progress shall be such that the whole work will be completed and the grounds cleaned up within the Contract time.

The Contractor will proceed with the work at such rate of progress to insure full completion within the time stipulated in the contract documents. It is expressly understood and agreed, by and between the Contractor and the City, that the contract time for the completion of the work described herein is a reasonable time, taking into consideration the average climactic and economic conditions and other factors prevailing in the locality of the work.

If, at any time before the commencement or during the progress of the work, the materials, labor and appliances used or to be used by the Contractor appear to the Engineer to be insufficient or improper for securing the quality of work required or the required rate of progress, The Engineer may order the Contractor to increase their efficiency or to improve their character, and the Contractor shall conform to such order; but the failure of the Engineer to demand any such increase or efficiency or any such improvements shall not release the Contractor from his obligation to secure the quality of the work or the rate of progress specified.

SEC. 20 - EXTENSION OF TIME

The Contractor expressly covenants and agrees that in undertaking to complete the work sufficiently to permit operation of the major units and to complete the entire work within the times stated in the Contract, he has taken into consideration and made allowance for all of the ordinary delays and hindrances incident to such work, whether growing out of delays in securing materials or workmen, or otherwise. Should the Contractor, however, be substantially delayed in the prosecution and completion of the work by any substantial changes, additions, or omissions therein ordered in writing by the Engineer, or by fire, lightning, earthquake, tornado, cyclone, riot, insurrection or war, or by the abandonment of the work by the workmen engaged

therein through no fault of the Contractor, or by the discharge of all or any material number of workmen in consequence of difficulties arising between the Contractor and such workmen, or by the neglect, delay or default of any other Contractor of the City, the Contractor may, within five (5) days after the occurrence of the delay for which he claims allowance, notify the Engineer thereof in writing, and thereupon, and not otherwise, the Contractor shall be allowed such additional time for the completion of the work as the Engineer in his discretion shall award in writing.

SEC. 21 - LIABILITY OF CONTRACTOR FOR EMPLOYEES

Each and every employee of the Contractor, and each and every of his subcontractors engaged in the said work shall, for all purposes, be deemed and taken to be the exclusive servants of the Contractor and not for any purpose or in any manner in the employment of the City. The Contractor shall in no manner be relieved from responsibility or liability on account of any fault or delay in the execution of the said work, or any part thereof, by any such employee, or any such subcontractor, or any material men, whatsoever.

SEC. 22 - NO WAIVER OF RIGHTS

No certificate given or payment made under this Contract, except the final certificate or final payment, shall be evidence of the performance of the Contract either wholly or in part, and no payment shall be construed to be an acceptance of defective work or improper materials. No act of the City or of the Engineer, or of any representative of either of them, in supervising the work, nor any extension of time for the completion of the work, shall be regarded or taken as an acceptance of such work, or any part thereof, or of materials used therein or thereof, either wholly or in part; but such acceptance shall be evidenced only by the final certificate of the Engineer as approved by the City. Before any final certificate shall be allowed, the Contractor will be required, and he hereby agrees, to sign and attest on said certificate a statement that he accepts the same in full payment and settlement of all claims on account of work done and materials furnished under this Contract, and furthermore that all claims for materials provided or labor performed have been paid or satisfactorily secured. No waiver of any breach of this Contract by the City or anyone acting for it or on its behalf shall be held as a waiver of any other or subsequent breach thereof.

SEC. 23 - VERBAL STATEMENTS NOT BINDING

It is understood and agreed that the written terms and provisions of this agreement shall supersede all prior verbal statements of the Engineer or other representatives of the City, and such statements shall not be effective or be construed as entering into or forming a part of, or altering in anywise whatsoever, the written agreement.

SEC. 24 - RELEASE OF LIABILITY

No person or corporation other than the signer of this Contract as Contractor now has any interest hereunder, and no claim shall be made or be valid, and neither the City or any employee or agent thereof shall be liable or be held to pay any money, except as hereinbefore provided. The acceptance by the Contractor of the final payment shall operate as and shall be a release to the City and every representative and agent thereof, from all claims and liability to the Contractor for anything done or furnished for, or relating to the work, or for any act or neglect of the City or any person relating to or affecting the work. No payment, however, final or otherwise, shall operate to release the Contractor or his sureties from any obligation under this Contract or the Performance and Payment Bond.

SPECIAL CONDITIONS OF CONTRACT

1.0 WORKING CONDITIONS

The Contractor shall provide working conditions on each operation that shall be as safe and as healthful as the nature of the work permits. He shall inform himself of and shall comply with all safety and sanitary rules, laws, and regulations.

The Contractor shall maintain a safe drinking water supply readily available to all workers. A sufficient number of chemical type sanitary structures shall be provided for workmen on the project. They shall be located near the points of work. They shall be cleaned daily and shall be adequately serviced.

2.0 CARE AND PROTECTION OF WORK

From the commencement of work until the completion of the same, the Contractor shall be solely responsible for the protection and care of the work covered by the Contract and for the material delivered to the site. All injury, damage, or loss of the same, from whatever cause, shall be made good at his expense. He shall take all necessary precautions to prevent injury or damage to the work by flood, freezing, or inclement weather at any and all times. The methods used for this purpose shall be subject to approval of the Engineer.

3.0 SHOP DRAWINGS

The Contractor shall furnish shop drawings, descriptive literature, and other required information for all the manufactured items. Three (3) copies shall be submitted to the Engineer for approval prior to fabrication. Approval by the Engineer of the shop drawings for any material apparatus, device and layout shall not relieve the Contractor from the responsibility of furnishing same of proper dimension, size, quality, quantity, and all performance characteristics to efficiently perform the requirements and intent of the Contract Documents. Approval shall not relieve the Contractor from responsibility for errors of any sort on the shop drawings. If the shop drawings deviate from the Contract Documents, the Contractor shall advise the Engineer of the deviations in writing, including the reason for the deviation.

Prior to the submittal of shop drawings of manufactured items, the Contractor shall check and approve the drawings. He shall indicate his approval by initials and date, and shall also indicate by reference the specification and/or plan which covers the item.

4.0 MATERIALS AND MANUFACTURED ARTICLES

All material and workmanship shall be subject to the approval of the Engineer and shall be in conformity with approved modern practice.

In general, wherever the Contract Documents show or specify a particular make of material, article, device or equipment, it shall be regarded as a standard.

When reference is made in the Contract Documents to standards or specifications of associations such as AWWA, ASTM or others, the provisions of the latest revision of the standard or specification shall be applicable. If two or more makes of materials, manufactured articles, devices or equipment are shown or specified, each should be

regarded as the equal of the other. Any other make of material, manufactured article, device or equipment which is the recognized equal of that specified, and is suitable for the purpose intended, will be accepted. In all cases, new materials shall be used, unless this provision is waived by notice from the Engineer in writing.

5.0 WORK IN BAD WEATHER

During freezing, stormy, or inclement weather, only work that can be done satisfactorily and in a manner to secure first-class construction throughout, shall be done.

6.0 NIGHT AND SUNDAY WORK

Unless otherwise specially permitted, no work shall be done between the hours of 6:00 p.m. and 7:00 a.m., nor on weekends (Saturday or Sunday), nor on state or federal holidays, except as necessary for the proper care and protection of the work already performed. If it shall become absolutely necessary to perform work at night, the Engineer shall be informed at least twenty-four (24) hours in advance of the beginning of performance of such work. Only such work shall be done at night as can be done satisfactorily and in a first-class manner without creating public nuisance(s). Good lighting and all other necessary facilities for carrying out and inspecting the work shall be provided and maintained at all points where such work is being done. Any work necessary to be performed after regular working hours, such as on legal holidays, shall be performed without additional expense to the Owner.

7.0 WATER SUPPLY AND ELECTRICAL ENERGY

The Contractor shall make his own arrangements for obtaining the electrical energy and a water supply necessary for construction purposes.

8.0 PUBLIC SAFEGUARDS

The Contractor agrees to conduct the work at all times in such a manner that public travel shall not be inconvenienced needlessly, nor shall it be wholly obstructed at any point. He further agrees to be responsible for all legal notices, detour and warning signs, to notify the police and fire departments of the condition of the roads while the work is in progress, providing watchmen, barricades, red lights, danger and warning signs, and such other precautions necessary to protect life and property.

9.0 STORAGE OF MATERIALS

Materials shall be stored so as to insure the preservation of their quality and fitness for the work. When considered necessary, they shall be placed on wood platforms and covered, or stored in a suitable building as directed by the Engineer. Stored material shall be located so as to facilitate prompt inspection.

10.0 CONTRACTOR'S EMPLOYEES

The Contractor shall be represented by an experienced superintendent on the project site at all times when work is in progress. Only skilled foremen and workmen shall be employed on work requiring special qualifications.

In the event that any Contractor employee neglects to properly serve the public or Owner in a courteous and efficient manner, fails to conduct him/herself properly at the Site, or permits or causes any violation of this Agreement, the Contractor agrees not to employ such person at the Site and Contractor shall replace such person within a reasonable time with a competent and trained employee.

11.0 CLEANUP

During the progress of the work, the Contractor shall keep the site in a generally neat condition. Lunch papers, bottles, lumber cut-offs, drinking cups, and like rubbish shall be removed from the site daily. The work shall be cleaned up as the various portions of the project are completed.

Upon completion of the work and before acceptance and final payment shall be made, the Contractor shall, except as otherwise expressly directed or permitted in writing, clean and remove from the sites and adjacent property all surplus and discarded materials, rubbish and temporary structures. He shall restore in an acceptable manner all property which has been damaged during the performance of the work and leave the whole in a neat and presentable condition.

The Contractor shall remove all plant, surplus, and waste materials from the site as soon as the work is completed.

12.0 PAYMENT FOR TEMPORARY WORK

No direct or separate payment will be made for providing miscellaneous temporary works, plant, services, Contractor's offices, layout surveys, job description signs, sanitary requirements, safety devices, watchmen, bonds, and insurance. Compensation for all such services, things, and materials shall be considered as having been included in the price stipulated for the Contract items.

13.0 ORDER TO SUSPEND WORK

If the Engineer considers that any portion of the work should be suspended temporarily because of extreme weather conditions or special events or activities in Newport or for any other reason, he shall order in writing the Contractor to suspend work until conditions permit its resumption. Suspension of work by order of the Engineer shall be considered as a reason for extension of time beyond the completion time previously stated in the Contract.

14.0 STATE LAWS AND REGULATIONS

The Contractor shall comply in all respects with the General Laws of Rhode Island, 1956, relative to registration of motor vehicles, loading of trucks, conditions of work, employment of labor, prevailing wage scales, and fringe benefits and the acts amendatory thereof and supplemental thereto. The Contractor shall give preference in employment on the work to be performed under this Contract to resident citizens of the City of Newport.

Safety Code - The Contractor's attention is directed to the safety requirements of the Rhode Island Department of Labor, Industrial Code Commission for Safety and Health, Industrial Safety Code No. 14, Safety Code for Construction Industry, and amendments thereof.

15.0 PROPERTY MARKERS DISTURBED

The Contractor shall, at his own expense, retain the services of a licensed surveyor to replace property markers on or adjacent to privately owned property that have been disturbed during the course of construction.

16.0 LINES AND GRADES

The Contractor shall keep the Engineer informed, a reasonable time in advance, of the times and places at which he intends to do work, in order that lines and grades may be checked and necessary measurements for record and payment made with a minimum of inconvenience to the Engineer or delay to the Contractor. The Contractor shall have no claim for damages or extension of time on account of delays in the giving of lines and grades making record measurements or destruction of such marks and the consequent necessary for replacement. The Engineer will furnish the Contractor with such basic information as to lines and grades as he, the Engineer, deems necessary, but this shall not be construed to mean all lines, grades, elevations, and measurements will be made by the Engineer.

The Contractor shall furnish necessary services and assistance of chainmen as required and all wooden stakes, spikes, monuments, or markers of the type and material designated by the Engineer for the proper placement, marking and preservation of all lines and grades necessary under this Contract.

The Contractor shall furnish all labor and materials necessary or proper for batter boards and other facilities for transferring, marking, and preserving all lines, marks or grades that may be given to the Contractor by the Engineer. He shall carefully follow and preserve all such lines, marks and grades. All work during its progress and on its completion shall conform to the plans; it being understood and agreed, however, that such plans may be modified from time to time, in the manner and to the extent herein provided.



RI Department of Labor and Training - Division of Workforce Regulation & Safety
Professional Regulation Unit/Prevailing Wage Section
1511 Pontiac Avenue Building 70, P.O. Box 20247 Cranston, RI 02920-0943

Rhode Island Certified Weekly Payroll

Contractor: _____ Subcontractor: _____
Address: _____ Address: _____
City/Town: _____ State: _____ Zip: _____ State: _____ Zip: _____
Phone #: _____ Email: _____ Phone #: _____ Email: _____
For Week Ending: _____ Project/Location: _____ Wage Decision #: _____
Decision Date: _____

Name, Address and Phone Number of Employee	Work Classification Apprentice %	Date:	S	M	T	W	T	F	S	Total Hrs	Hourly Rate	Hourly Fringe Benefit	Gross	Deductions					Net	
			Hours Worked Each Day											Social Security	Medi- care	Withheld		RI TDI		*Other
															Federal	State				
		P.S.																		
		P.O.																		
		R.H.																		
		R.O.																		
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		P.O.																		
		R.H.																		
		R.O.																		

Legend: P.S.=Prevailing Wage Standard Hours P.O.=Prevailing Wage Overtime Hours R.H.=Regular Hours R.O.=Regular Overtime Hours

***Note:** Deductions reported in the "other" column must be listed.

DLT is an equal opportunity employer/program. Auxiliary aids and services available upon request. TTY via RI Relay: 711

DLT-WRS-1(Rev. 10/14)

PROPOSAL FORMS
CITY OF NEWPORT, R.I.
Concrete Roadway Improvements 2026, BID #2026-PS-018

(These Proposal Forms shall not be detached from the Contract Documents and the entire booklet shall be included with each signed proposal.)

The undersigned, as bidder, declares that no person or persons other than those named herein are interested in this proposal; that this proposal is made without collusion with any other person, firm or corporation; that he has carefully examined the location of the proposed work, the proposed form of contract, and the plans therein referred to; that no person or persons acting in any official capacity for the City is directly or indirectly interested therein or in any portion of the profit thereof; and that he proposes and agrees, if this proposal is accepted, to execute the form of contract with the City, to provide all necessary equipment, tools, and other means of construction, and to do all work and furnish all the materials shown and specified in the Contract Documents, and according to the requirements of the Director of Public Services as therein set forth, and that he will take in full payment therefore, the following sums to wit:

The undersigned further understands that the quantities of work as shown are approximate only and are subject to increase or decrease and offers to do the work whether the quantities are increased or decreased, at the unit prices stated.

All prices must be written in words and figures. In case of discrepancy, the amount shown in words will govern.

Bidder acknowledges receipt of the following addendum:

(Signature)

(Printed Name)

(Title)

(Name of Firm or Corporation)

The Bid provided here represents the Bidder's NOT TO EXCEED proposal to the City of Newport for **Concrete Roadway Improvements 2026, BID #2026-PS-018** as identified in these Contract Documents. The Contractor agrees to perform all of the work contained within the Contract, at the discretion of the City, in accordance with all terms and specifications contained herein at the proposed unit prices.

Proposal Pages may be found in the Appendix of these Contract Documents

Complete Company Name

Mailing Address, City, Zip Code

Telephone Number

Fax Number

E-Mail Address

The undersigned agrees that he will execute the Contract within ten (10) days (not including Sunday) after the Notice to Proceed date and will submit in writing within ten (10) days after the date of the Contract, a schedule of construction showing dates of starting and completion of major portions of the work, and will progress in accordance with said schedule, unless the Director of Public Services shall authorize or order a delay, to the partial and entire completion of the work within the time stipulated in the Contract.

Signature of person, firm, or corporation making bid:

SEAL

(If bid is by a corporation)

(Signature)

(Printed Name)

(Title)

(Name of Firm or Corporation)

(Address)

(Email Address)

(Date)

(Phone)

Corporate Information Page
Concrete Roadway Improvements 2026, BID #2026-PS-018

List the Officers of your Corporation or Principals of your LLC or attach a similar sheet separately. Award cannot be done without the attachment

Complete Company Name	
Name	Title/Officer/Position
Name	Title/Officer/Position
Name	Title/Officer/Position
Name	Title/Officer/Position
Name	Title/Officer/Position
Name	Title/Officer/Position
Name	Title/Officer/Position

NOTE: Please provide any literature you feel may be necessary.

QUESTIONNAIRE

The undersigned guarantees the accuracy of all statements and answers herein contained.
(Please print in ink)

1. How many years has your corporation been in business as a general contractor?

_____ years.
2. List up to three (3) projects of this nature that you have completed and give the name, address and telephone number of a reference from each. Also give the completed cost of each project listed.

3. List projects currently under construction by your firm, the dollar volume of the contract and the percent the contract is completed.

4. Have you ever performed work for a municipality previously? (If municipalities are listed under 2, this question need not be completed.)

5. Have you ever failed to complete work awarded to you; if so, state where and why?

6. Have you or your authorized representative personally inspected the location of the proposed work and do you have a clear understanding of the requirements of the Plans, Specifications and other Contract Documents.

7. Do you plan to sublet any part of this work? If so, give details.

8. What equipment do you own that is available for this work?

9. What equipment do you plan to rent or purchase for this work?

10. Have you ever performed work under the direction of a Consulting Engineer or a Registered Architect? If so, list up to three such firms giving the name of the firm, its address, telephone number and the name of the project. (List most recent projects)

11. Give the name, address and telephone number of an individual who represents each of the following and whom the City may contact to investigate your financial responsibility; a surety, a bank and a major material supplier.

12. Give a summary of your financial statement. (List assets and liabilities, use an insert sheet if necessary)

13. State the true, exact, correct and complete name of the partnership, corporation or trade name under which you do business, and the address of the place of business. (If a corporation, state the name of the President and Secretary. If a partnership, state the names of the individuals who do business under the trade name.) It is absolutely necessary that this information be furnished.

Correct Name of Bidder

(a) The Business is

(b) The address of principal place of business is:

(c) The names of the corporate officers, or partners, or individuals doing business under a trade name, are as follows:

CONTRACT PAGES



**CITY OF NEWPORT, RHODE ISLAND
CONTRACT AND AGREEMENT**

THIS AGREEMENT, made this _____ day of _____ in the year 20____, by and between the City of Newport, herein called the "City", party of the first part acting herein through its Mayor, and _____, hereinafter called the "Contractor", party of the second part;

WITNESSETH: That the parties to these presents each in consideration of the undertakings, promises and agreements on the part of the other herein contained, have undertaken, promised and agreed, and do hereby undertake, promise and agree, the party of the first part itself, its successors and assigns, and the party of the second part for itself and heirs, executors, administrators, successors and assigns as follows:

I. CONTRACT INCLUDES

The Contractor shall furnish all labor, materials, equipment and services for **Concrete Roadway Improvements 2026, BID #2026-PS-018**, and all appurtenant work as defined in the Contract Documents. The Contractor will construct, complete, and finish the same in a timely, thorough, workmanlike and substantial manner, in every respect to the satisfaction and approval of the Director of Public Services, in the manner and within the time hereinafter limited, and in strict accordance with the Notice to Bidders, Information for Bidders, Labor and Wage Requirements, Proposal Form, General Conditions of Contract, Special Conditions of Contract, and Specifications and Details for the work, which together constitute the Contract Documents and the Contract Documents are hereby made a part of this Contract as fully as if the same were repeated at length herein. Change Orders issued hereafter, and any other amendment executed by the City and Contractor shall become and be a part of this Contract.

II. RATE OF PROGRESSS AND TIME OF COMPLETION

The Contractor shall be prepared to commence work under this Contract within ten (10) days after the date of Notice to Proceed. At no time shall the work to be performed under this contract exceed **June 30, 2027**, unless extensions of time are made for reasons and in the manner under Section "EXTENSION OF TIME" of the General Conditions of the Contract and/or under Section "ORDER TO SUSPEND WORK" of the Special Conditions of the Contract. If at any point during the term of this Contract the Contractor does not perform at a satisfactory pace or is continuously delayed in the performance of work in accordance with the agreed upon time schedule, the City shall notify the Contractor in writing of unsatisfactory progress for completing work. If the Contractor fails to substantially improve the performance of the Contract, the City shall proceed with the termination of this Contract in accordance with Section "TERMINATION BY THE CITY" of this Contract.

III. TERM OF AGREEMENT

Unless terminated earlier in accordance with the terms of this Agreement, this Agreement shall terminate on **June 30, 2027**. Throughout such time, all unit prices and work specifications as identified herein shall remain in effect.

IV. DAMAGES FOR FAILURE TO COMPLETE ON TIME & AS SPECIFIED

The Contractor shall pay to the City for each and every calendar day that he shall be in default in completing the entire work within the time and specifications stipulated, the sum of Five Hundred Dollars (\$500.00) per day unless the time and/or specifications are modified in writing by the City. This sum is hereby agreed upon, not as a penalty, but as liquidated damages, which the City will suffer by reason of such default. The City shall have the right to deduct the amount of any such damages from any moneys due the Contractor under this Contract.

V. PAYMENT

The City, in consideration of the faithful performance by the Contractor of all and singular his covenants, promises and agreements contained herein, agrees to pay the Contractor for the full completion by him of the work embraced in this Contract, in the manner and within the time herein specified and limited to the satisfaction and approval of the designated representative of the City, the prices stipulated in the said proposal, such payment to be made at the time and in the manner and upon the conditions herein expressly provided. Certified payrolls must be submitted prior to final payment.

VI. PARTIAL AND FINAL ESTIMATES

On or about the 15th day of each month, but no more than once a month, the Contractor may submit a Payment Request for the period ending the last day of the previous month. Said Payment Request shall be in such a format and include whatever supporting information as may be required by the City. Each Payment Request shall be signed by the Contractor and shall constitute the Contractor's representation that the quantity of work has reached the level for which payment is requested, that the work has been properly installed or performed in strict compliance with this contract and that the Contractor knows of no reason why payment should not be made as requested. Thereafter, the City shall review the Payment Request and may also review the work at the project site or elsewhere to determine whether the quantity and quality of the work is as represented in the Payment Request and is as required by this Contract. The City shall approve by signature the amount that, in the opinion of the City, is properly owing to the Contractor. The City shall retain five percent (5%) of the progress or monthly payments claimed and pay the Contractor on or before the last day of the following month.

Before final payment is made, the Contractor shall satisfy the City in writing that all bills for labor and materials have been paid, and pass a final inspection from the City's designated representative that determines all work performed under the contract is in compliance with all terms and provisions of all contract documents and applicable laws, rules, regulations, and codes.

The City shall, within thirty (30) days after full completion of all work, pay the entire sum so found to be due hereunder, after deducting there from all previous partial payments, and also all percentages and deductions to be retained under any of the provisions of this Contract. Before final payment is made, the Contractor shall satisfy the City, in writing that all bills for labor and materials have been paid.

VII. CONTRACT AMOUNT

The total amount of the contract is based on the actual quantity of work items completed and the Contractor's unit bid price for each item. The contract award is \$_____. The total amount paid to the Contractor is dependent upon the amount and type of accepted work completed by the Contractor, and the Contractor's unit bid price for each item.

The Contractor shall comply with all State, Federal and local statutes, ordinances and regulations applicable to the execution and the performance of this Contract and shall procure all necessary licenses and permits.

The Contractor and his/her subcontractors are to maintain all books, documents, papers accounting records and other evidence pertaining to cost incurred, and to make such material available at their respective offices at all reasonable times during the contract period for three (3) years from the date of final payment under the Contract for inspection by the City or any authorized representatives of government, and copies thereof shall be furnished if requested.

VIII. LIABILITY

- A. The Contractor agrees that his/her employees, sub-Contractors, or agents possess the experience, knowledge, and character necessary to qualify them individually for the particular duties they perform.
- B. The Contractor shall be liable for all damage caused by its negligent acts, in its services under this Contract or any supplements to this Contract, and shall indemnify and save harmless that City and all its officers, agents, and servants against any claims, suits, actions, damages, liabilities, and direct costs resulting from any negligent acts, willful or reckless misconduct, or negligent performance of the Contractor, in any forum, brought as a result of such negligent acts, willful or reckless misconduct or negligent performance, and shall carry liability insurance for that purpose, as specified by the City.

IX. INSURANCE

- A. The Contractor shall procure and maintain, at its own expense during the life of the Contract, insurance liability for damages imposed by law, of the kinds and in the amounts specified, with insurance companies authorized to do business in the State and with an AM rating of A or better. The insurance shall cover all work under this Contract, whether performed by the Contractor or by sub-Contractor. Before commencing the work, the Contractor shall furnish certificates of insurance in the form satisfactory to the City certifying that the policies will not be changed or canceled until 10-day written notice has been given to the City.

The types of insurance required in amounts not less than as follows:

- 1. Statutory Workers Compensation and Employers' Liability Insurance, written compliant with Rhode Island law for all of his/her employees to be engaged in work on the project under this Contract, and in case any such work is sublet, the Contractor shall require the sub-Contractor similarly to provide.

2. Workers Compensation and Employers' Liability Insurance for all of his/her employees to be engaged in such work. The Contractor shall file certificates with the Department's Contract Administrator showing that this insurance on behalf of all employees of the Contractor any sub-Contractor has been purchased prior to award of this Contract.
- B. The Contractor shall carry Liability and Property Damage Insurance with coverage in the following amounts:
- (a) Worker's Compensation and Employers' Liability Insurance shall be secured and maintained as required by the Laws of the State of Rhode Island.
 1. Bodily Injury or death by accident each accident: \$1,000,000
 2. Bodily Injury by disease, policy limit: \$1,000,000
 3. Bodily Injury by disease, each employee: \$1,000,000
 - (b) General Liability in an amount of \$1,000,000 per occurrence and \$2,000,000 annual aggregate limit with a property damage limit of \$1,000,000
 1. The City of Newport is to be listed as an Additional Insured.
 2. The Contractors coverage is to include ongoing and completed operations and is to be primary and non-contributory to any other collectable insurance.
 3. The Contractors insurance is to include a waiver of subrogation in favor of the City of Newport.
 - (c) Automobile and Truck Liability, Bodily Injury and Property Damage, including sudden and accidental pollution coverage:
 1. Written to include Owned, Hired, and Non-owned autos with a combined single limit of \$1,000,000.
 - (d) Contractor Professional Liability Insurance: \$2,000,000 per occurrence and in the annual aggregate
 - (e) Contractor's Pollution coverage: \$1,000,000 (if applicable)
 - (f) Commercial umbrella or excess liability policy, following form in the amount of \$5,000,000
 - (g) Cyber Insurance coverage: \$2,000,000 (if applicable)

If the Contractor maintains broader coverage or higher limits, then the minimum limit shown above shall not limit the coverage available. The City shall be entitled to the coverage maintained by the Contractor.

- C. No cancellation of said insurance, whether by the insurers or by the insured, shall be valid unless written notice thereof is given by the party proposing cancellation to the other party and to the City at least thirty (30) days prior to the intended effective date

thereof which date shall be expressed in said notice. Notice of cancellation sent by the party proposing cancellation by registered mail, postage prepaid, with a return receipt of addressee requested, and executed shall constitute proof of submission of said certificate. An affidavit from any officer, employee or agent, duly authorized by the insured, shall be prima facie evidence that the notice was sent. This section shall apply to the legal representative, trustee, and the successor in interest of such Contractor.

- D. The failure of the Contractor to maintain insurance coverage in accordance with the terms of this Contract shall constitute a violation of this Contract. Such failure may result in termination of the contract, at the option of the City.
- E. The Contractor shall take notice that the cancellation of any insurance under this Contract shall not affect the obligation of the Contractor to maintain each coverage, or his/her obligations under this ("Insurance") of this Contract, or his liability under Section VIII ("Liability") of this Contract.
- F. The Contractor shall also take notice that his/her insurer must be licensed to do business in the State of Rhode Island.
- G. The Contractor shall file copies of all required insurance certificates with the City. All insurance certificates mentioned in this Article shall be attached to this Contract prior to award. Failure by the City to request evidence of insurance shall not waive the Contractor's obligation to provide coverage.

X. PERFORMANCE AND PAYMENT BOND

The Contractor shall deposit with the City a surety company bond (or bonds) for the satisfactory completion of work and the payment of all debts pertaining to materials and labor used or employed in the execution of the Contract, in an amount equal to the amount of the contract award. The form of the bond (or bonds) and the surety shall be licensed or have surplus line approval to do business in the State of Rhode Island. In the event the Contract Price is adjusted by Change Order executed by the City and Contractor, the bond (or bonds) shall be deemed increased by like amount.

Prior to final payment, the Contractor shall furnish a certificate from surety stating that the performance bond covers the one-year defective workmanship and materials guarantee.

XI. SUPPLEMENTAL AGREEMENTS

No change in the character or extent of the work to be performed by the Contractor and affecting the completion date or fee schedule shall be made except by supplemental agreement in writing between the City and the Contractor. The supplemental agreement will set forth the proposed work, any extension of time for completion, if required, and adjustment, if any, of the fee to be paid to the Contractor.

In any case where the Contractor believes extra compensation is due him/her for work and services not covered by this Contract or Supplement thereto, he/she shall notify the City in writing of his/her intention to seek such compensation before he/she begins the work. The request must be passed upon by the City. In the case where the request is

determined to be justified, it shall be allowed and paid for as Extra Work/Additional Work in accordance with the terms of a supplemental agreement entered into before such work is started.

The City also reserves the right to negotiate with the Contractor future work utilizing the unit prices associated with this contract.

XII. ADDITIONAL TERMS

1. The failure of the City to enforce at any time any of the provisions of the Contract, or to exercise any option which is herein provided, or to require at any time performance by the Contractor of any of the provisions hereof, shall in no way be construed to be a waiver of such provisions, a waiver of its subrogation rights or the rights of transfer, nor in any way to affect the validity of this Contract of any part thereof, or the right of the State to thereafter enforce each and every provision.
2. This Contract shall inure to the benefit of and be binding upon the heirs, executors, administrators, assignees, and the successors of the respective parties hereto.
3. Should any part, term, or provision of this Contract be by a court of competent jurisdiction declared invalid, illegal, or in conflict with any law of the City, State or the United States, the validity of the remaining portions or provisions shall not be affected thereby.

XIII. INDEMNITY

The Contractor shall indemnify, defend and hold harmless the City, and its elected and appointed officers, directors, and employees (each, a "City Indemnitee"), from and against (and pay the full amount of) any and all Loss-and-Expense incurred by a City Indemnitee to third parties arising from or in connection with: (1) any failure by the Contractor to perform its obligations under this Contract; or (2) the negligence or willful misconduct of the Contractor or any of its officers, directors, employees, representatives, agents or Subcontractors in connection with this Contract, except to the extent caused by the negligence or willful misconduct of any City Indemnitee; and (3) shall include reasonable attorneys' fees. The Contractor's indemnity obligations hereunder shall not be limited by any coverage exclusions or other provisions in any insurance policy maintained by the Contractor which is intended to respond to such events. A City Indemnitee shall promptly notify the Contractor of the assertion of any claim against it for which it is entitled to be indemnified hereunder, and the Contractor shall have the right to assume the defense of the claim in any Legal Proceeding and to approve any settlement of the claim. These indemnification provisions are for the protection of the City Indemnitees only and shall not establish, of themselves, any liability to third parties. The provisions of this Section shall survive termination of this Construction Contract.

XIV. TERMINATION BY THE CITY

The City reserves the right to abandon, suspend or terminate the services of this Contract, or any part thereof, at any time, by giving written notice to the Contractor in accordance with Section 12 of the General Conditions.

Abandonment, suspension or termination of the Contract shall in no way limit any legal rights of the City.

XV. EXECUTION OF CONTRACT

IN WITNESS HEREOF, the said parties hereto have caused this instrument to be signed by their duly constituted officers, attested, and sealed pursuant to proper resolutions.

By: _____
Party of the First Part (Signature)

Witness

Charles M. Holder,

Mayor, City of Newport, RI
(Printed Name and Title)

By: _____
Party of the Second Part (Signature)

Witness

(Printed Name and Title)

Approved as to form by:

Christopher J. Behan, Esq., City Solicitor

**FORM OF BOND
FOR PERFORMANCE AND PAYMENT**

KNOW ALL MEN BY THESE PRESENTS: That _____

a corporation created by and existing under the laws of the State of _____,

(hereinafter called the "Principal") and _____,

a corporation created by and existing under the laws of the State of _____,

(hereinafter called the "Surety") are held and firmly bound unto the _____,

(hereinafter called the "Owner") in the full and just sum of

_____ dollars (\$_____)

lawful money of the United States of America, to be paid to the said "Owner", its successors and assigns, to which payment well and truly to be made, we bind ourselves, our successors and assigns jointly and severally, firmly by these presents.

WHEREAS, the above bonded "Principal" has entered into a contract with the said "Owner by and through the

bearing date the _____ day of _____, 20____, for the

CONSTRUCTION OF

upon certain terms and conditions in said contract more particularly mentioned, and fully and specifically described in certain specifications made part of said contract; and

WHEREAS, it was one of the conditions of the award of the "Owner" pursuant to which said contract was entered into that these presents shall be executed.

NOW, THEREFORE, the condition of this obligation is such that if the above bounden "Principal" shall, in all respects, comply with and fulfill all the terms and conditions of said contract and its obligations thereunder, including the "Notice to Bidders", Information for Bidders", "Proposal", Contract and Agreement", "General Conditions of Contract", Special Conditions of Contract", "Detail Specifications" and "Plans", therein referred to and made a part thereof, and such alterations as may be made in said plans and specifications as therein provided for, and shall indemnify and save harmless the said "Owner" against or from all costs, expense, damages,

injury or loss to which the said "Owner" may be subjected to by reason of its failure to complete the work in accordance with its contract or by reason of any wrongdoing, misconduct, want of care or skill, negligence, or default, including patent infringement, on the part of the said "Principal", its agents or employees in the execution or performance of said contract, and shall promptly pay all just claims for damages for injury to persons or property and for labor and materials, incurred by said "Principal", in or about the construction or improvement contracted for, then this obligation to be void; otherwise to be and remain in full force and virtue in law.

IN WITNESS WHEREOF, the parties hereto have caused their corporate names and seals, respectively, to be hereunto subscribed and affixed by their officers in that behalf duly authorized, this

_____ day of _____, 20_____.

By _____

By _____

Signed and delivered
in the presence of:

**ACKNOWLEDGMENT FOR PRINCIPAL
(INDIVIDUAL)**

State of _____

City of _____ to wit:

I, _____, a Notary Public in
and for the City and State aforesaid, do certify that
_____.

whose name is signed to the foregoing bond, personally appeared before me in my City and State
aforesaid and acknowledged the same to be his act and deed.

My commission expires

_____.

Notary Public

Given under my hand and seal this _____ day of

_____ 20_____.

**ACKNOWLEDGMENT FOR PRINCIPAL
(PARTNERSHIP)**

State of _____

City of _____ to wit:

I, _____, a Notary Public in
and for the City and State aforesaid, do certify that
_____.

whose name is signed to the foregoing bond, personally appeared before me in my City and State
aforesaid and acknowledged the same to be his act and deed.

My commission expires

_____.

Notary Public

Given under my hand and seal this _____ day of

_____ 20_____.

**ACKNOWLEDGMENT FOR PRINCIPAL
(CORPORATION)**

State of _____

City of _____ to wit:

I, _____, a Notary Public in
and for the City and State aforesaid, do certify that
_____.

whose name is signed to the foregoing bond, personally appeared before me in my City and State
aforesaid and acknowledged the same to be his act and deed.

My commission expires

_____.

Notary Public

Given under my hand and seal this _____ day of

_____ 20_____.

ACKNOWLEDGMENT FOR SURETY

State of _____

City of _____ to wit:

I, _____, a Notary

Public in and for the City and State aforesaid, do certify that

personally appeared before me in my City and State aforesaid and made oath that he is

_____ of the

that _____ is authorized by law to transact business in the State of Rhode Island and Providence Plantations; has complied with all laws relative to the execution of said bond; and that he is duly authorized to execute said bond for and on behalf of said company and to obligate the company with respect thereto.

My _____ commission expires

_____.

Notary Public

Given under my hand and seal this _____ day of

_____ 20_____.

APPENDIX A

PROPOSAL PAGES



Bellevue Avenue Concrete Joint Repair 2026-PS-0XX
Proposal Pages

Item No.	CS No.	Page No	Description	Quantity	Unit
1	1.01		Remove and Reset Frames, Covers or Grates	15.00	EA
			_____ \$ _____ \$ _____		
			(price in words)	(price in figures)	(total in figures)
2	3.12		Furnish, Install, and Seal Fast Setting Concrete Pavement	1,700.00	CF
			_____ \$ _____ \$ _____		
			(price in words)	(price in figures)	(total in figures)
3	3.13		Remove, Furnish and Install Full Concrete 8" Panel	40.00	SY
			_____ \$ _____ \$ _____		
			(price in words)	(price in figures)	(total in figures)
4	3.15		Furnish and Install Expansion Joint	8,000.00	LF
			_____ \$ _____ \$ _____		
			(price in words)	(price in figures)	(total in figures)

Bellevue Avenue Concrete Joint Repair 2026-PS-0XX
Proposal Pages

Item No.	CS No.	Page No	Description	Quantity	Unit
5	3.99		Funish, Install, and Seal Innovative Repair	400.00	CF
				\$	
			(price in words)	(price in figures)	(total in figures)
6	5.02		Furnish and Install Class XX PCC (8 inch)	20.00	CY
				\$	
			(price in words)	(price in figures)	(total in figures)
7	7.09		Police Traffic Persons	1,750.00	HR
				\$	
			Sixty-nine dollars and Ten cents	\$69.10	\$120,925.00
			(price in words)	(price in figures)	(total in figures)

Bellevue Avenue Concrete Joint Repair 2026-PS-0XX
Proposal Pages

Item No.	CS No.	Page No	Description	Quantity	Unit
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Total for all items:

(total in words)

\$

(total in figures)

(Full Comapany Name)

APPENDIX B

PREVAILING WAGE RATES



"General Decision Number: RI20260001 01/30/2026

Superseded General Decision Number: RI20250001

State: Rhode Island

Construction Types: Building, Heavy (Heavy and Marine) and Highway

Counties: Rhode Island Statewide.

BUILDING CONSTRUCTION PROJECTS (does not include residential construction consisting of single family homes and apartments up to and including 4 stories) HEAVY, HIGHWAY AND MARINE CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026
1	01/23/2026
2	01/30/2026

ASBE0006-006 09/01/2024

Rates	Fringes
-------	---------

HAZARDOUS MATERIAL HANDLER (Includes preparation, wetting, stripping, removal scrapping, vacuuming, bagging & disposing of all insulation materials, whether they contain asbestos or not, from mechanical systems).....	\$ 49.91	36.63
---	----------	-------

ASBE0006-008 09/01/2024

Rates	Fringes
-------	---------

Asbestos Worker/Insulator Includes application of all insulating materials, protective coverings, coatings & finishes to all types of mechanical systems.	\$ 49.91	36.63
--	----------	-------

BOIL0029-001 01/01/2025

Rates	Fringes
-------	---------

BOILERMAKER.....	\$ 50.62	28.82
------------------	----------	-------

BRRI0003-001 06/01/2022

Rates	Fringes
-------	---------

Bricklayer, Stonemason, Pointer, Caulker & Cleaner.....	\$ 46.86	29.14
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BRRI0003-002 09/01/2022

Rates	Fringes
-------	---------

Marble Setter, Terrazzo
Worker & Tile Setter.....\$ 46.54 30.34

BRRIO003-003 09/01/2022

Rates Fringes

Marble, Tile & Terrazzo
Finisher.....\$ 38.78 29.61

CARP0330-001 06/02/2025

Rates Fringes

CARPENTER (Includes Soft
Floor Layer).....\$ 47.88 30.50
Diver Tender.....\$ 48.68 30.50
DIVER.....\$ 60.83 30.50
Piledriver.....\$ 41.53 29.35
WELDER.....\$ 48.68 30.50

FOOTNOTES:

When not diving or tending the diver, the diver and diver tender shall receive the piledriver rate. Diver tenders shall receive \$1.00 per hour above the pile driver rate when tending the diver.

Work on free-standing stacks, concrete silos & public utility electrical power houses, which are over 35 ft. in height when constructed: \$.50 per hour additional.

Work on exterior concrete shear wall gang forms, 45 ft. or more above ground elevation or on setback: \$.50 per hour additional.

The designated piledriver, known as the ""monkey"": \$1.00 per hour additional.

CARP1121-002 04/21/2025

Rates Fringes

MILLWRIGHT.....\$ 45.72 31.50

ELEC0099-002 06/01/2025

Rates Fringes

ELECTRICIAN.....\$ 56.11 44.10%
Teledata System Installer.....\$ 42.09 10.45%+15.31

FOOTNOTES:

Work of a hazardous nature, or where the work height is 30 ft. or more from the floor, except when working OSHA-approved lifts: 20% per hour additional.

Work in tunnels below ground level in combined sewer outfall: 20% per hour additional.

ELEV0039-001 01/01/2025

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 64.52	38.435+a+b

FOOTNOTES:

a. PAID HOLIDAYS: New Years Day; Memorial Day; Independence Day; Labor Day; Veterans' Day; Thanksgiving Day; the Friday after Thanksgiving Day; and Christmas Day.

b. Employer contributes 8% basic hourly rate for 5 years or more of service of 6% basic hourly rate for 6 months to 5 years of service as vacation pay credit.

 ENGI0057-001 12/01/2025

	Rates	Fringes
Operating Engineer: (power plants, sewer treatment plants, pumping stations, tunnels, caissons, piers, docks, bridges, wind turbines, subterranean & other marine and heavy construction work)		
GROUP 1.....	\$ 51.30	29.95
GROUP 2.....	\$ 49.30	29.95
GROUP 3.....	\$ 44.92	29.95
GROUP 4.....	\$ 42.07	29.95
GROUP 5.....	\$ 48.35	29.95
GROUP 6.....	\$ 39.15	29.95
GROUP 7.....	\$ 33.15	29.95
GROUP 8.....	\$ 45.00	29.95
GROUP 9.....	\$ 48.92	29.95

a. BOOM LENGTHS, INCLUDING JIBS:

150 feet and over + \$ 2.00
 180 feet and over + \$ 3.00
 210 feet and over + \$ 4.00
 240 feet and over + \$ 5.00
 270 feet and over + \$ 7.00
 300 feet and over + \$ 8.00
 350 feet and over + \$ 9.00
 400 feet and over + \$10.00

a. PAID HOLIDAYS:

New Year's Day, President's Day, Memorial Day, July Fourth, Victory Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day, Christmas Day. a: Any employee who works 3 days in the week in which a holiday falls shall be paid for the holiday.

a. FOOTNOTES:

Hazmat work: \$2.00 per hour additional.
 Tunnel/Shaft work: \$5.00 per hour additional.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Cranes, lighters, boom trucks and derricks

GROUP 2: Digging machine, Ross Carrier, locomotive, hoist,

elevator, bidwell-type machine, shot & water blasting machine, paver, spreader, graders, front end loader (3 yds. and over), vibratory hammer & vacuum truck, roadheaders, forklifts, econobile type equipment, tunnel boring machines, concrete pump and on site concrete plants.

GROUP 3: Oilers on cranes.

GROUP 4: Oiler on crawler backhoe.

GROUP 5: Bulldozer, bobcats, skid steer loader, tractor, scraper, combination loader backhoe, roller, front end loader (less than 3 yds.), street and mobile-powered sweeper (3-yd. capacity), 8-ft. sweeper minimum 65 HP).

GROUP 6: Well-point installation crew.

GROUP 7: Utility Engineers and Signal Persons

GROUP 8: Heater, concrete mixer, stone crusher, welding machine, generator and light plant, gas and electric driven pump and air compressor.

GROUP 9: Boat & tug operator.

ENGI0057-003 12/01/2025

BUILDING CONSTRUCTION

	Rates	Fringes
Power Equipment Operator		
GROUP 1.....	\$ 50.57	29.95
GROUP 2.....	\$ 48.57	29.95
GROUP 3.....	\$ 48.35	29.95
GROUP 4.....	\$ 44.35	29.95
GROUP 5.....	\$ 41.50	29.95
GROUP 6.....	\$ 47.65	29.95
GROUP 7.....	\$ 47.22	29.95
GROUP 8.....	\$ 44.54	29.95

a. BOOM LENGTHS, INCLUDING JIBS:

150 ft. and over: + \$ 2.00
 180 ft. and over: + \$ 3.00
 210 ft. and over: + \$ 4.00
 240 ft. and over: + \$ 5.00
 270 ft. and over: + \$ 7.00
 300 ft. and over: + \$ 8.00
 350 ft. and over: + \$ 9.00
 400 ft. and over: + \$10.00

a. PAID HOLIDAYS: New Year's Day, President's Day, Memorial Day, July Fourth, Victory Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day & Christmas Day. a: Any employee who works 3 days in the week in which a holiday falls shall be paid for the holiday.

a. FOOTNOTE: Hazmat work: \$2.00 per hour additional.
 Tunnel/Shaft work: \$5.00 per hour additional.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Cranes, lighters, boom trucks and derricks.

GROUP 2: Digging machine, Ross carrier, locomotive, hoist, elevator, bidwell-type machine, shot & water blasting machine, paver, spreader, front end loader (3 yds. and over), vibratory hammer and vacuum truck

GROUP 3: Telehandler equipment, forklift, concrete pump & on-site concrete plant

GROUP 4: Fireman & oiler on cranes

GROUP 5: Oiler on crawler backhoe

GROUP 6: Bulldozer, skid steer loaders, bobcats, tractor, grader, scraper, combination loader backhoe, roller, front end loader (less than 3 yds.), street and mobile powered sweeper (3 yds. capacity), 8-ft. sweeper (minimum 65 hp)

GROUP 7: Well point installation crew

GROUP 8: Heater, concrete mixer, stone crusher, welding machine, generator for light plant, gas and electric driven pump & air compressor

ENGI0057-005 12/01/2025

	Rates	Fringes
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Power Equipment Operator
(highway construction projects; water and sewerline projects which are incidental to highway construction projects; and bridge projects that do not span water)

GROUP 1.....	\$ 46.45	29.95
GROUP 2.....	\$ 44.45	29.95
GROUP 3.....	\$ 39.15	29.95
GROUP 4.....	\$ 25.75	29.95
GROUP 5.....	\$ 33.15	29.95
GROUP 6.....	\$ 39.73	29.95
GROUP 7.....	\$ 43.43	29.95
GROUP 8.....	\$ 38.70	29.95

a. FOOTNOTE: a. Any employee who works three days in the week in which a holiday falls shall be paid for the holiday.

b. PAID HOLIDAYS: New Year's Day, President's Day, Memorial Day, July Fourth, Victory Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day & Christmas Day.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Cranes, pile drivers, lighters, boom trucks, hoists, derricks

GROUP 2: Digging machines, excavators, locomotives, John Henry's, directional drilling machines, cold planers, reclaimers, pavers, spreaders, graders, front-end loaders (3yds & over), vacuum truck, drill/boring machine operators, vermeer saw, water blaster, hydraulic-demolition robot, Ross Carriers, concrete pump operators, asphalt/material transfer machines, rotating telehandlers,

SPMT type equipment

GROUP 3: Wellpoint installation and drill/boring machine assistants

GROUP 4: Utility engineers

GROUP 5: Signal persons

GROUP 6: Oilers on cranes and deckhands

GROUP 7: Combination loader / backhoes, front-end loaders (less than 3 yds.), forklift, bulldozers, scrapers, boats, rollers, skid steer loaders (regardless of attachments), street sweepers, mechanics, welders, operators in materials yards, shops and garages

GROUP 8: Gas and electric drive heaters, concrete mixers, light plants, welding machines, pumps and compressors

IRON0037-001 09/16/2025

	Rates	Fringes
IRONWORKER.....	\$ 43.03	33.53

LAB00271-001 12/03/2023

BUILDING CONSTRUCTION

	Rates	Fringes
LABORER		
GROUP 1.....	\$ 37.00	26.90
GROUP 2.....	\$ 37.00	26.90
GROUP 3.....	\$ 37.00	26.90
GROUP 4.....	\$ 37.00	26.90
GROUP 5.....	\$ 39.00	26.90

LABORERS CLASSIFICATIONS

GROUP 1: Laborer, Carpenter Tender, Mason Tender, Cement Finisher Tender, Scaffold Erector, Wrecking Laborer, Asbestos Removal [Non-Mechanical Systems]

GROUP 2: Asphalt Raker, Adzemen, Pipe Trench Bracer, Demolition Burner, Chain Saw Operator, Fence & Guard Rail Erector, Setter of Metal Forms for Roadways, Mortar Mixer, Pipelayer, Riprap & Dry Stonewall Builder, Highway Stone Spreader, Pneumatic Tool Operator, Wagon Drill Operator, Tree Trimmer, Barco-Type Jumping Tamper, Mechanical Grinder Operator

GROUP 3: Pre-Cast Floor & Roof Plank Erectors

GROUP 4: Air Track Operator, Hydraulic & Similar Self-Powered Drill, Block Paver, Rammer, Curb Setter, Powderman & Blaster

GROUP 5: Toxic Waste Remover

LABORERS CLASSIFICATIONS

GROUP 1: Laborer, Carpenter Tender, Mason Tender, Cement Finisher Tender, Scaffold Erector, Wrecking Laborer, Asbestos Removal [Non-Mechanical Systems]

GROUP 2: Asphalt Raker, Adzemen, Pipe Trench Bracer,
Demolition Burner, Chain Saw Operator, Fence & Guard Rail
Erector, Setter of Metal Forms for Roadways, Mortar Mixer,
Pipelayer, Riprap & Dry Stonewall Builder, Highway Stone
Spreader, Pneumatic Tool Operator, Wagon Drill Operator,
Tree Trimmer, Barco-Type Jumping Tamper, Mechanical Grinder
Operator

GROUP 3: Pre-Cast Floor & Roof Plank Erectors

GROUP 4: Air Track Operator, Hydraulic & Similar Self-Powered
Drill, Block Paver, Rammer, Curb Setter, Powderman & Blaster

GROUP 5: Toxic Waste Remover

LAB00271-002 11/27/2022

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
LABORER		
COMPRESSED AIR		
Group 1.....	\$ 55.40	24.15
Group 2.....	\$ 52.93	24.15
Group 3.....	\$ 42.45	24.15
FREE AIR		
Group 1.....	\$ 46.00	24.15
Group 2.....	\$ 45.00	24.15
Group 3.....	\$ 42.45	24.15
LABORER		
Group 1.....	\$ 33.05	24.05
Group 2.....	\$ 35.75	24.85
Group 3.....	\$ 36.50	24.85
Group 4.....	\$ 29.00	24.85
Group 5.....	\$ 37.50	24.85
OPEN AIR CAISSON, UNDERPINNING WORK AND BORING CREW		
Bottom Man.....	\$ 41.50	24.15
Top Man & Laborer.....	\$ 35.60	24.15
TEST BORING		
Driller.....	\$ 41.95	24.15
Laborer.....	\$ 41.95	24.15
LABORER CLASSIFICATIONS		

GROUP 1: Laborer; Carpenter tender; Cement finisher tender;
Wrecking laborer; Asbestos removers [non-mechanical systems];
Plant laborer; Driller in quarries

GROUP 2: Adzeperson; Asphalt raker; Barcotype jumping tamper;
Chain saw operators; Concrete and power buggy operator;
Concrete saw operator; Demolition burner; Fence and guard rail
erector; Highway stone spreader; Laser beam operator;
Mechanical grinder operator; Mason tender; Mortar mixer;
Pneumatic tool operator; Riprap and dry stonewall builder;
Scaffold erector; Setter of metal forms for roadways; Wagon
drill operator; Wood chipper operator; Pipelayer; Pipe trench
bracer

GROUP 3: Air track drill operator; Hydraulic and similar
powered drills; Brick paver; Block paver; Rammer and curb
setter; Powderperson and blaster

GROUP 4: Flagger & signaler

GROUP 5: Toxic waste remover

LABORER - COMPRESSED AIR CLASSIFICATIONS

GROUP 1: Mucking machine operator, tunnel laborer, brake person, track person, miner, grout person, lock tender, gauge tender, miner: motor person & all others in compressed air

GROUP 2: Change house attendant, powder watchperson, top person on iron

GROUP 3: Hazardous waste work within the ""HOT"" zone

LABORER - FREE AIR CLASSIFICATIONS

GROUP 1: Grout person - pumps, brake person, track person, form mover & stripper (wood & steel), shaft laborer, laborer topside, outside motorperson, miner, conveyor operator, miner welder, heading motorperson, erecting operator, mucking machine operator, nozzle person, rodperson, safety miner, shaft & tunnel, steel & rodperson, mole nipper, concrete worker, form erector (wood, steel and all accessories), cement finisher (this type of work only), top signal person, bottom person (when heading is 50' from shaft), burner, shield operator and TBM operator

GROUP 2: Change house attendant, powder watchperson

GROUP 3: Hazardous waste work within the ""HOT"" zone

LABORER CLASSIFICATIONS

GROUP 1: Laborer; Carpenter tender; Cement finisher tender; Wrecking laborer; Asbestos removers [non-mechanical systems]; Plant laborer; Driller in quarries

GROUP 2: Adzeperson; Asphalt raker; Barcotype jumping tamper; Chain saw operators; Concrete and power buggy operator; Concrete saw operator; Demolition burner; Fence and guard rail erector; Highway stone spreader; Laser beam operator; Mechanical grinder operator; Mason tender; Mortar mixer; Pneumatic tool operator; Riprap and dry stonewall builder; Scaffold erector; Setter of metal forms for roadways; Wagon drill operator; Wood chipper operator; Pipelayer; Pipe trench bracer

GROUP 3: Air track drill operator; Hydraulic and similar powered drills; Brick paver; Block paver; Rammer and curb setter; Powderperson and blaster

GROUP 4: Flagger & signaler

GROUP 5: Toxic waste remover

LABORER - COMPRESSED AIR CLASSIFICATIONS

GROUP 1: Mucking machine operator, tunnel laborer, brake person, track person, miner, grout person, lock tender, gauge tender, miner: motor person & all others in compressed air

GROUP 2: Change house attendant, powder watchperson, top person on iron

GROUP 3: Hazardous waste work within the ""HOT"" zone

LABORER - FREE AIR CLASSIFICATIONS

GROUP 1: Grout person - pumps, brake person, track person, form mover & stripper (wood & steel), shaft laborer, laborer topside, outside motorperson, miner, conveyor operator, miner welder, heading motorperson, erecting operator, mucking machine operator, nozzle person, rodperson, safety miner, shaft & tunnel, steel & rodperson, mole nipper, concrete worker, form erector (wood, steel and all accessories), cement finisher (this type of work only), top signal person, bottom person (when heading is 50' from shaft), burner, shield operator and TBM operator

GROUP 2: Change house attendant, powder watchperson

GROUP 3: Hazardous waste work within the ""HOT"" zone

PAIN0011-005 06/01/2025

	Rates	Fringes
PAINTER		
Brush and Roller.....	\$ 39.57	26.60
Epoxy, Tanks, Towers, Swing Stage & Structural Steel.....	\$ 41.57	26.60
Spray, Sand & Water Blasting.....	\$ 42.57	26.60
Taper.....	\$ 38.82	25.80
Wall Coverer.....	\$ 38.57	25.80

PAIN0011-006 06/01/2024

	Rates	Fringes
GLAZIER.....	\$ 41.63	26.15

FOOTNOTES:

SWING STAGE: \$1.00 per hour additional.

PAID HOLIDAYS: Labor Day & Christmas Day.

PAIN0011-011 06/01/2024

	Rates	Fringes
Painter (Bridge Work).....	\$ 57.85	26.40

PAIN0035-008 06/01/2011

	Rates	Fringes
Sign Painter.....	\$ 24.79	13.72

PLAS0040-001 01/01/2025

BUILDING CONSTRUCTION

	Rates	Fringes
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CEMENT MASON/CONCRETE FINISHER...	\$ 44.75	29.10
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FOOTNOTE: Cement Mason: Work on free swinging scaffolds under 3 planks width and which is 20 or more feet above ground and any offset structure: \$.30 per hour additional.

PLAS0040-002 01/01/2025

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
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CEMENT MASON/CONCRETE FINISHER...	\$ 44.75	29.10
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PLAS0040-003 01/01/2025

	Rates	Fringes
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PLASTERER.....	\$ 45.52	29.43
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PLUM0051-002 08/25/2025

	Rates	Fringes
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Plumbers and Pipefitters.....	\$ 54.34	34.50
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* ROOF0033-004 12/01/2025

	Rates	Fringes
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ROOFER.....	\$ 47.49	31.44
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SFRI0669-001 04/01/2025

	Rates	Fringes
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SPRINKLER FITTER.....	\$ 53.76	33.44
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SHEE0017-002 06/01/2025

	Rates	Fringes
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Sheet Metal Worker.....	\$ 44.42	41.94
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TEAM0251-001 05/01/2025

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
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TRUCK DRIVER

GROUP 1.....	\$ 31.86	34.51+a+b
GROUP 2.....	\$ 32.01	34.51+a+b
GROUP 3.....	\$ 32.06	34.51+a+b
GROUP 4.....	\$ 32.11	34.51+a+b
GROUP 5.....	\$ 32.21	34.51+a+b
GROUP 6.....	\$ 32.61	34.51+a+b
GROUP 7.....	\$ 32.81	34.51+a+b
GROUP 8.....	\$ 32.31	34.51+a+b
GROUP 9.....	\$ 32.56	34.51+a+b
GROUP 10.....	\$ 32.36	34.51+a+b

FOOTNOTES:

A. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, plus Presidents' Day, Columbus Day, Veteran's Day & V-J Day, providing the employee has worked at least one day in the calendar week in which the holiday falls.

B. Employee who has been on the payroll for 1 year or more but less than 5 years and has worked 150 Days during the last year of employment shall receive 1 week's paid vacation; 5 to 10 years - 2 weeks' paid vacation; 10 or more years - 3 week's paid vacation.

C. Employees on the seniority list shall be paid a one hundred dollar (\$100.00) bonus for every four hundred (400) hours worked, up to a maximum of five hundred dollars (\$500.00)

All drivers working on a defined hazard material job site shall be paid a premium of \$2.00 per hour over applicable rate.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Pick-up trucks, station wagons, & panel trucks

GROUP 2: Two-axle on low beds

GROUP 3: Two-axle dump truck

GROUP 4: Three-axle dump truck

GROUP 5: Four- and five-axle equipment

GROUP 6: Low-bed or boom trailer.

GROUP 7: Trailers when used on a double hook up (pulling 2 trailers)

GROUP 8: Special earth-moving equipment, under 35 tons

GROUP 9: Special earth-moving equipment, 35 tons or over

GROUP 10: Tractor trailer

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons

resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, the contractor must pay all covered workers at least \$13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025. The applicable Executive Order minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE:

UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

----- WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

- a) a survey underlying a wage determination
- b) an existing published wage determination
- c) an initial WHD letter setting forth a position on a wage determination matter
- d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to

davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

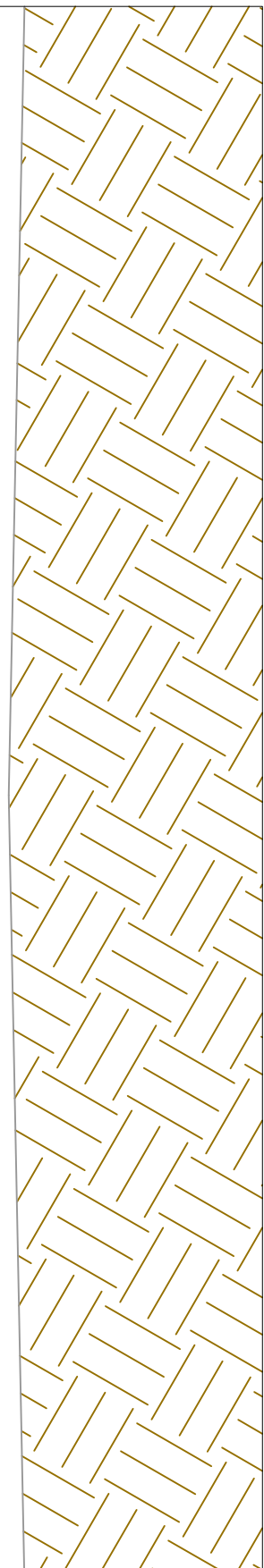
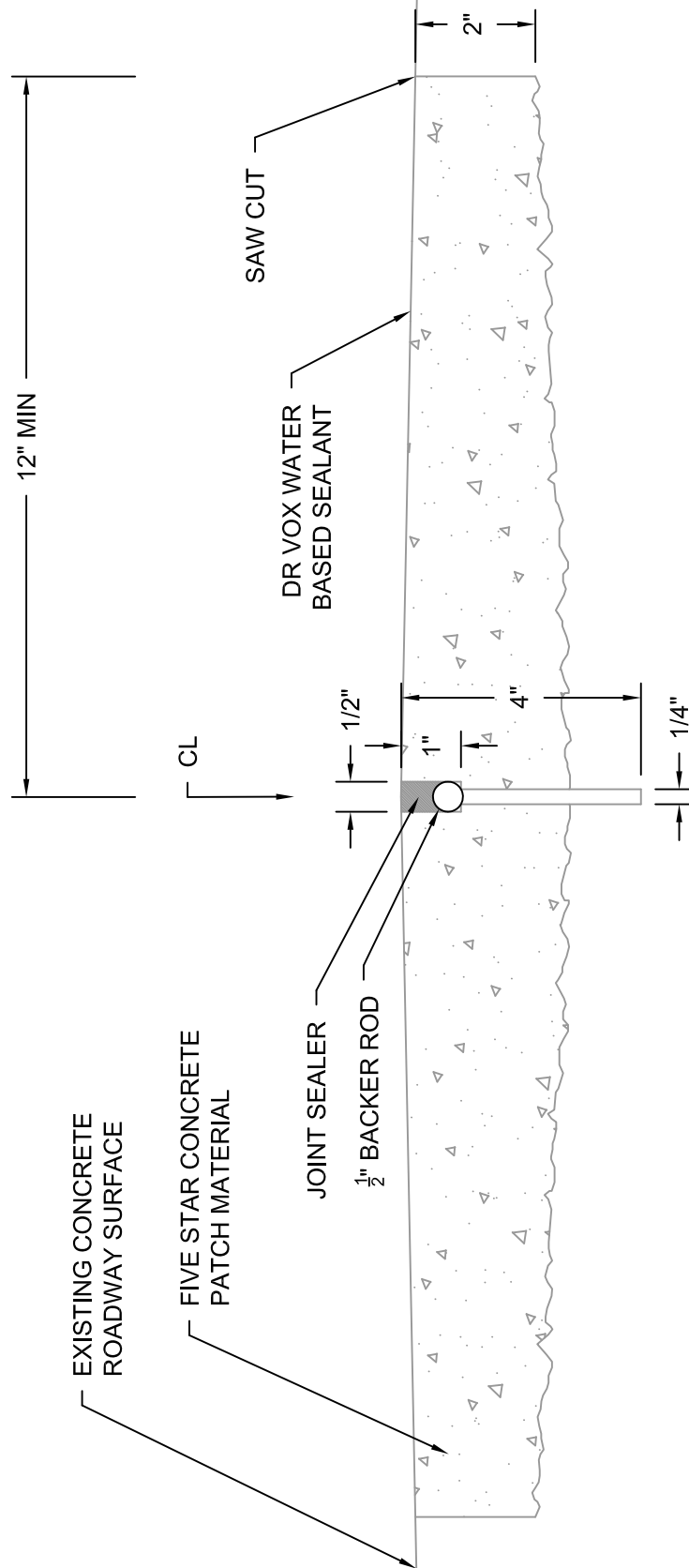
Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

=====
END OF GENERAL DECISION"

APPENDIX C

CITY STANDARDS AND DETAILS





CITY OF NEWPORT

RHODE ISLAND

DEPARTMENT OF PUBLIC SERVICES



**CITY STANDARD SPECIFICATIONS FOR
CONSTRUCTION WITHIN CITY RIGHT-OF-WAY**

JANUARY 2026

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SECTION 1 UTILITY STRUCTURES

1.01 REMOVE AND RESET FRAMES COVERS OR GRATES

1.02 FURNISH AND INSTALL NEW FRAMES AND COVERS OR GRATES (ALL TYPES)

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to remove and reset all roadway utility castings, at manholes, valve boxes, clean-outs and catch basins, to the new roadway/sidewalk elevation. All work shall be in accordance with City of Newport, Department of Utilities and Rhode Island Department of Transportation specifications and standards. Existing frames and grates, in good working conditions without any damage, shall be used, unless otherwise directed by the City of Newport, Department of Utilities and/or Engineer. New structures will be provided by the Contractor when necessary. The Contractor shall notify the various utility companies (gas, sewer, storm drainage, water, electric, telephone, etc.) to coordinate work on or near their respective structures, prior to the start of construction.

All castings shall be located in the field by the Contractor prior to removal. Locations shall be documented and filed with the City. Castings to be reused shall be marked by the Contractor to identify each cover and frame assembly and its specific location. The Contractor shall also protect the castings from damage and store them in a safe manner. Any castings damaged shall be replaced at the Contractor's expense.

City of Newport, Department of Utilities standard frame and covers, and Rhode Island Department of Transportation standard 6.3.4, shall be used unless otherwise directed by the Engineer and/or City of Newport, Department of Utilities

MATERIALS

Where existing Frames and Covers/Grates cannot be reused as determined by the contractor, Engineer and/or City of Newport, Department of Utilities, new Frames and Covers/Grates shall meet the City of Newport Department of Utilities standards and specifications, and corresponding specifications located within the Rhode Island Department of Transportation specifications and standards (Frame and Grate Standards 6.3.2, 6.3.4). Height of frames shall be determined in the field or as directed by the Engineer and/or City of Newport, Department of Utilities. All Frames and Covers/Grates shall be of the best merchantable gray cast iron, tough, even-grained, conform to AASHTO H-20 loading requirements and free from all flaws and injurious or unsightly defects. Frames and Covers/Grates shall be of neat appearance and of approved design. Castings shall be properly cleaned and coated with an asphalt varnish applied by immersion while castings are hot. Frames and Covers/Grates shall be machined to insure an even bearing in all positions. The

frames shall be firmly set and bonded to the masonry at the proper grade to conform to the finished surface of the street or ground surface as otherwise directed.

Bricks used for setting castings shall be sound, hard-burned, common bricks conforming to ASTM Designation C-32, Grade MS, with all latest revisions.

Cement for masonry shall conform to the requirements of ASTM Designation C-91, Type II. Sand for the masonry mortar shall conform to ASTM Designation C-144. The mortar shall be composed of one (1) part masonry cement to 2 1/2 parts sand.

CONSTRUCTION METHOD

Castings shall be removed in a workmanlike manner to prevent entrance of spoil, damage to the utility and unnecessary roadway excavation. All utility structures shall then be protected with steel plates of sufficient size and strength to support traffic and prevent entrance of spoil or damage to the utility. Any debris entering the utility structure shall be immediately removed, by the Contactor, at no cost to the City. The Contactor shall contact the Engineer and City of Newport, Department of Utilities immediately after any debris enter the City's Utility systems (i.e. Water, Sewer and Storm Drainage). The Contractor shall clean and flush all sewer and/or storm drain lines that were effected from the debris entering the system, by use of pressure hoses, suction pumps, and/or any other methods required to perform this work, until accepted by the Engineer and/or City of Newport, Department of Utilities.

All manholes, catch basins, and valve boxes shall be thoroughly cleaned upon final resetting of the casting. At manholes and catch basins, masonry shall be removed as required to a depth of at least 12 inches below the existing road grade prior to placing the steel plates. At some existing manholes, such as pre-cast concrete, the structure cannot be lowered. After plating the structure, the excavation shall be backfilled to the existing road grade with gravel, and the trench shall be maintained as directed by the Engineer. All steel plates shall remain in place until the binder course has been placed, at which time they shall be located, excavated, the plates removed, the upper structure rebuilt, and the casting set to the proper grade.

No casting shall remain raised above the surrounding grade for more than forty-eight (48) hours or through a weekend or holiday period without being temporarily ramped to a minimum slope of 1:6.

The bricks used for resetting shall be laid in a workmanlike manner, true to line, and the joints shall be carefully struck and pointed on the inside. Bricks shall be thoroughly wet when laid and each brick shall be laid in mortar so as to form full bed, end and side joints in one operation. The outside of the brickwork for stacks shall be neatly plastered with a 1/2-inch layer of cement mortar as the work progresses. The brickwork shall be satisfactorily bonded to the concrete and frame. Prior to the placement of the final bituminous concrete course and following the secondary

bituminous concrete course binder, an area of one (1) foot outside the top of the frame shall be removed to a depth of nine (9) inches below the surface course. This area shall then be compacted and replaced with a Class A(AE) concrete collar to the level of the secondary bituminous course.

METHOD OF MEASUREMENT

Frames and Covers/Grates of the various types and sizes will be measured on a "Per Each" basis by the number of such structures actually removed and reset in accordance with the Plans and/or as directed by the Engineer and/or City of Newport, Department of Utilities. Any structures that require new Frames and Covers/Grates will be measured under their respective item.

BASIS OF PAYMENT

Remove and Reset and New Frames and Covers/Grates shall be paid for at the respective contract unit prices "Per Each" structure and Furnish and Install Frame and Cover/Grates shall be paid for at the respective contract unit prices "Per Each" structure as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) excavation, saw-cutting, plating, placement and compaction of backfill, masonry work, concrete and mortar, concrete collar, the legal disposal of all surplus excavated and/or unsuitable material and unusable Frames and Covers/Grates, cleaning the structure, and all other incidentals required to finish the work, complete and accepted by the Engineer. Any castings damaged shall be replaced at the Contractor's expense.

1.03 FURNISH AND INSTALL CATCH BASIN CONCRETE TOP/ROOF

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to remove and dispose broken or otherwise unacceptable concrete manhole/catch basin cover and furnish and install a new concrete cover to support vehicle loading, H-20 minimum. All work shall be in accordance with the Rhode Island Department of Transportation specifications and standards.

All utility castings shall be located in the field by the Contractor prior to removal. Locations shall be documented and filed with the City. Castings to be reused shall be marked by the Contractor to identify each cover and frame assembly and its specific location. The Contractor shall also protect the castings from damage and store them in a safe manner. Any castings damaged shall be replaced at the Contractor's expense.

MATERIALS

The contractor shall use a reinforced concrete roof in lieu of a steel plate, either precast or poured in place, rebar and concrete must be designed to span the structure and provide support for expected traffic loading. All designs must be submitted to the City Engineer for approval. Steel plates for the catch basins roofs are prohibited.

CONSTRUCTION METHOD

Each concrete cover shall be completely removed and disposed of. Existing Frames and Covers shall be used as directed by the Engineer and/or City of Newport, Department of Utilities to meet the City of Newport, Department of Utilities specifications and standard frames and covers. The installed concrete cover shall conform to RIDOT Specification Standard 4.6.0, 4.6.1, 4.7.0, 4.7.1, 4.7.2, & 4.7.8, or an approved equal. The construction method used shall be approved by the Engineer. Prior to setting the roof in place, the structure will be inspected by the Engineer and/or City of Newport, Department of Utilities and the Contractor shall rebuild or reconstruct catch basin walls so as to properly support the new roof.

All forms and reinforcement shall be inspected and approved by the Engineer before concrete is poured. If within sidewalk, concrete shall be poured at the same time as the sidewalk with the same specifications as such, unless otherwise noted in the specifications. Each cover shall be independent of the surrounding sidewalk bound by an expansion joint on all sides.

METHOD OF MEASUREMENT

Furnish and Install Concrete Tops/Roofs will be measured on a "Per Each" basis by the number of such structures actually removed and installed in accordance with the Plans and/or as directed by the Engineer. Measurement for this item includes the reconstruction of the first 6" of the catch basin wall as measured from the bottom elevation of the newly installed and approved Concrete Tops/Roofs. If approved by the Engineer, the reconstruction of catch basin walls beyond the included 6 inches shall be in accordance with specification 1.04, Reconstruct Catch Basin Walls. Any structures that require new Frames and Covers/Grates will be measured under their respective item also on a "Per Each" basis by the number of such frames and covers replaced new.

BASIS OF PAYMENT

Furnish and Install Concrete Tops/Roofs shall be paid for at the respective contract unit prices "Per Each" structure as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) excavation, plating, placement and compaction of backfill, masonry work, sawcutting, resetting the frame and cover, the legal disposal of all surplus excavated and/or unsuitable material and unusable frames and covers, cleaning the structure, reconstruction of the first 6" of the catch

basin wall as measured from the bottom elevation of the newly installed and approved concrete cover, and all other incidentals required to finish the work, complete and accepted by the Engineer.

1.04 RECONSTRUCT CATCH BASIN WALLS

1.05 DROP INLET BRICK RIDOT STANDARD 3.6.0 WITH CITY OF NEWPORT, DEPARTMENT OF UTILITIES, STANDARD FRAME AND COVER

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to remove and dispose broken or otherwise unacceptable catch basin walls or drop inlets and rebuild such structures. All work shall be in accordance with the City of Newport, Department of Utilities and Rhode Island Department of Transportation specifications and standards. Existing materials shall be discarded and new brick or other approved materials shall be used as directed. New materials will be provided by the Contractor. The Contractor shall notify the various utility companies (i.e. gas, sewer, storm drainage, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

MATERIALS

New brick used for rebuilding walls and setting castings shall be sound, hard-burned, common bricks conforming to ASTM Designation C-32, Grade MS, latest revision.

Cement for masonry shall conform to the requirements of ASTM Designation C-91, Type II. Sand for the masonry mortar shall conform to ASTM Designation C-144. The mortar shall be composed of one (1) part masonry cement to 2 1/2 parts sand.

CONSTRUCTION METHOD

Each catch basin or drop inlet shall be completely removed of defective brick and mortar to a point of structurally sound material, or as directed by the Engineer and/or City of Newport, Department of Utilities. All removed material will be disposed of. If a structure is removed in its entirety, the new structure shall be rebuilt on an approved gravel base, per City of Newport, Department of Utilities standards and specifications.

The bricks used for setting shall be laid in a workmanlike manner, true to line, and the joints shall be carefully struck and pointed on the inside. Bricks shall be thoroughly wet when laid and each brick shall be laid in mortar so as to form full bed, end and side joints in one operation. The outside of the brickwork for stacks shall be neatly plastered with a 1/2-inch layer of cement

mortar as the work progresses. The brick work shall be satisfactorily bonded to the concrete and frame.

After each catch basin is rebuilt or modified, processed gravel shall be placed and mechanically compacted around it, matching the grade of the existing gravel base.

METHOD OF MEASUREMENT

Reconstruct Catch Basin Walls and Drop Inlet Brick RIDOT Standard 3.6.0 With City of Newport, Department of Utilities, Standard Frame and Cover will be measured on a "Per Each" basis by the number of such structures actually removed and rebuilt in accordance with the Plans and/or as directed by the Engineer. Any structures that require new frames and covers will be measured under their respective item also on a "Per Each" basis.

Reconstruct Catch Basin Walls and Drop Inlet Brick RIDOT Standard 3.6.0 With City of Newport, Department of Utilities, Standard Frame and Cover will be measured on a "Per Lineal Foot" basis by the vertical height in linear feet of Catch Basin Walls actually reconstructed in accordance with the Plans and/or as directed by the Engineer. The measurement shall reflect the lowest reconstructed point on the lowest reconstructed wall. The reconstruction of the first 6" of the catch basin wall, measured from the bottom elevation of the newly installed and approved concrete cover shall be included under item 1.03. Should reconstruction of the catch basin walls be required and approved to be more than 6", that reconstruction shall fall under this item.

Any structures that require new frames and covers will be measured under their respective item also on a "Per Each" basis.

BASIS OF PAYMENT

Reconstruct Catch Basin Walls and Drop Inlet Brick RIDOT Standard 3.6.0 With City of Newport, Department of Utilities, Standard Frame and Cover shall be paid for at the respective contract unit prices "Per Each" structure as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, saw-cutting, and equipment associated with (but not limited to) excavation, placement and compaction of backfill, masonry work, the legal disposal of all surplus excavated and/or unsuitable material and unusable Frames and Covers/Grates, cleaning the structure, and all other incidentals required to finish the work, complete and accepted by the Engineer.

Reconstruct Catch Basin Walls and Drop Inlet Brick RIDOT Standard 3.6.0 With City of Newport, Department of Utilities, Standard Frame and Cover shall be paid for at the respective contract

unit prices "Per Lineal Foot" basis by the vertical height in linear feet of Catch Basin Walls, excluding the initial 6" from the bottom elevation of the newly installed Concrete Top/Roof, as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, saw-cutting, and equipment associated with (but not limited to) excavation, placement and compaction of backfill, masonry work, the legal disposal of all surplus excavated and/or unsuitable material and unusable Frames and Covers/Grates, cleaning the structure, and all other incidentals required to finish the work, complete and accepted by the Engineer.

1.06 PRECAST CONCRETE DROP INLET RIDOT STANDARD 4.5.0

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to remove and dispose broken or otherwise unacceptable catch basin drop inlets and furnish and install new precast concrete drop inlet RIDOT Standard 4.5.0. All work shall be in accordance with the Rhode Island Department of Transportation specifications and standards. Existing materials shall be discarded and new brick or other approved materials shall be used as directed. New materials will be provided by the Contractor. The Contractor shall notify the various utility companies (i.e. gas, sewer, storm drainage, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

All utility castings shall be located in the field by the Contractor prior to removal. Locations shall be documented and filed with the City. Castings to be reused shall be marked by the Contractor to identify each cover and frame assembly and its specific location. The Contractor shall also protect the castings from damage and store them in a safe manner. Any castings damaged shall be replaced at the Contractor's expense.

MATERIALS

Existing or new catch basin castings shall be centered over the drop inlet and adjusted to the proper roadway elevation using mortared brick.

New brick used for setting castings shall be sound, hard-burned, common bricks conforming to ASTM Designation C-32, Grade MS, and latest revision.

CONSTRUCTION METHOD

Each catch basin drop inlet shall be completely removed or as otherwise directed by the Engineer and/or City of Newport, Department of Utilities. All removed material will be disposed of at the expense of the Contractor. The new precast concrete drop inlet structure shall be

placed on an approved compacted base. Twelve inches (12") of processed gravel shall be required if so directed by the Engineer.

The bricks used for setting shall be laid in a workmanlike manner, true to line, and the joints shall be carefully struck and pointed on the inside. Bricks shall be thoroughly wet when laid and each brick shall be laid in mortar so as to form full bed, end and side joints in one operation. The brick work shall be satisfactorily bonded to the concrete and frame. Cement for masonry shall conform to the requirements of ASTM Designation C-91, Type II. Sand for the masonry mortar shall conform to ASTM Designation C-144. The mortar shall be composed of one (1) part masonry cement to 2 1/2 parts sand.

After each catch basin drop inlet is installed, processed gravel shall be placed and mechanically compacted around it, matching the grade of the existing gravel base.

METHOD OF MEASUREMENT

Precast Concrete Drop Inlet RIDOT Standard 4.5.0 will be measured on a "Per Each" basis by the number of such structures actually removed and installed new in accordance with the Plans and/or as directed by the Engineer. Any structures that require new Frames and Covers/Grates will be measured under their respective item also on a "Per Each" basis by the number of such drainage structures actually removed and reset or replaced new.

BASIS OF PAYMENT

Precast Concrete Drop Inlet Standard RIDOT 4.5.0 shall be paid for at the respective contract unit prices "Per Each" structure as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) excavation, plating, placement and compaction of backfill, saw-cutting, precast concrete structures, masonry work, locking the casting in place, the legal disposal of all surplus excavated and/or unsuitable material and unusable Frames and Covers/Grates, cleaning the structure, and all other incidentals required to finish the work, complete and accepted by the Engineer and/or City of Newport, Department of Utilities.

- 1.07 REMOVE AND RESET ROADWAY SERVICE GATE BOX**
- 1.08 FURNISH AND INSTALL ROADWAY SERVICE GATE BOX**
- 1.09 FURNISH AND INSTALL CURB STOP SERVICE GATE BOX**
- 1.10 INSTALL CURB STOP SERVICE GATE BOX PROVIDED BY OTHERS**

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to Remove and Reset or Furnish and Install or Install Roadway Service Gate Boxes and Curb Stop Service Gate Boxes, at gas and water shut off/clean out locations, to the new roadway and sidewalk elevations. All work shall be in accordance with the City of Newport, Department of Utilities and Rhode Island Department of Transportation specifications and standards. New structures will be provided by the Contractor when necessary. The Contractor shall notify the various utility companies (gas, water, etc.) to coordinate work on or near their respective structures.

When an existing gate box or curb stop is determined by the Engineer and/or City of Newport, Department of Utilities to be un-adjustable, a new gate box or curb stop shall be furnished and/or installed in accordance with the applicable provisions. The use of Standard Risers, E-Z Rise Slide Risers, Top Extensions, and other such products is prohibited.

All castings shall be located in the field by the Contractor prior to removal. Locations shall be documented and filed with the City. Castings to be reused shall be marked by the Contractor to identify each cover and frame assembly and its specific location. The Contractor shall also protect the castings from damage and store them in a safe manner. Any castings damaged shall be replaced at the Contractor's expense.

MATERIALS

All existing gate boxes shall be reused where possible as determined by the Engineer. Where existing gate boxes cannot be reused, new service boxes shall meet City Specifications and corresponding specifications located within the Rhode Island Department of Transportation specifications and standards. All gate boxes shall be of the best merchantable gray cast iron, tough, even-grained, and free from all flaws and injurious or unsightly defects. All gate boxes shall be of neat appearance and of approved design. Castings shall be properly cleaned and coated with an asphalt varnish applied by immersion while castings are hot. All gate boxes shall be machined to insure an even bearing in all positions. New gate boxes may be furnished by others to be installed by the contractor.

CONSTRUCTION METHOD

All castings shall be removed in a workmanlike manner to prevent entrance of spoil, damage to the utility and unnecessary excavation. All utilities shall then be protected with steel plates of sufficient size and strength to support traffic and prevent entrance of spoil or damage. Any debris entering the utility structure that prevents flows or proper valve operation shall be immediately removed. After plating the structure, the excavation shall be backfilled to the existing road grade with gravel, and the trench shall be maintained. All valve boxes shall be thoroughly cleaned upon final resetting of the casting.

All steel plates shall remain in place until the binder course has been placed, at which time they shall be located, excavated, the plates removed, and the casting set to the proper grade.

Each structure shall be excavated so that the top sleeve casting can be removed or adjusted. The service boxes shall be firmly set at the proper grade to conform to the finished surface of the street or sidewalk or as otherwise directed by the Engineer. Prior to the placement of the final bituminous concrete course and following the secondary bituminous concrete course binder, an area of one (1) foot outside the top of the frame shall be removed to a depth of nine (9) inches below the surface course. This area shall then be compacted and replaced with a Class A(AE) concrete collar to the level of the secondary bituminous course.

No casting shall remain raised above the surrounding roadway surface for more than forty-eight (48) hours or through a weekend or holiday period without being temporarily ramped with binder mixture. The slope of temporary ramps at street hardware shall be no more than 1:6.

METHOD OF MEASUREMENT

Remove and Reset Roadway Service Gate Boxes and will be measured on a "Per Each" basis by the number of such structures actually removed and reset. Furnish and Install Roadway Service Gate Box and Furnish and Install Curb Stop Service Gate Box will be measured under their respective item, also on a "Per Each" basis by the number of such structures actually removed, furnished, and installed new. Install Curb Stop Service Gate Box Provided by Others will be measured under its respective item, also on a "Per Each" basis by the number of such structures actually installed.

Payment for adjusting sidewalk curb stop service gate boxes shall be included under Portland Cement Concrete.

BASIS OF PAYMENT

Remove and Reset and New Roadway Service Gate Boxes, Furnish and Install Roadway Service Gate Boxes, Furnish and Install Curb Stop Service Gate Boxes, and Install Curb Stop Service Gate Box Provided by Others shall be paid for at the respective contract unit prices "Per Each" structure as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) excavation, plating, placement and compaction of backfill, locking the casting in place, concrete collar, the legal disposal of all surplus excavated and/or unsuitable material and unusable structures, cleaning the structure, and all other incidentals required to finish the work, complete and accepted by the Engineer. Any castings damaged shall be replaced at the Contractor's expense.

1.11 STORM DRAIN INLET PROTECTION

DESCRIPTION

The Contractor shall provide temporary storm drain protection as depicted on the Plans to prevent any bituminous concrete and/or sediment from entering the City's Storm drainage systems, or as directed by the Engineer and/or City of Newport, Department of Utilities, all in accordance with the City of Newport Specifications.

Storm drain protection control measures consist of the following three types:

1. Inlet filter socks/Silt sacks,
2. Sandbag Gutter Inlet Sediment Barrier.
3. Composite filter log.

All Controls shall be placed at all catch basin inlets, prior to the start of construction. Controls shall be installed, periodically inspected, maintained, managed properly before, during and after storm events and ultimately removed in accordance City's specifications, by the Contractor.

Final Cleanup. Upon completion of construction, if it is determined by the Engineer and/or City of Newport, Department of Utilities, that the Catch basin has been polluted from the Contractor's construction activities, then the Contractor shall clean each drainage structure of any accumulation of silt, earth, debris, or foreign matter of whatever kind, and shall be maintained in such condition until final acceptance of the work by the Engineer and/or City of Newport, Department of Utilities, at no additional cost to the City.

MATERIALS

Inlet filter sock/silt sack:

Inlet protection shall be manufactured from a woven polypropylene geotextile and sewn by a double needle machine, using high strength nylon thread.

Inlet protections shall be manufactured to fit the opening of the catch basin or drop inlet, and include dump straps to facilitate the emptying of the sock/sack, integral lifting straps, and a restraint cord.

The woven fabric shall have the following characteristics:

<u>Property</u>	<u>Test Method</u>	<u>Units</u>	<u>Min. Avg. Roll Value</u>
Grab Tensile	ASTM D-4632	LBS	237x294

Grab Elongation	ASTM D-4632	%	9x24
CBR Puncture	ASTM D-6241	LBS	716
Trapezoid Shear Strength	ASTM D-4533	LBS	79x76
UV Resist. @ 500 Hours	ASTM D-4355	%	99
AOS	ASTM D-4751	U.S. Sieve	20
Flow Rate	ASTM D-4491	GPM/FT ²	100.6
Permittivity	ASTM D-4491	SEC ⁻¹	3.396

Sandbag Gutter Inlet Sediment Barrier:

The sandbags and the sand material shall be of a quality acceptable to the Engineer.

Compost Filter Log:

The filter log shall consist of a blend of 30-35% weed-free compost and 65-70% partially decomposed wood chips. The compost/wood blend material shall pass a 2-inch sieve with a minimum of 7-% retained on the 3/8-inch sieve.

The filter log netting shall consist of a tubular knitted decomposable fabric, cylindrical with closed ends that are either hog ringed, zip tied, or hand tied.

The filter log shall be 8" in diameter, with a density of 14.2 lbs/cf. The length of the filter roll shall be as determined by the inlet to be protected.

METHOD OF MEASUREMENT

Storm Drain Inlet Protection will be measured on a "Per Each" basis by the number of such structures actually protected during the work.

BASIS OF PAYMENT

R Storm Drain Inlet Protection shall be paid for at the respective contract unit prices "Per Each" structure as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) placement, the legal disposal all material captured by the protection device, cleaning the structure as required, and all other incidentals required to finish the work, complete and accepted by the Engineer. Any castings damaged shall be replaced at the Contractor's expense.

SECTION 2 SITE WORK

2.01 COLD PLANING

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to mill in-place the existing bituminous pavement. All work shall be in accordance with The Rhode Island Standard Specifications for Road and Bridge Construction, amended August 2013 with all latest revisions. The Contractor shall notify the various utility companies (gas, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

MATERIALS

It will be the Contractor's responsibility to remove all milling from the work site and dispose of legally.

CONSTRUCTION METHOD

The Contractor shall furnish all labor, materials, tools and equipment necessary to perform the work of this item, including removing, resetting, protecting and adjusting all street castings. This work shall consist of cold planing (milling) the existing roadway to a depth of two (2) inches over the majority of the roadway. However, the depth of cold planing will extend to three (3) inches at the gutter lines, matching the two inch depth a minimum of four feet from the gutter line, unless otherwise specified within the Contract Documents or directed by the Engineer. The work also includes cleaning and sweeping, resetting or replacing manhole frames and covers/grates, water and gas service boxes, applying asphalt emulsion tack coat, and providing adequate traffic control devices during construction.

A tack coat shall be required on the cold planed surface immediately prior to installation of the bituminous surface course. The tack coat shall be applied by mechanical means at a rate specified by the manufacturer and as directed by the Engineer. Tack coat shall also be applied to all vertical surfaces including but not limited to pavement limit sawed lines, curb lines, utility castings, and any other vertical surfaces that the top coat of pavement will be placed adjacent.

As approved by the Engineer, street castings may be temporarily raised no more than next course of pavement with a traffic control device installed (e.g., safety cone) but shall not remain raised above the surrounding roadway surface for more than forty-eight (48) hours or through a weekend or holiday period without being temporarily ramped with binder mixture. The slope of temporary ramps at street hardware shall be no more than 1:6 (rise:run).

Temporary access ramps (e.g., driveways, sidewalks) shall be made hard and smooth surfaced with pavement. The slope of temporary ramps at driveways and transition areas shall be approximately 25% [approximately a three (3") inch rise in one (1') foot]. The slope of temporary pedestrian ramps shall be limited to a width of not less than four (4') feet and a minimum slope of 1:12.

METHOD OF MEASUREMENT

Cold Planing will be measured on a "Per Square Yard" basis by the amount of roadway material actually removed and disposed of in accordance with the Plans and/or as directed by the Engineer.

BASIS OF PAYMENT

Cold Planing shall be paid for at the respective contract unit prices "Per Square Yard" as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) milling, loading, movement and hauling, legal disposal of all materials, clean-up, saw-cutting, sweeping, asphalt emulsion tack coat, and all other incidentals required to finish the work, complete and accepted by the Engineer. Any damage shall be the Contractor's responsibility.

2.02 PAVEMENT RECLAMATION

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to pulverize in place the existing bituminous pavement and underlying material, rough grade, and compact the new road base. All work shall be in accordance with The Rhode Island Standard Specifications for Road and Bridge Construction with all latest revisions. The Contractor shall notify the various utility companies (gas, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

MATERIALS

Under reclamation, the existing bituminous concrete and base material must be pulverized and mixed so as to form a homogenous mass of uniformly processed base material that will bond together when compacted. All pulverized material shall pass the 3" sieve. The processed base shall meet the following gradation:

<u>Sieve Designation</u>	<u>% Passing by Weight</u>
3"	100
1 1/2"	70-100
3/4"	50-85
#4	30-65

#50
#200

8-24
0-10

A grain size distribution test of the pulverized material shall be furnished upon request of the Engineer.

Immediately following pulverization, the road shall be rough graded and mechanically compacted. The Contractor shall reclaim only that area of roadway that can be processed and mechanically compacted by the end of the same work day, at which time it must be open to traffic, with the City's approval.

Water and calcium chloride shall be added to insure optimum moisture content at time of compaction. They shall be applied at the rate of 0.25 pounds of calcium chloride per gallon of water per square yard of recycled pavement area. The mixing formula may be modified by the Engineer to compensate for temperature, humidity, weather and/or density determinations.

The calcium chloride solution provided shall be manufactured as a true solution and shall not be reconstituted from flake calcium chloride. The calcium shall meet the following material specifications (see ASTM Designation D98; AASHTO-M144).

Calcium Chloride:	35% $\pm$ 1%
Alkali Chloride as NaCl:	2% max.
Magnesium as MgCl:	0.1%

Typical (in lbs. per gallon)

Calcium Chloride	5.050
Sodium Chloride	0.200
Magnesium Chloride	0.004
Calcium Sulfate	0.004
Water	6.002
Total	11.26

The distributor for the liquid calcium chloride shall be capable of applying it in accurately measured quantities at any rate between 0.1 to 2.0 gallons per square yard of roadway surface, at any length of spray bar up to 20 feet. The distributor shall be capable of maintaining a uniform rate of distribution of material regardless of changes in road grade, width or direction. The distributor shall be equipped with a digital volumetric accumulator capable of measuring gallons applied and distance traveled. The volume and measuring device shall be equipped with a power unit for the pump so that the application is by pressure, not by gravity. The spray nozzles and pressure system shall provide a sufficient and uniform fan shaped spray of material throughout the entire length of the spray bar at all times while in operation, and shall be adjustable laterally and vertically. The spray shall completely cover the roadway surface receiving treatment.

The payment for liquid calcium chloride shall be included in the cost for this item Pavement Reclamation.

CONSTRUCTION METHOD

No reclamation shall begin until all structures and boxes are lowered and adequately protected as specified within these Specifications. All paving limits shall be saw-cut full depth.

As approved by the Engineer, street castings may be temporarily raised no more than next course of pavement with a traffic control device installed (e.g., safety cone) but shall not remain raised above the surrounding roadway surface for more than forty-eight (48) hours or through a weekend or holiday period without being temporarily ramped with binder mixture. The slope of temporary ramps at street hardware shall be no more than 1:6 (rise:run).

Temporary access ramps (e.g., driveways, sidewalks) shall be made hard and smooth surfaced with pavement. The slope of temporary ramps at driveways and transition areas shall be approximately 25% [approximately a three (3") inch rise in one (1') foot]. The slope of temporary pedestrian ramps shall be limited to a width of not less than four (4') feet and a minimum slope of 1:12.

The Contractor shall furnish all labor, materials, tools and equipment necessary to perform the work of this item, including removing all roadway utility castings at manholes, catch basins and service boxes, or otherwise protecting these utilities during the process. The work shall consist of pulverizing the existing pavement and underlying base material into processed asphalt stabilized base (recycled) course and providing adequate traffic control devices during construction. The actual depth of reclamation shall be determined in the field by the Engineer. This mixture of pavement and base is to be processed, blended, and reshaped in accordance with these specifications and/or as otherwise directed by the Engineer.

Reclamation shall be by means of a traveling rotary reclaimer capable of cutting through existing asphalt and pulverization of depths of up to 12 inches with one pass. The machine shall be self-propelled and equipped with an adjustable grading blade, leaving its path generally smooth for traffic. Equipment such as rear mounted ripper crushers, road planers or cold milling machines designed to mill or shred the existing bituminous pavement rather than crush and fracture it, are not considered capable of achieving specification gradation. This machine is not intended for use on sub-bases with large boulders or ledge. If such unsuitable material is found, pulverization will stop.

No payment for reclamation shall be made where the roadway is not pulverized. For areas where Cobblestones or Belgian Blocks are located in the roadway, the removal and stockpiling of Cobblestones and Belgian Blocks will be paid for under their respective item.

Excess reclaimed material may be used for the gravel base under the sidewalks as long as the material is pulverized and crushed to minus 2½ inches. The City may require a compaction test paid for by the Contractor.

METHOD OF MEASUREMENT

Pavement Reclamation will be measured on a "Per Square Yard" basis by the amount of roadway material actually pulverized in accordance with the Plans and/or as directed by the Engineer.

The unit price for this item shall constitute full compensation for scarifying, pulverizing and mixing the existing pavement, blending with gravel borrow and spreading and compacting the blended material, removal of castings, referencing, lowering and plating of structures. It shall also include all tools, labor, equipment, materials and all other work necessary to satisfactorily complete the work as indicated in the contract documents and as specified by the Engineer.

BASIS OF PAYMENT

Pavement Reclamation shall be paid for at the respective contract unit prices "Per Square Yard" as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) scarifying, pulverizing, spraying liquid calcium chloride, mixing, blending, spreading, loading, hauling, rough grading, removal of castings, referencing, lowering and plating of structures, and compacting the new road base, legal disposal of all materials, clean-up, and all other incidentals required to finish the work, complete and accepted by the Engineer. Any damage shall be the Contractor's responsibility.

There will be no separate payment for excavating and stockpiling reclaimed material in order to make profile adjustments as required. The cost of this work shall be included in this bid item.

There will be no separate payment for rehandling the stockpiled reclaimed material; the cost of which is included in the cost of this work.

- 2.03 ROADWAY EXCAVATION**
- 2.04 REMOVE AND DISPOSE EXCESS MATERIAL**
- 2.05 REMOVE AND DISPOSE UNSUITABLE MATERIAL**
- 2.06 REMOVE AND DISPOSE CONCRETE ROAD BASE**

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to remove and dispose of the existing bituminous pavement and underlying material as directed by the Engineer. All work shall be in accordance with The Rhode Island Standard Specifications for Road and Bridge Construction, amended August 2013 with all latest revisions. The Contractor shall notify the various utility companies (gas, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

Some roads may contain Concrete Road Base, or other Unsuitable Materials (deemed so by the Engineer). These various materials shall be excavated, removed and disposed of legally. The Contractor shall be responsible for locating and securing a proper disposal site. The Contractor then shall backfill the excavation with Crushed Processed Gravel, or as directed by the Engineer.

MATERIALS

None.

CONSTRUCTION METHOD

The Contractor shall furnish all labor, materials, tools and equipment necessary to perform the work of this item, including removing and disposing of all existing bituminous concrete pavements and underlying base material as directed by the Engineer. Total depth of excavation shall be determined by the Engineer. The Contractor shall be responsible for locating and securing a legal disposal site. The City of Newport has no landfill site available. The Contractor shall remove and dispose of any unsuitable material at locations as directed by the Engineer and backfill with Crushed Processed Gravel or stockpiled reclaimed Excess Material as directed by the Engineer. These items will be paid for under their respective unit prices. The roadway shall be reshaped, rough graded, and mechanically compacted in accordance with these specifications and/or as directed by the Engineer.

METHOD OF MEASUREMENT

Roadway Excavation, Removal and Disposal of Unsuitable Material, AND Removal and Disposal of Concrete Road Base, will be measured on a "Per Cubic Yard" basis by the amount of material actually removed and disposed in accordance with the Plans and/or as directed by the Engineer.

BASIS OF PAYMENT

Roadway Excavation, Removal and Disposal of Unsuitable Material, and Removal and Disposal of Concrete Road Base shall be paid for at the respective contract unit prices "Per Cubic Yard" as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) excavation, hauling, loading, rough grading, and compacting, legal disposal of all materials, clean-up, and all other incidentals required to finish the work, complete and accepted by the Engineer. Furnish and Install Crushed Processed Gravel will not be included in this item and will be paid by its respective Contract unit price.

2.07 REMOVE AND STOCKPILE BELGIAN BLOCKS
2.08 REMOVE AND STOCKPILE COBBLESTONES

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to Remove and Stockpile any Belgian Blocks and Cobble Stones and or dispose of any pulverized material deemed as Excess or Unsuitable by the Engineer and Concrete Road Base. All work shall be in accordance with The Rhode Island Standard Specifications for Road and Bridge Construction, amended August 2013 with all latest revisions. Existing material shall be used unless otherwise directed. The Contractor shall notify the various utility companies (gas, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

MATERIALS

None.

CONSTRUCTION METHOD

Some roads may contain Belgian Block granite pavers or round Cobblestones just below the existing asphalt. These various materials shall be excavated, removed and stockpiled at the City Yard 80 Halsey Street, Newport, RI 02840. The Contractor then shall backfill the excavation with excess material or Crushed Processed Gravel, or as otherwise directed by the Engineer. The contractor is responsible for communicating with the Streets and Sidewalks Superintendent at the City Yard prior to stockpiling materials and recording quantity of materials stockpiled.

METHOD OF MEASUREMENT

Removal and Stockpile of Belgian Blocks and Cobblestones will be measured on a "Per Square Yard" in place basis by the amount of roadway material actually removed and disposed of or stockpiled in accordance with the Plans and/or as directed by the Engineer.

BASIS OF PAYMENT

The Contractor shall be responsible for all costs associated with excavation, loading, movement/hauling, unloading, placement, disposal, clean-up and any other incidentals associated with the work complete and accepted by the Engineer.

Removal and Stockpile of Belgian Blocks and Cobblestones shall be paid for at the respective contract unit prices "Per Square Yard" as listed in the Proposal. The prices so-stated constitute

full and complete compensation for all labor, materials, and equipment associated with (but not limited to) saw cutting, pneumatic hammering, excavation, loading, movement and hauling, unloading, placement, clean-up, legal disposal of all materials, and all other incidentals required to finish the work, complete and accepted by the Engineer. Furnish and Install Crushed Processed Gravel will not be included in this item and will be paid by its respective Contract unit price.

Any damage shall be the Contractor's responsibility.

2.09 FURNISH AND INSTALL CRUSHED PROCESSED GRAVEL

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary furnish and install crushed processed gravel. All work shall be in accordance with The Rhode Island Standard Specifications for Road and Bridge Construction, amended August 2013 with all latest revisions. Existing material shall be used unless otherwise directed. The Contractor shall notify the various utility companies (gas, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

MATERIALS

All gravel shall be of hard, durable stone, and well-graded. It shall, in general, be as specified by the Rhode Island Department of Transportation specifications and standards, Section M.01, Borrow and Aggregates. No segregation of large or fine particles will be allowed, but the gravel, as spread, shall be well graded with no pockets of fine material.

Processed gravel shall meet the following gradation requirements:

Sieve Size	% Passing
2-inch	100
3/4 inch	50-80
#4	30-50
#200	0-5

All gravel shall be plant processed, crushed and washed, and yellow or brown in color. Gravel shall not be gray or black in color. All recycled gravel must be approved by the Engineer.

The Contractor shall be responsible for all costs associated with loading, movement and hauling, unloading, placement, clean-up and any other incidentals associated with the work complete and accepted by the Engineer. The Contractor shall be responsible for contact and communication with City Yard Employees when using stockpiled material.

CONSTRUCTION METHOD

The gravel shall be placed and compacted in accordance with RIDOT Specification Section 202, Excavation and Embankment. Each layer shall be uniformly compacted to the specified density before the next layer is placed. The specified density shall be obtained by utilizing any approved compaction equipment such as: pneumatic tired compaction equipment, or three wheeled power rollers, or vibratory, sheepsfoot, or tamping rollers, or other approved types of compaction equipment.

The gravel shall be placed in layers not exceeding 12 inches in depth before compaction. The relative compaction of each layer of base material shall not be less than 95% of the maximum density determined in accordance with AASHTO T180. **The cost of testing compaction is included in the cost of the item.** The surface of the finished base course shall not vary more than one inch above or below the grade established by the Engineer. No plus or minus deviation may continue for more than 100 feet in any direction.

The finished gravel base course shall not be disturbed by traffic or other operations and shall be maintained by the Contractor in a satisfactory condition until bituminous concrete pavement, Portland cement concrete, or curb is placed. The storage or stockpiling of materials on the finished base course will not be permitted.

If the gravel is too dry to consolidate satisfactorily, the Engineer may order the addition of sufficient water to secure satisfactory compaction and the cost thereof shall be included in the price bid.

METHOD OF MEASUREMENT

Furnish and Install Crushed Processed Gravel will be measured on a "Per Cubic Yard" basis by the amount of roadway material actually installed in accordance with the Plans and/or as directed by the Engineer. The quantity of crushed processed gravel to be included for payment under this item shall be the computed quantity placed within the width limits shown on the plans or as directed by the Engineer. For gravel delivered by weight and where site measurement is impractical, a conversion factor of 2,800 lb. per cubic yard of loose dry gravel and a compaction factor of 80% shall be applied to establish quantities for payment in cubic yards. The City shall also determine the quantity of gravel used by subtracting the subgrade elevation from the finished gravel elevations at 100 foot intervals prior to binder placement.

BASIS OF PAYMENT

Furnish and Install Crushed Processed Gravel shall be paid for at the respective contract unit prices "Per Cubic Yard" as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) loading, movement and hauling, unloading, placement, compaction, clean-up, legal disposal of all materials, and all other incidentals required to finish the work, complete and accepted by the Engineer. Any damage shall be the Contractor's responsibility.

2.10 TRIMMING, FINE GRADING, AND VIBRATORY COMPACTION

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary for the Trimming, Fine Grading and Vibratory Compaction of all roadway base material to lines and grades as directed by the Engineer. All work shall be in accordance with The Rhode Island Standard Specifications for Road and Bridge Construction, amended August 2013 with all latest revisions. The Contractor shall notify the various utility companies (gas, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

MATERIALS

A motorized grader shall be used for fine grading. Areas that cannot be graded mechanically shall be hand trimmed and graded. A vibratory roller shall be used for compacting the finished road base to a dense consolidated mass. Rollers shall have a compacting width of not less than five feet and a gross weight of not less than ten tons. All large rocks and other unsatisfactory material shall be removed prior to compaction.

CONSTRUCTION METHOD

The finished surface shall be tested for smoothness and accuracy of grade and if any portions are found to lack the required smoothness or accuracy, such portions shall be re-graded, re-compacted, and otherwise manipulated as directed by the Engineer until the required smoothness and accuracy are obtained. The finished surface shall be such that it will not vary more than one quarter of an inch from a ten foot straight edge applied to the surface, parallel to or at right angles to the center line.

If the gravel is too dry to consolidate satisfactorily, the Engineer may order the addition of sufficient water to secure satisfactory compaction and the cost thereof shall be included in the price bid.

Roadway crown shall be centered between both curb lines and shall have a slope of two (2) percent meeting the curb in a manner that creates a six-inch reveal, unless otherwise directed by the Engineer. The roadway shall also be graded as to take into account the locations of manholes, catch basins, inlet stones, and any other utility structures.

METHOD OF MEASUREMENT

Trimming, Fine Grading and Vibratory Compaction will be measured on a "Per Square Yard" basis by the area of roadway base material actually graded and mechanically compacted in accordance with the Plans and/or as directed by the Engineer.

BASIS OF PAYMENT

Trimming, Fine Grading and Vibratory Compaction shall be paid for at the respective contract unit prices "Per Square Yard" as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) grading, loading, movement and hauling, unloading, placement, compaction, clean-up, legal disposal of all materials, and all other incidentals required to finish the work, complete and accepted by the Engineer. Any damage shall be the Contractor's responsibility.

2.11 FURNISH AND INSTALL GEOGRID

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to furnish and install geogrid, Tensar® TriAx® TX140 Geogrid (or approved equal), to all manufacturers' specifications. All work shall be in accordance with the Rhode Island Standard Specifications for Road and Bridge Construction with all latest revisions. The Contractor shall notify the various utility companies (gas, water, etc.) to coordinate work on or near their respective structures.

MATERIALS

Geogrid material to be installed shall be Tensar® TriAx® TX140 Geogrid (or approved equal) as directed by the Engineer.

All existing base material shall be reused unless otherwise directed by the Engineer. Where existing material cannot be reused, the Contractor shall remove such Unsuitable Material and replace with either Crushed Processed Gravel or other Excess Material as directed. Any new material shall meet City Specifications and corresponding specifications located within the Rhode Island Standard Specifications for Road and Bridge Construction with all latest revisions.

CONSTRUCTION METHOD

Contractor will follow manufacturer's product specifications. In general, after the road surface and all oddities are removed in accordance with Roadway Excavation and Unsuitable Material items, the Contractor shall then strip the gravel roadway base 6 inches below the bottom proposed roadway pavement elevation and install the geogrid. The contractor shall then reuse the approved stripped gravel base as backfill covering the geogrid with six (6) inches and compact. If the existing stripped gravel is determined to be unsuitable by the Engineer, then Crushed Processed Gravel may be used as directed by the Engineer.

METHOD OF MEASUREMENT

Furnish and Install Geogrid will be measured "Per Square Yard" of Geogrid material actually installed in accordance with the Plans and/or as directed by the Engineer.

BASIS OF PAYMENT

Furnish and Install Geogrid shall be paid for at the respective contract unit prices "Per Square Yard" as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment required to furnish and install the geogrid in accordance with manufacture's specifications including, but not limited to, excavation and stripping of gravel, geogrid installation, placement and compaction of backfill, compaction and material testing, the legal disposal of all surplus excavated and stripped material, and all other incidentals required to finish the work, complete and accepted by the Engineer.

2.12 REMOVE AND DISPOSE EXCESS SIDEWALK

2.13 REMOVE AND DISPOSE EXCESS CURB

DESCRIPTION

This item shall cover removal and disposal of excess sidewalk and curb of various types when the measurement and payment for this item is not covered by another item. These locations shall be removed in accordance with the Plans and/or as directed by the Engineer. All such materials, objects and facilities shall be removed and legally disposed of.

MATERIALS

The Contractor shall obtain all required permits for hauling and disposal of waste materials, and shall be responsible for payment of tipping and other required fees.

CONSTRUCTION METHOD

Where the remainder of the existing pavement or sidewalks are to remain undisturbed, a clean saw cut shall be made to separate the remaining pavement from that being removed.

METHOD OF MEASUREMENT

Remove and Dispose Excess Sidewalk will be measured on a "Per Square Yard" basis by the amount of pavement actually removed and disposed in accordance with the Plans and/or as directed by the Engineer. Remove and Dispose Excess Curbing will be measured on a "Per Linear foot" basis of such curbing actually removed in accordance with the Plans and/or as specified by the Engineer.

BASIS OF PAYMENT

The accepted quantities of Remove and Dispose Excess Sidewalk will be paid for at the respective contract unit prices "Per Square Yard" as listed in the Proposal. The accepted quantities of Remove and Dispose Excess Curb will be paid for at the respective contract unit price "Per Linear Foot" as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, saw cutting, and equipment associated with (but not limited to) excavation, hauling, loading, rough grading, and compacting, legal disposal of all materials, clean-up, and all other incidentals required to finish the work, complete and accepted by the Engineer.

2.14 REMOVE AND RESET GRANITE BOLLARD

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to remove and reset existing granite bollards. All work shall be in accordance with the City of Newport and Rhode Island Department of Transportation specifications and standards. New materials will be provided by the Contractor. The Contractor shall notify the various utility companies (i.e. gas, sewer, storm drainage, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

The Contractor shall protect removed bollards from damage and store them in a safe manner. Any bollards damaged shall be replaced at the Contractor's expense.

MATERIALS

The Contractor shall obtain all required permits for hauling and disposal of waste materials, and shall be responsible for payment of tipping and other required fees.

CONSTRUCTION METHOD

The Contractor shall carefully remove the granite bollards in a workmanlike manner to not damage or break them. All bollards to be removed and reset shall be designated as such in the

field by the Engineer. Asphalt shall be sawcut no less than 18 inches from each face of the bollard in all locations where the bollards are to be removed and reset. Existing bollards shall be removed, relocated, reset on a compacted surface, and locked in place by compacted processed gravel below asphalt grade.

Prior to any bollard removal, the asphalt shall be removed and disposed of. The soil around the bollard shall then be carefully removed and disposed of so that no damage is caused to the bollard or any surrounding structures. Any bollards damaged shall be replaced at the Contractor's expense. After excavating adjacent to the bollard, it shall be carefully removed so as not to damage it. The bollard shall then be reset over an approved compacted gravel base.

After the bollards have been set to line and grade, plumb and true, and the underlying base material thoroughly compacted, the remaining trench shall be backfilled, and thoroughly compacted on all sides of the bollard to the bottom of asphalt grade. Surplus bollards shall be set aside for stockpiling as determined by the Engineer.

METHOD OF MEASUREMENT

Remove and Reset Granite Bollard will be measured on a "Per Each" basis by the number of such units actually removed and reset in accordance with the Plans and/or as directed by the Engineer.

BASIS OF PAYMENT

Remove and Reset Granite Bollard shall be paid for at the respective contract unit prices "Per Each" as listed in the Proposal. The prices so stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) saw-cutting, excavation, loading, hauling, placement and compaction of backfill, processed gravel, resetting, trimming, the legal disposal of all surplus excavated and/or unsuitable material, and all other incidentals required to finish the work, complete and accepted by the Engineer.

2.15 FURNISH AND INSTALL BANK RUN GRAVEL

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary furnish and install bank run gravel. All work shall be in accordance with The Rhode Island Standard Specifications for Road and Bridge Construction amended with all latest revisions. The Engineer may determine that existing material may be used unless otherwise directed. The Contractor shall notify the various utility companies (gas, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

MATERIALS

All gravel shall be of hard, durable stone, and well-graded. It shall, in general, be as specified by the Rhode Island Department of Transportation specifications and standards, Section M.01, Borrow and Aggregates. No segregation of large or fine particles will be allowed, but the gravel, as spread, shall be well graded with no pockets of fine material.

Bank Run gravel shall meet the following gradation requirements:

Sieve Size	% Passing
3-inch	60-100
1/2 inch	50-85
3/8 inch	45-80
#4	40-75
#40	0-45
#200	0-10

- Bank run gravel shall be well-graded and meet the gradation requirements specified within this specification. In addition, the **maximum particle size shall not exceed 9 inches or three-fourths of the loose lift thickness, whichever is smaller**

Gravel Borrow shall consist of bank run sand and gravel. All recycled gravel must be approved by the Engineer. Gravel Borrow may consist of selected materials which have been reclaimed from within project limits, are proportioned and processed to produce granular material for reuse as Gravel Borrow within the source project limits. Bank run gravel borrow shall consist of sound, durable particles free from loam, clay, organic soil, vegetative matter, soft and elongate particles. Gravel Borrow shall conform to all applicable specification requirements prior to its final placement on the project. The practice of culling deleterious or out of specification material after placement and/or grading in-place will not be allowed.

The Contractor shall be responsible for all costs associated with loading, movement and hauling, unloading, placement, clean-up and any other incidentals associated with the work complete and accepted by the Engineer. The Contractor shall be responsible for contact and communication with City Yard Employees when using stockpiled material.

CONSTRUCTION METHOD

The gravel shall be placed and compacted in accordance with RIDOT Specification Section 202, Excavation and Embankment. Each layer shall be uniformly compacted to the specified density before the next layer is placed. The specified density shall be obtained by utilizing any approved compaction equipment such as: pneumatic tired compaction equipment, or three wheeled power

rollers, or vibratory, sheepfoot, or tamping rollers, or other approved types of compaction equipment.

The gravel shall be placed in layers not exceeding 12 inches in depth before compaction. The relative compaction of each layer of base material shall not be less than 95% of the maximum density determined in accordance with AASHTO T180. **The cost of testing compaction is included in the cost of the item.** The surface of the finished base course shall not vary more than one inch above or below the grade established by the Engineer. No plus or minus deviation may continue for more than 100 feet in any direction.

The finished gravel base course shall not be disturbed by traffic or other operations and shall be maintained by the Contractor in a satisfactory condition until bituminous concrete pavement, Portland cement concrete, or curb is placed. The storage or stockpiling of materials on the finished base course will not be permitted.

If the gravel is too dry to consolidate satisfactorily, the Engineer may order the addition of sufficient water to secure satisfactory compaction and the cost thereof shall be included in the price bid.

METHOD OF MEASUREMENT

Furnish and Install Bank Run Gravel will be measured on a "Per Cubic Yard" basis by the amount of roadway material actually installed in accordance with the Plans and/or as directed by the Engineer. The quantity of Bank Run gravel to be included for payment under this item shall be the computed quantity placed within the width limits shown on the plans or as directed by the Engineer. For gravel delivered by weight and where site measurement is impractical, a conversion factor of 2,800 lb. per cubic yard of loose dry gravel and a compaction factor of 80% shall be applied to establish quantities for payment in cubic yards. The City shall also determine the quantity of gravel used by subtracting the subgrade elevation from the finished gravel elevations at 100 foot intervals prior to binder placement.

BASIS OF PAYMENT

Furnish and Install Bank Run Gravel shall be paid for at the respective contract unit prices "Per Cubic Yard" as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) loading, movement and hauling, unloading, placement, compaction, clean-up, legal disposal of all materials, and all other incidentals required to finish the work, complete and accepted by the Engineer. Any damage shall be the Contractor's responsibility.

2.16 FURNISH AND INSTALL TREE ROOT BARRIER

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary furnish and install tree root barrier. All work shall be in accordance with this specification and manufacturer's recommendations and specifications. The Contractor shall notify the various utility companies (gas, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

MATERIALS

Tree root barrier is a mechanical barrier and root deflector used to prevent tree roots from damaging hardscapes and landscapes. Tree root barrier shall be 24 inches deep or as specified by the Engineer. Tree root barrier shall be #UB 24-2 as manufactured by DeepRoot Green Infrastructure or an approved equal.

Tree root barrier shall be black injection molded panels with 0.80 inch wall thickness, 24 inches deep, and 24 inches long. Tree root barrier shall be manufactured to be durable when exposed to ultraviolet light and other environmental factors. Barrier shall be dimensionally stable with ribs or other structural characteristics. Tree root barrier shall also be manufactured and installed to resist lift and shifting, bending, and connect to other panels to create one integral system.

CONSTRUCTION METHOD

Tree root barriers shall be installed per manufacturer's recommendations and specifications as approved by the Engineer. Tree root barrier shall be installed flush with surrounding material.

METHOD OF MEASUREMENT

Furnish and Install Tree Root Barrier will be measured on a "Per Linear Foot" basis by the amount of barrier actually installed in accordance with the Plans and/or as directed by the Engineer.

BASIS OF PAYMENT

Furnish and Install Tree Root Barrier shall be paid for at the respective contract unit prices "Per Linear Foot" as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) loading, movement and hauling, unloading, placement, compaction, clean-up, legal disposal of all materials, and all other incidentals required to finish the work, complete and accepted by the Engineer. Any damage shall be the Contractor's responsibility.

SECTION 3 BITUMINOUS CONCRETE PAVEMENT

3.01 FURNISH AND INSTALL BITUMINOUS CONCRETE BINDER COURSE **3.02 FURNISH AND INSTALL BITUMINOUS CONCRETE TOP COURSE CLASS I-1**

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to Furnish and Install Bituminous Concrete Binder Course and Bituminous Concrete Top Course Class I-1. All work shall be in accordance with the Rhode Island Department of Transportation specifications and standards. The Contractor shall notify the various utility companies (gas, water, etc.) to coordinate work on or near their respective structures.

MATERIALS

The specific pavement mixes are designated by the column headings of the table that constitutes Subsection M.03.01 of the Rhode Island Department of Transportation specifications and standards. They are: Base Course, Surface Course; Class I-1, and Asphalt Emulsion Tack Coat

Aggregates for bituminous pavements shall meet the following applicable requirements:

Coarse aggregate (retained on the No. 8 sieve) shall be crushed stone, or crushed or natural gravel, and, unless otherwise stipulated, shall conform to the respective requirements of Subsections M.01.05, M.01.10 and M.01.11 of the Rhode Island Department of Transportation specifications and standards Section 400.

Fine aggregate shall consist of sand, stone screenings or a mixture of sand and stone screenings. Stone screenings and sands shall be free from dirt, clay, organic matter, excess fines or other deleterious materials. Fine aggregates shall conform to the quality requirements of AASHTO M29. Fine aggregate shall be of such gradation that when proportionally combined with other required aggregate fractions, the resultant mixture will meet the gradation required under the composition of mixture for the specified class.

Filler material for use in asphalt mixtures shall conform to the requirements of AASHTO M17.

Hydrated lime shall conform to the latest requirements of ASTM C207, Type N

The grade of bituminous material shall be as specified in Subsection M.03.02.1 of the Rhode Island Department of Transportation specifications and standards Section 400. Viscosity graded AC-20 shall be used in all non-recycled paving mixtures, unless otherwise approved by the City.

A certificate of analysis for asphalt cement may be required at the point of distribution. Samples may be taken at the plant and tested by the City to determine specification conformance.

An asphalt emulsion tack coat shall be included in this item. The specific pavement mixes are designated by the column headings "Asphalt Emulsion Tack Coat" of the table that constitutes Subsection M.03 and Section 403 of the Rhode Island Department of Transportation specifications and standards.

Per RIDOT Section 403, the asphalt emulsion shall be SS-1, SS-1h, CSS-1, or CSS-1h. Application of the asphalt emulsion tack coat shall be by means of a pressure distributor capable of producing a uniform continuous fine spray, through multiple nozzles, resulting in a uniform continuous coat of asphalt emulsion over the section to be treated. Any puddles of tack coat must be squeegeed or broomed out. Tack coat shall be applied using the proper nozzle settings and the "double coverage" or "triple coverage" techniques as outlined in Chapter 5 of Asphalt Institute Publication MS-22, "Construction of Hot Mix Asphalt Pavements."

The asphalt emulsion shall be applied at the following rates over the entire area to be overlaid:

1. Old Pavement. The application rate shall be 0.08 gallons per square yard, plus-or-minus 0.02 gallons per square yard.

2. New Pavement.

(a) Thirty days old or has been opened to traffic: The application rate shall be 0.06 gallons per square yard, plus-or-minus 0.02 gallons per square yard.

(b) Less than thirty days old and has not yet been opened to traffic: Tack coat is not required.

A tack coat shall be required on a cold planed surface immediately prior to installation of the bituminous surface course. The tack coat shall be applied by mechanical means at a rate specified by the manufacturer and as directed by the Engineer. Tack coat shall also be applied to all vertical surfaces including but not limited to pavement limit sawed lines, curb lines, utility castings, and any other vertical surfaces where the bituminous concrete will be placed adjacent to.

CONSTRUCTION METHOD

On roadways to be reclaimed or excavated, all new pavements shall consist of bituminous concrete, four (4) inches in compacted thickness unless otherwise specified within the Contract Documents or directed by the Engineer. Pavements shall be placed in two (2) courses, a two and one-half (2½) inch binder course and a one and one-half (1½) inch surface course unless otherwise specified within the Contract Documents or directed by the Engineer.

On roadways to be cold planed and overlaid, all new pavements shall consist of bituminous concrete, two inches in compacted thickness, surface course unless otherwise specified within the Contract Documents or directed by the Engineer.

At all limits of work, the edges of existing bituminous concrete pavement shall be neatly saw-cut for the full depth of bituminous pavement to be placed. All saw-cuts shall be in straight lines. These straight lines shall be at least two feet in length before a change of direction and a minimum of six (6) inches back from the edge of the existing pavement. Pavement breakers (jackhammers) will not be allowed for cutting the existing pavement.

Excavation Equipment: Track type equipment shall be allowed on the project. Track type equipment shall not be allowed on existing pavements outside the limits of work as shown on the Plans. The Contractor shall provide all necessary planking to place under tracks of equipment to be moved across existing pavements at no expense to the City. Rubber shoes are required on the stabilizers on all excavation equipment. All damage to existing pavement or sidewalk outside the limits of excavation as defined shall be repaired or replaced by the Contractor to the satisfaction of the City, at no additional cost to the City.

Hauling Equipment: Trucks or other equipment used for hauling bituminous mixtures shall have tight, clean, smooth metal beds which have been thinly coated with a minimum amount of paraffin oil, lime solution or other approved material to prevent the mixture from adhering to the beds. Each truck shall have a cover of canvas or other suitable material of such size as to protect the mixture from the weather. Truck beds shall be securely covered and, if necessary, insulated to assure delivery of the mixture at the specified temperature. No hauling trucks or other equipment shall be allowed on freshly placed bituminous pavement unless specifically permitted to do so by the City.

Spreading and Finishing: All bituminous concrete pavement shall be spread by means of a mechanical paver capable of spreading the mixture true to line, grade and crown set by the Contractor and confirmed by the Engineer. The paver shall be equipped with a receiving hopper having sufficient capacity for a uniform spreading operation. The hopper shall be equipped with a distribution system to place the mixture uniformly in front of the screed. The screed and screed extenders may vibrate while placing the mixture and shall effectively produce a finished surface of the required evenness and texture without tearing, shoving or gouging the mixture. The screed and screed extenders shall be heated if necessary to maintain the bituminous mixture at the required placement temperature. Reference lines for the control of horizontal alignment shall be provided by the Contractor subject to the approval of the City.

When a reference line is used for automatic grade control, the Contractor shall furnish and install all pins, brackets, tensioning devices, wire and accessories necessary for satisfactory operation of the automatic control equipment using a taut string line set to grade for reference.

The transverse slope controller shall be capable of maintaining the screed at the desired slope within plus or minus 0.1-percent. The paver shall be equipped with automatic feeder controls, properly adjusted to maintain a uniform depth of materials ahead of the screed. Manual operation will be permitted in the construction of irregularly shaped and minor areas, on plant mixed seal courses, or where otherwise directed.

Any mixture that becomes loose and broken, mixed with dirt, or is in any way defective shall be removed and replaced with fresh hot mixture, which shall then be compacted to conform to the surrounding area. Any area showing an excess or deficiency of bituminous material shall be removed and replaced.

Rollers and Compaction: Static or vibratory steel wheel rollers shall be employed. They shall be in good condition, capable of reversing without backlash, and shall be operated at speeds slow enough to avoid displacement of the bituminous mixture. However, in no case shall such rollers be operated at speeds in excess of five miles per hour.

Immediately after the bituminous mixture has been spread, struck off, and surface irregularities adjusted, it shall be thoroughly and uniformly compacted by rolling. The surface shall be rolled when the mixture is in the proper condition and when the rolling does not cause undue displacement, cracking or shoving. Unless otherwise directed, rolling shall begin at the sides and proceed longitudinally parallel to the road center line, each trip overlapping one-half the roller width, gradually progressing to the crown of the road. When paving in echelon or abutting a previously paved lane, the longitudinal joint shall be rolled first, followed by the rectangular rolling procedure.

Any displacement occurring as a result of the reversing of the direction of a roller, or from other causes, shall be corrected at once by the use of rakes and addition of fresh mixture when required. Care shall be exercised in rolling not to displace the line and grade of the edges of the bituminous mixture. To prevent adhesion of the mixture to the rollers, the wheels shall be kept properly moistened with water or water mixed with very small quantities of detergent or other approved material. Excess liquid will not be permitted.

Along forms, curbs, headers, utility boxes, walls and other places not accessible to the rollers, the mixture shall be thoroughly compacted with hot hand tampers, smoothing irons or with mechanical tampers. On depressed areas, a trench roller may be used or cleared compression strips may be used under the roller to transmit compression to the depressed area.

Unless otherwise specified, the minimum acceptable density shall be 95-percent of the density of laboratory Marshall Specimens made in the proportions of the job-mix formula; according to AASHTO T245. Density measurements may be made with a nuclear density gauge. In the event

of a dispute as to the credibility of the results, the density shall be determined from cores taken from the pavement.

The rolling of the binder course shall begin when the temperature of the mat is not more than 240°F. The ideal temperature for initial compaction of all other types of hot mix is 275°F. Final compaction shall be completed before the temperature of the material drops below 175°F. The typical time that shall elapse between spreading and completion of the rolling process shall not normally exceed fifteen minutes. This time limit may be modified by the Engineer depending on temperature conditions, but under no circumstance will rolling be allowed when the temperature of the material is less than 175°F.

The speed of a static weight, steel wheel roller, pneumatic tire roller, or vibratory roller shall not exceed five miles per hour. Rollers shall not be temporarily parked on hot mix. When reversing direction, the action should be smooth, not abrupt. The drive wheel should approach the new mix, not the tiller wheel.

When any lift of bituminous concrete pavement fails to comply with the density requirements, additional compaction may be applied, when permitted and as directed, to attain the required density. If satisfactory density cannot be attained, the Contractor shall be required to remove and replace any affected area, at its own expense, which is determined by the City to be structurally inadequate and/or incapable of maintaining material integrity.

Placing of the bituminous paving shall be as continuous as possible. Rollers shall not pass over the unprotected end of a freshly laid mixture unless authorized by the City.

Longitudinal and transverse joints shall be made in a careful manner. Well-bonded and sealed joints are required. In order to obtain this result, joints shall be brush-painted or pressure sprayed with a bituminous tack coat. Both longitudinal and transverse joints in successive courses shall be staggered so as not to be one above the other. Longitudinal joints shall be staggered a minimum of six (6) inches and shall be arranged so that the longitudinal joint in the top course being constructed shall be at the location of the line dividing the traffic lanes. Joints between old and new pavements, or between successive days' work, shall be carefully made in such a manner as to insure a thorough and continuous bond between the old and new surfaces. The edge of the old pavement or previously placed new pavement, shall be cut back a sufficient distance to expose a fresh, full thickness, vertical face. To obtain a well bonded joint, this face shall be brush-painted or pressure sprayed with a bituminous tack coat, after which the hot bituminous mixture shall be placed in contact with it and raked to a proper depth and grade.

Surface Tolerances: The surface will be tested by the City at selected locations, using an approved 10-foot straightedge furnished by the Contractor. The variation of the surface from the testing edge of the straightedge between any two contacts with the surface shall at no point exceed 1/4-

inch. All humps or depressions exceeding the specified tolerance shall be corrected by removing defective work and replacing it with new material as directed.

Weather Limitations: Bituminous concrete shall not be placed on any wet surface, or when weather conditions otherwise prevent the proper handling or finishing of the bituminous mixtures.

Restrictions Bituminous concrete paving may not be placed under any of the following conditions:

1. When the underlying layer contains frozen moisture.
2. When the temperature of this underlying layer, in the shade and away from any source of heat, is below 26°F.
3. When this temperature is below 34°F and the thickness of the lift to be placed is 1-1/2 inches, or less.

Compaction: Rollers shall follow pavers as close as possible to provide the specified compaction. Should additional rollers be required, they will be provided in a timely manner. Specification density shall be achieved before the mix temperature drops below 175°F. The cost of testing compaction is included in the cost of the item.

A tack coat shall be required on a cold planed surface immediately prior to installation of the bituminous surface course. The tack coat shall be applied by mechanical means at a rate specified by the manufacturer and as directed by the Engineer.

Prior to completing the surface course, all cut edges of existing pavement and vertical surfaces including but not limited to pavement limit sawed lines, curb lines, utility castings, and any other vertical surfaces where the bituminous concrete will be placed adjacent to, shall be coated with asphalt emulsion tack coat as directed by the Engineer. Asphalt emulsion tack coat will be included in this item.

As approved by the Engineer, street castings may be temporarily raised no more than next course of pavement with a traffic control device installed (e.g., safety cone) but shall not remain raised above the surrounding roadway surface for more than forty-eight (48) hours or through a weekend or holiday period without being temporarily ramped with binder mixture. The slope of temporary ramps at street hardware shall be no more than 1:6 (rise: run).

Temporary access ramps (e.g., driveways, sidewalks) shall be made hard and smooth surfaced with pavement. The slope of temporary ramps at driveways and transition areas shall be approximately 25% [approximately a three (3") inch rise in one (1') foot]. The slope of temporary pedestrian ramps shall be limited to a width of not less than four (4') feet and a minimum slope of 1:12.

METHOD OF MEASUREMENT

Furnish and Install Bituminous Concrete Binder Course and Bituminous Concrete Top Course Class I-1 will be measured on a "Per Ton" of asphalt basis by the amount of Bituminous Concrete material actually installed in accordance with the Plans and/or as directed by the Engineer. Any extra work associated with this item including Asphalt Emulsion Tack Coat and compaction testing shall be considered incidental to these items.

BASIS OF PAYMENT

Furnish and Install Bituminous Concrete Binder Course and Bituminous Concrete Top Course Class I-1 shall be paid for at the respective contract unit prices "Per Ton" of asphalt as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment required to furnish and place the bituminous concrete including saw-cutting, furnishing and application of the asphalt emulsion tack coat, compaction testing, the legal disposal of all surplus excavated and/or unsuitable material, and all other incidentals required to finish the work, complete and accepted by the Engineer.

3.03 FURNISH AND INSTALL BITUMINOUS CONCRETE NON-MECHANICAL

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to Furnish and Install Bituminous Concrete Non-Mechanical pavement. All work shall be in accordance with the Rhode Island Department of Transportation specifications and standards. The Contractor shall notify the various utility companies (gas, water, etc.) to coordinate work on or near their respective structures. Work under this item shall include all areas where the use of mechanical spreading and finishing equipment is impractical, such as behind driveway aprons, along new or reset curb, around newly reset road castings or any other areas as directed by the Engineer. The Contractor shall confirm the extent of such areas with the Engineer prior to performing the work.

All excavation and disposal associated with saw cutting and matching of non-mechanical bituminous pavements shall be included for payment under this item.

MATERIALS

The specific pavement mixes are designated by the column headings of the table that constitutes Subsection M.03.01 of the Rhode Island Department of Transportation specifications

and standards. They are: Base Course, Surface Course; Class I-1, and Asphalt Emulsion Tack Coat.

Aggregates for bituminous pavements shall meet the following applicable requirements:

Coarse aggregate (retained on the No. 8 sieve) shall be crushed stone, or crushed or natural gravel, and, unless otherwise stipulated, shall conform to the respective requirements of Subsections M.01.05, M.01.10 and M.01.11 of the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, amended December 2010 with all latest revisions Section 400.

Fine aggregate shall consist of sand, stone screenings or a mixture of sand and stone screenings. Stone screenings and sands shall be free from dirt, clay, organic matter, excess fines or other deleterious materials. Fine aggregates shall conform to the quality requirements of AASHTO M29. Fine aggregate shall be of such gradation that when proportionally combined with other required aggregate fractions, the resultant mixture will meet the gradation required under the composition of mixture for the specified class.

Filler material for use in asphalt mixtures shall conform to the requirements of AASHTO M17.

Hydrated lime shall conform to the latest requirements of ASTM C207, Type N.

The grade of bituminous material shall be as specified in Subsection M.03.02.1 of the Rhode Island Department of Transportation specifications and standards Section 400. Viscosity graded AC-20 shall be used in all non-recycled paving mixtures, unless otherwise approved by the City. A certificate of analysis for asphalt cement may be required at the point of distribution. Samples may be taken at the plant and tested by the City to determine specification conformance. An Asphalt Emulsion Tack Coat shall be included in this item. The specific pavement mixes are designated by the column headings "Asphalt Emulsion Tack Coat" of the table that constitutes Subsection M.03.01 of the Rhode Island Department of Transportation specifications and standards.

A tack coat shall be required on a cold planed surface immediately prior to installation of the bituminous surface course. The tack coat shall be applied by mechanical means at a rate specified by the manufacturer and as directed by the Engineer. Tack coat shall also be applied to all vertical surfaces including but not limited to pavement limit sawed lines, curb lines, utility castings, and any other vertical surfaces where the bituminous concrete will be placed adjacent to.

CONSTRUCTION METHOD

In these areas the mixture shall be spread, raked, and luted by hand tools. The mixture shall be dumped, spread, and screeded to give the required compacted thickness. Small rollers or mechanical vibrating plate compactors shall be used for compaction. All depths of material to be placed shall match adjacent once compacted.

At all limits of work, the edges of existing bituminous concrete pavement shall be neatly saw-cut for the full depth of bituminous pavement to be placed. All saw-cuts shall be in straight lines. These straight lines shall be at least two feet in length before a change of direction and a minimum of six (6) inches back from the edge of the existing pavement. Pavement breakers (jackhammers) will not be allowed for cutting the existing pavement.

Any mixture that becomes loose and broken, mixed with dirt, or is in any way defective shall be removed and replaced with fresh hot mixture, which shall then be compacted to conform to the surrounding area. Any area showing an excess or deficiency of bituminous material shall be removed and replaced.

Unless otherwise specified, the minimum acceptable density shall be 95-percent of the density of laboratory Marshall Specimens made in the proportions of the job-mix formula; according to AASHTO T245. Density measurements may be made with a nuclear density gauge. In the event of a dispute as to the credibility of the results, the density shall be determined from cores taken from the pavement.

When any lift of bituminous concrete pavement fails to comply with the density requirements, additional compaction may be applied, when permitted and as directed, to attain the required density. If satisfactory density cannot be attained, the Contractor shall be required to remove and replace any affected area, at its own expense, which is determined by the City to be structurally inadequate and/or incapable of maintaining material integrity.

Weather Limitations: Bituminous concrete shall not be placed on any wet surface, or when weather conditions otherwise prevent the proper handling or finishing of the bituminous mixtures.

Restrictions: Bituminous concrete paving may not be placed under any of the following conditions:

1. When the underlying layer contains frozen moisture.
2. When the temperature of this underlying layer, in the shade and away from any source of heat, is below 26°F.
3. When this temperature is below 34°F and the thickness of the lift to be placed is 1-1/2 inches, or less.

Prior to completing the surface course, all cut edges of existing pavement and vertical surfaces including but not limited to pavement limit sawed lines, curb lines, utility castings, and any other vertical surfaces where the bituminous concrete will be placed adjacent to, shall be coated with Asphalt Emulsion Tack Coat as directed by the Engineer. Asphalt Emulsion Tack Coat will be included in this item.

METHOD OF MEASUREMENT

Furnish and Install Bituminous Concrete Non-Mechanical will be measured on a "Per Ton" of asphalt basis by the amount of Bituminous Concrete material actually installed in accordance with the Plans and/or as directed by the Engineer. Any extra work associated with this item including Asphalt Emulsion Tack Coat shall be considered incidental to these items.

BASIS OF PAYMENT

Furnish and Install Bituminous Concrete Non-Mechanical shall be paid for at the respective contract unit prices "Per Ton" of asphalt as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment required to furnish and place the bituminous concrete including saw-cutting, furnishing and application of the asphalt emulsion tack coat, the legal disposal of all surplus excavated and/or unsuitable material, and all other incidentals required to finish the work, complete and accepted by the Engineer.

3.04 FURNISH AND INSTALL BITUMINOUS CONCRETE BERM

3.05 FURNISH AND INSTALL BITUMINOUS CONCRETE LIP CURB

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to Furnish and Install Bituminous Concrete Berm Type I-1 or Bituminous Concrete Lip Curb STD 7.5.0. All work shall be in accordance with The Rhode Island Standard Specifications for Road and Bridge Construction, amended August 2013 with all latest revisions. The Contractor shall notify the various utility companies (gas, water, etc.) to coordinate work on or near their respective structures.

MATERIALS

Work under this item shall include furnishing and installing bituminous concrete berm, Type I-1 or Bituminous Concrete Lip Curb STD 7.5.0 done by mechanical and non-mechanical means as directed by the Engineer. The Contractor shall confirm the extent of such areas with the Engineer prior to performing the work.

The specific pavement mixes are designated by the column headings of the table that constitutes Subsection M.03.01 of the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, amended December 2010 with all latest revisions. They are: Base Course, Surface Course Class I-1, and Asphalt Emulsion Tack Coat

Aggregates for bituminous pavements shall meet the following applicable requirements:

Coarse aggregate (retained on the No. 8 sieve) shall be crushed stone, or crushed or natural gravel, and, unless otherwise stipulated, shall conform to the respective requirements of Subsections M.01.05, M.01.10 and M.01.11 of the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, amended December 2010 with all latest revisions Section 400.

Fine aggregate shall consist of sand, stone screenings or a mixture of sand and stone screenings. Stone screenings and sands shall be free from dirt, clay, organic matter, excess fines or other deleterious materials. Fine aggregates shall conform to the quality requirements of AASHTO M29. Fine aggregate shall be of such gradation that when proportionally combined with other required aggregate fractions, the resultant mixture will meet the gradation required under the composition of mixture for the specified class.

Filler material for use in asphalt mixtures shall conform to the requirements of AASHTO M17.

Hydrated lime shall conform to the latest requirements of ASTM C207, Type N.

The grade of bituminous material shall be as specified in Subsection M.03.02.1 of the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, amended December 2010 with all latest revisions Section 400. Viscosity graded AC-20 shall be used in all non-recycled paving mixtures, unless otherwise approved by the City. A certificate of analysis for asphalt cement may be required at the point of distribution. Samples may be taken at the plant and tested by the City to determine specification conformance.

An Asphalt Emulsion Tack Coat shall be included in this item. The specific pavement mixes are designated by the column headings "Asphalt Emulsion Tack Coat" of the table that constitutes Subsection M.03.01 of The Rhode Island Standard Specifications for Road and Bridge Construction, amended December 2010 with all latest revisions.

CONSTRUCTION METHOD

Furnish and Install Bituminous Concrete Berm and Furnish and Install Bituminous Concrete Lip Curb STD 7.5.0 shall be placed by mechanical means at the same time as the Bituminous Concrete Top Course wherever possible so that the berm is monolithic to the road surface.

METHOD OF MEASUREMENT

Furnish and Install Bituminous Concrete Berm and Furnish and Install Bituminous Concrete Lip Curb STD 7.5.0 will be measured on a "Per Linear Foot" of berm basis by the amount of Bituminous Concrete material actually installed in accordance with the Plans and/or as directed

by the Engineer. Any extra work associated with this item including Asphalt Emulsion Tack Coat shall be considered incidental to these items.

BASIS OF PAYMENT

Furnish and Install Bituminous Concrete Berm and Furnish and Install Bituminous Concrete Lip Curb STD 7.5.0 shall be paid for at the respective contract unit prices "Per Linear Foot" of Berm or Curb as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment required to furnish and place the bituminous concrete berm including furnishing and application of the berm, the legal disposal of all surplus excavated and/or unsuitable material, and all other incidentals required to finish the work, complete and accepted by the Engineer.

3.06 TEMPORARY PATCHING MATERIAL POTHoles AND TRENCHES

DESCRIPTION

This work consists of repairing roadway potholes and patching utility and drainage trenches during the construction of the roadway at locations as required or as directed by the City Engineer, all in accordance with these Specifications.

It is the sole responsibility of the contractor to maintain the work site in a safe condition at all times during and after construction. Contractors are solely responsible for regular inspection of work to ensure safety. Non-compliance may be subject to fines and other conditions (ref. Ordinance 12.08.040). Upon the City's attempt to notify the Contractor, the contractor has no more than 24 hours to make corrections to the issue. After 24 hours and without notice, the City may call in services to complete the work. The City may recover the costs incurred in making the restoration plus a penalty of five hundred dollars (\$500.00) or cost plus one hundred (100) percent of the associated cost, whichever is greater, regardless of whether the responsible contractor has responded after 24 hour notice or not. (ref. Ordinance 12.08.040). In the sole opinion of the Director of Public Services or Chief of Police, if the condition presents a safety concern, measures may be taken immediately without notification and the contractor will be responsible for all costs, fines, and fees.

Contractors are solely responsible for ensuring emergency contact information is correct and the contact person is checking for messages 24/7/365.

MATERIALS

The temporary patching material shall conform to the requirements for Bituminous Concrete Top Course Class I-1 as set forth in RIDOT Standard Specifications Subsection M.03.01 or to High Performance Cold Patching Material as set forth in Subsection M.03.04 of the RIDOT Standard Specifications. Permanent pavement materials shall conform to the requirements of Class I-1 Surface Course and Binder Course as set forth in RIDOT SECTION M.03, BITUMINOUS PAVEMENTS, of the RIDOT Standard Specifications.

CONSTRUCTION METHODS.

1. **Potholes.** The Contractor shall repair potholes as directed by the City Engineer. Potholes shall be repaired within 24 hours of attempted notification by the Engineer. Repair shall consist of placing asphalt patching material by hand in up to two, 2-inch lifts leaving the repair flush with the existing roadway pavement when complete. The pothole shall be free of loose asphalt, debris and excess moisture. The compaction shall be done using a vibratory plate compactor or other appropriate equipment.
2. **Trenches.** The Contractor shall repair all trenches as directed by the City Engineer. Repair shall consist of placing asphalt patching material in a workmanlike manner. The existing pavement shall be neatly cut on both sides in accordance with the City of Newport's Temporary Trench Repair Detail. The gravel backfill shall be compacted to the required density and the subgrade left free of loose asphalt, debris and excess moisture. The bituminous patch material shall be placed in a properly compacted 2-inch lift unless otherwise detailed on the Plans. When completed, the patch shall be left flush with the existing roadway pavement.

METHOD OF MEASUREMENT.

1. **Pothole Repair.** "Pothole Repair" will be measured by the square yards of such pothole actually repaired in accordance with this specification and/or as directed by the Engineer.
2. **Temporary Trenches.** "Temporary Trench Repair" will be measured by the square yards of such trench actually temporarily restored in accordance with the City's Temporary Trench Restoration Detail and/or as directed by the Engineer.
3. **Permanent Trenches.** "Permanent Trench Restoration" will be measured by the square yards of such trench actually permanently restored in accordance with the City's Permanent Trench Restoration Detail and/or as directed by the Engineer.

BASIS OF PAYMENT.

1. **Pothole Repair.** The accepted quantity of "Pothole Repair" will be paid for at the contract unit price as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, materials, and equipment and for all other incidentals required to finish the work, complete and accepted by the Engineer. If this is a repair is found to be within the limits of the contractor's site work, no payment shall be made.
2. **Temporary Trenches.** The accepted quantity of "Temporary Trench Repair" will be paid for at the contract unit price as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, materials, and equipment and for all other incidentals required to finish the work, complete and accepted by the Engineer. If this is a repair is found to be within the limits of the contractor's site work, no payment shall be made.

3. **Permanent Trenches.** The accepted quantity of "Permanent Trench Restoration" will be paid for at the contract unit price as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, materials, and equipment and for all other incidentals required to finish the work, complete and accepted by the Engineer. If this is a repair is found to be within the limits of the contractor's site work, no payment shall be made.

3.07 DOUBLE MICRO-SURFACING - Type II

3.08 DOUBLE MICRO-SURFACING - Type III

3.09 LEVELING OF ROADWAYS USING MICRO-SURFACING MATERIAL

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to furnish and install leveling or two (2) courses of either Type II or Type III latex based micro-surfacing material, with each course being 1/4 inches to 3/8 inches in thickness, to ultimately provide a total two (2) course yield of not less than 1/2 inch in thickness.

Under the Leveling of Roadways Using Micro-Surfacing Material item, the Contractor shall apply multiple levels of micro-surfacing material(s) to any portion of the roadway for the purpose of refining the localized gradient(s) and such application(s) are to be made prior to the standard single or two (2) course application of the micro-surfacing material as described under Double Micro-Surfacing - Type II or Double Micro-Surfacing - Type III. The purpose of the leveling application(s) is to provide a more acceptable base gradient of the roadway upon which the final two-course application will be subsequently installed. This work shall only take place at the direction of the Engineer and it shall be carried forward, in multiple passes, until the designated zone has been leveled to a breadth and height/elevation that is acceptable to the Engineer and in accordance with the plans and/or as directed by the Engineer.

All work shall be in accordance with the Rhode Island Department of Transportation specifications and standards. The Contractor shall notify the various utility companies (gas, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

MATERIALS

The micro-surfacing shall be an approved mixture and/or an approved equal of cationic latex modified asphalt emulsion, mineral aggregate, water, as well as mineral and field control additives. The entire blend shall be continually monitored such that it is consistently and properly blended, mixed, and ultimately spread on the initially dry, sealed and cleaned roadway surface in accordance with this specification and/or as directed by the Engineer.

The emulsified asphalt shall be manufactured using a quick-set latex modified cationic type CSS-1H emulsion which shall conform to the requirements specified in AASHTO-M208 and ASTM 2397. The emulsified asphalt and/or the emulsion shall pass all applicable storage and settlement tests.

The latex shall be milled into the asphalt in such a manner that the entire mixture is homogeneous and properly blended.

Special Residue Properties: Distillation of residue will be at a temperature of 350 degrees Fahrenheit for 20 minutes. The softening point of the residue shall be 140 degrees Fahrenheit minimum. Viscosity, absolute at 140 degrees Fahrenheit, shall be 8,000 poise minimum.

Aggregate:

- The mineral aggregate used shall be of the type and grade specified for micro-surfacing. The aggregate shall be manufactured crushed stone such as granite, slag, limestone, chat, or high quality aggregate or combination thereof.
- The aggregate including natural fines when tested by AASHTO methods T11 or T27 or ASTM C117 or C136, must meet the referenced gradation requirements.
- Deleterious Substances – To limit the permissible amount of clay-like fines in the aggregate, a sand equivalent value of 65 or higher is required when tested by ASTM 2419.
- Soundness – The aggregate shall have a weighted loss of not more than 15% when the sodium sulfate test is used or 20% when the magnesium sulfate test is used.
- Hardness – The aggregate wear, from resistance to abrasion, shall be a maximum of 35% when using AASHTO T96 or ASTM C131 test methods.
- Stockpile- Stockpiles shall be placed only in those areas where there is no threat of the aggregate becoming contaminated from other soils, chemicals, oils, leaves, debris and/or any other substance which is foreign to the base material from which the aggregate has been manufactured.

Water shall be potable and shall be free from harmful salts.

Modifier: A special quick-setting liquid emulsifier agent may be milled into the asphalt emulsion to provide effective control of the required quick-set properties. This additive shall be made available by the chemical supplier, or emulsion manufacturer, and it is to be certified, in advance of its use, that the additive is compatible with the mixture. Only after the Engineer has been apprised that this agent is to be added to the mix, shall it be properly and consistently blended into the mixture in accordance with the manufacturer's instructions. The Contractor is to provide the Engineer with the job mix formula such that every additive is clearly stated as to its type and end use as well as denoting the manufacturers name and lot number.

The emulsified asphalt shall be so formulated that when the paving mixture is applied at a thickness of one (1) inch with the relative humidity at not more than 50% and the ambient air temperature of at least 75 degrees Fahrenheit, the material will cure sufficiently so that rolling traffic can be allowed in one (1) hour with no damage to the surface.

Only non-air entrained portland cement shall be added to the mineral aggregate, and only in the amount as pre-determined by the **laboratory mix design, a copy of which shall be delivered to the Engineer at least seven (7) days prior to the commencement of operations.**

Laboratories shall be independently operated and shall not be under the control of the Contractor. Further, laboratories shall be **pre-approved by the Engineer** in advance of all testing and/or mix design procedures, and upon request said laboratories are to submit to the Engineer evidence which satisfactorily ensures their qualifications to meet both the testing and/or the mix design needs of the project.

At least seven (7) days prior to the commencement of operations the Contractor is to submit to the Engineer, in hard-copy form, a signed list which includes the vendors name and address, the component material(s) which will be supplied by the vendor, and a certificate of compliance which clearly states that the mixture component they are supplying to this project will and shall meet or exceed the design mix criteria for the duration of this project. Once the laboratory, the design, the materials, and/or the vendors have been approved there shall be no substitution unless otherwise allowed and/or otherwise directed to do so by the Engineer. In any event the Contractor shall repair, at his own expense, any surface failure(s) which occur for any reason within two (2) years' time from the date of application, and the Engineers decision as to what constitutes a failure of the micro-surfacing shall be final and all subsequent repairs shall be made to his satisfaction.

The job mix formula shall be in accordance with all applicable current recommendations of the International Slurry Surfacing Association (ISSA) in effect at the time of the micro-surfacing application and shall further provide for a minimum Marshall stability of 1800 pounds and a flow of six (6) to 16 units when tested according to ASTM 1559 or AASHTO 245 procedure as modified.

The component materials shall comply with the following limits:

Residual Asphalt:	5% - 9% by dry aggregate weight
Mineral Additive:	0.5% - 3% by dry weight of aggregate
Latex Modifier:	As required to provide specified properties
Field Control Additive:	As required based on previous proven results
Water:	As required based on previous proven results

Aggregate Gradations:

Screen Size	Type II % Passing	Type III % Passing
3/8 "	100	100
#4	90-100	70-90
#8	65-90	45-65
#16	40-65	30-50
#30	25-45	19-34
#50	15-30	12-25
#100	10-21	7-18
#200	5-13	4-12

Informational Note:

Type II is typically used on residential streets @ 18-22 lbs. density per sq.yd.

Type III is typically used on arterial streets @ 25-30 lbs. density per sq. yd.

EQUIPMENT

Equipment, tools, and machines used in the performance of this work shall be maintained in satisfactory working condition at all times to ensure a high quality product. The Engineers decision in these matters shall be final.

CONSTRUCTION METHOD

The Contractor is advised that **the City of Newport may provide a stockpile site but for the aggregate materials only, and only in such places, and to such limits, and in such amounts, and for such time periods as are pre-approved by the Director of Public Services but the ability for the City of Newport to provide a site is not guaranteed.**

Hay bales of an approved type, and in a sufficient number, shall be satisfactorily placed around all catch basins which lie 'downstream' from the stockpile site primarily to prevent any rain generated sludge from entering into the drainage system. Further, any stockpile sites shall be thoroughly cleaned and fully restored to their original condition, at the Contractors own expense, once the stockpile site is no longer needed to service the operational zone for which they were created.

All businesses, homes and/or City agencies that will be, and/or may potentially be affected by any aspect of the micro-surfacing operations, shall be notified at least 24 hours in advance of that given operation. This notification shall be provided in a hard copy form that on a format that is acceptable and pre-approved by the Engineer. Further, the Contractor is to obtain pre-approval and subsequently apprise the Engineer of all such postings, notices, and/or notifications, at least 24 hours in advance of the actual notification process. Notices that are posted at businesses and/or homes along the route shall be left in a secure but highly visible location that is nearest to the regular mail delivery as possible at each address. In addition, any general notices that are posted along the street, and which are placed on existing posts and poles, are not to be fastened with any metal device. Further, no signs are to be fastened to trees in such a way that the bark of the tree is penetrated and/or damaged by the fastening means, thus only string and/or plastic 'quick-ties' are to be used, and no posting upon trees is to take place without the prior consent of the Engineer. All temporary signs are to be removed immediately upon the completion of the micro-surfacing operation which is particular to that portion of the project zone.

The application of micro-sealing may only be installed subsequent to the independent application of crack sealing, tack coat, and/or any leveling operations, either as specified on the plans and/or as directed by the Engineer. However, no micro-surfacing material shall be applied over any crack-sealing compound until such time as the crack-sealing has attained full-cure status and all residual granular material has been entirely removed from the pavement surface.

The micro-surfacing work shall be guaranteed against failure of any kind for a period of two (2) years from the date of application and any repairs and/or spot repairs shall be made at the Contractors own expense and to the satisfaction of the Engineer.

The Contractor shall be ultimately responsible for ensuring that the roadway surface is thoroughly clean and free of all vegetation and granular material(s) prior to the application of the micro-surfacing material. The ultimate responsibility for ensuring that the roadway surface is totally cleaned and properly prepared lies with the Contractor, and all surfaces shall be cleaned to the satisfaction of the Engineer.

Surface preparation, which may include patching and adjusting of drainage and utility structures, may be completed under other items on this contract prior to the micro-surface treatment. Immediately prior to surface treatment, the roadways shall be swept of any loose debris by use of a mechanical sweeper. The Contractor shall protect any manhole covers, drop inlets, catch basins, curbs, and any other structures that will be affected by the surface treatment application.

Work will not be done unless the road surface is free of standing water. No work shall be done during rain or foggy periods.

The material shall be spread only on an initially dry roadway surface and the atmospheric temperature is at least 48 degrees Fahrenheit and rising, and there is no threat of rain and/or temperatures below 32 degrees Fahrenheit predicted within 48 hours of the application of the micro-surfacing material. Said weather conditions shall be based upon predictions as professionally forecast.

The contractor shall apply a tack coat consisting of one part emulsified asphalt and three parts potable water with a distribution rate of 0.10 to 0.15 gallons per square yard. The emulsified asphalt shall be manufactured using a quick-set latex modified cationic type CSS-1H emulsion which shall conform to the requirements specified in AASHTO-M208 and ASTM 2397. The emulsified asphalt and/or the emulsion shall pass all applicable storage and settlement tests. The final mixture, upon application, shall be blended in such a manner that the tack coat mixture is homogeneous and of uniform consistency.

The emulsified asphalt tack coat shall be applied only to an initially dry roadway surface and the atmospheric temperature is at least 48 degrees Fahrenheit and rising, and there is no threat of rain and/or temperatures below 32 degrees Fahrenheit predicted within 48 hours of the application of the micro-surfacing material. Said weather conditions shall be based upon predictions as professionally forecast.

The emulsified tack coat shall be applied systematically ahead of the micro-surfacing operation, and in such a responsible manner that the tack coat ultimately serves to create and ensure a viable long-lasting bond between the top of the entire existing roadway pavement and the entire bottom face of the micro-surfacing material. To that end the equipment and dispensing means by which the tack coat emulsion is ultimately blended and applied is to be of such manufacture that the tack coat is uniformly and consistently applied to the existing roadway surface in accordance with the emulsion manufacturer's directives. Further, the tack coat shall be applied

to the roadway via a spray bar that is fully adjustable to achieve the desired uniform application rate across the entire roadway surface; however the Contractor shall take all precautions to prevent the tack coat from entering into any utility and/or drainage structure. In addition, no peripheral objects, such as the face of curbing, cars, site personnel, trees, etc., are not to be splattered with the tack coat emulsion during the application process, nor shall the Contractor allow the newly applied tack coat from being tracked to any adjacent area.

Leveling course(s) mixtures shall be spread to fill cracks and minor surface irregularities at various points along the route as determined by the Engineer. Leveling courses are to be independently applied and shall not be made part of the full-width mat application. For those areas where the leveling course is applied in excess of one (1) inch then the Contractor shall roll these areas with a self-powered three (3) ton roller.

The micro-surfacing material shall be mixed and processed, in accordance with the International Slurry Surfacing Associations (ISSA) recommendations and guidelines, by a self-propelled self-contained micro-surfacing mixing unit designed to specifically provide a continuous flow that will accurately deliver the properly proportioned, and properly blended aggregate, emulsified asphalt, mineral, field control additives, and water, such that the mixture is consistently applied and is continually free of lumps, streaking, segregation and/or any other undesirable characteristic. To that end the mixing unit shall be typically equipped with a revolving multi-blade twin shafted mixer that subsequently discharges the mixed, and properly blended material(s), on a continuous flow basis and without interruption.

The mixing unit shall be equipped with self-loading devices which shall provide for the loading of materials as the micro-surfacing application process progresses.

Self-propelled self-contained mixing units shall be capable of providing a continuous flow of properly blended micro-surfacing material such that the transverse construction joints occur only at the end of the run as pre-determined by the Engineer. The construction joints and overlapping of previous work shall be in accordance with the directives on the plan and/or as directed by the Engineer.

The emulsion pump shall be a heated positive displacement type which is capable of providing a continuous and uniform heat at the optimum and proper temperature range.

The mixing unit shall be provided with a series of separate metering controls for each material component of the mixture to ensure that the final blend of the collective micro-surfacing material has been properly proportioned and blended in accordance with the approved mix design criteria. The means by which each material is metered and/or calibrated shall be of such a nature that they are easily read, are in good condition, and are of a type and style that is acceptable to the Engineer. Calibration documentation, indicating that each device has been independently and officially validated within the year preceding the application, shall be delivered to the Engineer upon request.

The micro-surfacing mixture shall be uniformly spread by means of pre-approved units. Typically these units shall consist of a mechanical type spreader box attached to the mixer, which is equipped with paddles designed to both agitate the materials while dispersing the material

throughout the box. A front and rear seal shall be provided to prevent any spillage of material, and the rear seal shall also act as a final strike-off and it shall be adjustable. The spreader box and rear strike-off shall be so designed and operated that a uniform consistency is achieved to produce an even flow and to produce a consistently uniform mat that is free from any blemishes. The spreader box shall have a suitable means to provide for a 'side-shift' such that the box can be adjusted to accommodate for the variations in pavement width and for longitudinal alignment.

Longitudinal joints shall be straight and shall be overlapped in accordance with the directives on the plan(s) and when completed, shall form a neat, uniform, and water-tight seal. Half-passes and odd width passes shall be used only in minimum amounts, and only by approval of the Engineer.

All excess residual material of any type, plates, shields, tools, signs, machinery, vehicles and/or any other impediment and/or device used during the micro-surfacing operations for that given portion of roadway under previously constructed, shall be removed from the (incremental) project zone before the roadway is open to traffic. The Engineer's decision shall take precedence in these matters.

The Contractor shall permit the Engineer to have samples taken at any time during these operations, and for any component used in the production of the micro-surfacing material, including the final mixture of the micro-surfacing material itself. Subsequent testing of these samples shall be conducted by a laboratory approved and/or selected by the Engineer. In the event the material(s) being tested fail the test(s) for compliance of the specifications contained in this section then the Contractor shall bear the expense of these tests and shall be responsible for replacing and/or repairing, to the satisfaction of the Engineer, any portion of the micro-surfacing associated with the failed component of the test(s).

Utility castings shall be protected from damage during construction processes. Any casting damaged by the Contractor shall be replaced at no cost to the City. All drainage structures shall be protected from spoils and cleaned after construction has been completed, to the satisfaction of the Engineer. Work included for protecting and cleaning structures is considered incidental to its respective items and no additional payments will be made.

METHOD OF MEASUREMENT

Furnish and Installation of Double Micro-Surfacing - Type II or Double Micro-Surfacing - Type III shall be taken by the "Per Square Yard" unit price for a two (2) course application of micro-surface material complete in place and accepted by the Engineer.

Furnish and Installation of Leveling of Roadways Using Micro-Surfacing Material will be measured on a "Per Square Yard" unit price basis for the actual area leveled complete in place and accepted by the Engineer, regardless of the number of passes that may be required to achieve an acceptable base gradient using micro-surface material, and such work shall be applied to the limits as pre-approved by the Engineer and to the heights/elevations as he deems appropriate to achieve final roadway serviceability.

BASIS OF PAYMENT

Furnish and Installation of Double Micro-Surfacing - Type II, Double Micro-Surfacing - Type III, or Leveling of Roadways Using Micro-Surfacing Material shall be paid for at the respective contract unit prices "Per Square Yard" of micro-surface material as listed in the Proposal. The prices so-stated shall constitute full and complete compensation for all labor, materials, and equipment required to prepare and clean the roadways, notifications, furnish and place the micro-surfacing material including saw-cutting, furnishing and application of asphalt emulsion tack coat, and all other incidentals required to finish the work, complete and accepted by the Engineer.

3.10 FOG SEALING

DESCRIPTION

The Contractor shall furnish all materials, equipment, labor and preparation necessary for the application of a light coating of asphalt emulsion containing a rejuvenating agent to asphalt pavement for the primary purpose of slowing the oxidation, raveling, and other damage caused to unprotected asphalt pavements either as specified on the plans and/or as directed by the Engineer

All work shall be in accordance with the Rhode Island Department of Transportation specifications and standards. The Contractor shall notify the various utility companies (gas, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

MATERIALS

Rejuvenating asphalt emulsion, **CMS-1PF**, shall contain a polymer and conform to the following specifications. The emulsion shall be certified as meeting this specification from the manufacturer, and shall not be diluted prior to application.

Property	Test Procedure (AASHTO)	Specification (min)	(max)
Emulsion Properties			
Viscosity, Saybolt-Furol, @ 77°F, SFS	T59	10	100
Storage, 24 hour, %	T59		1
Oil Distillate, %	T59		0.5
Sieve Test, %	T59		0.1
Residue by Distillation ⁽¹⁾ @350°F, % Residue by Distillation, % by weight	T59	30	
Residue Properties From Distillation	T59		
Penetration @ 4C, 200g weight, 60 sec Residue by Distillation, % by weight	T49	30	
Residue Properties From Low Temp Evaporation	PP72-11, Procedure B		
Dynamic Shear, G*/sin @ 64oC, kPa	T315	Report Only	
Polymer Properties			
Swelling in rejuvenating agent, % max weight increase: 48 hrs	ASTM D471 ⁽²⁾		40%
Tensile Strength (psi)	ASTM D412a ⁽³⁾	800	
Glass Transition Temperature (Tg) – Midpoint by DSC (°C)	ASTM D7426 ⁽⁴⁾	0	
Latex Density at 23°C (g/cm3)	ASTM D6937 ⁽⁵⁾	1.00	1.05
Latex pH	ASTM E70 ⁽⁶⁾	6.0	8.0
Test on Rejuvenating Agent			
Flash Point, COC, °F	T48	380	
Viscosity, 140°F, CST	201	50	175
Saturate, % by wt	ASTM D2007		30
Asphaltenes	ASTM D2007		1.0
Test on Residue			
Weight Change, %			6.5
Viscosity Ratio			3

⁽¹⁾ Exception to AASHTO T59: Bring the temperature on the lower thermometer slowly to 350°F plus or minus 10°F. Maintain this temperature for 20 minutes. Complete the total distillation in 60 plus or minus 5 minutes.

⁽²⁾ Polymer Testing, Resistance to Swelling: Using a syringe, place 0.8 gm of latex into a 18 mm diameter DSR mold. Allow the sample to dry at ambient lab conditions (air conditioned) on the bench for 72 hours. Sample should be easily removable from the mold. Take the "button" out of the mold and place the sample into a forced air oven at 40°C (104°F) for 48 hours (on release paper). If at the end of the ambient dry, the sample sticks to the mold, place it into the oven and check it after 1-2 hours. After 48 hours, cool and weigh the sample to the nearest 0.0001 gram and record the weight. Put ½ inch of Rejuvenating Agent into a 3 oz penetration tin. Place the "button" on the Rejuvenating Agent, and add another ½ inch Of Rejuvenating Agent, so that the "button" is covered. Put the cap on the penetration tin and place it into the 40°C oven for 48 hours. Remove the "button" from the Rejuvenating Agent, blot surface of the "button" to remove excess Rejuvenating Agent, cool the "button" to room temperature and weigh it. Calculate weight gain of the "button", express as a %.

⁽³⁾ To prepare the polymer film, dilute the waterborne polymer to 40% Total Solids Content and pour 57 g into a Teflon or silicone release mold of dimensions 7" X 7" X ¼". Allow to dry at 23°C (73 °F) and 50% RH

(controlled conditions) for 7 – 10 days total time, during which time the film should be flipped around once, preferable after 3 or 4 days. The film should be transparent in the end. To drive out any residual water, place the film in an oven at 50°C for 30 min. Dried film thickness should be 25 mil +/- 5 mils. Discard films <20mil. Cut out dumbbell-shaped test specimens of dimension 75 mm total length, 25 mm mid-section (L) and 4 mm width of mid-section. Grip in Instron machine with gap size 1 inch, use 8 inch/min cross-head speed.

(4) Use between 3 – 30 mg dry polymer. Instrument used is TA Q2000 Differential Scanning Calorimeter (DSC). Heating rate is 20°C/min.

(5) Replace "Emulsified Asphalt" with "Latex" in text of test method. The testing temperature used should be 25 +/- 3°C. The calculation in Section 7 should be as follows:

$$D = (W_f - W_t) * 0.1$$

$$S.G. = D / 8.337$$

Where: W_f = Weight of filled cup (g), W_t = Weight of empty cup (g)

(6) A pH meter with automatic temperature measurement should be used in the evaluation with a calomel cell assembly or combination electrode. Calibration should be made using the procedure with the pH meter, according to ASTM method, prior to testing the pH of the latex. In Section 9, the procedure for measuring pH of the latex should be as follows:

- Place the electrode and probe into the dispersion that is to be measured and swirl the sample cup or beaker gently. (You may also use the probe in a stirring motion.)
- Wait for the reading to stabilize (usually less than a minute) and read/record this value. Note the temperature if not utilizing an ATC probe.
- Take the Electrode and ATC probes from the sample and rinse thoroughly with deionized water. Pat dry and place back into appropriate solution recommended by electrode manufacturer for storage.

The aggregate material shall be a dry, clean, dust and dirt-free, sound, durable, angular shaped manufactured specialty sand, such as that used as an abrasive (i.e., trade name "Black Beauty"), with a Mohs hardness of six (6) to eight (8). The Contractor shall submit manufacturer's technical data and a manufacturer's certification indicating that the specialty sand meets the requirements of the specification to the Engineer prior to start of construction. The sand must be approved for use by the Engineer and shall meet the following gradation limits.

Sieve Size	% Retained
No. 8 (2.38 mm)	0
No. 16 (1.19 mm)	0-10
No. 20 (0.84 mm)	0-25
No. 30 (0.60 mm)	15-50
No. 40 (0.42 mm)	20-45
No. 50 (0.30 mm)	5-35
No. 70 (0.21 mm)	0-5
No. 200 (0.07 mm)	0-2

The emulsion manufacturer, through the Contractor, shall submit to the Owner certified test results that the emulsion meets the specification. The polymer manufacturer and the rejuvenating agent manufacturer, through emulsion supplier and the Contractor, shall submit to the Owner certified test results on the polymer and the recycling agent that meets the required specifications. The Owner will not accept test results dated more than 90 days from the date of bid opening.

Certifications and test results on the emulsion must be submitted to the Owner and approved by the Owner five (5) days prior to supplying material.

Laboratories shall be independently operated and shall not be under the control of the Contractor. Further, laboratories shall be **pre-approved by the Engineer** in advance of all testing and/or mix design procedures, and upon request said laboratories are to submit to the Engineer evidence which satisfactorily ensures their qualifications to meet both the testing and/or the mix design needs of the project.

At least seven (7) days prior to the commencement of operations the Contractor is to submit to the Engineer, in hard-copy form, a signed list which includes the vendors name and address, the component material(s) which will be supplied by the vendor, and a certificate of compliance which clearly states that the mixture component they are supplying to this project will and shall meet or exceed the design mix criteria for the duration of this project. Once the laboratory, the design, the materials, and/or the vendors have been approved there shall be no substitution unless otherwise allowed and/or otherwise directed to do so by the Engineer. In any event the Contractor shall repair, at his own expense, any surface failure(s) which occur for any reason within two (2) years' time from the date of application, and the Engineers decision as to what constitutes a failure of the Fog sealing shall be final and all subsequent repairs shall be made to his satisfaction.

EQUIPMENT

Equipment, tools, and machines used in the performance of this work shall be maintained in satisfactory working condition at all times to ensure a high quality product. The Engineers decision in these matters shall be final.

The emulsion shall be applied with a computer rate-controlled asphalt distributor. The equipment shall be in good working order and contain no contaminants or diluents in the tank. Spreader bar tips must be clean, free of burrs, and of a size to maintain an even distribution of the emulsion. Any type of tip or pressure source is suitable that will maintain predetermined flow rates and constant pressure during the application process with application speeds under eight (8) miles per hour or 700 feet per minute. Before use the equipment must be tested under pressure for leaks to ensure it is in good working order.

The distributor truck shall be equipped with a 12 foot minimum, spreader bar with individual nozzle control. The distributor truck shall be capable of specific application rates in the range of 0.05 to 0.25 gallons per square yard. These rates shall be computer-controlled rather than mechanical. The distributor truck shall have an easily accessible thermometer that constantly monitors the temperature of the emulsion, and have an operable mechanical tank gauge that can be used to cross-check the computer accuracy.

A distributor truck shall be provided, if necessary, equipped to effectively heat and mix the material to the required temperature prior to application. Heating and mixing shall be done in accordance with the manufacturer's recommendations. Care shall be taken not to overheat or over-mix the material.

The distributor shall be equipped to hand-spray the emulsion in areas identified either on the plans or by the Engineer, or not accessible to the distributor truck itself.

The asphalt distributor truck shall be equipped with an aggregate spreader mounted to the distributor truck that can apply sand to the emulsion in a single pass operation without driving through the wet emulsion. The aggregate spreader shall be equipped with a variable control system capable of uniformly distributing the sand at the specified rate at varying application widths and speeds. The sander shall have a minimum hopper capacity of at least 3,000 pounds of sand. Push-type hand sanders will be allowed for use around lights, signs and other obstructions.

CONSTRUCTION METHODS

The Contractor is advised that **the City of Newport may provide a stockpile site but for the aggregate materials only, and only in such places, and to such limits, and in such amounts, and for such time periods as are pre-approved by the Director of Public Services but the ability for the City of Newport to provide a site is not guaranteed.**

Hay bales of an approved type, and in a sufficient number, shall be satisfactorily placed around all catch basins which lie 'downstream' from the stockpile site primarily to prevent any rain generated sludge from entering into the drainage system. Further, any stockpile sites shall be thoroughly cleaned and fully restored to their original condition, at the Contractors own expense, once the stockpile site is no longer needed to service the operational zone for which they were created.

All businesses, homes and/or City agencies that will be, and/or may potentially be affected by any aspect of the Fog sealing operations, shall be notified at least 24 hours in advance of that given operation. This notification shall be provided in a hard copy form that on a format that is acceptable and pre-approved by the Engineer. Further, the Contractor is to obtain pre-approval and subsequently apprise the Engineer of all such postings, notices, and/or notifications, at least 24 hours in advance of the actual notification process. Notices that are posted at businesses and/or homes along the route shall be left in a secure but highly visible location that is nearest to the regular mail delivery as possible at each address. In addition, any general notices that are posted along the street, and which are placed on existing posts and poles, are not to be fastened with any metal device. Further, no signs are to be fastened to trees in such a way that the bark of the tree is penetrated and/or damaged by the fastening means, thus only string and/or plastic 'quick-ties' are to be used, and no posting upon trees is to take place without the prior consent of the Engineer. All temporary signs are to be removed immediately upon the completion of the Fog sealing operation which is particular to that portion of the project zone.

The Contractor shall be ultimately responsible for ensuring that the roadway surface is thoroughly clean and free of all vegetation and granular material(s) prior to the application of the fog sealing material. The ultimate responsibility for ensuring that the roadway surface is totally cleaned and properly prepared lies with the Contractor, and all surfaces shall be cleaned to the satisfaction of the Engineer. The Contractor shall clean any muddy or dirty areas by flushing with water. Allow surface to dry completely prior to applying asphalt emulsion.

Surface preparation, which may include patching and adjusting of drainage and utility structures, may be completed under other items on this contract prior to the fog seal treatment. Immediately prior to surface treatment, the roadways shall be swept of any loose debris by use of a mechanical sweeper. The Contractor shall protect any manhole covers, drop inlets, catch basins, curbs, and any other structures that will be affected by the surface treatment application.

Work will not be done unless the road surface is free of standing water. No work shall be done during rain or foggy periods.

The application of fog sealing may only be installed subsequent to the independent application of crack sealing, tack coat, and/or any leveling operations, either as specified on the plans and/or as directed by the Engineer. However, no micro-surfacing material shall be applied over any crack-sealing compound until such time as the crack-sealing has attained full-cure status and all residual granular material has been entirely removed from the pavement surface.

The material shall be spread only on an initially dry roadway surface and the atmospheric temperature is at least 48 degrees Fahrenheit and rising, and there is no threat of rain and/or temperatures below 32 degrees Fahrenheit or above 140 degrees Fahrenheit predicted within 24 hours of the application of the Fog sealing material. Said weather conditions shall be based upon predictions as professionally forecast.

The Contractor shall follow the construction methods as described. Target application rates for the emulsion shall be in the range of 0.06 to 0.15 gallons per square yard as established by the Engineer after spraying a test strip or strips with varying application rates in order to determine the optimum rate to achieve coating without runoff or delayed curing times. Target application rate for the aggregate shall be 0.5 pounds per square yard, also as established by the Engineer after spraying the test strip(s). Apply the asphalt emulsion at the target rate(s) established during the test strip. Maintain the asphalt emulsion temperature from 120 to 160 degrees Fahrenheit during construction, including the start of each day. Reheat the asphalt emulsion at a rate of no more than 25 degrees Fahrenheit per hour whenever the asphalt emulsion is allowed to cool below 110 degrees Fahrenheit. If the target application rates are not the optimum application rates to achieve proper coating of the existing or newly constructed pavement surface, or if the break time is too long or too short, immediately notify the Engineer. Adjust and document the new application rate by stationing. Do not allow the asphalt emulsion to streak on the road surface. If the Engineer determines that streaking is occurring, cease operations until the Engineer is satisfied that streaking has been eliminated. Apply the asphalt emulsion to all exposed areas of asphalt surface as directed by the Engineer.

During the application of the fog seal, ensure there are no deficiencies in the fog seal, resulting from poor workmanship, flushing, tracking from equipment, surface patterns, and sweeping. Inspect workmanship for untreated areas, minimum overlap on longitudinal joints, and minimum overlap on construction joints.

Verify the following for daily acceptance:

- Fog seal edges are neat and uniform along the roadway lane, shoulder and curb lines.
- Fog seal has no surface patterns such as lean or heavy lines.
- Fog seal has no bleeding/flushing areas.

- Fog seal uniformly covers all portions of the asphalt surface
- Blotter sand is broadcast uniformly and at the proper rate.

Utility castings shall be protected from damage during construction processes. Any casting damaged by the Contractor shall be replaced at no cost to the City. All drainage structures shall be protected from spoils and cleaned after construction has been completed, to the satisfaction of the Engineer. Work included for protecting and cleaning structures is considered incidental to its respective items and no additional payments will be made.

METHOD OF MEASUREMENT

Furnish and Installation of Fog Sealing will be measured on a "Per Square Yard" unit price basis for the actual area fog sealed complete in place and accepted by the Engineer.

BASIS OF PAYMENT

Furnish and Installation of Fog Sealing shall be paid the contract unit price "Per Square Yard" for the application of Fog Sealing material as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, materials, and equipment required to prepare and clean the roadways, notifications, furnish and place the fog sealing material and all other incidentals required to finish the work, complete and accepted by the Engineer.

3.11 CAPE SEALING

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to furnish and install the applications of liquid asphalt emulsion and aggregate coating (Cape Seal).

The Cape Seal roadway surface treatment includes a chip seal interlayer course followed by a Micro-Surfacing wearing course. **The Micro-Surfacing course shall be installed to the specifications of either Micro-Surfacing - Type II and Micro-Surfacing - Type III, Double Micro-Surfacing - Type II, Double Micro-Surfacing - Type III but shall be included and paid for under this Item Cape Sealing.** The Micro-Surfacing course shall be applied no sooner than seven (7) calendar days after the chip seal application. The Micro-Surfacing course shall be applied during the same construction season as the chip seal interlayer course.

MATERIALS

Liquid asphalt grades shall be: CRS-2 or RS-2 conforming to AASHTO specifications M208 or M140. The liquid asphalt shall be compatible with the aggregate to be utilized for the chip seal interlayer course.

Stone shall be crushed quarry stone, free from dust, soft stone or other contaminants with a minimum of 70% of the stones having a fractured face. All stone shall satisfy a 35% maximum for the L.A. Abrasion Test and a 35% maximum for the Flakiness Index Test. Stone shall be treated prior to application with liquid asphalt material at the rate of 0.2% to 0.5% residual asphalt to ensure uniform treatment of all stones. Proper pre-treatment shall be obtained by a twin-shafted pugmill with a digital readout belt scale.

REQUIRED STONE GRADATION

9.5 mm (3/8") STONE

Sieve Size	% Passing
12.5 mm (1/2")	100
9.5 mm (3/8")	85 – 100
6.3 mm (1/4")	10 – 60
4.75 mm (#4)	0 – 25
2.36 mm (#8)	0 – 5

Laboratories shall be independently operated and shall not be under the control of the Contractor. Further, laboratories shall be **pre-approved by the Engineer** in advance of all testing and/or mix design procedures, and upon request said laboratories are to submit to the Engineer evidence which satisfactorily ensures their qualifications to meet both the testing and/or the mix design needs of the project.

At least seven days prior to the commencement of operations the Contractor is to submit to the Engineer, in hard-copy form, a signed list which includes the vendors name and address, the component material(s) which will be supplied by the vendor, and a certificate of compliance which clearly states that the mixture component they are supplying to this project will and shall meet or exceed the design mix criteria for the duration of this project. Once the laboratory, the design, the materials, and/or the vendors have been approved there shall be no substitution unless otherwise allowed and/or otherwise directed to do so by the Engineer. In any event the Contractor shall repair, at his own expense, any surface failure(s) which occur for any reason within two (2) years time from the date of application, and the Engineers decision as to what constitutes a failure of the Cape sealing shall be final and all subsequent repairs shall be made to his satisfaction.

EQUIPMENT

Equipment, tools, and machines used in the performance of this work shall be maintained in satisfactory working condition at all times to ensure a high quality product. The Engineers decision in these matters shall be final.

The asphalt distributor shall contain suitable mechanical circulating and heating mechanisms to provide a uniform approved temperature of the entire mass of material. The distributor shall be equipped with a radar type sensor used to measure ground speed, and feed a Digital Volumetric Accumulator capable of measuring gallons applied and distance traveled. It shall be capable of applying asphalt material in accurately measured quantities at any rate between 0.1 to 2.0 gallons

per square yard of roadway surface, at any length of spray bar up to 12 feet. The distributor shall be capable of maintaining a uniform rate of distribution of asphalt material regardless of change in grade, width, or direction of the road. It shall be equipped with an electronic control for setting asphalt pump discharge rate and on/off switching of spray for nozzles in one (1) foot increments which shall be located in the truck cab. The spray nozzles and pressure system shall provide a sufficient and uniform fan-shaped spray of asphalt material throughout the entire length of the spray bar at all times while operating. The spray shall completely cover the roadway surface receiving the treatment.

The aggregate spreader shall be hydrostatically driven and self-propelled. It may be equipped with a hydraulically controlled variable adjustable head that is capable of spreading stone in widths from 4.5 to 12 feet. The spreader shall be mounted on pneumatic tires, and shall apply the stone on the road surface in a manner that ensures that the tires do not contact the road surface until after the stone has been applied. The unit shall be equipped with an electronic radar type sensor used to measure ground speed and will automatically adjust the stone application rate depending on width of application and the speed of chip spreader. It shall have the ability to apply stone uniformly on any grade from 0 - 6%. The spreader shall be equipped with an integral hopper with a minimum capacity of five (5) tons of stone which shall be filled by trucks in a manner which ensures that the truck tires never come in contact with the asphalt-treated road surfaces until the stone has been properly applied. To maintain constant stone application, a self-locking truck hitch will permit towing of aggregate trucks without stopping the chip spreader. It will be capable of maintaining positive engagement over irregular terrain.

At least two (2) rubber tired rollers shall be used on each treated surface immediately after the stone has been applied. Each roller shall have a compacting width of not less than five (5) feet. Each roller shall have a gross weight of not less than eight (8) tons and contact pressure adjustable from 200 to 300 psi.

Rear discharge conveyor-fed trucks in sufficient number and size must be used to deliver stone to the spreader.

CONSTRUCTION METHODS

The Contractor is advised that **the City of Newport may provide a stockpile site but for the aggregate materials only, and only in such places, and to such limits, and in such amounts, and for such time periods as are pre-approved by the Director of Public Services but the ability for the City of Newport to provide a site is not guaranteed.**

Hay bales of an approved type, and in a sufficient number, shall be satisfactorily placed around all catch basins which lie 'downstream' from the stockpile site primarily to prevent any rain generated sludge from entering into the drainage system. Further, any stockpile sites shall be thoroughly cleaned and fully restored to their original condition, at the Contractors own expense, once the stockpile site is no longer needed to service the operational zone for which they were created.

All businesses, homes and/or City agencies that will be, and/or may potentially be affected by any aspect of the Cape sealing operations, shall be notified at least 24 hours in advance of that

given operation. This notification shall be provided in a hard copy form that on a format that is acceptable and pre-approved by the Engineer. Further, the Contractor is to obtain pre-approval and subsequently apprise the Engineer of all such postings, notices, and/or notifications, at least 24 hours in advance of the actual notification process. Notices that are posted at businesses and/or homes along the route shall be left in a secure but highly visible location that is nearest to the regular mail delivery as possible at each address. In addition, any general notices that are posted along the street, and which are placed on existing posts and poles, are not to be fastened with any metal device. Further, no signs are to be fastened to trees in such a way that the bark of the tree is penetrated and/or damaged by the fastening means, thus only string and/or plastic 'quick-ties' are to be used, and no posting upon trees is to take place without the prior consent of the Engineer. All temporary signs are to be removed immediately upon the completion of the Cape sealing operation which is particular to that portion of the project zone.

The Contractor shall be ultimately responsible for ensuring that the roadway surface is thoroughly clean and free of all vegetation and granular material(s) prior to the application of the Cape sealing material. The ultimate responsibility for ensuring that the roadway surface is totally cleaned and properly prepared lies with the Contractor, and all surfaces shall be cleaned to the satisfaction of the Engineer.

Surface preparation, which may include patching and adjusting of drainage and utility structures, may be completed under other items on this contract prior to the chip seal treatment. Immediately prior to surface treatment, the roadways shall be swept of any loose debris by use of a mechanical sweeper. The Contractor shall protect any manhole covers, drop inlets, catch basins, curbs, and any other structures that will be affected by the surface treatment application.

Work will not be done unless the road surface is free of standing water. No work shall be done during rain or foggy periods.

The application of cape sealing may only be installed subsequent to the independent application of crack sealing, tack coat, and/or any leveling operations, either as specified on the plans and/or as directed by the Engineer. However, no micro-surfacing material shall be applied over any crack-sealing compound until such time as the crack-sealing has attained full-cure status and all residual granular material has been entirely removed from the pavement surface.

The material shall be spread only on an initially dry roadway surface and the atmospheric temperature is at least 48 degrees Fahrenheit and rising, and there is no threat of rain and/or temperatures below 32 degrees Fahrenheit predicted within 48 hours of the application of the Cape sealing material. Said weather conditions shall be based upon predictions as professionally forecast.

The quantity of asphalt material to be used shall be in the range of 0.35 to 0.50 gallons per square yard. Cover aggregate shall be spread in the range of 20 to 30 pounds per square yard. The Contractor will use lab tests and current chip seal design standards to design specific material quantities to meet existing field conditions. The chip seal design shall be submitted to the Owner for approval prior to starting the work. Variations in material quantities will be made without adjustment to contract unit price.

Prior to application of asphalt material on any street, sufficient quantities of materials to cover the entire street at the specified rates shall be on the site and ready for application. The Owner shall be responsible for providing the Contractor with an aggregate storage area near the job site. The asphalt material shall not be applied more than 30' feet in advance of the self-propelled aggregate spreader. At no time shall any asphalt material be on any road surface for more than fifteen seconds before it is covered with stone.

Initial rolling shall be done immediately following the application of treated stone. Rollers shall be operated at a speed that will not displace aggregate.

Surplus aggregate shall be swept off of the road surfaces by the chip seal contractor in advance of Micro-Surfacing after stone seal has properly cured. In no case shall initial sweeping occur more than 10 days after the chip seal application. Care will be taken not to dislodge embedded aggregate or damage the surface.

Double Micro-Surface - Type II or Double Micro-Surface - Type III shall be applied over the chip seal interlayer course in the same season but no sooner than seven (7) days after the chip seal application. After Micro-Surfacing has been applied the cape seal will be complete.

Utility castings shall be protected from damage during construction processes. Any casting damaged by the Contractor shall be replaced at no cost to the City. All drainage structures shall be protected from spoils and cleaned after construction has been completed, to the satisfaction of the Engineer. Work included for protecting and cleaning structures is considered incidental to its respective items and no additional payments will be made.

METHOD OF MEASUREMENT

Furnish and Installation of Cape Sealing will be measured on a "Per Square Yard" unit price basis for the actual area cape sealed complete in place and accepted by the Engineer.

BASIS OF PAYMENT

Furnish and Installation of Cape Sealing shall be paid the contract unit price "Per Square Yard" for the application of Cape Sealing (including micro-surfacing) material as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, materials, and equipment required to prepare and clean the roadways, notifications, furnish and place the cape sealing material and all other incidentals required to finish the work, complete and accepted by the Engineer.

3.12 FURNISH, INSTALL, AND SEAL FAST SETTING CONCRETE PAVEMENT

DESCRIPTION

The work shall include saw cutting, removal & disposal, and preparation/cleaning of removed joints, and the mixing and installation of fast-setting concrete pavement to the required thickness. The Contractor shall replace designated roadway sections within the City, using Five Star Highway Patch, or approved equal. The Contractor shall furnish all labor, materials, tools, and equipment necessary to perform such work described by these specifications.

MATERIALS

The following materials, or approved equals as defined by the specifications, shall be used in execution of this construction procedure:

- a) Five Star Highway Patch, or approved equal
- b) Five Star Highway Patch FR (Fiber Reinforced), or approved equal
- c) Dr Vox Water Based Sealant, or approved equal

CONSTRUCTION

Each joint shall be saw cut, to a depth of four (4) inches, parallel to existing joints a minimum of twelve (12) inches from its center on either side (to make a minimum twenty four (24) inch total joint replacement). The Contractor shall ensure that the area surrounding the patch is checked for delamination and unsound concrete using a steel chain, rod, or hammer. The Contractor shall ensure that all deteriorated concrete is removed. All concrete material existing between the saw cuts shall be removed and disposed of to a minimum depth of four (4) inches. Each excavated joint shall then be cleaned of all loose material and debris and power washed clean to ensure that the surface is free from any material that may inhibit bonding.

Each joint shall be filled with Five Star Highway Patch material, or approved equal, mixed and installed to manufacturer's specifications. Joint repair material shall be brushed onto all excavated joint surface areas to provide full coverage and bondage of materials to be installed. The material shall then be applied to excavated joint locations to be repaired, to fill all voids. Patch material shall be trowel finished with last screed passing towards outer saw cuts to give an even and smooth transition to existing concrete roadway. Material shall be broom finished upon slight set.

Five Star Highway Patch shall be immediately coated with an approved curing compound meeting the water retention properties of ASTM C 309. In-service operation may begin immediately after the required strength has been reached.

Upon full set of Five Star Highway Patch material, all joint locations shall be immediately saw cut twice to create the new center joint. The first sawed joint cut shall be four (4) inches in depth and one fourth ($\frac{1}{4}$) of an inch wide. The second sawed joint cut shall be one (1) inch in depth and one half ($\frac{1}{2}$) of an inch wide. All joint cuts shall then be cleaned of all debris.

Each new joint shall be sealed with Dr Vox water based sealant, or approved equal, and installed to manufactures specifications. Water based sealer shall be applied to all joints upon full set of material. It shall be applied in a neat fashion to provide an even and full cover to the joint repair material.

Joints in repaired areas shall align with adjacent joints. Finished joints shall not deviate more than ¼ inch in the horizontal alignment from a straight line. Suitable guide lines or devices shall be used to assure cutting on the true line. All joints shall be made before uncontrolled shrinkage cracking takes place. The joints shall be sealed before the pavement is opened to traffic, and as soon after the completion of the curing period as is feasible. Just prior to sealing, each joint shall be thoroughly cleaned of all foreign material and the joint faces shall be cleaned and the surface dry when the seal is applied. Any excess material on the surface of the concrete pavement shall be removed immediately.

GENERAL

Joints must be cleaned of all contaminants and impurities to the depth of witch joint material is to be installed. Cleaning shall be by grinding, saw cutting, blast cleaning (water or sand), mechanical abrading, or a combination of these methods. All dust, loose particulates, and other debris shall be removed by water power washing.

All surfaces left unexcavated shall be left remaining rough, angular, jagged, or otherwise unsmooth or unpolished to provide adequate bondage area for patches to be installed.

All steps contained within this specification shall be performed in a timely manner so that each step is performed immediately following the prior.

METHOD OF MEASUREMENT

"Furnish, Install, and Seal Fast Setting Concrete Pavement" will be measured by the number of cubic feet of such repairs actually made in accordance with the plans and/or as directed by the Engineer.

BASIS OF PAYMENT

The quantity determined under the method of measurement section will be paid for by the contract unit price. This payment will constitute full compensation for all saw cutting, excavation, disposal of materials, patch material, surface preparation, sealant, labor, tools, equipment, and other incidentals necessary to properly complete this work.

3.13 REMOVE AND REPLACE FULL DEPTH REINFORCED CONCRETE ROADWAY

DESCRIPTION

This work consists of the reconstruction of existing concrete pavement panels in accordance with the dimensions and details indicated, these specifications, the latest Rhode Island

Department of Transportation specifications and standards, or as directed by the Engineer. RIDOT Part 500, Concrete Pavements, and Part 600, Concrete, are the minimum applicable sections of the RIDOT standards. Existing concrete roadway will be removed and replaced with eight (8) inch thick concrete pavement.

MATERIALS

Reinforced Portland Cement Concrete pavement shall conform to RIDOT Section M.02, PORTLAND CEMENT CONCRETE, and be a 5,000 psi High Early Strength Concrete Mix with a 0.37 water to cement ratio using pure cement (no fly ash), as per the specifications below:

Cement, Type II (lbs)	752
Fine Aggregate (lbs)	1,044
Coarse Aggregate (lbs)	1750
Water (lbs/gal)	280/33.5
Total Air, %	6.0 +/- 1.5

Adva-190 (oz)	22.56
Daratard 17 Retarder (oz)	15.04
Darex II AEA (oz)	2.3
Calcium Nitrate Corrosion Inhibitor	30%

Water/cement ratio (lbs/lb)	0.37
Slump (in)	4.00
Concrete Unit Weight (PCF)	141.7

Installation shall conform to Rhode Island Department of Transportation (RIDOT), Standard Specifications for Road and Bridge Construction, latest edition, including updates.

Reinforcing steel bars shall be placed in the panels both longitudinally and transversely and shall be #5, deformed, epoxy-coated, Grade 60 bars, spaced at 12 inches both longitudinally and transversely. Reinforcing steel shall conform to RIDOT Section M.05.01, BAR REINFORCEMENT.

Concrete with calcium nitrate based corrosion inhibitor shall conform to RIDOT Section 605.

All joint materials (e.g., filler and sealant) shall conform to the requirements of Section 500 and Section M.02 of the above RIDOT specification.

Longitudinal tie bars shall be #5, deformed, epoxy-coated, Grade 60 bars, 30 inches long.

Transverse dowel bars shall be #5, smooth, epoxy-coated, Grade 60 bars, 24 inches long.

Epoxy-coated reinforcement may be substituted with galvanized.

CONSTRUCTION

Portland cement concrete pavement shall be placed in accordance with the aforementioned specifications. Careful attention shall be given to the proper saw cutting of joints and curing after placement.

Maintain lane widths and keep concrete panels as square as possible (1:1 to 1:1.25 ratio). Avoid triangular shaped panels and angles <60 degrees.

Longitudinal joint tie bars are 30 inch long deformed, epoxy-coated, Grade 60 bars placed at mid slab depth, perpendicular to the longitudinal construction and contraction joints. Tie bars are placed a minimum of 15 inches from a transverse joint and at 18 inch spacing thereafter. Tie bars are typically used at longitudinal joints to hold abutting concrete faces in tight contact. Tie bars are recommended at longitudinal construction joints for lane and shoulder additions or reconstruction, but are not recommended where isolation joints are required.

Load transfer dowel bars are required. Load transfer is the ability of a joint to transfer an applied traffic load from one side of the joint to the other. Ideally, load transfer is achieved through 3 mechanisms:

1. Mechanical load transfer devices such as dowel bars
2. Aggregate interlock across abutting edges of concrete
3. Friction between the concrete pavement surface and base

Dowels are placed on center at 18 inch intervals along the transverse joint, with a 6" offset at longitudinal joints. The dowels shall be thoroughly coated with an approved lubricant to prevent the concrete from binding to that portion of the dowel. An approved metal dowel cap or sleeve shall be furnished for each dowel bar used with the expansion joints. The caps or sleeves shall fit the dowel bar tightly and the closed end shall be watertight.

The general cleanliness of steel must also be checked for ensuring it does not have loose mill scale, excessive rust, or other deleterious coatings. Contractor shall cleaning as necessary and remove unacceptable bars. Epoxy coatings shall be checked for chips and scratches that can allow water to penetrate the coating and cause the steel to rust. Epoxy coating shall be repaired prior to concrete placement as recommended by manufacturer.

Materials Testing. The testing laboratory must be approved by the Engineer and may be designated by the Engineer. The contractor shall provide professional materials testing at no additional cost. All testing shall conform to RIDOT, AASHTO and/or ASTM requirements.

Opening to Traffic. The Engineer shall decide road will be opened to traffic. Consideration will

not occur until a compressive strength of 3,000 psi minimum is certified and specimen beams have attained a flexural strength of 525 pounds per square inch when tested by the third-point method in accordance with AASHTO T97. At a minimum, traffic shall not be allowed on new concrete for a minimum of 24 hours and certified test results show required minimum strength.

METHOD OF MEASUREMENT

"Portland Cement Concrete Pavement" will be measured per square yard per eight inch (8") depth of concrete.

BASIS OF PAYMENT

The accepted quantities of "Portland Cement Concrete Pavement" will be paid for at the contract unit price per square yard as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials and equipment, including excavation, disposal of materials, reinforcing steel, dowels, joint material, saw cutting, sampling and materials testing, and all incidentals required to finish the work, complete and accepted by the Engineer.

3.14 SILICONE HIGHWAY JOINT SEALANT

DESCRIPTION

The work under this item shall consist of furnishing and installing silicone joint sealant in highway and bridge expansion and contraction joints to the configuration shown on the plans or as directed by the Engineer.

MATERIALS

The silicone joint sealant shall be a one-part silicone material that readily extrudes over a wide temperature range and cures to produce a durable, flexible, low modulus silicone rubber joint seal. It shall have an extension recovery of 100% and a compression recovery of 50% of the original joint width.

The silicone sealant shall meet the requirements of Federal Specifications TT-S-01543 A Class A (one-part silicone sealants) and TT-S-00230 C Class A (one component sealants).

LIMITATIONS

Silicone sealant is not intended for continuous water immersion, and it should not be applied in totally confined spaces where the sealant is not exposed to atmospheric moisture. The sealant should never be applied to wet or damp surfaces nor should it be installed during inclement weather. It shall be applied no thicker than 1/2 inch and no thinner than 1/4 inch an approximate width to depth ratio of 2:1.

CONSTRUCTION METHODS

All joints shall be cleaned of contaminants and impurities to the depth at which the sealant (and

backer rod if detailed) is to be installed. Cleaning shall be by grinding, saw cutting, blast cleaning (sand or water), mechanical abrading or a combination of these methods. This will provide a sound, clean and frost-free surface for sealant application.

All dust, loose particulates, and other debris shall be blown out with oil free compressed air.

An expanded closed cell polyethylene foam road back-up material shall be installed in joints, or an approved bond breaker tape shall be installed if so detailed on the plan.

A primer shall be applied to the surfaces of steel expansion joints. The primer shall be as per the recommendation of the sealant manufacturer.

Silicone highway joint sealant shall be applied in a continuous operation to properly fill and seal the joint width. For maximum performance the sealant should be applied above 40°F. The sealant shall be pumped directly from the original drum or pail into the joint by use of an air-powered pump, pushing the sealant ahead to form a uniform bead. The sealant shall fill the joint from the bottom to slightly below the pavement surface.

The joint shall be tooled using a blunt instrument, so that it is slightly concave and approximately ¼ inch below the adjacent surface. Tooling should be done within 10 minutes of application before a "skin" forms. No soap or oil shall be used as a tooling aid.

Traffic shall be kept off the sealed lane for at least 30 minutes after sealant application.

METHOD OF MEASUREMENT

The quantity of "Silicone Highway Joint Sealant" to be paid for will be measured by the linear foot; in accordance with the Rhode Island Standard Specifications and these special provisions.

BASIS OF PAYMENT

The quantity determined under the "measurement" section will be paid for by either the contract unit price or included in the contract Lump Sum items, as designated in the Proposal. This payment will constitute full compensation for all silicone sealant, back rods, bond breaker tape, primer, surface preparation, other materials, labor, tools, equipment, and other incidentals necessary to properly complete this work.

3.15 FURNISH AND INSTALL EXPANSION JOINT

DESCRIPTION

The work shall include the installation of backer rod, the installation of silicone or polyurethane joint filler, and any other requirements necessary to secure the expansion joint. The Contractor

shall furnish all labor, materials, tools, and equipment necessary to perform such work described by these specifications.

MATERIALS

Joint materials shall meet the requirements of section M.02.10 or M.02.11 of the latest Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction with updates.

CONSTRUCTION

One half ($\frac{1}{2}$) inch backer rod shall be installed to all sawed joint cuts so that it sits on top of the narrower of the two cuts. Backer rod shall be installed to manufacturer's specifications and be approved by the City Engineer.

After the backer rod is installed, all joints shall then be sealed with silicone or polyurethane joint sealer. Each joint shall be sealed with silicone or polyurethane joint sealer so that there is a three sixteenths ($\frac{3}{16}$) of an inch difference between the top of the applied sealant below the grade of the roadway. Silicone or polyurethane joint sealer shall be installed to manufacturer's specifications and be approved by the City Engineer.

The work shall include saw cutting and cleaning joints, and furnishing, placing and finishing joint sealing material to provide for expansion and shrinkage of the concrete.

METHOD OF MEASUREMENT

"Furnish and Install Expansion Joint" will be measured by the number of linear feet of joint actually installed in accordance with the plans and/or as directed by the Engineer.

BASIS OF PAYMENT

"Furnish and Install Expansion Joint" will be paid for at the contract unit price per linear foot as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, materials, tools and equipment necessary for saw cutting, cleaning and preparation of the joint, installation of the backer rod, installation of the joint sealing material, and all other incidentals required to finish the work, complete and accepted by the Engineer.

SECTION 4 CURB WORK

4.01 REMOVE AND RESET EXISTING CURB

4.02 REMOVE AND STOCKPILE EXISTING CURB

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to Remove and Reset Existing Curb or Remove and Stockpile Existing Curb. All work shall be in accordance with the Rhode Island Department of Transportation specifications and standards. Some curbing may be available at the City Yard for use by the Contractor when necessary. The Contractor is responsible for transporting stockpiled curb to the job site at his expense. The Contractor shall notify the various utility companies (gas, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

The Contractor shall protect removed curbing from damage and store them in a safe manner. Any curb damaged shall be replaced at the Contractor's expense.

Any excess curb that is deemed acceptable by the Engineer shall be delivered and stockpiled at the City Yard, 80 Halsey Street

MATERIALS

Portland Cement Concrete used for curb lock shall be Class B (conforming to Section 601 the Rhode Island Department of Transportation specifications and standards or better and used in all locations where curbing has been reset or furnished and installed. No additional payment shall be made for curb lock. Any and all curb lock used for curb work shall be included for payment under the respective curb work item.

CONSTRUCTION METHOD

All curbing to be removed and reset shall be designated as such in the field by the Engineer. All concrete curbing shall be removed and disposed unless otherwise directed by the Engineer. All roadways shall be sawcut no less than 12 inches from the face of curb in all areas where curb is to be removed and reset. Existing curbing shall be removed, reset on a compacted surface, and locked in place with Portland Cement Concrete to binder grade maximum.

Prior to any curb removal, the asphalt shall be removed and disposed of. The sidewalk behind the curb shall then be carefully removed and disposed of so that no damage is caused to the curb stone or any surrounding structures. Any curb damaged shall be replaced at the Contractor's

expense. After excavating adjacent to the curb, it shall be carefully removed so as not to damage it. The curb shall then be reset over an approved compacted gravel base. Upon this foundation, the curbing shall be laid with adjacent sections against each other, leaving closely fitted joints, with no gaps greater than 1/4". Curbing shall be saw-cut or trimmed as necessary. Transitions at all driveways and wheelchair ramps shall be trimmed from the existing curbing and shall conform to RI Standards 7.3.2 and 7.3.3. All spaces under the curbing shall be filled with gravel and tamped so that the curb will bear thoroughly its entire length and be at the required line and grade.

After the curbing has been set to line and grade and the underlying base material thoroughly compacted, the remaining trench shall be backfilled, and thoroughly compacted on the back side of the curb to the bottom of sidewalk grade. Portland cement concrete curb lock shall be used for backfill on the front face of the curb. Surplus bluestone curbing shall be set aside for stockpiling as determined by the Engineer.

METHOD OF MEASUREMENT

Remove and Reset Existing Curb will be measured on a "Per Linear Foot" basis by the length of such stones actually removed and reset in accordance with the Plans and/or as directed by the Engineer.

Remove and Stockpile Existing Curb will be measured on a "Per Linear Foot" basis by the length of such stones actually removed and stockpiled in good condition as directed by the Engineer.

BASIS OF PAYMENT

Remove and Reset Existing Curb shall be paid for at the respective contract unit prices "Per Linear Foot" as listed in the Proposal. The prices so stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) saw-cutting, excavation, loading, hauling, placement and compaction of backfill, resetting, trimming, Portland cement concrete, the legal disposal of all surplus excavated and/or unsuitable material and unusable curbing, and all other incidentals required to finish the work, complete and accepted by the Engineer. Any castings damaged shall be replaced at the Contractor's expense.

Remove and Stockpile Existing Curb shall be paid for at the respective contract unit prices "Per Linear Foot" as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) loading, hauling, stockpiling, and all other incidentals required to finish the work, complete and accepted by the Engineer.

The disposal of sidewalk panels shall be included in the Portland Cement Concrete Sidewalk item.

4.03 FURNISH AND INSTALL NEW GRANITE CURB

4.04 (REMOVED)

4.05 (REMOVED)

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to Furnish and Install New Granite Curb including, but not limited to, Straight, Circular, Transition, Radius Curb, Ramp, and Sloped unless otherwise measured under separate item. All work shall be in accordance with the Rhode Island Department of Transportation specifications and standards. The Contractor shall notify the various utility companies (gas, water, electric, telephone, etc.) to coordinate work on or near their respective structures. All granite curb will have ½" chamfer in accordance with RIDOT Standards.

MATERIALS

New granite curb shall be hard and durable, predominately gray in color, free from seams that impair its structural integrity, and of smooth-splitting character. Natural color variations characteristic of the deposit will be permitted. The exposed faces of all curb shall be free from drill holes. Half drill holes no larger than ¾" in diameter will be permitted in the arris line in the plane of the curb backside. All curb shall have a top surface sawed or dressed to an approximate true plane, with no depressions or projections over 1/8". Outside top edge will have a ½" chamfer. The top front arris line shall be straight and true, with no variations from a straight line greater than 1/8". The top back arris line shall meet the same requirement except 3/8" variation shall be allowed. The front face shall be at right angles to the top and shall be smooth split. It shall have no projections greater than 1" or depressions greater than ½" for a distance of eight (8) inches from the top. The ends of the curb shall be square with the tops, back and face. Nominal dimensions for all curb shall be as follows:

Length:	3 feet to 8 feet
Height:	18 inches ± 1 inch
Thickness:	6 inches ± 1/8 inch

Portland Cement Concrete used for curb lock shall be Class B (conforming to Section 601 of the Rhode Island Department of Transportation specifications and standards) or better and used in all locations where curbing has been reset or furnished and installed.

CONSTRUCTION METHOD

New granite curb shall be installed at locations as directed by the Engineer. If concrete curb is to be replaced, it shall be removed and disposed of. Payment for removal and disposal of concrete curb shall be paid for under this item. The roadway shall be saw-cut no more than 12 inches from the face of curb in all areas where new curb to be installed. In areas where curbing **did not** exist, it shall be installed on a minimum of 12 inches of crushed processed gravel, thoroughly compacted. All new curb shall be locked in place with Portland cement concrete. Payment for concrete shall be included for payment under this item.

Should roadway pavement be undermined or compromised during curbing installation, the Engineer may require the pavement be saw cut 6 inches or more beyond the area of undermining and the area filled with compacted processed gravel or concrete at contractor's cost.

METHOD OF MEASUREMENT

Furnish and Install New Granite Curb Straight and Circular will be measured on a "Per Linear Foot" basis by the length of such stones actually furnished and installed new in accordance with the Plans and/or as directed by the Engineer.

BASIS OF PAYMENT

Furnish and Install New Granite Curb Straight and Circular shall be paid for at the respective contract unit prices "Per Linear Foot" as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) saw-cutting, excavation, loading, hauling, stockpiling, placement and compaction of backfill, furnish of granite curbing, trimming, Portland cement concrete, the legal disposal of all surplus excavated and/or unsuitable material and unusable curbing, and all other incidentals required to finish the work, complete and accepted by the Engineer. Any castings damaged shall be replaced at the Contractor's expense.

- 4.06 SLOTTED GRANITE INLET STONE 38" LONG, CITY OF NEWPORT, DEPARTMENT OF UTILITIES STANDARD**
- 4.07 SLOTTED GRANITE INLET STONE 5 FOOT LONG, CITY OF NEWPORT, DEPARTMENT OF UTILITIES STANDARD**

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to Furnish and Install New Granite Inlet Stones to the new roadway elevation. All work shall be in accordance

with the City of Newport, Department of Utilities and Rhode Island Department of Transportation specifications and standards.

MATERIALS

New granite inlet stones shall be hard and durable, predominately gray in color, free from seams that impair its structural integrity, and of smooth-splitting character. Natural color variations characteristic of the deposit will be permitted. The exposed faces of all curb shall be free from drill holes. Half drill holes no larger than $\frac{3}{4}$ " in diameter will be permitted in the arris line in the plane of the curb backside. All curb shall have a top surface sawed or dressed to an approximate true plane, with no depressions or projections over $\frac{1}{8}$ ". The top front arris line shall be straight and true, with no variations from a straight line greater than $\frac{1}{8}$ ". The top back arris line shall meet the same requirement except $\frac{3}{8}$ " variation shall be allowed. The front face shall be at right angles to the top and shall be smooth split. It shall have no projections greater than 1" or depressions greater than $\frac{1}{2}$ " for a distance of eight (8) inches from the top. The ends of the curb shall be square with the tops, back and face. Nominal dimensions for all curb shall be as follows:

Length:	3 feet to 8 feet
Height:	18 inches $\pm$ 1 inch
Thickness:	6 inches $\pm$ $\frac{1}{8}$ inch

Inlet stones shall conform to City of Newport, Department of Utilities Standards or as Directed by Department of Utilities. Portland Cement Concrete used for curb lock shall be Class B (conforming to Rhode Island Department of Transportation specifications and standards Section 601 or better and used in all locations where curbing has been reset or furnished and installed.

METHOD OF MEASUREMENT

Furnish and Install New Slotted Granite inlet Stones will be measured on a "Per Each" basis by the number of stones actually furnished and installed new in accordance with the Plans and/or as directed by the Engineer.

BASIS OF PAYMENT

Furnish and Install New Granite Inlet Stones shall be paid for at the respective contract unit prices "Per Each" as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) saw-cutting, excavation, loading, hauling, stockpiling, placement and compaction of backfill, Portland cement concrete, the legal disposal of all surplus excavated and/or unsuitable material and

unusable curbing, and all other incidentals required to finish the work, complete and accepted by the Engineer. Any castings damaged shall be replaced at the Contractor's expense.

SECTION 5 SIDEWALK WORK

5.01 CLASS XX PORTLAND CEMENT CONCRETE 5" SIDEWALK **5.02 CLASS XX PORTLAND CEMENT CONCRETE 8" DRIVEWAY / WCR**

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to furnish and install Class XX Portland Cement Concrete 5" Sidewalk or Class XX Reinforced Portland Cement Concrete 8" Driveways and Wheel Chair Ramps. All work shall be in accordance with the Rhode Island Department of Transportation specifications and standards including SECTION 905, SIDEWALKS, CURB RAMPS, AND DRIVEWAYS. The Contractor shall notify the various utility companies (gas, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

MATERIALS

Portland Cement Concrete shall be in accordance with Rhode Island Department of Transportation specifications and standards for Class XX (4,000 psi) as specified within SECTION 601, PORTLAND CEMENT CONCRETE and either five (5) or eight (8) inches in thickness depending on location and use.

Portland Cement Concrete used for other items such as curb lock, utility castings, or at locations directed by the Engineer shall be included as incidentals to the respective item.

Welded wire mesh shall be required for all driveway aprons and wheelchair ramps. It shall be installed to conform to Rhode Island Department of Transportation specifications and standards as specified in SECTION M05.03, WIRE REINFORCEMENT, and to RIDOT STANDARD DETAIL 43.5.0.

Calcium Chloride in any form shall not be used in any Portland cement concrete.

Water used in mixing and curing of concrete shall be subject to approval and shall be reasonably clean and free of oil, salt, acid, alkali, sugar, vegetable, or other substance injurious to the finished project. The amount of water used shall be not more than 6 gallons per bag of cement, and less shall be used if required, depending upon the character of the aggregates, the proportion of coarse to fine materials in the aggregates and the consistency desired for various parts of the work. Proper allowance shall be made for the moisture content in the aggregates. Slump, at the time of placing, shall not exceed four inches. The exact proportions of water, cement, sand and coarse aggregate shall be varied as ordered to give the best results for the aggregates used. No concrete shall be deposited in or under water and care shall be taken that no water flows over

concrete until it has set. The foundation material upon which concrete is to be placed shall be approved by the Engineer before pouring commences. Pipes to be encased in concrete shall be clean and adequately restrained to prevent movement during the pouring operation.

CONSTRUCTION METHOD

Construction methods shall conform to Rhode Island Department of Transportation specifications and standards unless otherwise stated in the City of Newport specifications or as directed by the Engineer.

It shall be the responsibility of the Contractor to carefully remove the designated concrete so as not to damage any adjacent concrete not intended for removal. If any damage occurs to such slabs, it shall be the responsibility of the Contractor to replace those slabs with new concrete at their expense. The sidewalk slabs that are to be replaced will be marked by the Engineer and all joints between new work and existing slabs shall be saw-cut straight and true.

It is expected that concrete driveways, wheelchair ramps, and sidewalk panels may have been constructed with reinforcing. Removal of such reinforced concrete is included in the cost of this item.

The Contractor shall also exercise due care not to injure trees during excavation including air spading. The Contractor shall protect trees with boards, burlap, padding or other protective material as may be required to avoid injury. After the existing concrete has been removed, roots within the construction area shall remain undisturbed unless otherwise directed by the City Tree Warden. All work shall be done as directed by the City Tree Warden or their designee.

Historic medallions such as "W.P.A." (i.e., Works Progress Administration) shall be maintained to the greatest extent feasible. Care will be taken not to disturb the concrete panel in which it was placed and to keep the medallion in the same existing location. The Engineer will direct what actions will be necessary to best preserve the historic integrity of the medallion. The cost of actions required are included in this item. No additional payment is authorized. Actions may include, but not be limited to, the following:

1. Keep the existing sidewalk medallion panel(s) and surrounding panels undisturbed.
2. If the panel is in-tact but needs adjustment, then gently adjust panel as needed.
3. If the panel is cracked but the concrete surrounding the medallion is in-tact, then in a workmanlike and neat manner, the medallion will be cut from the concrete panel maximizing the amount of existing concrete around the medallion. This piece of existing concrete and medallion will be reset into a new concrete sidewalk panel at the same location.
4. If the panel is cracked through the medallion, then the existing medallion may be removed from the concrete in a workmanlike manner and reset into the new concrete. This option is available only as a last resort should the historic concrete panel be unsalvageable.

Where the areas to be replaced contain manhole covers, curb boxes, or other utility structures, it shall be the responsibility of the Contractor to properly reset those utilities to grade, or to contact the respective utility company for them to do the same. **Adjusting sidewalk or driveway utility boxes and services shall be considered incidental and there will be no separate payment.** Any areas where structures project from or are below finish grade shall be saw cut, removed and replaced full panel at the Contractors expense.

It shall be the responsibility of the Contractor to immediately remove from the site all excavated concrete and to dispose of it in the proper and legal manner.

Newly installed Class XX Portland Cement Concrete 5" Sidewalk and Class XX Portland Cement Concrete 8" Driveways and Wheel Chair Ramps sections shall be well graded and compacted to each of their respective depths, five (5) inches and eight (8) inches. The limits of 8" driveways shall be constructed and measured in accordance with RIDOT Specification Standard 43.4.1. Concrete 8" Driveway and Wheel Chair Ramps (WCR) shall be constructed at a minimum of 8" thick from the outside edge to outside edge at a minimum of six feet within the transition area including the driveway or WCR as the limits shown in 43.4.1 or directed by the Engineer. Sidewalk panels less than the full 8" shall be measured as 5" Sidewalk including that portion of sidewalk which transitions from 5" to 8" thick adjacent to a Driveway or WCR in accordance with RIDOT standard.

After the approved gravel base has been thoroughly compacted and well graded, forms shall be placed such that wet concrete shall not be placed directly against loam, fencing, plants, or stones. Forms shall be of sufficient strength to hold their shape and to assure true alignment of the finished concrete. They shall extend to the full depth of the concrete. Forms shall be placed such that a pitch of 1.5% from the curb to the back of sidewalk is attained. For wheelchair ramps, forms shall be placed such that the ramp meets all Federal, State, and local ADA requirements.

Forms shall be clean and thoroughly wet before concrete is placed. Whenever fresh and old concrete masonry are jointed, immediately before placing fresh concrete the contact surface of the old concrete shall be thoroughly cleaned, using a stiff brush or other tools and a stream of water under pressure, and the surface shall be clean and wet but free from pools of water at the moment the fresh concrete is placed.

Expansion joints shall be placed adjacent to previously existing sidewalk to be poured up against. Special care shall be taken to keep pipes, steps and other inserts placed in the concrete at the proper lines and grades. Joints in the concrete shall be made only at such points as are shown, specified, directed or as permitted by the Engineer.

Tests for strength and consistency of the concrete will be made by the Engineer at no expense to the Contractor. However, any portion of the work found not meeting requirements for strength and/or consistency shall be removed and replaced by the Contractor at no expense to the Owner.

Joints. Ensure that the expansion joints are filled with an approved, premolded expansion joint filler that is $\frac{1}{4}$ in. thick and extends through the entire thickness of the concrete. Divide sidewalks and driveways into sections by control joints formed by a jointing tool or other acceptable means as directed. Extend the control joints into the concrete for at least $\frac{1}{3}$ of the depth and provide an approximate width of $\frac{1}{8}$ in. Do not allow the distance between transverse and/or longitudinal dummy joints to exceed 5 ft.

Form construction joints around all appurtenances extending into and through the sidewalk. **Install premolded expansion joint filler $\frac{1}{4}$ in. thick in the joints.** Locate expansion joints every 20 ft. Do not force premolded expansion joint filler into freshly placed concrete.

Install expansion joint filler between concrete sidewalks and any fixed structure such as a building or bridge. Extend the expansion joint material for the full depth of the sidewalk. If the sidewalk abuts an irregular wall, foundation, or stationary object, locate the expansion joint filler 4 in. from the irregular surface and place concrete between the irregular surface and the expansion joint material.

Expansion joints are required at regular intervals, every 20 feet, and whenever the sidewalk meets another walk, driveway, lighting standard, utility pole, fire hydrant, or other rigid object.

Finishing. Apply a medium broom finish to all sidewalks, curb ramps, and driveways. Edge all outside edges of the slab and all joints with a $\frac{1}{4}$ -in. radius edging tool.

Contraction joints shall be formed by cutting a slot in the slab about one (1) inch deep and generally spaced at about five (5) foot intervals. After the concrete has partly hardened, the joint shall be edged with a double edger held against a straight edge to make a clean, straight joint. Concrete shall be edged or "shined" along all expansion joints and control joints. The sidewalk shall also be edged along curb lines and forms.

Concrete sidewalks shall be constructed to pitch towards the roadway at one and a half percent (1.5%). Concrete wheel chair ramps shall conform to RI Standards 43.3.0 and 43.3.1 as well as all current ADA Standard Specifications. Concrete driveways shall conform to RI Standards 43.4.0 and 43.4.1.

Welded Wire Mesh shall be used at all 8" sidewalk, driveway and wheelchair ramp locations. It shall be installed to conform to RI Standard 43.5.0.

Concrete shall be protected so that moisture is not lost during the early stages of hardening. The Contractor may protect the concrete from the sun or drying winds by placing and thoroughly securing 5 mil polyethylene sheeting over the finished concrete. Protective covering shall be left

in place for a minimum of three days. The Contractor may also use approved membrane curing compounds sprayed on the surface of the concrete. These compounds shall be applied immediately after the concrete has been finished.

Concrete shall not be placed when the temperature is below 40 degrees Fahrenheit, without prior approval of the Engineer. In the case of an anticipated drop in temperature, all recommended cold weather curing methods shall be instituted by the Contractor at their own expense before leaving the site to insure continued curing of the concrete at normal temperatures.

The Contractor shall be responsible for maintaining new concrete work and shall insure that no defects, markings, or damage by vandals or animals occurs. It shall be the responsibility of the Contractor to replace any damaged portions of the work at their own expense. The Contractor shall provide all necessary temporary structures to insure easy accessibility to residences and businesses in all areas of their work. He shall provide lighted barricades at all hazardous locations and as directed by the Engineer.

Forms shall be removed in such a manner as to insure the new concrete against damage or injury. At no time will the forms be removed within 24 hours after placing of concrete, or not until the concrete has sufficiently hardened to prevent injury, whichever is greater. The Contractor shall fill voids left by the removal of the forms that were required to construct the new concrete sidewalks and wheelchair ramps with loam and seed.

For concrete constructed within the vehicular travel way or driveway, a minimum of 24 hours curing time shall be required before vehicular use. The Contractor shall provide all signs, cones, and barricades necessary to protect the concrete. The Contractor shall notify Property owners or residents at least 24 hours prior to disturbing driveways.

Installing plastic sleeves around proposed and existing sign posts and anchors filled with stone dust to ease post maintenance and removal is considered incidental. Concrete or mortar shall not be poured to incase sign posts.

Any damage caused by excavation of a sidewalk shall be the sole responsibility of the Contractor. Care shall be taken when excavating any sidewalk or objects as to no disturb existing buildings, foundations, utilities, or any other existing structure etc. The Contractor shall be responsible for contact and communication with City Yard Employees when using stockpiled material.

METHOD OF MEASUREMENT

Class XX Portland Cement Concrete 5" Sidewalk and Class XX Portland Cement Concrete 8" Driveways and Wheel Chair Ramps will be measured on a "Per Square Yard" basis by the area of sidewalk actually removed and installed in accordance with the Plans and/or as directed by the

Engineer. Only the square yardage of the newly constructed sidewalk shall count towards the measurement of this item. Class XX Portland Cement Concrete 5" Sidewalk and Class XX Portland Cement Concrete 8" Driveways and Wheel Chair Ramps sections shall be well graded and compacted to each of their respective depths, five (5) inches and eight (8) inches. The limits of 8" driveways shall be constructed and measured in accordance with RIDOT Specification Standard 43.4.1. Concrete 8" Driveway and Wheel Chair Ramps (WCR) shall be constructed at a minimum of 8" thick from the outside edge to outside edge of the transition including the driveway or WCR as the limits shown in 43.4.1. Sidewalk panels less than the full 8" shall be measured as 5" Sidewalk including that portion of sidewalk which transitions from 5" to 8" thick adjacent to a Driveway or WCR in accordance with RIDOT standard.

BASIS OF PAYMENT

Class XX Portland Cement Concrete 5" Sidewalk or Class XX Portland Cement Concrete 8" Driveways and Wheel Chair Ramps shall be paid for at the respective contract unit prices "Per Square Yard" as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) saw-cutting, excavation and disposal of all removed concrete, placing and compacting crushed processed gravel as directed by the Engineer, hauling, loading/unloading, trimming and fine grading, mechanical compaction, setting forms, and furnishing, placing and finishing Portland Cement Concrete to the required thickness, protecting concrete from damage, removing forms, backfilling, clean-up, the legal disposal of all surplus excavated and/or unsuitable material and all other incidentals required to finish the work, complete and accepted by the Engineer.

The excavation and disposal of sidewalk panels shall be included in the Portland Concrete Sidewalk item. Furnish and Install Crushed Processed Gravel, Loam and Seed, and Bituminous Concrete Pavement Non-Mechanical shall be paid for under their respective items.

Adjusting sidewalk or driveway utility boxes and services shall be considered incidental and there will be no separate payment.

5.03 REMOVE AND RESET BRICK PAVER SIDEWALK

5.04 FURNISH AND INSTALL BRICK PAVER SIDEWALK

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to Remove and Reset pavers or Furnish and Install Brick Paver Sidewalk. All work shall be in accordance with the

City of Newport specifications, Rhode Island Department of Transportation specifications and standards, and federal Americans with Disabilities Act (ADA) standards. The Contractor shall notify the various utility companies (gas, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

This specification may be used for existing paver materials or other paver materials approved by the Engineer.

MATERIALS

Portland Cement Concrete shall be Class XX as specified within Section 601 of the Rhode Island Department of Transportation specifications and standards.

New bricks shall be Boston City Hall Paving Bricks as manufactured by Stiles & Hart Brick Company. Bricks shall be 2-1/4 inch thick. No waxing shall be applied. Per the manufacturer, it is noted that size and color of each unit is directly related to the natural clay, not additives, therefore variations will occur which enhance the warmth and character of the bricks. Pavers will have low absorption rate (2-3% or as manufacturer approved).

All Bricks shall be set on one (1) inch of stone dust on top of the concrete base (to be included under this item). All sidewalks shall be brick set over stone dust and five (5) inches of concrete in thickness. All driveways and wheelchair ramps shall be brick set over stone dust and eight (8) inches of concrete in thickness.

Alternate pavers shall be approved by the City Engineer. Pavers shall meet or exceed material and strength specifications of Boston City Hall Paving Bricks. The contractor shall also submit written certifications stating alternate paver meets or exceeds all standards and specifications including the Americans with Disabilities Act (ADA). A sample section (minimum 3 ft by 3 ft) will be constructed and approved by the City Engineer at no cost to the City. ADA standards including, but not limited to, surface smoothness, openings, changes in level, and slip resistance shall conform to the United States Access Board guidance for floor and ground surfaces. The US Access Board guidance states, "Rough surfaces composed of cobblestones, Belgian blocks, and similar materials can be difficult and sometimes painful to negotiate with wheeled mobility aids due to the vibrations they cause." Openings (gaps) in ground surfaces should be no more than 1/4 ", but are limited in width to prevent passage of a 1/2" diameter sphere (wheelchair casters can get wedged into wider openings). Changes in level shall be minimized and will be a maximum of 1/4" without treatment. Openings will be filled with stone dust, polymer, or approved equal and refilled as required to fully and completely fill openings.

CONSTRUCTION METHOD

It shall be the responsibility of the Contractor to carefully remove the designated sidewalk so as not to damage any adjacent concrete or bricks not intended for removal. If any damage occurs to such slabs, it shall be the responsibility of the Contractor to replace those slabs with new concrete at their expense. The sidewalk slabs that are to be replaced will be marked by the Engineer and all joints between new work and existing slabs shall be cut straight with the use of a saw.

The Contractor shall also exercise due care not to injure trees during excavation. The Contractor shall protect trees with boards, burlap, padding or other protective material as may be required to avoid injury. After the existing concrete has been removed, roots within the construction area shall remain undisturbed unless otherwise directed by the City Tree Warden. All work shall be done as directed by the City Tree Warden or their designee.

Where the areas to be replaced contain manhole covers, curb boxes, or other utility structures, it shall be the responsibility of the Contractor to properly reset those utilities to grade, or to contact the respective utility company for them to do the same. Adjusting sidewalk or driveway utility boxes and services shall be considered incidental and there will be no separate payment.

It shall be the responsibility of the Contractor to immediately remove from the site all excavated concrete and to dispose of it in the proper and legal manner.

Any damage caused by careless excavation deemed so by the Engineer shall be replaced by the Contractor at their own expense.

Existing brick sidewalks shall be excavated with care so that the materials are not damaged and may be reset. Care must be taken while removing and storing the existing bricks. Any pavers damaged or lost by the Contractor shall be replaced in kind and at the Contractor's expense. The Contractor shall dispose of any broken or damaged bricks rejected by the Engineer. It shall be the responsibility of the Contractor to purchase new brick to maintain existing limits (which shall be included under this item). New pallets of pavers shall be mixed with salvaged pavers to disperse color deviation. Bricks shall then be reset and paid for under this item.

The Contractor shall protect removed pavers from damage and store them in a safe manner.

Where no concrete base exists, the sub base shall be excavated as directed to allow for the new concrete base. Crushed processed gravel may be required if the sub base is deemed unsuitable. After the approved gravel base has been thoroughly compacted and fine graded, forms shall be placed such that wet concrete shall not be placed directly against loam, fencing, plants, or stones. Forms shall be of sufficient strength to hold their shape and to assure true alignment of the finished concrete. They shall extend to the full depth of the concrete. Forms shall be placed such

that a pitch of 1.5% from the curb to the back of sidewalk is attained. For wheelchair ramps, forms shall be placed such that the ramp meets all Federal, State, and local ADA requirements.

Subbase concrete shall meet the standards for City sidewalks, driveways and wheelchair ramps. Weep holes shall be included in the concrete base per standard detail and is considered incidental to item.

Cement shall conform to Standard Specification of ASTM Designation C-150, latest revision, for Type 1 Portland Cement. Fine aggregate for concrete shall be well-graded natural sand, and coarse aggregate shall be crushed stone or gravel. They shall conform to Standard Specifications of ASTM Designation C33-44, for concrete aggregates. Coarse aggregate shall be of designated size "1-inch to No. 4" in accordance with the gradation for that range of sizes in ASTM Specifications referred to above.

For concrete and/or brick constructed within driveways, a minimum of 24 hours curing time (from the last constructed) shall be required before vehicular use. The Contractor shall provide all signs, cones, and barricades necessary to protect the concrete and/or brick. The Contractor shall notify Property owners or residents at least 24 hours prior to disturbing driveways.

Installing plastic sleeves around proposed and existing sign posts and anchors filled with stone dust to ease post maintenance and removal is considered incidental. Sleeves will be cut below face of pavers/stone. Concrete shall not be poured to incase sign posts in concrete.

Any damage caused by excavation of a sidewalk shall be the sole responsibility of the Contractor. Care shall be taken when excavating any sidewalk or objects as to no disturb existing buildings, foundations, utilities, or any other existing structure etc.

After the concrete base has been poured and cured properly, the paver shall then be reset on a one (1) inch bed of stone dust in a tight fitting, running bond pattern, and any segments of brick shall be cut in an approved manner. No gaps wider than 1/4" shall be permitted between bricks, or where they meet curb, foundations, walls, other sidewalks, or utility structures. Where there is no such hard surface to contain the brickwork, the Contractor shall install 1" x 4" pressure treated timber as backing. Stone dust shall be swept into all brick joints to completely fill all voids. All brickwork shall be compacted with vibratory equipment on top of a stone dust protective layer that shall be removed after completion of compaction.

METHOD OF MEASUREMENT

Remove and Reset or Furnish and Install Brick Paver Sidewalk will be measured on a "Per Square Yard" basis by the area of sidewalk actually removed and installed in accordance with the Plans

and/or as directed by the Engineer. Only the square yardage of the newly constructed sidewalk shall count towards the measurement of this item.

BASIS OF PAYMENT

Remove and Reset or Furnish and Install Brick Paver Sidewalk shall be paid for at the respective contract unit prices "Per Square Yard" as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) saw-cutting, excavation and legal disposal, placing and compacting crushed processed gravel as directed by the Engineer, hauling, loading/unloading, trimming and fine grading, mechanical compaction, setting forms, and furnishing, placing Portland cement concrete to the required thickness, then removing forms, backfilling, furnish and installation of stone dust, furnish of bricks as directed by the Engineer, resetting of bricks, clean-up, the legal disposal of all surplus excavated and/or unsuitable material and all other incidentals required to finish the work, complete and accepted by the Engineer. Any castings damaged shall be replaced at the Contractor's expense.

The excavation and disposal of sidewalk panels or concrete base material shall be included in this item. Furnish and Install Crushed Processed Gravel, Loam and Seed, and Bituminous Concrete Pavement Non-Mechanical shall be paid for under their respective items.

Adjusting sidewalk or driveway utility boxes and services shall be considered incidental and there will be no separate payment.

5.05 REMOVE AND RESET BELGIAN BLOCKS

5.06 FURNISH AND INSTALL BELGIAN BLOCKS

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to Remove and Reset Belgian Blocks. All work shall be in accordance with the Rhode Island Department of Transportation specifications and standards. The Contractor shall notify the various utility companies (gas, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

MATERIALS

Belgian Blocks in roadways shall be reset over an 8-inch thick Portland cement concrete base, with welded wire fabric. Concrete shall be Class XX as specified within Section 601 of the Rhode Island Department of Transportation specifications and standards.

In all other areas Belgian Blocks shall be reset upon an approved base.

Welded wire fabric 6x6-W4xW4 shall conform to Section M05.02.01 Wire Fabric, of the Rhode Island Department of Transportation specifications and standards and AASHTO M55.

Mortar for setting bed and joints shall conform to Section M.09.05.7, Mortar, of the Rhode Island Department of Transportation specifications and standards. Only fresh mortar is to be used for this work. Mortar in which initial set has begun or is more than 30 minutes old, whichever comes first, shall be discarded and replaced with fresh mortar. No retempering of mortar will be permitted.

CONSTRUCTION METHOD

It shall be the responsibility of the Contractor to carefully remove the designated Belgian Blocks so as not to damage the blocks and adjacent areas. Belgian Blocks shall not be saw cut to be removed.

Where the areas to be replaced contain manhole covers, curb boxes, or other utility structures, it shall be the responsibility of the Contractor to properly reset those utilities to grade, or to contact the respective utility company for them to do the same. Payment for this procedure is to be included under their respective items.

It shall be the responsibility of the Contractor to immediately remove from the site all excavated materials and to dispose of it in the proper and legal manner.

Any damage caused by careless excavation deemed so by the Engineer shall be replaced by the Contractor at his own expense.

Care must be taken while removing and storing the existing Belgian blocks. Any pavers damaged or lost by the Contractor shall be replaced in kind and at the Contractor's expense. The Contractor shall dispose of any broken or damaged blocks rejected by the Engineer. It shall be the responsibility of the Contractor to purchase new Belgian block to maintain existing limits (which shall be included under this item). New pallets of pavers shall be mixed with salvaged pavers to disperse color deviation. Belgian blocks shall then be reset under this item.

Any damage caused by excavation shall be the sole responsibility of the Contractor. Care shall be taken when excavating any area as to not disturb existing buildings, foundations, utilities, or surrounding area.

No gaps wider than $\frac{3}{4}$ " shall be permitted between reset blocks, or where they meet curb, foundations, walls, other sidewalks, or utility structures.

The Belgian Blocks shall be tamped in place such that the pavement surface is level. Any variations exceeding $\frac{1}{2}$ inch shall be reset to proper grade. The Belgian Block paving joints shall be filled with stone dust or mortar. The process shall be repeated until all joints are full.

METHOD OF MEASUREMENT

Remove and Reset Belgian Blocks and Furnish and Install Belgian Blocks will be measured on a "Per Square Yard" basis by the area of sidewalk/roadway actually removed and installed in accordance with the Plans and/or as directed by the Engineer. Only the square yardage of the newly constructed sidewalk/roadway shall count towards the measurement of this item.

BASIS OF PAYMENT

Remove and Reset Belgian Blocks and Furnish and Install Belgian Blocks shall be paid for at the respective contract unit prices "Per Square Yard" as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) saw-cutting, excavation and legal disposal, placing and compacting crushed processed gravel as directed by the Engineer, hauling, loading/unloading, trimming and fine grading, mechanical compaction, setting forms, and furnishing, placing Portland cement concrete and wire reinforcement to the required thickness, removing forms, backfilling, clean-up, the legal disposal of all surplus excavated and/or unsuitable material and all other incidentals required to finish the work, complete and accepted by the Engineer. Any castings damaged shall be replaced at the Contractor's expense.

Adjusting sidewalk or driveway utility boxes and services shall be considered incidental and there will be no separate payment.

5.07 REMOVE AND RESET BLUESTONE SIDEWALK

5.08 FURNISH AND INSTALL NEW BLUESTONE SIDEWALK

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to Remove and Reset Bluestone Sidewalk or to Furnish and Install New Bluestone Sidewalk. All work shall be in accordance with the Rhode Island Department of Transportation specifications and standards. The Contractor shall notify the various utility companies (gas, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

MATERIALS

Concrete base shall be Class XX as specified within Section 601 of the Rhode Island Department of Transportation specifications and standards. Mortar for setting bed and joints shall conform to Section M.09.05.7, Mortar, of the Rhode Island Department of Transportation specifications and standards. Only fresh mortar is to be used for this work. Mortar in which initial set has begun or is more than 30 minutes old, whichever comes first, shall be discarded and replaced with fresh mortar. No retempering of mortar will be permitted.

Bluestone pavers shall be clean, dense, uniformly colored, durable, even-grained stone, free from stains, cracks, chips, irregularities, weak fracture planes and any other defect that, in the opinion of the Engineer, will make the material unsuitable for the intended use. Bluestone pavers shall be sized in rectangular shapes:

- (a) 24 inches by 36 inches for sidewalks, wheelchair ramps, and driveways; and shall have a thickness of one half (1 1/2") inches with a tolerance of +/-1/8".
- (c) 24 inches by 48 inches for crosswalks and have a thickness of two (2") inches with a tolerance of +/-1/8".

The pavers are to be thermal finished to create a non-slip surface, blue-grey in color, and shall be from one supply source to ensure the color consistency of the pavers. The bluestone shall be diamond sawed with a smooth surface. All edges shall be cut perfectly square, except where miter cuts are necessary to form the wheelchair ramp pavers, matching existing buildings, foundations, utilities, or any other existing structure etc. All cuts shall be straight and true. The thermal "light flame" finish must be performed during the fabrication of the pavers and must not adversely affect the performance, durability or color of the stones. The Contractor shall provide a sample to be approved by the Engineer before ordering any bluestone for the project.

CONSTRUCTION METHOD

It shall be the responsibility of the Contractor to carefully remove the designated bluestone that is cracked, chipped, stained, broken, and/or damaged in any other way so as not to damage any adjacent bluestone or concrete not intended for removal. If any damage occurs to such stone or slabs, it shall be the responsibility of the Contractor to replace them with new bluestone or concrete at their expense. The stones that are to be replaced will be marked by the Engineer and all joints between new work and existing slabs shall be cut straight with the use of a saw.

Any damage caused by excavation of a sidewalk or other reason shall be the sole responsibility of the Contractor. Care shall be taken when excavating any sidewalk or objects as to no disturb existing buildings, foundations, utilities, or any other existing structure etc.

The Contractor shall also exercise due care not to injure trees during excavation. The Contractor shall protect trees with boards, burlap, padding or other protective material as may be required to avoid injury. After the existing concrete has been removed, roots within the construction area shall remain undisturbed unless otherwise directed by the City Tree Warden. The Contractor shall not begin constructing the sidewalk in the areas within the drip line of a tree until the City of Newport Tree Warden has inspected the tree roots and determines whether the roots need to be pruned. If pruning is deemed necessary by the Tree Warden, all pruning will be completed by the Contractor at the direction of the Tree Warden before construction of the sidewalk begins. All work shall be done as directed by the City Tree Warden or their designee.

Where the areas to be replaced contain manhole covers, curb boxes, or other utility structures, it shall be the responsibility of the Contractor to properly reset those utilities to grade, or to contact the respective utility company for them to do the same. Payment for this procedure is to be included under their respective items.

The work of these items must be performed in a careful, professional manner suitable for the historic character of the area. The subject work is to be accomplished by skilled craftsmen with demonstrated experience in the installation of comparable historic and/or specialty pavements in accordance with the details shown on the plans, these contract specifications and as directed by the Engineer. Bluestone sidewalk shall be installed such that only one block is under construction and is being impacted at any one given time. Removal of existing sidewalk in front of business/commercial establishments shall not be permitted until the required amount of bluestone for a given block or repair has been delivered to the project site and is available for installation by the Contractor.

It shall be the responsibility of the Contractor to immediately remove from the site all excavated material and to dispose of it in the proper and legal manner.

Installation sequence for the remove and resetting of the bluestone sidewalks and crosswalks shall be as follows: Excavate and remove existing bluestone slabs designated to be removed by saw-cutting or hand chiseling adjacent joints. The Contractor shall use a hand chisel or a chipping gun to remove damaged bluestone panels and the mortar setting bed.

New pavers shall be furnished and installed by the Contractor to match existing surrounding stones. Pavers shall be placed in a running bond pattern such that the joints are either perpendicular or parallel to the curb line and off set one half stone. Pre-formed expansion joint filler conforming to AASHTO-M153 shall be placed between the bluestone pavers/concrete slab and any existing structures at the back of the sidewalk.

Five inches (5") of Portland cement concrete base shall be placed in areas where bluestone pavers are to be reset or furnished and installed new. One inch of mortar shall be placed over the concrete slab immediately before setting the pavers such that the entire paver is sitting in the mortar with no voids. The concrete slab and pavers are to be in "saturated-surface dry condition" when the mortar and pavers are placed. Pavers shall be properly seated on the mortar bed using suitable mallets or other tools. Joints shall be pointed flush with the tops of the pavers. Care shall be taken to avoid mortar stains on the tops of the pavers such as tape masking and sponge cleaning. Mortar dropped on the bluestone surface must be immediately and completely removed. The Contractor must protect the work from pedestrian, vehicular or any other form of damage until the work is accepted. Mortared joints shall not be filled by means of mortar slurry.

Installing plastic sleeves around proposed and existing sign posts and anchors filled with stone dust to ease post maintenance and removal is considered incidental. Sleeves will be cut below face of pavers/stone. Concrete shall not be poured to incase sign posts in concrete.

For bluestone constructed within the vehicular travel way or driveway, a minimum of 24 hours curing time (from the last constructed) shall be required before vehicular use. The Contractor shall provide all signs, cones, and barricades necessary to protect the concrete and/or bluestone. The Contractor shall notify Property owners or residents at least 24 hours prior to disturbing driveways.

Wheelchair Ramps: Pavers shall be placed at slopes as shown in the detail drawings which comply with the Americans with Disabilities Act Standards (ADA). Pavers shall be cut such that the "ramp" is constructed with two equal sized pieces with the joint running parallel to the direction of vehicular traffic as shown on the detail drawings.

The Contractor shall mark, in the field, the location of all openings needed for sign posts, hydrants, light poles, etc. Approval by the Engineer is required before any cutting of the pavers begins. The openings shall be created using suitable cutting tools to create the neat openings. If any of the openings are cut in an unapproved location, without the Engineers approval the Contractor shall replace the paver at their own expense. The openings in the pavers shall be cut to the appropriate shape with a maximum joint of 3/8 of an inch filled with mortar as specified above.

Procurement and Delivery:

The Contractor's attention is directed to the fact that the bluestone industry typically requires placement of orders, well in advance of the installation needs to ensure prompt delivery of the materials to the project site. The Contractor is strongly encouraged to provide the requested bluestone submittal for review and approval as soon as possible to ensure the timely placement of the order and the subsequent delivery of stone for installation. The first delivery of bluestone to the project site shall be made between 4 to 8 weeks after placement of the order. All

subsequent deliveries of bluestone material shall be made between 2 to 4 weeks after the first delivery. Bluestone material may also be able to be shipped to the project site to coincide with the Contractor's schedule for sidewalk construction activities.

Storage and Handling:

The bluestone pavers shall be stored on wood pallets, covered with non-staining, waterproof membrane, and protected from weather, vandalism, and theft. It is the Contractor's responsibility to store and protect all materials until the work is complete and accepted. The storage area for materials must be approved in advance by the Engineer. The bluestone pavers shall be handled with care to prevent cracking, chipping, staining, breakage, or other damage. Any pavers damaged or stolen shall be replaced by the Contractor at their own expense. Bluestone pavers containing defects shall not be incorporated into the work and shall become the property of the Contractor.

Weather Limitations:

Construction of the concrete slab will be subject to the relevant conditions set forth in Section 601 of these Specifications. No pavers shall be set when the temperature is below 40 degrees or expected to fall below 40 degrees within 36 hours of completion of the day's work. The work is to be properly cured using methods approved by the Engineer. Care must be taken to keep the mortar moist during hot/dry weather. The work is to be protected from any weather conditions that may damage it, including rain. The completed work is to be left in a clean, workmanlike condition, acceptable to the Engineer.

METHOD OF MEASUREMENT

Remove and Reset Bluestone Sidewalk and Furnish and Install New Bluestone Sidewalk will be measured on a "Per Square Yard" basis by the area removed and reset or newly installed as directed by the Engineer.

BASIS OF PAYMENT

Remove and Reset and Furnish and Install Bluestone Sidewalks shall be paid for at the respective contract unit prices "Per Square Yard" as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) saw-cutting, excavation and legal disposal, hauling, loading/unloading, 5-inch concrete base, mortar, clean-up, the legal disposal of all surplus excavated and/or unsuitable material and all other incidentals required to finish the work, complete and accepted by the Engineer. Any castings damaged shall be replaced at the Contractor's expense.

Adjusting sidewalk or driveway utility boxes and services shall be considered incidental and there will be no separate payment.

5.09 REMOVE AND STOCKPILE BLUESTONE

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to Remove and Stockpile Bluestone. All work shall be in accordance with the Rhode Island Department of Transportation specifications and standards. Stockpiled curbing shall be used by the Contractor when necessary. The Contractor shall notify the various utility companies (gas, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

The Contractor shall protect removed bluestone from damage and store them in a safe manner. Any bluestone damaged shall be replaced at the Contractor's expense.

MATERIALS

All materials removed and stockpiled shall be palletized, wrapped, and delivered to the City Yard, 80 Halsey Street.

CONSTRUCTION METHOD

Bluestone to be removed and stockpiled shall be designated as such in the field by the Engineer. Any other bluestone deemed unusable by the Engineer ahead of time shall be disposed of by the Contractor under the respective sidewalk item.

Contractors shall use careful means of removal so as not to damage the bluestone. Any stone that is deemed unusable by the Engineer, due to damage caused by the Contractor, shall be disposed of at the Contractor's expense. All base material shall be removed and disposed unless otherwise directed by the Engineer.

METHOD OF MEASUREMENT

Remove and Stockpile Bluestone will be measured on a "Per Square Yard" basis by the area of such stones actually removed stockpiled in good condition in accordance with the Plans and/or as directed by the Engineer.

BASIS OF PAYMENT

Remove and Stockpile Bluestone shall be paid for at the respective contract unit prices "Per Square Yard" as listed in the Proposal. The prices so-stated constitute full and complete

compensation for all labor, materials, and equipment associated with (but not limited to) saw-cutting, excavation, loading, hauling, stockpiling, the legal disposal of all surplus excavated and/or unsuitable material and unusable stone/base material, and all other incidentals required to finish the work, complete and accepted by the Engineer.

5.10 FURNISH AND INSTALL CAST IRON DETECTABLE WARNING PANEL

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to Furnish and Install Cast Iron Detectable Warning Panel in accordance with RIDOT Standard Specification 905 and RIDOT Standard Detail 48.1.0 or as described in this Newport standard specification. All panels shall have truncated domes in an offset pattern that is compliant with Americans with Disabilities Act (ADA) warning and directional systems for the visually impaired at locations indicated on the Plans or as directed by the Engineer, all in accordance with these Specifications. All work shall be in accordance with the Rhode Island Department of Transportation specifications and standards. The Contractor shall notify the various utility companies (gas, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

MATERIALS

Provide panels that are gray cast iron conforming to AASHTO M105 and AASHTO M306. Ensure that the panels have integrally cast domes (detectable surface) that conforms to the Americans with Disabilities Act guidelines and have integrally cast embedment lugs for installation in fresh, unset Portland cement concrete. Provide panels for installation in such sizes and shapes necessary to create the intended surface indicated in the Plans or RI Standard Specifications or as directed by the Engineer.

Ensure that panels are not less than 2 ft × 2 ft and are square shaped or “pie-shaped” to follow the radius of corners as necessary. Do not cut the panels.

Ensure that all panels are new and unused. Panels that appear to have been mishandled or improperly stored will not be accepted for use.

CONSTRUCTION METHOD

All wheelchair access ramps shall conform to the latest ADA Standards and shall have a detectable warning system installed. The Contractor shall install the cast in place detectable warning systems while pouring fresh unset concrete at the required line and grade in accordance with the manufacturer’s instructions. Ensure that the alignment of the panel is flush with the walking surface and oriented as shown on the Plans or the RI Standard Details. Ensure

that there is no physical conflict with other castings, fittings, structures, foundations, or appurtenances.

Ensure that panels extend across the full width of the curb ramp, blended transition, or path/trail that warranted the installation of the panels. Install panels utilizing their integral, interlocking or bolted connections to ensure that panels remain properly oriented to each other. Tamp the panels into place such that trapped air escapes and fresh cement concrete fills the vent holes. Do not use the holes to bolt panels into place unless expressly required by the manufacturer.

Detectable warning systems shall be clean upon installation and protected by plastic sheeting while pouring concrete. All detectable warning systems shall be edged ("shined") around the complete perimeter with the same concrete finishing tools listed in the Portland Cement Concrete specification. When the concrete has cured, it will be the responsibility of the Contractor to remove the protective plastic from the detectable warning system.

METHOD OF MEASUREMENT

Furnish and Install Cast Iron Detectable Warning Panel will be measured on a "Per Square foot" basis by the area of detectable warning system actually installed in accordance with the Plans and/or as directed by the Engineer.

BASIS OF PAYMENT

Furnish and Install Cast Iron Detectable Warning Panel shall be paid for at the respective contract unit prices "Per Square Foot" as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) furnishing and installation of detectable warning systems in all wheelchair access ramps constructed of concrete and any other incidentals associated with the work complete and accepted by the Engineer.

5.11 FURNISH AND INSTALL STONE DUST

5.12 FURNISH AND INSTALL FLEXI-PAVE TREE WELL

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to Furnish and Install Stone Dust or Flexi-Pave Tree Well. All work shall be in accordance with the Rhode Island Department of Transportation specifications and standards and manufacturers' specifications. The Contractor shall notify the various utility companies (gas, water, electric, telephone, etc.) to

coordinate work on or near their respective structures. The City Tree Warden shall also be notified whenever working within the drip line of a city tree.

MATERIALS

Select bluestone stone dust leveling and filler aggregate shall be a composite of crushed or uncrushed coarse aggregate and natural or crushed fine aggregate, all provided from approved sources (preferably made from crushed bluestone). The composite aggregate shall be free of compressible or organic soils, soft or elongated rock fragments or gravel, and vegetative matter. Fine aggregate may consist of natural sand or particles produced by crushing rock or gravel, and shall be free of organic soils or other deleterious matter. The composite coarse and fine aggregate mix shall conform to the following gradation requirements:

The setting bed material shall meet the following gradation requirements:

Sieve Size	Percent Passing By Weight
1/4"	100
#10	50 - 85
#40	20 - 45
#200	3 - 10

Flexi-Pave tree well shall be K. B. Industries, Inc., or approved equal. All tree wells shall be Cypress colored Flexi-Pave furnished at two (2) inches.

Sidewalk root protection shall be DeepRoot Tree Root Barrier UB24-2, or approved equal.

CONSTRUCTION METHOD

In cases where a tree obstructs the construction of a proper width sidewalk, a tree well shall be constructed around the base to provide pedestrian with a smooth, firm, and slip resistant surface to walk on. All roots, sod, weeds, cobbles or stone with any dimension greater than 1 inch shall be removed and legally disposed of. The stone dust surface shall be graded, and all roots, sods, weeds, cobbles or stones with any dimension greater than one (1) inch shall be removed and legally disposed of. After shaping and grading, the stone dust material shall be mechanically compacted. Tree root protection shall be installed prior to installation of Flexi-Pave tree well material.

METHOD OF MEASUREMENT

Furnish and Install Stone Dust will be measured on a "Per Cubic Yard" basis by the volume of tree well actually installed and restored in accordance with the Plans and/or as directed by the

Engineer. Furnish and Install Flexi-Pave Tree Well will be measured on a "Per Square Yard" basis by the volume of tree well actually installed and restored in accordance with the Plans and/or as directed by the Engineer. There is no separate measurement for tree root barrier as it is included in the measurement for Flexi-Pave.

BASIS OF PAYMENT

Furnish and Install Stone Dust shall be paid for at the respective contract unit prices "Per Cubic Yard" as listed in the Proposal. Furnish and Install Flexi-Pave Tree Well shall be paid for at the respective contract unit prices "Per Square Yard" as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) excavation and legal disposal of concrete sidewalk, mechanical compaction, furnishing and placement of bluestone stone dust material, sand and leveling, and Flexi-Pave material, tree root barrier, and any other incidentals associated with the work complete and accepted by the Engineer.

5.13 LOAM BORROW AND RESIDENTIAL SEEDING (TYPE 2)

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to Furnish and Install Loam Borrow and Residential Seed (Type 2). All work shall be in accordance with the Rhode Island Department of Transportation specifications and standards. The Contractor shall notify the various utility companies (gas, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

MATERIALS

Loam, Plantable Soil and High Organic Soil shall be clean and free of any undesirable material and conform to the applicable requirements of SECTION M.18; LANDSCAPING MATERIALS of the Rhode Island Department of Transportation specifications and standards.

CONSTRUCTION METHOD

Prior to the placement of loam the Contractor shall prepare the surface to receive the loam. All roots, sod, weeds, cobbles or stone with any dimension greater than 1 inch shall be removed and legally disposed of.

Loam shall be placed on surfaces which are true to the lines, grades, and cross-sections shown on the Plans or established by the Engineer. Loam shall be placed and spread to the required depth of four (4) inches.

The loamed surface shall be graded, and all roots, sods, weeds, cobbles or stones with any dimension greater than one (1) inch shall be removed and legally disposed of. After shaping and grading, all trucks and other equipment not required to perform seeding, mulching or mowing operations shall be excluded from the loamed areas.

The loam shall be furnished by the Contractor from sources outside of the project limits.

All loamed areas shall be seeded no more than two weeks after spreading the loam. Loamed areas shall be maintained, free from erosion until acceptance of the project.

Full advantage shall be taken of time and weather conditions best suited for seeding. The normal dates for seeding shall be as follows: Spring Seeding April 1 to May 31 and Fall Seeding August 15 to October 15.

All areas shall be hand raked to a finished grade. All sticks, litter, wire, weeds, cable, cobbles and stones larger than ½-inch in any dimension shall be removed and legally disposed of. After hand raking, and at the discretion of the Engineer, the Contractor shall roll, with a hand roller, the entire area. The finish grade of the proposed area shall blend into the adjacent lawns (when applicable).

Where the seed bed has become compacted, it shall be scarified to a depth of four (4) inches prior to fine raking. No seeding of this type will be permitted on areas where the seed bed has not been properly prepared or where the soil is compacted.

All seeded areas shall be seeded with a Residential Seed Mix. Additional hand raking and rolling with a light roller shall be employed in lieu of mulch. Such areas will not be accepted until a generally weed-free, 3-inch stand of grass is established.

METHOD OF MEASUREMENT

Furnish and Install Loam Borrow and Residential Seeding (Type 2) will be measured on a "Per Square Yard" basis by the area of turf actually installed and restored in accordance with the Plans and/or as directed by the Engineer.

BASIS OF PAYMENT

Furnish and Install Loam Borrow and Residential Seeding (Type 2) shall be paid for at the respective contract unit prices "Per Square Yard" as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) preparation of seed beds, for furnishing and applying all lime, fertilizer, mulch, seed, raking, mowing, watering, and care during construction of the project, and any other incidentals associated with the work complete and accepted by the Engineer.

Eighty-five (85) percent of the total contract price will be paid at the time of initial seeding. The remainder, 15 percent, will be paid when the newly seeded areas have been accepted. If seeding is done at a time other than the specified seeding date, the entire payment for seeding will be withheld until a uniform acceptable stand of turf, as determined by the Engineer, has been obtained.

SECTION 6 PAVEMENT MARKINGS

- 6.01 4 INCH YELLOW WATERBORNE PAVEMENT MARKING
- 6.02 4 INCH WHITE WATERBORNE PAVEMENT MARKING
- 6.03 12 INCH WHITE WATERBORNE PAVEMENT MARKING
- 6.04 24 INCH WHITE WATERBORNE PAVEMENT MARKING
- 6.05 INDIVIDUAL SYMBOL WATERBORNE PAVEMENT MARKING
- 6.06 MUTCD SHARROW SYMBOL WATERBORNE PAVEMENT MARKING
- 6.07 WORD WATERBORNE PAVEMENT MARKING
- 6.08 HAND WORK WATERBORNE PAVEMENT MARKING
- 6.09 4 INCH YELLOW EPOXY RESIN PAVEMENT MARKING
- 6.10 4 INCH WHITE EPOXY RESIN PAVEMENT MARKING
- 6.11 12 INCH WHITE EPOXY RESIN PAVEMENT MARKING
- 6.12 24 INCH WHITE EPOXY RESIN PAVEMENT MARKING
- 6.13 INDIVIDUAL SYMBOL EPOXY RESIN PAVEMENT MARKING
- 6.14 MUTCD SHARROW SYMBOL EPOXY RESIN PAVEMENT MARKING
- 6.15 WORD EPOXY RESIN PAVEMENT MARKING
- 6.16 HAND WORK EPOXY RESIN PAVEMENT MARKING
- 6.17 REMOVE EXISTING PAVEMENT MARKING (LF)
- 6.18 REMOVE EXISTING PAVEMENT MARKING (EA)
- 6.19 12 INCH WHITE REFLECTORIZED PAVEMENT MARKING TAPE
- 6.20 24 INCH WHITE REFLECTORIZED PAVEMENT MARKING TAPE
- 6.21 TEMPORARY REFLECTORIZED PAVEMENT MARKINGS (TAPE)
- 6.22 TEMPORARY FAST DRYING WATERBORNE PAVEMENT MARKINGS

DESCRIPTION

This work consists of furnishing and applying and/or removing the following items of pavement marking, at the width, and locations indicated by the Engineer, all in accordance with these Specifications.

- a. Waterborne pavement markings.
- b. Epoxy resin pavement markings.
- c. ReflectORIZED pavement marking tape.
- d. Removal of existing pavement markings.

All work shall be in accordance with the latest version of the Rhode Island Standard Specifications for Road and Bridge Construction with all latest revisions.

Cost of furnishing, installing, and maintaining traffic control devices is included in the cost of the contract. There will be no separate payment.

If, for any reason, it is not possible to place epoxy lane and center lines within the guidelines and restrictions of the contract, and no previous lines exist, the Contractor, at his expense, shall

place the appropriate color of four-inch reflective temporary pavement markings for the entire length of the roadway that is unstriped in accordance with the latest edition of the MUTCD. The temporary pavement markings and possible subsequent removal shall be at the Contractor's expense. The type of temporary markings will be approved by the Engineer.

The Contractor shall be responsible for removing, to the satisfaction of the Engineer, all tracking marks, spilled epoxy, and epoxy markings applied in unauthorized areas.

MATERIALS

Composition, binder, pigments, thermoplastic compound pavement marking material, reflective glass spheres, and epoxy resin marking material shall conform to the applicable requirements of RIDOT SECTION M.17; PAVEMENT MARKINGS.

The work shall conform to RIDOT Section T.20 Pavement Markings. Pavement markings must be reflectorized for night visibility by adding reflective spheres before the paint dries or sets, by the double-drop method. The reflective spheres, Type I followed immediately by Type II, shall be evenly dispersed on a minimum wet film thickness of 20 mils on existing and new pavements at a minimum rate of 12 pounds per gallon for each type of glass sphere.

The glass beads shall conform to RIDOT Section M.17.01 Glass Beads – Dual Gradation. The traffic paint shall conform to RIDOT Section M.17.02 Waterborne Pavement Markings. The traffic paint shall conform to RIDOT Section M.17.04 Epoxy Resin Pavement Markings.

Reflectorized pavement marking tape shall be 3M Stamark High Performance Tape Series 380IES or approved equal.

CONSTRUCTION METHOD

Immediately after all dirty pavements shall be swept or air blasted clean. The piles of dirt obtained by sweeping shall be picked up and disposed of by the Contractor. Oil, grease, and similar adherent matter shall be removed by washing with a suitable solvent. Excess solvent shall be wiped from the pavement and allowed to evaporate before applying pavement marking material. The Contractor shall be responsible for all pavement cleaning which may be required. Markings shall not be applied to any surface which has not been inspected and approved by the Engineer. Any new pavements shall not be painted until the required two week waiting period after placement.

Unsatisfactory markings, resulting from the presence of dirt, oil, grease, scale, moisture, or other foreign substances, and all other traffic markings rejected by the Engineer shall be obliterated by a method approved by the Engineer and replaced by the Contractor at its own expense.

Paint shall be applied in accordance with the requirements of Subsection T.20.03.5.c Weather Conditions, of these Specifications.

Paint shall not be applied to utility heads and manhole covers unless approved by the Engineer.

Epoxy crosswalk ends will be painted with a clean, straight ends especially when applying two or more passes to obtain proper width. The use of tape, shingle, or other method to create a clean, straight edge is expected. Waterborne crosswalks on Bellevue Avenue will also have clean, straight edges.

For both waterborne and epoxy pavement markings, the Contractor shall place necessary spotting at appropriate points to provide horizontal control for striping and to determine necessary starting and stopping points. Longitudinal joints, pavement edges and existing markings shall serve as horizontal control when approved by the Engineer.

Reflectorized Pavement Marking Tape shall be installed in accordance with the manufacturer instruction.

For grinding removals, Contractor shall install a groove in the existing pavement at a depth of 80-100 mils in thickness at the locations to be determined by the Engineer. The grooving shall be 1 inch wider than the proposed stripe (stripe shall be centered with 1/2" on each side) and of sufficient length (maximum 12" each end) when addressing skips or broken lines. All gore areas shall be excluded. All existing pavement marking material (including binder and beads) shall be removed as part of this grinding operation. The grinding truck shall be equipped with a vacuum and dust collector that is 99.99 percent efficient in removing particles no bigger than 0.5 microns. All pavement markings removed must be replaced in 2 working calendar days or before the end of the work week. A sweeper with the capacity to pick up grindings simultaneously with the removal operation is required. The grooved pavement surface shall be air-blasted with dry air at the time of application to remove dirt and residues.

Removal operations must be approved by the Engineer prior to scheduling. Grinding within residential areas will be completed during normal working hours unless approved by the Engineer.

The Contractor shall provide traffic control for the road striping operation which shall conform to the current MUTCD SECTION 6 or Mobile Operations, to be included under this item.

The Contractor shall be responsible for installing temporary no parking signs at least 24 hours in advance of work to be completed where necessary.

All work shall be performed between the hours of 9:00 pm – 7:00 am, weekdays and shall be coordinated with the City Engineer. A seventy two (72) hour advance notice prior to the start of work is required.

The Contractor shall be responsible for any and all claims for damages to personal property that may occur during the line striping operation.

METHOD OF MEASUREMENT

The accepted measurement of "Pavement Markings" will be in accordance with their respective contract unit of measure per linear foot, per each; or by lump sum; for each type or types, as listed in the Proposal. Lines shall be measured by the number of linear feet (excluding skips and spaces) actually installed or removed, as the case may be, in accordance with the Plans and/or as directed by the Engineer. Words shall be measured per word regardless of length of word. In certain cases, any or all of the items of work may be paid for on a lump sum basis. In such cases, no measurement is required.

BASIS OF PAYMENT

The accepted quantity of "Pavement Markings" will be paid for at their respective contract unit prices per linear foot, per each; or by lump sum; for each type or types, as listed in the Proposal. The prices so-stated shall constitute full and complete compensation for all labor, tools, materials and equipment, including protection of newly applied markings from traffic, layout, cleaning and sweeping, furnishing and applying the pavement markings, and all other incidentals required to finish the work, complete in place and accepted by the Engineer. Should the Engineer determine epoxy reflection values are below RIDOT standard, the Engineer may reduce payment in accordance with RIDOT standard.

The accepted quantity of "Temporary Pavement Markings (Tape)" will be paid for at the contract unit price per linear foot for each type or types as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, tools, materials, and equipment, including protection of newly applied markings, cleaning and sweeping pavement, applying pavement markings and removal of pavement markings when no longer in use, and all other incidentals required to finish the work, complete in place and accepted by the Engineer. Fifty percent of the contract bid price will be paid at the time of installation and 50 percent upon removal of such markings.

Cost of furnishing, installing, and maintaining traffic control devices is included in the cost of the contract. There will be no separate payment.

6.23 4 INCH DURABLE WET REFLECTIVE RECESSED DOTTED LINE TAPE

DESCRIPTION

Work shall consist of grooving a slot in the pavement surface then furnishing and installing preformed wet reflective pavement markings.

All work shall be in accordance with the latest version of the Rhode Island Standard Specifications for Road and Bridge Construction with all latest revisions.

MATERIALS

For preformed applications, the Contractor shall use 3M™ Stamark™ All Weather Tape 380AW, or approved equal.

Preformed pavement markings shall be certified as capable of meeting the following minimum initial retroreflectivity levels:

ASTM E1710 (Dry)	500 mcd/lux/m'
ASTM E2177 (Wet Recovery)	250 mcd/lux/m'
ASTM E2832 (Wet)	150 mcd/lux/m'

'Observation Angle= 1.05°, Entrance Angle= 88.8°

Material certifications shall be provided to the Engineer prior to installation.

Color shall be yellow, white, or as selected by the Engineer or as stated in the Proposal Pages.

CONSTRUCTION METHOD

Construction Methods for Installation of Groove

Contractor shall refer to 3M™ Information Folder 5.18 *Grooving Applications*, or applicable equivalent resource, and the following:

Prior to cutting out the grooves for all recessed lines, the Contractor shall use a chalk line or other suitable method to layout the proposed pavement markings on the surface course so that the Engineer can inspect the locations. Dotted lines shall be installed in 2-foot line segments with 4-foot gap lengths, or as approved by the Engineer. Once the Engineer has inspected and approved the proposed striping layout, the grooves for the proposed pavement markings may be cut. No pavement grooving shall be done without the prior approval of the Engineer.

Groove position shall be a minimum of 4 inches from the edge of the pavement marking to any longitudinal pavement joints. The groove shall not be installed on bridge joints, at drainage structures, or in other areas identified by the Engineer. The groove shall not be installed continuously for intermittent pavement markings, but only where markings are to be applied.

The use of gang stacked diamond cutting blades to grind a smooth square slot is required for producing all grooves. The spacers between blade cuts shall be such that there will be less than a 10 mil rise in the finished groove between the blades. The acceptability of the surface texture will be determined by the Engineer.

The diamond grinder shall have an articulating head so that the slots are installed correctly on grades and super elevated sections.

Grooves that are ground deeper or wider than the specified allowable limits shall be repaired according to the Department's approved repair procedure at no additional cost to the Department. Grooves that are ground too shallow or narrow or with unacceptable rises between the blade cuts shall be reground to the specification limits at no additional cost to the Department. Slots that are ground out of alignment shall be cut out and patched using an approved method and approved materials.

The Contractor shall grind the groove to the correct depth, width, and length as specified and in proper alignment. Grooves shall be 1 inch $\pm$ 1/4 inch wider than the pavement marking material. Groove depth shall be 150 mils $\pm$ 5 mils for preformed material application, unless otherwise approved by the Engineer. Depth shall be consistent across the full width of the groove. Depth plates shall be provided by the Contractor to the Engineer to assure that desired groove depth is achieved.

Grooves shall be clean, dry and free of laitance, oil, dirt, grease, paint or other foreign contaminants. Shrouds and a vacuum apparatus shall be included as part of the of the grinder to remove larger pieces of pavement that are ground out. If water is used to clean the groove or the grooving process takes place during rainfall, a minimum of 24 hours of dry time is required prior to the placement of pavement markings.

After the depth, width, length, and surface condition has been approved by the Engineer, an air lance shall be used to remove fine particles from the groove. Air compressors shall initially be blown out away from the application area to prevent compressor condensation build-up from entering the groove. The Contractor shall prevent traffic from traversing the grooves and re-clean grooves, as necessary, prior to application of pavement markings at no additional cost to the Department.

All grooves must be given final approval by the Engineer prior to the placement of pavement marking material.

Construction Methods for Installation of Preformed Pavement Markings

Application of the preformed pavement markings shall conform to Section III Application Guidelines of 3M™ Information Folder 5.18 *Grooving Applications*, unless otherwise instructed by the Engineer.

A primer application shall be applied prior to the installation of all preformed pavement markings per the Manufacturer's Specification. This work shall be considered incidental to the cost of the item.

A Technical Representative from the Material Supplier shall be present for the first preformed pavement marking installation shift to provide quality assurance/quality control.

METHOD OF MEASUREMENT

The accepted measurement of "4 Inch Durable Wet Reflective Recessed Dotted Line " will be in accordance with their respective contract unit of measure by the number of linear feet (excluding skips and spaces) actually installed or removed, as the case may be, in accordance with the Plans and/or as directed by the Engineer. In certain cases, any or all of the items of work may be paid for on a lump sum basis. In such cases, no measurement is required.

BASIS OF PAYMENT

The accepted quantity of "4 Inch Durable Wet Reflective Recessed Dotted Line " will be paid for at the respective contract unit prices per linear foot or as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, tools, materials and equipment, including protection of newly applied markings from traffic, layout, cleaning and sweeping, furnishing and applying the pavement markings, and all other incidentals required to finish the work, complete in place and accepted by the Engineer. Should the Engineer determine pavement marking tape reflection values are below RIDOT standard, the Engineer may reduce payment in accordance with RIDOT standard.

Cost of furnishing, installing, and maintaining traffic control devices is included in the cost of the contract. There will be no separate payment.

SECTION 7 TRAFFIC CONTROL SYSTEMS

- 7.01 FURNISH AND INSTALL DIRECTIONAL REGULATORY AND WARNING SIGNS**
- 7.02 FURNISH AND INSTALL STREET NAME SIGN**
- 7.03 FURNISH AND INSTALL PARKING SIGN**
- 7.04 FURNISH AND INSTALL DIGITALLY PRINTED SIGN**
- 7.05 REMOVE AND RELOCATE SIGN**
- 7.06 REMOVE AND DISPOSE SIGN**
- 7.07 FURNISH AND INSTALL SIGN POST**
- 7.08 REMOVE AND DISPOSE SIGN POST**

DESCRIPTION

This work consists of furnishing and installing signage on U-channels or other supports all in accordance with these Specifications and the Rhode Island Department of Transportation specifications and standards at the locations as directed by the Engineer. Also included is the removal and relocation of existing signage.

New signs shall be newly manufactured and have a dated label identifying the City's contractor. Should the sign not comply with the required warrantee and contract requirements, the contractor is responsible for replacing signs at no cost to the City. Provide sample of label prior to manufacture for approval. Street name signs are excluded from labeling. There shall be no separate payment for labelling signs.

The removal of existing signage shall be included in the cost of furnishing and installing a replacement sign and there shall be no separate payment.

All removed signs shall be stockpiled at Newport's City Yard for a physical accounting of signs removed. Once the removed signs have been inventoried by the City, the City will properly dispose of the signs. The cost of stockpiling the signs at City Yard is included in the price of removing and disposing of signs. Contractor shall coordinate this effort and stockpile location with Engineer.

MATERIALS

Aluminum sheets, sign posts, sheeting, and hardware shall conform to the applicable requirements of this specification, RIDOT's SECTION M.16, SIGNS AND SIGN SUPPORTS, and the manufacturer's recommendations.

All bolts, nuts, nylon spacers/washers, flat washers, and lock washers shall be new bolts, nuts, washers and like materials shall be new stainless steel materials Grade 4 or better.

Signs shall be mounted on 0.08 gauge cleaned and etched aluminum backing at the MUTCD required size and shall comply with the Federal Highway Administration's latest edition of the MUTCD, ASTM D4956-04, Section 2A.08, Table 2A-3 Minimum Maintained Retro-reflectivity Levels. Black lettering shall utilize 3M ElectroCut Film series 1178 or approved equal.

Except for signs requiring fluorescent colors, sign faces shall be super-high intensity non-metalized micro-prismatic lens retroreflective sheeting with pressure sensitive adhesive or approved equal. All sign sheeting shall conform to the performance requirements and specifications of the HIP, series 3930, or approved equal. Warrantee shall be 10 years in compliance with the manufacturer's matched component system. No alternate encapsulated glass-bead construction will be accepted.

For fluorescent color signs, sign faces shall be diamond grade reflective sheeting, series 4000, or approved equal. Sheeting shall be full-cube, micro-prismatic optics that are nearly 100% efficient, returning 58% or more of available light. Warrantee shall be 10 years in compliance with the manufacturer's matched component system.

Stop signs shall be manufactured with a 3M™ Anti-Graffiti Film 1160 or approved equal. Anti-graffiti film shall protect against scratches, acid etching, gouges, and tagging. The film shall be applied for easy removal by Newport maintenance crews, as necessary for replacement.

Sign sheeting shall be 3M matched components or approved equal.

3M High Intensity Prismatic Reflective	
White	3930
Red	3932
Blue	3935
Yellow	3931
Green	3937
Brown	3939
Orange	3934
3M Diamond Grade Reflective Sheeting	
Fluorescent Yellow	4081
Fluorescent Yellow-Green	4083
Fluorescent Orange	4084
3M ElectroCut Film	
Red	1172
Blue	1175
Green	1177
Black	1178

Digitally printed signs shall be super-high efficiency full cube diamond grade cubed retroreflective sheeting, 3M Series 4090 with pressure sensitive adhesive or approved equal. Fabricator shall digitally image using UV curable inks manufactured by 3M or HP series 831 inks running SAI's Flexiprint or approved equal. A 3M 1170 clear over-laminate, or approved equal, must be applied to meet manufacturer's specifications to ensure matched component system warranty. Warranty shall be 12 years for standard traffic colors and 5 years for custom colors and be installed in compliance with manufacturer's matched component system using UV curable inks by 3M or HP series 831 inks running SAI's Flexiprint with 1170 overlay or approved equal.

The Contractor shall provide shop drawings with manufacturer's specifications, sample of the sheeting, a color proof and/or sample of each custom sign type (not designated by an MUTCD code number), and a sample street name sign to be approved by the Engineer before manufacturing and installation.

Galvanized Channel U Sign Posts – Breakaway 4 lb – Anchor & Hardware shall be used for ground mounted signs per RIDOT standard 24.6.1 and are paid as a street sign assembly.

City street name signs shall have a blue background (series 3935) with **white ALL CAPITAL LETTERS (6" high letters and 4" high letters for suffix abbreviations) and white 1/2" border (series 3930)**, as approved by Engineer. Private street name signs shall have a white background with black letters. Shop Drawing and sample required before approval to manufacture. Street name signs to be mounted on galvanized U-sign posts, utility poles, aluminum lamp posts, wooden posts, or as directed by Engineer. The following brackets or approved equal shall be used for street name sign installation: 1) #8 Metro Wing Sign Bracket, 2) #800 Metro Wing Sign Bracket, 3) 812F 90 degree Jumbo Sign Bracket, 4) 812F 180 degree Jumbo Sign Bracket, 5) 812F Jumbo Cross Sign Bracket, 6) Stainless Steel Snap Lock Assembly, or as approved by the Engineer.

CONSTRUCTION METHOD

Construction methods shall be in accordance with City Standards and Section T.15 of the Rhode Island Department of Transportation specifications and standards. The Contractor shall take special care to ensure that all hardware or other waste is disposed of properly and is not left on City right of ways. Processes shall also conform to manufacturer's recommendations.

All signs must be installed per MUTCD standards and City specifications.

METHOD OF MEASUREMENT

Furnish and Install Directional, Regulatory and Warning Sign. "Furnish and Install Directional, Regulatory and Warning Sign" will be measured by the number of square feet actually furnished and installed as directed by the Engineer.

Furnish and Install Street Name Sign. "Furnish and Install Street Name Sign" will be measured by the number of units actually furnished and installed as directed by the Engineer.

Furnish and Install Parking Sign. "Furnish and Install Parking Sign" will be measured by the number of square feet actually furnished and installed as directed by the Engineer.

Furnish and Install Digitally Printed Sign. "Furnish and Install Digitally Printed Sign" will be measured by the number of square feet actually furnished and installed as directed by the Engineer.

Remove and Relocate Sign. "Remove and Relocate Sign" will be measured by the number of units actually removed and replaced as directed by the Engineer. New hardware is required and will not be measured separately.

Remove and Dispose Sign. "Remove and Dispose Sign" will be measured by the number of units actually removed and legally disposed of as directed by the Engineer.

Furnish and Install Sign Post. "Furnish and Install Sign Post" will be measured by the number of units actually furnished and installed as directed by the Engineer.

Remove and Dispose Sign Post. "Remove and Dispose Sign Post" will be measured by the number of units actually removed and legally disposed of as directed by the Engineer.

BASIS OF PAYMENT

Furnish and Install Directional, Regulatory and Warning Sign. The accepted quantities of "Furnish and Install Directional, Regulatory and Warning Sign" will be paid for at the contract unit prices per square foot as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, tools, materials and equipment, including posts, hardware, removing existing sign, and all other incidentals required to finish the work, complete in place and accepted by the Engineer.

Furnish and Install Street Name Sign. The accepted quantity of "Furnish and Install Street Name Sign" will be paid for at the contract unit price per each as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, tools, materials and equipment, including sign, mounting hardware, removing existing sign, and all other incidentals required to finish the work, complete, in place and accepted by the Engineer.

Furnish and Install Parking Sign. The accepted quantity of "Furnish and Install Parking Sign" will be paid for at the contract unit price per square foot as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, materials and equipment, hardware, removing existing sign, and all other incidentals required to finish the work, complete in place and accepted by the Engineer.

Furnish and Install Digitally Printed Sign. The accepted quantity of "Furnish and Install Digitally Printed Sign" will be paid for at the contract unit price per square foot as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, materials and equipment, hardware, removing existing sign, and all other incidentals required to finish the work, complete in place and accepted by the Engineer

Remove and Relocate Sign. The accepted quantity of "Remove and Relocate Sign" will be paid for at the contract unit price per each as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, tools, new hardware, materials and equipment, including installing stockpiled materials as necessary, and all other incidentals required to finish the work, complete in place and accepted by the Engineer.

Remove and Dispose Sign. The accepted quantity of "Remove and Dispose Sign" will be paid for at the contract unit price per each as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, tools, new hardware, materials and equipment, stockpiling materials as necessary, and all other incidentals required to finish the work, complete in place and accepted by the Engineer.

Furnish and Install Sign Post. The accepted quantity of "Furnish and Install Sign Post" will be paid for at the contract unit price per each as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, tools, materials and equipment, including post, mounting brackets, straps, Channel U Sign Posts – Breakaway 4 lb – RIDOT Standard 24.6.1 or as approved, excavation and backfilling, coring into sidewalks, and all other incidentals required to finish the work, complete in place and accepted by the Engineer.

Remove and Dispose Sign Post. The accepted quantity of "Remove and Dispose Sign Post" will be paid for at the contract unit price per each as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, tools, new hardware, materials and equipment, excavation and backfilling, and all other incidentals required to finish the work, complete in place and accepted by the Engineer.

7.09 POLICE TRAFFICPERSONS**7.10 FLAGPERSONS****7.11 FLAGPERSONS OVERTIME****7.12 TEMPORARY TRAFFIC CONTROL DEVICES (NO SEPARATE PAYMENT)****DESCRIPTION**

The Contractor shall furnish all labor, materials, tools, and equipment necessary to Furnish and Install Traffic Control Devices and coordinate Newport Police Trafficpersons and Flagpersons as directed by the Engineer, in order to direct traffic and for detours as required by the progress of work. A police detail shall be made available at an excavation site, intersection or at a point of detour. All work shall be in accordance with the Rhode Island Department of Transportation specifications and standards. Flagpersons and Flagpersons Overtime shall comply with Section 914 of the Rhode Island Department of Transportation specifications and standards and shall not be compensated less than the prevailing rate set by the Rhode Island Department of Labor.

MATERIALS

The Contractor shall furnish, erect, maintain, wash, move, adjust, repair, relocate, re-erect, and store all temporary construction signs, sign mountings, portable barricades, traffic cones, delineators, and other warning devices when, where, and as specified by the Rhode Island Department of Transportation specifications and standards, and the Manual on Uniform Traffic Control Devices, latest edition or as otherwise directed by the Engineer. Temporary construction signs, sign mountings and other warning devices shall conform to the Rhode Island Department of Transportation specifications and standards and the Manual on Uniform Traffic Control Devices, latest edition. When, in the opinion of the City, the sign or device shall be so severely damaged as to warrant replacement, the Contractor shall provide a new device that shall be deemed to be included in this item.

CONSTRUCTION METHOD

Furnishing and installing Traffic Control Devices, in accordance with the Manual of Uniform Traffic Control Devices (MUTCD), shall cover all work related to the furnishing, installation, maintenance, and movement of traffic protective devices on the project. The Contractor shall provide a sufficient number of signs and other warning devices as required by the nature of the work as determined by the Contractor or as directed by the City. The Contractor shall keep all signs, barricades, and other protective devices in proper position, clean, and legible at all times. Care shall be taken so that weeds, shrubbery, construction materials and equipment, and spoil are not allowed to obscure any sign, lights, or barricade. Signs that do not apply to existing conditions shall be removed or adjusted so that the legend is not visible to approaching traffic. All signs and markers shall indicate actual conditions existing and shall be moved, removed, or changed immediately,

as conditions require. When construction is not in progress, all unnecessary signs will be adequately covered.

If, in the opinion of the City, if adequate traffic control or warning devices are not provided or maintained by the Contractor, the City may order the Contractor to cease work until adequate traffic control is provided. An extension of time or request for additional compensation for this delay of work will not be granted for the delay caused by such an order to cease work.

METHOD OF MEASUREMENT

Police Trafficpersons will be measured on a "Per Hour" basis by the number of Police Detail hours actually served by an officer on duty, with a four hour minimum per detail per day in accordance with the Plans and/or as directed by the Engineer.

Services of "Flagpersons" will be measured for payment by the number of hours for each person rendering services in accordance with the orders of the Engineer. This is to include, however, only such flagpersons as are employed within the limits of the construction project, upon detours stipulated in the Contract, or upon detours ordered by the Engineer. Flagpersons furnished by the Contractor for continued use of a detour or by-pass beyond the period for which the Engineer deems such flagpersons necessary for the proper completion of the project or at locations where traffic is unnecessarily restricted by the Contractor's method of operation, will not be measured for payment. The minimum hours of payment for any individual flagperson in any one day shall be the same as for Union Laborers. Overtime hours will be measured separately and paid under the applicable item in the Proposal.

Temporary Traffic Control Devices will **NOT** be measured as a separate item. **The cost of temporary traffic control devices is included in the cost of the total construction.**

BASIS OF PAYMENT

Police Trafficpersons shall be paid for at the contract unit price "Per Hour" as listed in the Proposal and as set by the Engineer. The prices so-stated constitute full and complete compensation for providing the required police services during the Contractor's operations. **All payments for Police Trafficpersons Traffic Control shall be made directly by the City of Newport and not by the Contractor.** Police Trafficpersons quantities and costs will not be tracked by the Contractor and will not be included in the Payment Application.

The unit bid price per manhour as paid to the Contractor shall constitute compensation for the Flagpersons' services - including fringe benefits, and for associated protective clothing, hand signaling devices, communications equipment and other applicable equipment and incidentals deemed necessary by the Engineer. Overtime will be compensated for separately and in

accordance with the union contract. The hourly rate of wages paid by the Contractor for flagpersons' services shall not be less than the prevailing rate set by the Rhode Island Department of Labor. There will be no consideration for increasing the unit bid price for Flagpersons during the first eighteen months of the Contract dating from the Contract bid date. If after eighteen months the prevailing rate for Flagpersons is increased due to contractual agreements with the applicable union(s), the Department, upon receipt of proper documentation, will increase the contract unit bid price to the actual rate of pay plus fringe benefits. All subsequent rate increases will also be addressed.

Note that the **cost of temporary traffic control devices** is included in the cost of the total construction. **The City will not make a separate payment** for this item. The contractor shall provide temporary traffic control as included in the total cost of construction as shall constitute full and complete compensation for all labor, materials, and equipment associated with (but not limited to) furnishing, erecting, maintaining, washing, movement, adjustment, repair, relocation, re-erection, storing of all temporary construction signs, sign mountings, portable barricades, traffic cones, delineators, and all other warning devices, clean-up, legal disposal of all materials, and all other incidentals required to finish the work, complete and accepted by the Engineer. Any damage shall be the Contractor's responsibility.

SECTION 8 STEEL FABRICATED ITEMS

- 8.01 FURNISH AND INSTALL STEEL RAILINGS**
- 8.02 FURNISH AND INSTALL STEEL LADDERS**
- 8.03 FURNISH AND INSTALL STEEL BOLLARDS**
- 8.04 FURNISH AND INSTALL STEEL STAIRS**

DESCRIPTION

This work consists of furnishing and installing metal fabricated items at the locations as directed by the Architect or Engineer.

This section includes the following metal fabrications:

1. Steel pipe railings
2. Steel ladders.
3. Steel bollards.
4. Metal stairs.

Cost of removing and properly disposing of existing items is included in the cost of the associate item. There will be no separate payment.

Definitions

- A. Structural Performance of Handrails and Railing Systems: Design, engineer, fabricate, and install handrails and railing systems to comply with requirements of ASTM E 985 for structural performance based on testing performed in accordance with ASTM E 894 and E 935.
- B. Structural Performance: Design, engineer, fabricate and install the following metal fabrications to withstand the following structural loads without exceeding the allowable design working stress of the materials involved, including anchors and connections. Apply each load to produce the maximum stress in each respective component of each metal fabrication.
 1. Top Rail of Guardrail Systems: Capable of withstanding the following loads applied as indicated.
 - a. Concentrated load of 300 lbs applied at any point non-currently, vertically downward or horizontally.
 - b. Concentrated and uniform loads above need not be assumed to act concurrently.
 2. Infill Area of Guardrail Systems: Capable of withstanding a horizontal concentrated load of 200 lbs applied to one sq. ft. any point in the system including panels, intermediate rails balusters, or other elements composing the infill area.

- a. Above load need not be assumed to act concurrently with uniform horizontal loads on top rails of railing systems in determining stress on guard.

References

1. ASTM A36 - Structural Steel.
2. ASTM A53 - Hot-Dipped, Zinc coated Welded and Seamless Steel Pipe.
3. ASTM A123 – Zinc Coatings (Hot-Dip Galvanized) on Iron and Steel Products
4. ASTM A153 - Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
5. ASTM A307 - Low Carbon Steel Externally and Internally Threaded Fasteners.
6. ASTM A283 - Carbon Steel Plates, Shapes and Bars.
7. ASTM A325 - High Strength Bolts for Structural Steel Joints.
8. ASTM A386 - Zinc Coating (Hot-Dip) on Assembled Steel Products.
9. ASTM A500 - Cold Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
10. AWS D1.1 - Structural Welding Code.
11. AWS A2.0 - Standard Welding Symbols.
12. SSPC - Steel Structures Painting Council.
13. FS T-P-641 - Primer Coating, Zinc Dust-Zinc Oxide (for Galvanized Surfaces.)

MATERIALS

Submittals

- A. Product data for products used in miscellaneous metal fabrications, including paint products and grout.
- B. Shop drawings detailing fabrication and erection of each metal fabrication indicated, include plans, elevations, sections and details of metal fabrications and their connections. Show anchorage and accessory items. Provide templates for anchors and bolts specified for installation under other sections.
 - 1. Where installed metal fabrications are indicated to comply with certain design loadings, include structural computations, material properties, and other information needed for structural analysis that has been signed and sealed by the qualified professional Engineer who was responsible for their preparation.
- C. Samples representative of materials and finished products as may be requested by Architect or Engineer.
- D. Welder certificates signed by Contractor certifying that welders comply with requirements specified under "Quality Assurance" article.
- E. Qualification data for firms and persons specified in "Quality Assurance" article to demonstrate their capabilities and experience. Include list of completed projects with project name, addresses, names of Architects and Owners, and other information specified.

Qualifications

- A. Prepare shop drawings under direct supervision of a Professional Structural Engineer registered in the State of Rhode Island.
- A. Welder's Certificates: Certify welders employed on the Work, verifying AWS qualification within the previous 12 months.

Quality Assurance

- A. Fabricator Qualifications: Firms experienced in successfully producing metal fabrications similar to that indicated for this Project, with sufficient production capacity to produce required units without causing delay in the Work.
- B. Installer Qualifications: Arrange for installation of metal fabrications specified in this section by same firm that fabricated them.
- C. Qualify welding process and welding operators in accordance with AWS D1.1 "Structural Welding Code - Steel", D1.3 "Structural Welding Code - Sheet Steel", and D1.2 "Structural Welding Code - Aluminum".
 - 1. Certify that each welder has satisfactorily passed AWS qualification tests for welding processes involved, and if pertinent, has undergone recertification.
- D. Engineer Qualifications: Professional engineer licensed to practice in jurisdiction where project is located and experienced in providing engineering services of the kind indicated that have resulted in the successful installation of metal fabrications similar in material, design, and extent to that indicated for this Project.

Project Conditions

- A. Field Measurements: Check actual locations of walls and other construction to which metal fabrications must fit by accurate field measurements before fabrication; show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delay of Work.
 - 1. Where field measurements cannot be made without delaying the Work, guarantee dimensions and proceed with fabrication of products without field measurements. Coordinate construction to ensure that actual opening dimensions correspond to guaranteed dimensions. Allow for trimming and fitting.

Sequencing and Scheduling

- A. This contractor shall be responsible for the timely information to the appropriate parties where coordination with other trades is necessary for work of his section.
- B. Sequence and coordinate installation of wall handrails as follows:
 - 1. Mount handrails only on completed walls. Do not support handrails temporarily by any means not satisfying structural performance requirements.
 - 2. Mount handrails only on gypsum board assemblies reinforced to receive anchors, and where the location of concealed anchor plates has been clearly marked for benefit of installer.

Ferrous Metals

- A. Metal Surfaces, General: For metal fabrications exposed to view upon completion of the Work, provide materials selected for their surface flatness, smoothness, and freedom from surface blemishes. Do not use materials whose exposed surfaces exhibit pitting, seam, marks, roller marks, rolled trade names, roughness, and for steel sheet, variations in flatness exceeding those permitted by reference standards for stretcher-leveled sheet.
- B. Steel Plates, Shapes, and Bars: ASTM A 36.
- C. Steel Tubing: Product type (manufacturing method) and as follows:
 - 1. Cold-Formed Steel Tubing: ASTM A 500, grade as indicated below:
 - a. Grade A, unless otherwise indicated or required for design loading.

- b. For exterior installations and where indicated, provide tubing with hot-dip galvanized coating per ASTM A 53.
- D. Uncoated Structural Steel Sheet: Product type (manufacturing method), quality, and grade, as follows:
 - 1. Cold-Rolled Structural Steel Sheet: ASTM A 611, grade as follows:
 - a. Grade A, unless otherwise indicated or required by design loading.
- E. Uncoated Steel Sheet: Commercial quality, product type (method of manufacture) as follows:
 - 1. Cold-Rolled Steel Sheet: ASTM A 366.
- F. Steel Pipe: ASTM A 53; finish, type, and weight class as follows:
 - 1. Black Finish, unless otherwise indicated.
 - 2. Galvanized finish for exterior installations and where indicated.
 - 3. Type F, standard weight (schedule 40), unless otherwise indicated, or another weight, type, and grade required by structural loads.
- G. Brackets, Flanges and Anchors: Cast or formed metal of the same type material and finish as supported rails, unless otherwise indicated.
- H. Concrete Inserts: Threaded or wedge type; galvanized ferrous castings, either malleable iron, ASTM A 47, or cast steel, ASTM A 27. Provide bolts, washers, and shims as required, hot-dip galvanized per ASTM A 153.
- I. Welding Rods and Bare Electrodes: Select in accordance with AWS specifications for the metal alloy to be welded.
- J.

Grout and Anchoring Cement

- A. Non-shrink Nonmetallic Grout: Premixed, factory-packaged, non-staining, noncorrosive, nongaseous grout complying with CE CRD-C 621. Provide grout specifically recommended by manufacturer for interior and exterior applications of type specified in this section.
- B. Erosion-Resistant Anchoring Cement: Factory-prepackaged, non-shrink, non-staining, hydraulic controlled expansion cement, formulation for mixing with water at Project site to create pourable anchoring, patching and grouting compound. Provide formulation that is resistant to erosion from water exposure without need for protection by a sealer or waterproof coating and is recommended for exterior use by manufacturer.
- C. Products: Subject to compliance with requirements, provide one of the following:
 - a. Non-shrink Nonmetallic Grouts:
 - i. "Bonsal Construction Grout", W.R. Bonsal Co.
 - ii. "Diamond-Crete Grout", - Concrete Service Materials Co.
 - iii. "Euco N-S Grout", Euclid Chemical Co.
 - iv. "Kemset", Chem-Masters Corp.
 - v. "Crystex", L & M Construction Chemicals, Inc.
 - vi. "Masterflow 713", Master Builders.
 - vii. "Sealtight 588 Grout", W. R. Meadows, Inc.
 - viii. "SonogROUT"; Sonneborn Building Products Div., Rexnord Chemical Products, Inc.
 - ix. "Stonecrete NM1"; Stonehard, Inc.
 - x. "Five Star Grout", U.S. Grout Corp.
 - xi. "Vibropruf #11"; Lambert Corp.

- b. Erosion-Resistant Anchoring Cement:
 - i. "Super Por-Rok"; Minwax Construction Products Division

Fasteners

- A. General: Provide zinc-coated fasteners for exterior use or where built into exterior walls. Select fasteners for the type, grade, and class required.

Paint

- A. Shop Primer for Ferrous Metal: Manufacturer's or fabricator's standard, fast-curing, lead-free, universal modified alkyd primer selected for good resistance to normal atmospheric corrosion, for compatibility with finish paint systems indicated, and for capability to provide a sound foundation for field-applied topcoats despite prolonged exposure complying with performance requirements of FS TT-P-645.
- B. Galvanizing Repair Paint: High zinc dust content paint for reglazing welds in galvanized steel with dry film containing not less than 94 percent zinc dust by weight, and complying with DOD-P-21035 or SSPC-Paint-20.
- C. Bituminous Paint: Cold-applied asphalt mastic complying with SSPC-Paint 12 except containing no asbestos fibers.

Concrete Fill and Reinforcing Materials

- A. Concrete Materials and Properties: Comply with requirements of Division 3 section "Concrete Work" for normal weight, ready-mix concrete with minimum 28-day compressive strength of 2,500 psi, 440 lb. cement per cu. ft. minimum, and W/C ratio of 0.65 maximum, unless higher strengths indicated.
- B. Reinforcing Bars: ASTM A 615, Grade 60, unless otherwise indicated.

Fabrication, General

- A. Form metal fabrications from materials of size, thickness, and shapes indicated, but not less than that needed to comply with performance requirements indicated. Work to dimensions indicated or accepted on shop drawings, using proven details of fabrication and support. Use type of materials indicated or specified for various components of each metal fabrication.
- B. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges, tightly fitted.
- C. Allow for thermal movement resulting from the following maximum change (range) in ambient temperature in the design, fabrication, and installation of installed metal assemblies to prevent, buckling, opening up of joints, and overstressing of welds and fasteners. Base design calculations on actual surface temperatures of metals due to both solar heat gain and nighttime sky heat loss.
 - a. Temperature Change (Range): 100 deg. F (55.5 deg. C).
- D. Shear and punch metals cleanly and accurately. Remove burrs.
- E. Ease exposed edges to a radius of approximately 1/32 inch, unless otherwise indicated. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- F. Remove sharp or rough areas on exposed traffic surfaces.
- G. Weld corners and seams continuously to comply with AWS recommendations and the following:

- a. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - b. Obtain fusion without undercut or overlap.
 - c. Remove welding flux immediately.
 - d. At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing and contour of welded surface matches those adjacent.
- H. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners wherever possible. Use exposed fasteners of type indicated or, if not indicated, Phillips flat-head (countersunk) screws or bolts. Locate joints where least conspicuous.
- I. Provide for anchorage of type indicated; coordinate with supporting structure. Fabricate and space anchoring devices to provide adequate support for intended use.
- J. Shop Assembly: Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined places. Clearly mark units for reassembly and coordinated installation.
- K. Cut, reinforce, drill and tap miscellaneous metal work as indicated to receive finish hardware, screws, and similar items.
- L. Fabricate joints that will be exposed to weather in a manner to exclude water, or provide weep holes where water may accumulate.

Steel Ladders

- A. General: Fabricate ladders for the locations shown, with dimensions, spacings, details and anchorages as indicated. Comply with requirements of ANSI A14.3.
- B. Siderails: Continuous steel flat bars, 1/2 inch x 2 1/2 inches, with eased edges, spaced 18 inches apart.
- C. Bar Rungs: Round steel bars, 3/4 inch, spaced 12 inches o.c.
- D. Bar Rungs: Square steel bars, 3/4 inch, spaced 12 inches o.c.
- E. Fit rungs in centerline of side rails, plug weld and grind smooth on outer rail faces.
- F. Support each ladder at top and bottom and at intermediate points spaced not more than 5'-0" o.c. by means of welded or bolted steel brackets.
 - a. Size brackets to support design dead and live loads indicated and to hold centerline of ladder rungs clear of the wall surface by not less than 7 inches.
 - b. Extend side rail 42 inches above top rung, and return rails to wall or structure unless other secure handholds are provided. If the adjacent structure does not extend above the top rung, goose-neck the extended rails back to the structure to provide secure ladder access.
- G. Provide non-slip surface on top of each rung, either by coating the rung with aluminum oxide granules set in epoxy resin adhesive, or by using a type of manufacturer rung which is filled with aluminum oxide grout.

Steel Pipe Railings and Handrails

- A. General: Fabricate pipe railings and handrails to comply with requirements indicated for design, dimensions, details, finish, and member sizes, including wall thickness of pipe, post spacing's, and anchorage, but not less than that required to support structural loads.

- B. Interconnect railing and handrail members by butt-welding or welding with internal connectors, at fabricator's option, unless otherwise indicated.
 - a. At tee and cross intersections, notch ends of intersecting members to fit contour of pipe to which end is joined and weld all around.
- C. Form changes in direction of railing members as follows: By bending.
- D. Form simple and compound curves by bending pipe in jigs to produce uniform curvature for each repetitive configuration required; maintain cylindrical cross-section of pipe throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of pipe.
- E. Provide wall returns at ends of wall-mounted handrails, unless otherwise indicated.
- F. Close exposed ends of pipe by welding 3/16 inch thick steel plate in place or by use of prefabricated fittings, except where clearance of end of pipe and adjoining wall surface is 1/4 inch or less.
- G. Toe Boards: Where indicated, provide toe boards at railings around openings and at the edge of open-sided floors and platforms. Fabricate to dimensions and details indicated, or if not indicated, use 4 inches high x 1/8 inch steel plate welded to, and centered between, each railing post.
- H. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, end closures, flanges, miscellaneous fittings, and anchors for interconnections of pipe and attachment of railings and handrails to other work. Furnish inserts and other anchorage devices for connecting railings and handrails to concrete or masonry work.
 - a. For railing posts set in concrete fabricate sleeves from steel pipe not less than 6 inches long and with an inside diameter not less than 1/2 inch greater than the outside diameter of post, with steel plate closure welded to bottom of sleeve.
 - b. Provide friction fit, removable covers designed to keep sleeves clean and hold top edge of sleeve 1/2 inch below finished surface of concrete.
- I. Fillers: Provide steel sheet or plate fillers of thickness and size indicated or required to support structural loads of handrails where needed to transfer wall bracket loads through wall finishes to structural supports. Size fillers to suit wall finish thicknesses. Size fillers to produce adequate bearing to prevent bracket rotation and overstressing of substrate.
- J. For exterior steel railings and handrails formed from steel pipe with galvanized finish, galvanize fittings, brackets, fasteners, sleeves, and other ferrous components.
- K. For interior steel railings formed from steel pipe with black finish, provide nongalvanized ferrous metal fittings, brackets, fasteners, and sleeves, except galvanize anchors embedded in exterior masonry and concrete construction.
- L. All steel pipe railing shall be factory dipped and factory painted prior to installation. All rail finish shall be epoxy coated. (Approved finisher (Dunkin Galvanizing))

Pipe Bollards

- A. Fabricate pipe bollards from Schedule 80 steel pipe. Cap bollards with 1/4 inch minimum thickness steel base plate.
- B. Fabricate sleeves for bollard anchorage from steel pipe with 1/4 inch thick steel plate welded to bottom of sleeve.

Finishes, General

- A. Comply with NAAMM "Metal Finishes Manual" for recommendations relative to application and designations of finishes.
- B. Finish metal fabrications after assembly.

Steel and Iron Finishes

- A. Galvanizing: For those items indicated for galvanizing, apply zinc-coating by the hot-dip process compliance with the following requirements:
 - a. ASTM A 153 for galvanizing iron and steel hardware.
 - b. ASTM A 123 for galvanizing both fabricated and unfabricated iron and steel products made of uncoated rolled, pressed, and forged shapes, plates, bars, and strip 0.0299 inch thick and heavier.
- B. Preparation for Shop Priming: Prepare uncoated ferrous metal surfaces to comply with minimum requirements indicated below for SSPC surface preparation specifications and environmental exposure conditions of installed metal fabrications:
 - a. Exteriors (SSPC Zone 1B): SSPC-SP6 "Commercial Blast Cleaning".
 - b. Interiors (SSPC Zone 1A): SSPC-SP3 "Power Tool Cleaning".
- C. Apply shop primer to uncoated surfaces of metal fabrications, except those with galvanized finish or to be embedded in concrete, sprayed-on fireproofing, or masonry, unless otherwise indicated. Comply with requirements of SSPC-PA1 "Paint Application Specification No. 1" for shop painting.

CONSTRUCTION METHOD

Preparation

- A. Obtain Architect or Engineer approval prior to site cutting or making adjustments not scheduled.
- B. Clean and strip site primed steel items to bare metal where site welding is required.
- C. Make provisions for erection loads with temporary bracing.
- D. Coordinate and furnish anchorages, setting drawings, diagrams, templates, instructions, and directions for installation of anchorages, including concrete inserts, sleeves, anchor bolts, and miscellaneous items having integral anchors that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to project site.
- E. Set sleeves in concrete with tops flush with finish surface elevations; protect sleeves from water and concrete entry.

Installation, General

- A. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing miscellaneous metal fabrications to in-place construction; include threaded fasteners for concrete and masonry inserts, toggle bolts, through-bolts, lag bolts, wood screws, and other connectors as required.
- B. Cutting, Fitting and Placement: Perform cutting, drilling, and fitting required for installation of miscellaneous metal fabrications. Set metal fabrication accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.

- C. Provide temporary bracing or anchors in formwork for items that are to be built into concrete masonry or similar construction.
- D. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints, but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade the surfaces of exterior units which have been hot-dip galvanized after fabrication, and are intended for bolted or screwed field connections.
- E. Field Welding: Comply with AWS D1.1 Code for procedures of manual shielded metal arc welding, appearance and quality of welds made, methods used in correcting welding work, and the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing and contour of welded surface matches those adjacent.
 - 5. After installation, touch-up field welds, scratched or damaged surfaces and surfaces not shop primed with primer, except surfaces to be in contact with concrete.

Setting Loose Plates

- A. Clean concrete and masonry bearing surfaces of any bond-reducing materials, and roughen to improve bond to surfaces. Clean bottom surface of bearing plates.
- B. Set loose leveling and bearing plates on edges or other adjustable devices. After the bearing members have been positioned and plumbed, tighten the anchor bolts. Do not remove wedges or shims, but if protruding, cut off flush with the edge of the bearing plate before packing with grout.
 - a. Use metallic nonshrink grout in concealed locations where not exposed to moisture; use nonmetallic nonshrink grout in exposed locations, unless otherwise indicated.
- C. Pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

Installation of Steel Pipe Railings and Handrails

- A. Adjust railings prior to anchoring to ensure matching alignment at abutting joints. Space posts at spacing indicated, or if not indicated, as required by design loadings. Plumb posts in each direction. Secure posts and railing ends to building construction as follows:
 - a. Anchor posts in concrete by means of pipe sleeves preset and anchored into concrete. After posts have been inserted into sleeves, fill annular space between post and sleeve solid with the following anchoring material, mixed and placed to comply with anchoring material manufacturer's directions.
 - i. Nonshrink, nonmetallic grout or anchoring cement.
 - ii. Leave anchorage joint exposed, wipe off surplus anchoring material, and leave 1/8 inch build-up, sloped away from post. For installations exposed on exterior, or to flow of water, seal anchoring material to comply with grout manufacturer's directions. Use of caulking material is acceptable.

- b. Anchor posts to steel with steel oval flanges, angle type or floor type as required by conditions, welded to posts and bolted to steel supporting members.
 - c. Anchor rail ends into concrete and masonry with steel round flanges welded to rail ends and anchored into wall construction with lead expansion shields and bolts.
 - d. Anchor rail ends to steel with steel oval or round flanges welded to rail ends and bolted to structural steel members unless otherwise indicated.
- B. Secure handrails to wall with brackets and end fittings. Provide bracket with not less than 1 ½ inch clearance from inside face of handrail and finished wall surface. Locate brackets as indicated, or if not indicated, at spacing required to support structural loads. Secure wall brackets and wall return fittings to building construction as follows:
 - a. Use type of bracket with pre-drilled hole for exposed bolt anchorage.
 - b. For concrete and solid masonry anchorage, use drilled-in expansion shield and either concealed hanger bolt or exposed lag bolt, as applicable.
 - c. For hollow masonry anchorage, use toggle bolts having square heads.
 - d. For steel framed gypsum board assemblies, fasten brackets directly to steel framing or concealed anchors using self-tapping screws of size and type required to support structural loads.
 - e. Expansion Joints: Provide expansion joints at locations indicated, or if not indicated, at intervals not to exceed 40 feet. Provide slip joint with internal sleeve extending 2 inches beyond joint on either side; fasten internal sleeve securely to one side; locate joint within 6 inches of posts.

Erection Tolerances

- A. Maximum Variation from Plumb: 1/4 inch per story, non-cumulative.
- B. Maximum offset from True Alignment: 1/4 inch.

Installation of Bollards

- A. Anchor bollards in concrete by means of pipe sleeves preset and anchored into concrete. After bollards have been inserted into sleeves, fill annular space between bollard and sleeve solid with nonshrink, nonmetallic grout, mixed and placed to comply with grout manufacturer's directions.

Schedule

- A. The Schedule is a list of principal items only. Refer to Drawings details for items not specifically scheduled.
- B. Provide and install items listed in schedule and shown on Drawings with anchorage and attachments necessary for installation.
- C. Ledge and Shelf Angles, Channels and Plates (not attached to structural framing): Galvanized, primed and field paint finish.
- D. Lintels: As detailed, galvanized, primed and field paint finish.

Adjusting and Cleaning

- A. Touch-Up Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material as used for shop painting to comply with SSPC-PA 1 requirements for touch-up of field painted surfaces.
 - a. Apply by brush or spray to provide a minimum dry film thickness of 2.0 mils.
- B. For galvanized surfaces clean welds, bolted connections and abraded areas and apply galvanizing repair paint to comply with ASTM A 780.

METHOD OF MEASUREMENT

Furnish and Install Steel Railings. "Furnish and Install Steel Railings" will be measured by the number of linear feet actually furnished and installed as directed by the Engineer.

Furnish and Install Steel Ladders. "Furnish and Install Steel Ladders" will be measured by the number of units actually furnished and installed as directed by the Engineer.

Furnish and Install Steel Bollards. "Furnish and Install Steel Bollards" will be measured by the number of units actually furnished and installed as directed by the Engineer.

Furnish and Install Steel Stairs. "Furnish and Install Steel Stairs" will be measured by the number of units actually furnished and installed as directed by the Engineer.

BASIS OF PAYMENT

Furnish and Install Steel Railings. The accepted quantities of "Furnish and Install Steel Railings" will be paid for at the contract unit prices per linear foot as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, tools, materials and equipment, including hardware, removing and disposal existing item, and all other incidentals required to finish the work, complete in place and accepted by the Engineer.

Furnish and Install Steel Ladders. The accepted quantities of "Furnish and Install Steel Ladders" will be paid for at the contract unit prices per each as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, tools, materials and equipment, including hardware, removing and disposal existing item, and all other incidentals required to finish the work, complete in place and accepted by the Engineer.

Furnish and Install Steel Bollards. The accepted quantities of "Furnish and Install Steel Bollards" will be paid for at the contract unit prices per each as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, tools, materials and equipment, including hardware, removing and disposal existing item, and all other incidentals required to finish the work, complete in place and accepted by the Engineer.

Furnish and Install Steel Stairs. The accepted quantities of "Furnish and Install Steel Stairs" will be paid for at the contract unit prices per each as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, tools, materials and equipment, including hardware, removing and disposal existing item, and all other incidentals required to finish the work, complete in place and accepted by the Engineer.

SECTION 9 MISCELLANEOUS

9.01 MASONRY WALL REPAIR & RECONSTRUCTION

DESCRIPTION

The Contractor shall furnish all labor, materials, tools, and equipment necessary to Repair and Reconstruct Masonry Walls. The Contractor shall notify the various utility companies (gas, water, electric, telephone, etc.) to coordinate work on or near their respective structures.

- A. The work includes, but is not limited to, the following:
 - a. Removal, disposal or stockpiling of accessory and incidental items necessary to complete work (e.g., backfill, fencing, railings, curbing, etc.),
 - b. Installation and removal of shoring as necessary to accomplish work,
 - c. Excavation and stockpiling for reuse or disposal of portions of the existing masonry wall,
 - d. Removal and replacement of the existing outfall pipes,
 - e. Reconstruction including resetting, mortaring, and chinking of the existing mortared masonry walls,
 - f. Chinking of dry set masonry walls,
 - g. Chinking and mortaring the existing mortared masonry walls,
 - h. Replacement of dislodged granite blocks in masonry walls,
 - i. Installation of new cut granite blocks to fill voids in masonry walls,
 - j. Backfilling and compaction of masonry wall to include filter fabric and the installation of subdrain systems,
 - k. Supply and installation of gravel borrow and crushed stone material.
 - l. Restoration of the sites to pre-construction conditions.
 - m. Construction of granite block masonry walls using blocks salvaged from the site.
- B. The Contractor shall supply any and all labor, materials, tools, equipment, trucking, disposal, permits, survey, supervision and any incidentals necessary to complete the work under this Section.
- C. Comply with the applicable requirements of the Rhode Island Department of Transportation (RIDOT) Standard Specifications for Road and Bridge Design (latest edition) excluding sections relating to the measurement and payment of work.
- D. Submittals, Samples, and Project Inspections
 - a. Manufacturers Data and Equipment
 - i. The Contractor shall submit six (6) copies of the manufacturer's cut sheets for filter fabric for approval prior to the purchase and placement of this material.
 - ii. The Contractor shall provide manufacturer information on equipment to be utilized for the work indicated within this section.
 - b. Certificate of Compliance
 - i. For all supplemental fill, crushed stone and gravel the Contractor shall submit six (6) copies of the manufacturer's Certificate of Compliance indicating that the materials

shipped to the site comply with the requirements of the materials specified in this contract.

- c. Project Inspections
 - i. The City reserves the right to inspect all manufacturing facilities and to perform tests on the materials to ensure that compliance is being met.
- d. Weight Slips
 - i. Each load of stone, crushed stone and gravel shipped to the site shall be accompanied by a weight slip by a certified weigher of the Commonwealth. Upon arrival to the site each weight slip shall be countersigned by the City's representative. One copy of the signed weight slip shall be retained by the City's representative.
 - ii. No payment shall be made for any material placed that was received on-site and does not have a weight slip countersigned by the City's representative.
 - iii. At the time of delivery, the weight slip shall clearly state the weight of each payment material item.
- e. Phasing and Schedule
 - i. Contractor shall outline schedule and procedures for excavation and repair of the masonry walls. Submittal shall provide descriptions of operations and methods for accessing work areas.
 - ii. Prior to commencing work, Contractor shall provide anticipated schedule for ordering of materials. This schedule shall be updated based on conditions encountered.
 - iii. Contractor shall inform the Engineer of any proposed changes to the schedule, for Engineer review and approval, prior to ordering stone.

MATERIALS

GENERAL

- A. The Contractor shall conform to all applicable requirements of the City and State of Rhode Island regarding handling, delivery, and installation of stone.

MORTAR FOR MASONRY WALL REPAIR AND RECONSTRUCTION

- A. Mortar for use in the repair and reconstruction of the masonry wall shall conform to the RIDOT) Standard Specifications for Road and Bridge Design (latest edition) Section M04.03.5.
- B. Mortar to match color of existing mortar.
- C. Concrete shall conform to the requirements of Section 03300.

EXISTING AND SUPPLEMENTAL STONE

- A. Existing stones recovered and/or reset for repairs to and reconstruction of the existing masonry wall shall be of approved quality in regard to size, shape, strength, resistance to abrasion, and durability.
- B. Contractor to provide stone to supplement and replace existing stone not suitable for use in the repairs as determined by the Engineer.
- C. All new stone shall be granite quarry or other stone of approved quality in regard to strength, resistance to abrasion, and durability.
- D. All stone used in the work shall be quarried, sound, hard, angular, dense, durable stone of good quality and highly resistant to weathering and disintegration under the action of sea

water and alternating freezing and thawing cycles. Accordingly, mica schist, slate, micaceous or thinly-bedded sandstone, shale, coarse limestone, gypsiferous rock, poorly cemented sandstone and conglomerate or soft or closely jointed rock of any sort shall not be used. The rock shall have the physical properties required by ASTM C33 for quarry rock suitable for producing coarse aggregate for concrete, in accordance with ASTM C88 and C131, respectively. The requirements of the abrasion test for all rock shall be a maximum loss of 40 percent.

- E. All stone shall not weigh less than 160 pounds or more than 175 pounds per cubic foot, as determined by the standard test for apparent specific gravity (ASTM C127), using representative chips about one inch in size, taken from the stone as furnished.
- F. New stone shall be of similar size, color and appearance as existing stone.
- G. New stone to be used in chinking existing wall shall have a flat face on the seaward side and have no face dimension less than three inches.

FILTER FABRIC

- A. Filter fabric shall be as specified under Section 02200.

FILL MATERIAL

- A. Fill material shall be as specified under Section 02200.

REJECTION

- A. If, during the progress of the work, it is found that the stone being furnished by the Contractor does not fully meet all the requirements of these specifications, the Contractor shall be required to furnish other stone of acceptable quality. The Contractor shall remove and dispose of all rejected stone in a manner approved by the Engineer.
- B. The right is reserved to reject materials from certain localized areas, zones, strata or channels in the quarry when such materials are determined to be unsuitable.

CONSTRUCTION METHOD

PREPARATION/COORDINATION REQUIREMENTS

- A. Prior to the placement of any materials, the Contractor shall establish construction control markers clearly visible and understandable to the workmen placing the materials. As a minimum, these controls shall delineate the horizontal limits and finished elevations of the individual courses.
- B. Resetting and placement of stone, installation and/or construction of the new stone bulkhead shall be coordinated by the Contractor.
- C. Contractor shall maintain and stockpile new and existing stone material in a safe, approved manner in accordance with all environmental requirements for the project.

EXCAVATION

- A. The Contractor shall excavate the existing masonry wall and soil to the dimensions and elevations as shown on the Contract Drawings or as directed by the Engineer. Excavation areas shall be kept within the Project Limits as shown on the Contract Drawings.
- B. The Contractor shall excavate the minimum amount of soil or stone required to perform the work as shown on the Contract Drawings.

- C. The Contractor shall separate excavated materials as suitable and unsuitable for backfill, as approved by the Engineer. Unsuitable material shall be immediately removed from the site. All material removed from the site shall be disposed of legally. Suitable material for backfilling, as approved by the Engineer, shall be taken from excavations and stockpiled for future backfilling. All excavated material shall be stockpiled on the landward side of the masonry wall.
- D. The Contractor shall only remove section of the existing masonry wall that can be replaced in a timely manner as to minimize erosion and loss of backfill materials, and maintain the alignment of the existing masonry wall.
- E. Suitable material for backfilling shall meet the requirements of Granular Fill as specified under Paragraph 2.01. B of Section 02200 and as determined by the Engineer. Soils with significant fines content, organic material, miscellaneous fill or other objectionable material will not be allowed as backfill.

INSPECTION

- A. The Contractor shall verify that stockpiled fill to be reused has been approved by the Engineer.
- B. The Contractor shall not backfill until all work has been inspected, and as-built locations established and approved.
- C. The Contractor shall verify areas to be backfilled are free of debris, snow, ice, or water, and ground surfaces are not frozen.

FILTER FABRIC

- A. The Filter Fabric shall be installed in accordance with manufacturer's specifications and be placed in the manner, location and configuration as indicated on the Contract Drawings.
- B. Receiving Surface: The slope that receives the fabric shall be carefully checked to insure a relatively smooth condition, free of obstructions, depressions and debris.
- C. Placement: The cloth shall not be laid in a stretched condition, but shall be laid loosely to fill depressions.
- D. Overlapping: Adjacent panels shall be overlapped a minimum of eighteen (18) inches. Overlapping of the panel onto itself shall be a minimum of six (6) inches.

FIELD QUALITY CONTROL

- A. Compaction testing shall be performed in accordance with ANSI/ASTM D1557 and ANSI/ASTM D1556.
- B. Compaction shall be to a minimum percentage of 95 percent of the maximum density at optimum moisture content as determined by Modified Proctor Test, ASTM D1557.

MASONRY WALL RECONSTRUCTION

- A. The Contractor shall excavate and reset the existing masonry wall to the dimensions and elevations as shown on the Contract Drawings and as indicated herein.
- B. Stone shall be selected and placed in a manner to form a compact mass.

- C. Resetting of stone masonry wall shall be performed in general accordance with the RIDOT Standard Specifications for Road and Bridge Design (latest edition) Sections 911 unless noted otherwise herein or on the Contract Drawings. Stone for masonry walls shall be placed in wet mortar.
- D. Contractor shall blend the reconstructed masonry wall section into the existing masonry wall on either side. Mortaring of adjacent masonry wall sections within 5 feet of the ends of the new masonry wall if required shall be considered incidental.
- E. Construction of the masonry wall shall maintain existing alignment and limits of the existing structure as indicated by the Contract Drawings.

MASONRY WALL - REPAIR

- A. Contractor shall repair masonry wall to the limits shown on the Drawings.
- B. At a minimum masonry wall will include the removal of loose stone and mortar and accumulated soils, resetting of existing stone, installation of new stone to fill voids and replace dislodged stone, chinking of stone, mortaring of joints, installation of weepholes, resetting of capstones and backfilling of the wall.
- C. Within repair areas mortar shall be installed within the joints between existing stones to a minimum depth of 12 inches from the face of the wall. Existing soils, debris and loose stones in the joints shall be removed and the faces of the stone shall be cleaned prior to placement of the mortar.
- D. Chinking stones shall be placed in joints that are wider than four inches and under stones that are not properly supported by the underlying stones. Stone that do not have at least three points of firm contact with the underlying stones will be considered to be not properly supported.
- E. Contractor shall blend the repaired masonry wall section into the existing masonry wall on either side. Adjustment and chinking of stone or mortaring of adjacent masonry wall sections within 5 feet of the ends of the new masonry wall if required shall be considered incidental

WEEP HOLES

- A. Weepholes shall be constructed to the lines, grades, elevations, and dimensions shown on the Contract Drawings and as directed by the Engineer.
- B. Weephole installation shall include an adjacent drainage field built to the lines and grades as shown on the Contract Drawings. Drainage field shall be continuous over construction area. Filter fabric and crushed stone (filter stone) shall be installed as specified within this section.
- C. Weepholes shall be of 4-inch diameter Schedule 40 PVC pipe.

OUTFALL PIPE

- A. Where outfall pipes penetrate the masonry wall, the pipe shall be encased in a minim of six (6) inches of concrete.

METHOD OF MEASUREMENT

Masonry Wall Repair & Reconstruction shall be measured as stated in the Contract Proposal or at the contract unit price per linear foot complete to the lines and grades indicated by the Contract Drawings. This price shall include full compensation for all soil excavation, stockpiling, backfilling with existing suitable material, removal of portions of the existing masonry wall, reconstruction of removed masonry wall sections, mortaring and chinking, reuse of existing stone, furnishing and setting of new stone, mortaring and chinking, weephole installation, filter fabric and stone, outfall pipe, accessory and incidental items' removal, stockpile, and reinstallation, site restoration, disposal, including the furnishing of all labor, materials, tools, and equipment, and all other incidental work necessary to complete the work under this item, as shown on the Contract Drawings, and as herein specified.

BASIS OF PAYMENT

Masonry Wall Repair & Reconstruction shall be paid as stated in the Contract Proposal or at the contract unit price per linear foot complete to the lines and grades indicated by the Contract Drawings. This price shall include full compensation for all soil excavation, stockpiling, backfilling with existing suitable material, removal of portions of the existing masonry wall, reconstruction of removed masonry wall sections, mortaring and chinking, reuse of existing stone, furnishing and setting of new stone, mortaring and chinking, weephole installation, filter fabric and stone, outfall pipe, accessory and incidental items' removal, stockpile, and reinstallation, site restoration, disposal, including the furnishing of all labor, materials, tools, and equipment, and all other incidental work necessary to complete the work under this item, as shown on the Contract Drawings, and as herein specified.