

CONTRACT DOCUMENTS AND SPECIFICATIONS

For

2022 Paving and Roadwork

Bid Proposal #26-22

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City of Portsmouth, New Hampshire

Prepared by:

City of Portsmouth
Engineering Division
Public Works Department

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City of Portsmouth
Portsmouth, New Hampshire
Department of Public Works

2022 Paving and Roadwork

INVITATION TO BID

Sealed bid proposals, **plainly marked, 2022 Paving and Roadwork Project**, Bid Proposal #26-22 **on the outside of the mailing envelope as well as the sealed bid envelope**, delivered to the front desk, City Hall, 1 Junkins Avenue, Portsmouth, New Hampshire, 03801, addressed to the Finance/Purchasing Department will be accepted until **2:30 p.m. on Thursday March 10, 2022**; at which time all bids will be publicly opened and read aloud.

This project consists of the pavement repair, road and parking lot reconstruction in Portsmouth, NH. Specifically, the work includes hot bituminous paving, cold planing, reclaiming, structure adjustment & replacement, fine grading, pavement striping and other ancillary tasks.

Specifications may be obtained from the City's web site:

<http://www.cityofportsmouth.com/finance/purchasing.htm>, by contacting the Finance/Purchasing Department on the third floor at the above address, or by calling the Purchasing Coordinator at 603-610-7227. Addenda to this bid document, if any, including written answers to questions, will be posted on the City of Portsmouth website at <http://www.cityofportsmouth.com/finance/purchasing.htm> under the project heading. Addenda and updates will **NOT** be sent directly to vendors. Questions may be addressed to the Purchasing Coordinator.

Work may begin on or after May 4, 2022. Individual streets are to be completed within 28 days once work that street has begun. All sections of the work shall be completed by November 23rd, 2022, all sections of final pavement to be complete by October 15th. Liquidated damages shall be assessed at \$100.00 per day.

Bidders must determine the quantities of work required and the conditions under which the work will be performed.

The City reserves the right, after bid opening and prior to award of the contract, to modify the amount of the work in the event that bids exceed budgeted amounts. The City of Portsmouth further reserves the right to reject any or all bids, to waive technical or legal deficiencies, to re-bid, and to accept any bid that it may deem to be in the best interest of the City.

Each Bidder shall furnish a bid security in the amount of ten percent (10%) of the bid. The Bid Security may be in the form of a certified check drawn upon a bank within the State of New Hampshire or a bid bond executed by a surety company authorized to do business in the State of New Hampshire, made payable to the City of Portsmouth, N.H.

Bidders must be pre-qualified by the New Hampshire Department of Transportation for paving work. Any Bid submitted by a Bidder not pre-qualified will be rejected as non-conforming. Any subcontractor working on the project shall subject to pre-approval by the City prior to the start of construction.

The General Contractor will be permitted to subcontract portions of the work not to exceed an aggregate dollar value of 50% of the total contract bid amount in complete accordance with Section 108 of the State of New Hampshire Standard Specifications for Road and Bridge Construction.

INSTRUCTIONS TO BIDDERS

BIDDING REQUIREMENTS AND CONDITIONS

1. Special Notice to Bidders

Appended to these instructions is a complete set of bidding and general contract forms. These forms may be detached and executed for the submittal of bids. The plans, specifications, and other documents designated in the proposal form will be considered as part of the proposal, whether attached or not.

The bidders must submit a statement of bidder's qualifications, if requested, subsequent to bid opening but prior to award.

Addenda to this proposal, if any, including written answers to questions, will be posted on the City of Portsmouth website at <http://www.cityofportsmouth.com/finance/purchasing.htm> under the project heading. Addenda and updates will NOT be sent directly to firms. Contractors submitting a proposal should check the web site daily for addenda and updates after the release date. Firms should print out, sign and return addenda with the proposal. Failure to do so may result in disqualification

2. Interpretation of Quantities in Bid Schedules

The quantities appearing in the bid schedule are approximate only and are prepared for the comparison of bids. Payment to the contractor will be made only for actual work performed and accepted in accordance with the contract. Any scheduled item of work to be done and materials to be furnished may be increased, decreased or omitted as hereinafter provided, and no claim for loss, anticipated profits or costs incurred in anticipation of work not ultimately performed will be allowed due to such increase or decrease.

3. Examination of Plans, Specifications and Site Work

The bidder is expected to examine carefully the site of the proposed work, the plans, standard specifications, supplemental specifications, special provisions and contract forms before submitting a proposal. The submission of a bid shall be considered conclusive evidence that the bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the contract. It will be conclusive evidence that the bidder has also investigated and is satisfied with the sources of supply for all materials.

Plans, surveys, measurements, dimensions, calculations, estimates and statements as to the condition under which the work is to be performed are believed to be correct, but the contractors must examine for themselves, as no allowance will be made for any errors or inaccuracies that maybe found therein.

4. Familiarity with Laws

The bidder is assumed to have made himself or herself familiar with all federal and state laws and all local by-laws, ordinances and regulations which in any manner affect those engaged or employed on the work or affect the materials or equipment used in the work or affect the conduct of the work, and the bidder, if awarded the contract, shall be obligated to perform the work in conformity with said laws, by-laws, ordinances and regulations notwithstanding its ignorance thereof. If the bidder shall discover any provision in the plans or specifications which is in conflict with any such law, by-law, ordinance or regulation the bidder shall forthwith report it to the engineer in writing.

5. Preparation of Proposal

a) The bidder shall submit its proposal upon the forms furnished by the Owner. The bidder shall specify a lump sum price in figures, for each pay item for which a quantity is given and shall also show the products of the respective prices and quantities written in figures in the column provided for that purpose and the total amount of the proposal obtained by adding the amount of the several items. All words and figures shall be in ink or typed. If a unit price or a lump sum bid already entered by the bidder on the proposal form is to be altered it should be crossed out with ink, the new unit price or lump sum bid entered above or below it and initialed by the bidder, also with ink.

b) The bidder's proposal must be signed with ink by the individual, by one or more general partners of a partnership, by one or more members or officers of each firm representing a joint venture; by one or more officers of a corporation, by one or more members (if member-managed) or managers (if manager-managed) of a limited liability company, or by an agent of the contractor legally qualified and acceptable to the owner. If the proposal is made by an individual, his or her name and post office address must be shown, by a partnership the name and post office address of each general and limited partner must be shown; as a joint venture, the name and post office address of each venturer must be shown; by a corporation, the name of the corporation and its business address must be shown, together with the name of the state in which it is incorporated, and the names, titles and business addresses of the president, secretary and treasurer.

6. Nonconforming Proposals

Proposals will be considered nonconforming and may be rejected in the Owner's sole discretion for any of the following reasons:

- If the proposal is on a form other than that furnished by the Owner, or if the form is altered or any portion thereof is detached;
- If there are unauthorized additions, conditional or altered bids, or irregularities of any kind which may tend to make the proposal or any portion thereof incomplete, indefinite or ambiguous as to its meaning;
- If the bidder adds any provisions reserving the right to accept or reject an award, or to enter into a contract pursuant to an award; or
- If the proposal does not contain a unit price for each pay item listed except in the case of authorized alter pay items.

7. Proposal Guaranty

No proposal will be considered unless accompanied by a bid bond, surety, or similar guaranty of the types and in an amount not less than the amount indicated in the Invitation to Bid. All sureties shall be made payable to the "City of Portsmouth". If a bid bond is used by the bidder it shall be:

- In a form satisfactory to the Owner;
- With a surety company licensed, authorized to do business in, and subject to the jurisdiction of the courts of the State of New Hampshire; and
- Conditioned upon the faithful performance by the principal of the agreements contained in the sub-bid or the general bid.

In the event any irregularities are contained in the proposal guaranty, the bidder will have four business days (not counting the day of opening) to correct any irregularities. The corrected guaranty must be received by 4:00 p.m. If irregularities are not corrected to the satisfaction of the Owner, the Owner, in its sole discretion, may rejected the bid.

8. Delivery of Proposals

When sent by mail, the sealed proposal shall be addressed to the Owner at the address and in the care of the official in whose office the bids are to be received. All proposals shall be filed prior to the time and at the place specified in the invitation for bids. Proposals received after the time for opening of the bids will be returned to the bidder, unopened.

9. Withdrawal of Proposals

A bidder will be permitted to withdraw his or her proposal unopened after it has been submitted if the Owner receives a request for withdrawal in writing prior to the time specified for opening the proposals.

10. Public Opening of Proposals

Proposals will be opened and read publicly at the time and place indicated in the invitation for bids. Bidders, their authorized agents, and other interested parties are invited to be present.

11. Disqualification of Bidders

Any or all of the following reasons may be deemed by Owner in its sole discretion as being sufficient for the disqualification of a bidder and the rejection of his proposal:

- More than one proposal for the same work from an individual, firm, or corporation under the same or different name;
- Evidence of collusion among bidders;
- Failure to submit all required information requested in the bid specifications;
- If the Contractor is not listed with the New Hampshire Department of Transportation as a pre-qualified contractor under the classification of Paving;
- Lack of competency or of adequate machinery, plant or other equipment, as revealed by the statement of bidders qualification or otherwise;
- Uncompleted work which, in the judgment of the owner, might hinder or prevent the prompt completion of additional work if awarded;
- Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts;
- Default or unsatisfactory performance on previous contracts; or
- Such disqualification would be in the best interests of the Owner.

12. Material Guaranty and Samples

Before any contract is awarded, the bidder may be required to furnish a complete statement of the origin, composition and manufacture of any or all materials to be used in the construction of the work, and the Owner may, in its sole discretion, reject the bid based on the contents of the statement or as a result of the failure of the bidder to submit the statement.

AWARD AND EXECUTION OF CONTRACT

1. Consideration of Proposals

a) After the proposals are opened and read, they will be compared on the basis of the total price for all sections of work to be charged to perform the work and any such additional considerations as may be identified in the bid documents. The results of such comparisons will be immediately available to the public. In case of a discrepancy between the prices written in words and those written figures, the prices written in words shall govern. In case of a discrepancy between the total shown in the proposal and that obtained by adding the products of the quantities of items and unit bid prices, the latter shall govern.

b) The Owner reserves the right to reject any or all proposals, to waive technicalities or to advertise for new proposals, if, in the sole discretion of the Owner, the best interest of the City of Portsmouth will be promoted thereby.

2. Award of Contract

Within 30 calendar days after the opening of proposals, if a contract is to be awarded, the award will be made to the lowest responsible and qualified bidder whose proposal complies with all the requirements prescribed. The successful bidder will be notified, in writing, mailed to the address on his or her proposal, that his or her bid has been accepted and that the bidder has been awarded the contract.

The award shall not be considered official until such time that a Purchase Order, fully executed contract or an award letter has been issued by the Finance Director. No presumption of award shall be made by the bidder until such documents are in hand. Verbal notification of award is not considered official. Any action by the bidder to assume otherwise is done so at his/her own risk and the City will not be held liable for any expense incurred by a bidder that has not received an official award.

Determination of the lowest bidder will be based on the total price for the work described on the bid proposal form. Due to fluctuating prices and possible budget limitations, the City reserves the right to delete portions of the work including certain tasks or entire streets prior to contract execution.

3. Cancellation of Award

The Owner reserves the right to cancel the award of any contract at any time before the execution of such contract by all parties without any liability of the Owner.

4. Return of Proposal Guaranty

All proposal guaranties, except those of the three lowest bidders, will be returned upon request following the opening and checking of the proposals. The proposal guaranties of the three lowest bidders will be returned within ten days following the award of the contract if requested.

5. Contract Bond

At the time of the execution of the contract, the successful bidder shall furnish:

- Labor and materials payment bond in the amount of 100 percent of the contract amount.

Each bond shall be: (1) in a form satisfactory to the Owner; (2) with a surety company licensed and authorized to do business and with a resident agent designated for services of process in the State of New Hampshire; and (3) conditioned upon the faithful performance by the principal of the agreements contained in the original bid. All premiums for the contract bonds are to be paid by the contractor.

6. Execution and Approval of Contract

The successful bidder is required to present all contract bonds, to provide proof of insurance, and to execute the contract within 10 days following receipt of the City's notification of acceptance of the bid. No contract shall be considered as in effect until it has been fully executed by all parties.

7. Failure to Execute Contract

Failure to execute the contract and file an acceptable bond within 10 days after notification of acceptance of bid shall be just cause for the cancellation of the award and the forfeiture of the proposal guarantee which shall become the property of the Owner, not as a penalty, but in liquidation of damages sustained. Award may then be made to the next lowest responsible bidder, or the work may be re-advertised as the Owner may determine in its sole discretion.

PROPOSAL FORM

2022 Paving and Roadwork

CITY OF PORTSMOUTH, N.H.

To the City of Portsmouth, New Hampshire, herein called the Owner.

The undersigned, as Bidder, herein referred to as singular and masculine declares as follows:

1. All interested in the Bid as Principals are named herein;
2. This bid is not made jointly, or in conjunction, cooperation or collusion with any other person, firm, corporation, or other legal entity;
3. No officer, agent or employee of the Owner is directly or indirectly interested in this Bid;
4. The bidder has carefully examined the sites of the proposed work and fully informed and satisfied himself as to the conditions there existing, the character and requirements of the proposed work, the difficulties attendant upon its execution and the accuracy of all estimated quantities stated in this Bid, and the bidder has carefully read and examined the Drawings, Agreement, Specifications and other Contract Documents therein referred to and knows and understands the terms and provisions thereof;
5. The bidder understands that the quantities of work calculated in the Bid or indicated on the Drawings or in the Specifications or other Contract Documents are approximate and are subject to increase or decrease or deletion as deemed necessary by the Portsmouth City Engineer. Any such changes will not result in or be justification for any penalty or increase in contract prices; and agrees that, if the Bid is accepted the bidder will contract with the Owner, as provided in the Contract Documents, this Bid Form being part of said Contract Documents, and that the bidder will supply or perform all labor, services, plant, machinery, apparatus, appliances, tools, supplies and all other activities required by the Contract Documents in the manner and within the time therein set forth, and that the bidder will take in full payment therefor the following item prices; and
6. It is the intention of this contract that the items listed above describe completely and thoroughly the entirety of the work as shown on the plans and as described in the specifications. All other items required to accomplish the above items are considered to be subsidiary work, unless shown as a pay item.

SEE SPREADSHEET IN BACK OF DOCUMENT FOR SPECIFIC LOCATION OF ITEMS, SOME ITEMS MAY NOT BE USED

ITEM #	EST. QTY.	UNITS	ITEM DESCRIPTION	UNIT PRICE IN FIGURES	ITEM TOTAL IN FIGURES
201	1	Ls	Clearing and Grubbing of Landscaped Areas (Bridge St Lot)	_____	_____
201.21	350	Sy	Removal of existing concrete sidewalks (Bridge St Lot)	_____	_____
202.3	6	Lf	Plug or remove old pipe	_____	_____
202.5	1	Ea	Removal of old manholes, DI's etc	_____	_____
202.7	13*	Lf	Removal of Guardrail	_____	_____
203.A	6000	CY	Excavation of Excess Reclaim	_____	_____
203.B	1000	CY	Excavation of Unsuitables or road box	_____	_____
203.C	400	CY	Excavation for Sidewalks and curb ramps, (Concrete, Brick, Gravel, Pavement, etc)	_____	_____
206.2	5*	CY	Rock Structure Excavation	_____	_____
214	37500	SY	Fine Grading Roads	_____	_____
214A	450	SY	Fine Grading Sidewalks	_____	_____
304.3	20	CY	Crushed Gravel for Sidewalk	_____	_____
304.32	300	Ton	Shoulder Gravel	_____	_____
304.4	150	CY	Crushed Gravel for Roads /Patches	_____	_____
306.1x	37696	SY	Reclaim Stab. Base	_____	_____
306.2x	800	CY	Rehandle Reclaim Stab. Base	_____	_____
306.36	2000	Tons	1 1/2" - 2" Crushed Stone for Reclaim Stab. Base Blended in via reclaimer	_____	_____
403.11 B	7350	Ton	Machine Pave (50GYR) 3/4" Fine Binder (aka Winter Binder)	_____	_____
403.11H	700	Ton	Machine Pave 3/8" Wearing High Strength Mix if ordered (Item is price differential per ton from normal wearing course mix (403.11W)	_____	_____
403.11W	13825	Ton	Machine Pave 3/8"(75gyr) or 1/2"(50gyr) Wearing	_____	_____
403.12	890	Ton	Hand Method Paving	_____	_____

PROPOSAL FORM (continued)

403.13L	3000	Sy	Pavement Patching ≥30 square yards	_____	_____
403.13S	2500	Sy	Pavement Patching <30 square yards	_____	_____
403.6	60,000	LF	Pavement Joint Adhesive on various sites	_____	_____
413.2	10000	Lbs	Crack Sealing for pavement overlays	_____	_____
417	75,000	SY	Cold Planing with large machine	_____	_____
417A	1	Day	Large Cold Planer with crew and trucking	_____	_____
417B	1000	SY	Cold Plane (Butt Joints with Bobcat or similar)	_____	_____
420	5	U	Construct Speed Table (including markings)	_____	_____
520	100	CY	Class A Concrete Backfill for Curb or Structures	_____	_____
572	70	Lf.	Swenson Granite Block retaining Wall	_____	_____
603.33212	1*	Ea.	Polyethylene End Sections	_____	_____
603.82212	35	Ea.	12" PVC or HDPE Pipe	_____	_____
603.8112	1	Ea.	12" PVC Inserta Tee (Incl. Core)	_____	_____
604.0007	100*	Ea.	CB Polyethylene liners	_____	_____
604.0008	1*	Ea.	12" Eliminator oil hood	_____	_____
604.12	1*	Ea	New Type B Catch Basin (W/ Frame & Grate)	_____	_____
604.12A	1*	Ea	Replace Top structure of Catch Basin (W/ F&G) With Precast Top (Qty to be determined)	_____	_____
604.22	1*	Ea	New Drop Inlet Catch Basin (W/ F&G)	_____	_____
604.324	1	Ea	Install New Drain Manhole (assume 7 VF)	_____	_____
604.45	450*	VF	Adjust CB or Manhole Cover using brick and mortar (1 VF minimum for each structure)	_____	_____
604.61C	70*	EA	Pick up and Deliver to site 32" SMH F & C With City Logo, <u>Provided by City</u>	_____	_____
604.61	1*	EA	Purchase 32" SMH F & C (USA Made)	_____	_____
604.611	15*	EA	Purchase 24" SMH F & C (USA Made)	_____	_____
604.62	12*	EA	Purchase 32" DMH F & C (USA Made)	_____	_____

PROPOSAL FORM (continued)

604.621	1*	EA	Purchase 24" DMH F & C (USA Made)	_____	_____
604.72B	24*	EA	Purchase CB F & G (USA Made)	_____	_____
604.72C	2*	EA	Purchase Curb Inlet CB F & G (USA Made)	_____	_____
606.1203	13*	Lf	W Beam Guardrail w/steel post	_____	_____
606.1255	1*	U	Beam Guardrail Terminal Unit	_____	_____
608.12	5*	SY	Patching/Paving Asphalt Sidewalks 2 1/2"	_____	_____
608.24	100*	SY	4" Concrete Sidewalk	_____	_____
608.26	300*	SY	6" Concrete HC Ramps or pads	_____	_____
608.5	50*	SY	Brick Sidewalk	_____	_____
608.54A	60*	SY	Rectangular Cast Iron Truncated Dome Panels	_____	_____
608.54B	10*	SY	Radius Cast Iron Truncated Dome Panels	_____	_____
608.6A	48*	LF	Swenson Granite Steps 6" rise, 12" tread	_____	_____
608.6B	2*	Ea	Reset Granite seats	_____	_____
608.6C	2*	Ea	Black Galvanized Handrails for steps	_____	_____
609.01	300*	LF	5" Vertical Granite Curbing	_____	_____
609.011	300*	LF	6" Vertical Granite Curbing	_____	_____
609.02	20*	LF	5" Curved Vertical Granite Curbing	_____	_____
609.021	20*	LF	6" Curved Vertical Granite Curbing	_____	_____
609.216	100*	LF	4x12 Sloped Granite Curbing	_____	_____
609.5	750*	LF	Reset curbing	_____	_____
609.811	200*	LF	Bituminous Cape Cod Berm Curb	_____	_____
611.90001	1*	EA	Adjust Existing Gate Valve Sleeves	_____	_____
611.90001A	1*	EA	Replace Broken Gate Valve Sleeves Top	_____	_____
611.90001B	1*	EA	Replace Broken Gate Valve Sleeve Top and Base	_____	_____
611.90001C	10*	EA	Adjust Gate Valve Sleeve with insert ring	_____	_____
611.90001D	140*	EA	Adjust Gate Valve Sleeve with riser rings	_____	_____

PROPOSAL FORM (continued)

614.512	1	Ea	18" concrete pull box with CI cover		
614.72112	630	Lf	2" sch 40 lighting conduit in sand bed		
614.72114	800	Lf	3" sch 40 conduit in sand bed		
614.74114	100	Lf	4" sch 40 conduit in sand bed		
614.75118	650	Lf	5" sch 80 primary voltage conduit in concrete		
615	8	Ea	6" Concrete filled bollard with PVC sleeve		
615.0301	180	SF	Traffic Signs, Type C		
615.0071A	10	Ea	New 2" road painted galv. steel sign post		
615.0071B	5	Ea	Relocate 2" road painted galv. steel sign post		
615.024A	4	Ea	Relocate Sign to new Post		
615.024B	2	Ea	Relocate Wayfinding Parking Signs (incl. new footings)		
616.650	11	EA	6' x 50' Traffic Signal Loop		
618.6	1	Allowance	Portsmouth Police (Traffic Control)	<u>\$10,000.00</u>	<u>\$10,000.00</u>
618.7	1	Allowance	Flaggers	<u>\$150,000.00</u>	<u>\$150,000.00</u>
619	1	U	Maintenance of Traffic		
625A	6	Ea	Remove and dispose of existing light poles and base (12" below grade) (City to retain luminaire)		
625B	10	Ea	New light pole base		
625C	10	Ea	New street light pole and lantern		
626	2	Ea	8'x 9' transformer pads		
632.0104	139000	LF	4" Painted Lane Striping with layout		
632.0104A	1200	LF	4" Painted Lane Striping with layout (parking)		
632.02A	3	Ea	Handicapped symbol on blue background		
632.02B	4	Ea	Painted EV symbol (4'x4')		
632.3106	300	LF	6" Thermoplastic Striping (x-walks)		

PROPOSAL FORM (continued)

632.3112	3440	LF	12" Thermoplastic Striping (Stop Bars, x-walks)	_____	_____
632.3118	420	LF	18" Thermoplastic Striping (Stop Bars)	_____	_____
632.32	1000	SF	Thermoplastic Words & Symbols	_____	_____
641	200	CY	4" Loam and Seed	_____	_____
641A	125	CY	Loam for planting beds	_____	_____
645.7	1	U	Storm Water Pollution Plan	_____	_____
645.71	70	Hr	Monitoring of SWPPP and Erosion Controls	_____	_____
665	1	Ls	Load side wiring for street lights and signals	_____	_____
677A	1	Ea	208/480 car charging meter cabinet (Millbank)	_____	_____
677B	1	Ea	120/208 site lighting meter cabinet (Millbank)	_____	_____
692	1	U	Mobilization	_____	_____
1010.2	1	\$	Asphalt Cement Adjustment	<u>\$15,000.00</u>	<u>\$15,000.00</u>

*Estimated Quantity item, quantity unknown and to be verified prior to purchase of material.

TOTAL FOR PROJECT AND BASIS OF AWARD

Total in Figures \$ _____.

In Words \$ _____

The City reserves the right to delete any portion of the work/reduce the quantities of work represented in this bid proposal form.

The undersigned agrees that for extra work, if any, performed in accordance with the terms and provisions of the Contract Documents, the bidder will accept compensation as stipulated therein.

Date

Company

By: _____
Signature

Business Address

Title: _____

City, State, Zip Code

Telephone:_____

The Bidder has received and acknowledged Addenda No._____through _____.

All Bids are to be submitted on this form and in a sealed envelope, plainly marked on the outside with the Bidder's name and address and the Project name as it appears at the top of the Proposal Form.

We certify that the Company is currently pre-qualified with the State of New Hampshire for Paving Work.

By:_____
Signature

In order to follow the City's sustainability practices, future bid invitations/specifications may be sent electronically. Please provide an email address as to where I could email future bid invitations/specifications of this type. Thank you in advance for your cooperation.

Email
Address:_____

BID SECURITY BOND

(This format provided for convenience, actual Bid Bond is acceptable in lieu of, if compatible.)

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned

_____, as Principal, and

_____, as Surety, are hereby

held and firmly bound unto _____

IN THE SUM OF _____

as liquidated damages for payment of which, well and truly to be made we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

The condition of this obligation is such that whereas the Principal has submitted to the

_____ A CERTAIN Bid attached hereto and hereby made a part hereof to enter into a contract in writing, hereinafter referred to as the "AGREEMENT" and or "CONTRACT", for

NOW THEREFORE,

- (a) If said Bid shall be rejected or withdrawn as provided in the INFORMATION FOR BIDDERS attached hereto or, in the alternative,
- (b) If said Bid shall be accepted and the Principal shall duly execute and deliver the form of AGREEMENT attached hereto and shall furnish the specified bonds for the faithful performance of the AGREEMENT and/or CONTRACT and for the payment for labor and materials furnished for the performance of the AGREEMENT and or CONTRACT,

then this obligation shall be void , otherwise it shall remain in full force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder in no event shall exceed the amount of this obligation.

BID SECURITY BOND (continued)

The Surety, for value received, hereby agrees that the obligation of said surety and its bond shall be in no way impaired or affected by any extensions of the time within such BID may be accepted, and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the parties hereto have duly executed

this bond on the _____ day of _____, 20__.

(Name of Principal) L.S.

(SEAL)

BY _____

(Name of Surety)

BY _____

STATEMENT OF BIDDER'S QUALIFICATIONS

Note: This is a required submittal, fill out completely.

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. Add separate sheets if necessary

1. Name of Bidder
2. Permanent Main Office Address
3. Form of Entity
4. When Organized
5. Where Organized
6. How many years have you been engaged in the contracting business under your present name; also state names and dates of previous firm names, if any.
7. Contracts on hand; (schedule these, showing gross amount of each contract and the approximate anticipated dates of completion).
8. General character of work performed by your company.
9. Have you ever failed to complete any work awarded to you? ____ (no) ____ (yes). If so, where and why?
10. Have you ever defaulted on a contract?
____ (no) ____ (yes). If so, where and why?
11. Have you ever failed to complete a project in the time allotment according to the _____ Contract Documents?
____ (no) ____ (yes). If so, where and why?
12. List the most important contracts recently executed by your company, stating approximate cost for each, and the month and year completed.
13. List your major equipment available for this contract.
14. List your key personnel such as project superintendent and foremen available for this contract.
15. List any subcontractors whom you will use for the following (unless this work is to be done by your own organization, if so please state).
 - a. Crack sealing and Joint adhesive _____
 - b. Adjusting Structures _____
 - c. Pavement Markings _____
 - d. Curbing _____
 - e. Traffic Signal loops _____
 - f. Drainage Structures _____
 - g. Guardrail _____
 - h. Concrete Sidewalks _____
 - g. Brick Sidewalks _____(The City reserves the right to approve subcontractors for this project)

STATEMENT OF BIDDERS QUALIFICATIONS (continued)

16. With what banks do you do business?

a. Do you grant the Owner permission to contact this/these institutions?
____(yes) ____ (no).

b. Latest Financial Statements, certified audited if available, prepared by an independent certified public accountant, may be requested by Owner. If requested, such statements must be provided within five (5) business days or the bid proposal will be rejected. Certified Audited Statement are preferred. Internal statements may be attached only if independent statements were not prepared.

Dated at _____ this _____ day of _____, 20__.

Name of Bidder

BY _____

TITLE _____

State of _____

County of _____

_____ being duly sworn, deposes and

says that the bidder is _____ of _____
(Name of Organization)

and answers to the foregoing questions and all statements contained therein are true and correct.

Sworn to before me this _____ day of _____, 20__.

Notary of Public

My Commission expires _____

CONTRACT AGREEMENT

2022 Paving and Roadwork

THIS AGREEMENT made as of the xx day of xxxxx in the year **2022**, by and between the City of Portsmouth, New Hampshire (hereinafter call the Owner) and xxxxxxxxxxxxxxxxxxxxxx (hereinafter called the Contractor),

WITNESSETH; that the Owner and Contractor, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE I - Work - The Contractor shall perform all work as specified or indicated in the Contract Documents for the pavement repair of several roads in Portsmouth (roads to be designated by owner). The Contractor shall provide, at his expense, all labor, materials, equipment and incidentals as may be necessary for the expeditious and proper execution of the Project.

ARTICLE II - ENGINEER - The Director of Public Works or his authorized representative will act as City Engineer in connection with completion of the Project in accordance with the Contract Documents.

ARTICLE III - CONTRACT TIME - The work shall commence in accordance with the Notice to Proceed. Work on streets shall be completed on that single street within 28 days of commencing work on that street.

All finish course pavement work shall be completed prior to October 15, 2022. All work must be complete by November 23rd, 2022.

ARTICLE IV - CONTRACT PRICE - Owner shall pay Contractor for pavement repair for only those roads designated for repair by Owner as shown in the Preliminary List of Projects sheets attached or as set forth in the Notice of Intent to Award. Owner makes no representation that it will undertake all the pavement repairs estimated in the bid proposal form. Contractor will be paid only for work performed in accordance with the Contract Documents as shown under item prices in the Bid Proposal.

ARTICLE V - PAYMENT - Partial payments will be made in accordance with the Contract Documents. Upon final acceptance of the work and settlement of all claims, Owner shall pay the Contractor the unpaid balance of the Contract Price, subject to additions and deductions provided for in the Contract Documents.

ARTICLE VI - RETAINAGE - To insure the proper performance of this Contract, the Owner shall retain **ten percent** of the monthly payments claimed by the Contractor until 50% of the original contract work is invoiced and approved by the City. Once the Contractor has invoiced more than 50% of the original contract value, provided that the Contractor has satisfied the City regarding the quality and timeliness of the work and provided further that there is no specific cause for withholding additional retainage, no further amount will be withheld. Upon substantial completion of the work the amount of retainage shall be reduced to 2% of the total contract value plus any additional retainage amounts required by the City based on the City's estimate of the fair value of any remaining punch list items. Any additional retainage held for punch list items shall be held until such time as all items on the punch list are repaired or completed to the City's acceptance. The final 2% of retainage shall be held until the warranty period has expired.

CONTRACT AGREEMENT (continued)

ARTICLE VII - LIQUIDATED DAMAGES - In event the Contractor fails to successfully execute the work within the specified contract time the Owner shall assess the Contractor liquidated damages in the amount of **one hundred dollars (\$100)** for each calendar day beyond the specified completion date for each section of work. Liquidated damages shall be deducted from the Contract Price prior to final payment of the Contractor.

ARTICLE VIII – CONTRACT DOCUMENTS – The Contract Documents which comprise the contract between Owner and Contractor are attached hereto and made a part hereof and consist of the following:

- 8.1 This Agreement
- 8.2 Contractor’s Bid and Bonds
- 8.3 Notice of Award, Notice to Proceed
- 8.4 Instruction to Bidders
- 8.5 General Requirements, Control of Work, Temporary Facilities, Measurement and Payment, Standard Specifications
- 8.6 Insurance Requirements
- 8.7 Standard and Technical Specifications
- 8.8 Drawings
- 8.9 Special Provisions
- 8.10 Any modifications, including change orders, duly delivered after execution of this Agreement.

ARTICLE IX – TERMINATION FOR DEFAULT – Should contractor at any time refuse, neglect, or otherwise fail to supply a sufficient number or amount of properly skilled workers, materials, or equipment, or fail in any respect to prosecute the work with promptness and diligence, or fail to perform any of its obligations set forth in the Contract, Owner may, at its election, terminate the employment of Contractor, giving notice to Contractor in writing of such election, and enter on the premises and take possession, for the purpose of completing the work included under this Agreement, of all the materials, tools and appliances belonging to Contractor, and to employ any other persons to finish the work and to provide the materials therefore at the expense of the Contractor.

ARTICLE X – INDEMNIFICATION OF OWNER – Contractor shall defend, indemnify and hold harmless Owner and its officials and employees from and against all suits, claims, judgments, awards, losses, costs or expenses (including without limitation attorneys’ fees) to the extent arising out of or relating to Contractor’s alleged negligence or breach of its obligations or warranties under this Contract. Contractor shall defend all such actions with counsel satisfactory to Owner at its own expense, including attorney’s fees, and will satisfy any judgment rendered against Owner in such action.

ARTICLE XI – PERMITS – The Contractor shall secure at its own expense, all permits and consents required by law as necessary to perform the work and shall give all notices and pay all fees and otherwise comply with all applicable City, State, and Federal laws, ordinances, rules and regulations.

ARTICLE XII – INSURANCE – The Contractor shall secure and maintain, until acceptance of the work, insurance with limits not less than those specified in the Contract.

ARTICLE XIII – MISCELLANEOUS –

- A. Neither Owner nor Contractor shall, without the prior written consent of the other, assign, sublet or delegate, in whole or in part, any of its rights or obligations under any of the Contract Documents; and, specifically not assign any monies due, or to become due, without the prior written consent of Owner.
- B. Owner and Contractor each binds himself, his partners, successors, assigns and legal representatives, to the other party hereto in respect to all covenants, agreements and obligations contained in the Contract Documents.
- C. The Contract Documents constitute the entire Agreement between Owner and Contractor and may only be altered amended or repealed by a duly executed written instrument.
- D. The laws of the State of New Hampshire shall govern this Contract without reference to the conflict of law principles thereof.
- E. Venue for any dispute shall be the Rockingham County Superior Court unless the parties otherwise agree.

IN WITNESS WHEREOF, the parties hereunto executed this
AGREEMENT the day and year first above written.

BIDDER:

BY: _____

TITLE: _____

CITY OF PORTSMOUTH, N.H.

BY: _____
Karen S. Conard

TITLE: City Manager

NOTICE OF INTENT TO AWARD

Date:

TO:

IN AS MUCH as you were the low responsible bidder for work entitled:

2022 Paving and Roadwork

You are hereby notified that the City intends to award the aforesaid project to you.

Immediately take the necessary steps to execute the Contract and to provide required bonds and proof of insurance within fifteen (15) calendar days from the date of this Notice.

The City reserves the right to revoke this Notice if you fail to take the necessary steps to execute this Contract.

City of Portsmouth
Portsmouth, New Hampshire

Judie Belanger,
Finance Director

CHANGE ORDER

Change Order

Date of Issuance: xxxxxx, 2022

Owner: CITY OF PORTSMOUTH, N.H

Contractor: xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

You are directed to make the following changes in the Contract Documents:

Description: xxxxxxxxxxxxxxxxxxxxxxxx

Purpose of Change Order: xxxxxxxxxxxxxxxxxxxxxxxx

Attachments: xxxxxxxxxxxxxxxx

CHANGE IN CONTRACT PRICE	CHANGE IN CONTRACT TIME
--------------------------	-------------------------

Original Contract Price: \$	Original Completion Date: November 23, 2022
--------------------------------	--

Contract Price prior to this Change Order: \$	Contract Time prior to this Change Order: November 23 rd , 2022
---	--

Net Increase of this Change Order: \$	Net Increase or Decrease of this Change Order: xxxx Days
---	--

Contract Price with all approved Change Orders: \$	Contract Time with all approved Change Orders: xxxxxxxxxxxxxxxxxxxxx
--	--

RECOMMENDED:

by_____	by_____	by_____
PW Director	Deputy Finance Director	Finance Director

APPROVED:	APPROVED:
by_____	by_____
City Manager	Contractor .

LABOR AND MATERIAL PAYMENT BOND

(This format provided for convenience, actual Labor and Material Bond is acceptable in lieu, if compatible)

Bond Number _____

KNOW ALL MEN BY THESE PRESENTS:

that _____

as Principal, hereinafter called Contractor, and _____ (Surety Company) a corporation organized and existing under the laws of the State of

_____ and authorized to do business in the State of New Hampshire hereinafter called Surety, are held and firmly bound unto the City of Portsmouth, N.H. Obligee, hereinafter called Owner, for the use and benefit of claimants as herein below defined, in the

amount of _____ Dollars (\$ _____), for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has by written agreement dated _____ entered into a

contract with Owner for _____ in accordance with drawings and specifications prepared by the Public Works Department, 680 Peverly Hill Road, Portsmouth, N.H. 03801, which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that the Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract and for the hire of all equipment, tools, and all other things contracted for or used in connection therewith, then this obligation shall be void, otherwise it shall remain in full force and effect, subject however, to the following conditions:

(1) A claimant is defined as one having a direct contract with the Principal or, with a subcontractor of the Principal for labor, material, equipment, or other things used or reasonably required for use in the performance of the Contract. "Labor and material" shall include but not be limited to that part of water, gas, power, light, heat, oil and gasoline, telephone service or rental of equipment applicable to the Contract.

(2) The above named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such a claimant, may sue on this bond for the use of such claimant, prosecute the suit by final judgment for such sum or sums as may be

LABOR AND MATERIAL PAYMENT BOND (continued)

justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any such suit or any costs or expenses of any such suit, and principal and surety shall jointly and severally indemnify, defend and hold the Owner harmless for any such suit, costs or expenses.

(3) No suit or action shall be commenced hereunder by any claimant:

(a) Unless Claimant, other than one having a direct contract with the Principal, shall have given notice to all the following:

The Principal, the Owner and the Surety above named, within six (6) calendar months after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, Owner, and Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the State of New Hampshire save that such service need not be made by a public officer.

(b) After the expiration of one (1) year following the date on which Principal ceased all work on said contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

(c) Other than in a State court of competent jurisdiction in and for the county or other political subdivision of the State in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere. (4) The amount of this bond may be reduced by and to the extent of any payment of payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed on record against said improvement, whether or not claim for the amount of such lien by presented under and against this bond.

Signed and sealed this _____ day of _____, 20____. In the presence of:

(Witness) BY: _____
(Principal) (Seal)

(Surety Company)

(Witness) BY: _____
(Title) (Seal)

LABOR AND MATERIAL PAYMENT BOND (continued)

Note:

If the Principal (Contractor) is a partnership, the Bond should be signed by each of the partners.

If the Principal (Contractor) is a corporation, the Bond should be signed in its correct corporate name by its duly authorized Officer or Officers.

If this bond is signed on behalf of the Surety by an attorney-in-fact, there should be attached to it a duly certified copy of his Power of Attorney showing his authority to sign such Bonds.

There should be executed an appropriate number of counterparts of the bond corresponding to the number of counterparts of the Agreement.

CONTRACTOR'S AFFIDAVIT

STATE OF _____:

COUNTY OF _____:

Before me, the undersigned, a _____
(Notary Public, Justice of the Peace)

in and for said County and State personally appeared, _____
(Individual, Partner, or duly authorized representative of Corporate)

who, being duly sworn, according to law deposes and says that the cost of labor, material, and equipment and outstanding claims and indebtedness of whatever nature arising out of the performance of the Contract between

CITY OF PORTSMOUTH, NEW HAMPSHIRE

and _____
(Contractor)

of _____

Dated: _____

has been paid in full for Construction of: **2022 Paving and Roadwork**

(Individual, Partner, or
duly authorized
representative of
Corporate Contractor)

Sworn to and subscribed
before me this _____ day
of _____ 20____

CONTRACTOR'S RELEASE

KNOW ALL MEN BY THESE PRESENTS that _____

(Contractor) of _____, County of _____ and State of

_____ does hereby acknowledge

that _____ (Contractor)

has on this day had, and received from the CITY OF PORTSMOUTH NEW HAMPSHIRE, final and completed payment for the Construction of:

2022 Paving and Roadwork

NOW THEREFORE, the said _____

(Contractor)

for myself, my heirs, executors, and administrators) (for itself, its successors and assigns) do/does by these presents remise, release, quit-claim and forever discharge the City of Portsmouth, New Hampshire, its successors and assigns, of and from all claims and demands arising from or in connection with the said Contract dated _____, and of and from all, and all manners of action and actions, cause and causes of action and actions, suits, debts, dues, duties, sum and sums of money, accounts, reckonings, bonds, bills, specifications, covenants, contracts, agreements, promises, variances, damages, judgments, extents, executions, claims and demand, whatsoever in law of equity, or otherwise, against the City of Portsmouth, New Hampshire, its successors and assigns, which (I, my heirs, executors, or administrators) (it, its successors and assigns) ever had, now have or which (I, my heirs, executors, or administrators) (it, its successors and assigns) hereafter can shall or may have, for, upon or by reason of any matter, cause, or thing whatsoever; from the beginning of record time to the date of these presents.

IN WITNESS WHEREOF,

Contractor:

By: _____

print name of witness: _____

Its Duly Authorized _____

Dated: _____

GENERAL REQUIREMENTS

SCOPE OF WORK

1. INTENT OF CONTRACT

The intent of the Contract is to provide for the construction and completion in every detail of the work described. The Contractor shall furnish all labor, materials, equipment, tools, transportation and supplies required to complete the work in accordance with the terms of the Contract. The Contractor shall be required to conform to the intent of the plans and specifications. No extra claims shall be allowed for portions of the work not specifically addressed in the plans and specifications but required to produce a whole and complete project, such work will be considered subsidiary to the bid items.

2. INCIDENTAL WORK

Incidental work items for which separate payment is not measured includes, but is not limited to, the following items:

- a. Clearing, grubbing and stripping (unless otherwise paid for)
- b. Clean up
- c. Plugging existing sewers and manholes
- d. Signs
- e. Mobilization/Demobilization (unless otherwise paid for)
- f. Restoration of property
- g. Cooperation with other contractors, abutters and utilities.
- h. Utility crossings, (unless otherwise paid for)
- i. Minor items - such as replacement of fences, guardrails, rock wall, etc.
- j. Steel and/or wood sheeting as required.
- k. Accessories and fasteners or components required to make items paid for under unit prices or lump sum items complete and functional.

3. ALTERATION OF PLANS OR OF CHARACTER OF WORK

The Owner reserves the right, without notice to Surety, to make such alterations of the plans or of the character of the work as may be necessary or desirable to complete fully and acceptably the proposed construction; provided that such alterations do not increase or decrease the contract cost. Within these cost limits, the alterations authorized in writing by the Owner shall not impair or affect any provisions of the Contract or bond and such increases or decreases of the quantities as a result from these alterations or deletions of certain items, shall not be the basis of claim for loss or for anticipated profits by the contractor. The contractor shall perform the work as altered at the contract unit price or prices.

4. EXTRA WORK ITEMS

Extra work shall be performed by the Contractor in accordance with the specifications and as directed, and will be paid for at a price as provided in the Contract documents or if such pay items are not applicable than at a price negotiated between the contractor and the Owner or at the unit bid price. If the Owner determines that extra work is to be performed, a change order will be issued.

5. CHANGE ORDERS

The Owner reserves the right to issue a formal change order for any increase, decrease, deletion, or addition of work or any increase in contract time or price. The contractor shall be required to sign the change order and it shall be considered as part of the Contract documents.

6. FINAL CLEANING UP

Before acceptance of the work, the contractor shall remove from the site all machinery, equipment, surplus materials, rubbish, temporary buildings, barricades and signs. All parts of the work shall be left in a neat and presentable condition. On all areas used or occupied by the contractor, regardless of the contract limits, the bidder shall clean-up all sites and storage grounds.

The items prescribed herein will not be paid for separately, but shall be paid for as part of the total contract price.

7. ERRORS AND INCONSISTENCY IN CONTRACT DOCUMENTS

Any provisions in any of the Contract Documents that may be in conflict with the paragraphs in these General Requirements shall be subject to the following order of precedence for interpretation.

1. Technical Specifications will govern General Requirements.
2. Special Provisions will govern Technical Specifications.
3. Plans will govern Special Provisions, Technical Specifications, and General Requirements.

CONTROL OF WORK

1. AUTHORITY OF ENGINEER

(a) All work shall be done under supervision of the City Engineer and to his satisfaction. The City Engineer will decide all questions which may arise as to the quality and acceptability of materials furnished and work performed and as to the rate of progress of the work; all questions that may arise as to the interpretation of the plans and specifications; and all questions as to the acceptable fulfillment of the Contract by the Contractor.

(b) The City Engineer will have the authority to suspend the work wholly or in part for such periods as he may deem necessary due to the failure of the Contractor to correct conditions unsafe for workers or the general public; for failure to carry out provisions of the Contract; for failure to carry out orders; for conditions considered unsuitable for the prosecution of the work, including unfit weather; or for any other condition or reason deemed to be in the public interest. The Contractor shall not be entitled any additional payments arising out of any such suspensions.

(c) The Owner reserves the right to demand a certificate of compliance for a material or product used on the project. When the certificate of compliance is determined to be unacceptable to the City Engineer the Contractor may be required to provide engineering and testing services to guarantee that the material or product is suitable for use in the project, at its expense (see Sample of Certificate of Compliance).

2. PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPES

(a) The Contractor shall use every precaution to prevent injury or damage to wires, poles, or other property of public utilities; trees, shrubbery, crops, and fences along and adjacent to the right-of-way, all underground structures such as pipes and conduits, within or outside of the right-of-way; and the Contractor shall protect and carefully preserve all property marks until an authorized agent has witnessed or otherwise referenced their location.

(b) The Contractor shall be responsible for all damage or injury to property of any character, during the prosecution of the work, resulting from any act, omission, neglect, or misconduct in his manner or method of executing the work, or at any time due to defective work or materials, and said responsibility will not be released until the project shall have been completed and accepted.

(c) When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or as a result of the failure to perform work by the Contractor, the Contractor shall restore, at its own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing rebuilding, or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner.

(d) The Contractor shall paint with tree paint all scars made on fruit or ornamental trees by equipment, construction operations, or the removal of limbs larger than one inch in diameter. Damaged trees must be replaced if so determined by the City Arborist, in his or her sole discretion.

(e) If the Contractor fails to repair, rebuild or otherwise restore such property as may be deemed necessary, the Owner, after 48 hours notice, may proceed to do so, and the cost thereof may be deducted from any money due or which may become due the Contractor under the contract.

(f) It is the intent of the Parties that the Contractor preserve, to as great an extent as possible, the natural features of the site.

(g) Manhole and/or catch basin castings, frames, covers, and grates shall be protected and preserved during construction. A careful inventory shall be kept regarding which frames and covers/grates were removed so they can

CONTROL OF WORK (continued)

be replaced in the proper location. Any damaged or missing frames, covers, or grates shall be replaced by the contractor at no cost to the owner.

3. MAINTENANCE DURING CONSTRUCTION

The Contractor shall maintain the work during construction and until the project is accepted. This maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and workers to ensure that the structure is kept in satisfactory conditions at all times.

4. SAFETY PRECAUTIONS

Upon commencement of work, the Contractor shall be responsible for initiating, maintaining and supervising all safety precautions necessary to ensure the safety of employees on the site, other persons who may be affected thereby, including the public, and other property at the site or adjacent thereto.

5. PERMITS

It will be the responsibility of the Contractor to obtain all permits required for the operation of equipment in, or on, all city streets and public ways.

6. BARRICADES, WARNING SIGNS AND TRAFFIC OFFICERS

(a) The Contractor shall provide, erect and maintain all necessary barricades, suitable and sufficient lights, danger signals, signs and other traffic control devices, and shall take all necessary precautions for the protection of the work and safety of the public. Roadway closed to traffic shall be protected by effective barricades. Obstructions shall be illuminated during hours of darkness. Suitable warning signs shall be provided to control and direct traffic in a proper manner, as approved by the engineer.

(b) The Contractor will be held responsible for all damage to the work from traffic, pedestrians, animals or any other cause due to lack of adequate controlling devices.

(c) The Contractor shall provide such police officers as the City Engineer deems necessary for the direction and control of traffic within the site of project.

The work prescribed herein will not be paid for separately but will be paid for as part of the Contract Price unless specifically appearing as a bid item.

TEMPORARY FACILITIES

1. STORAGE FACILITIES

(a) The Contractor shall not store materials or equipment in a public right-of-way beyond the needs of one working day. Equipment and materials shall be stored in an approved location.

(b) The Contractor shall protect all stored materials from damage by weather or accident and shall insure adequate drainage at and about the storage location.

(c) Prior to final acceptance of the work all temporary storage facilities and surplus stored materials shall be removed from the site.

2. SANITARY FACILITIES

(a) The Contractor shall provide for toilet facilities for the use of the workers employed on the work.

(b) Temporary toilet facilities may be installed provided that the installation and maintenance conform with all State and local laws, codes, regulations and ordinances governing such work. They shall be properly lit and ventilated, and shall be kept clean at all times.

(c) Prior to final acceptance of the work all temporary toilet facilities shall be removed from the site.

3. TEMPORARY WATER

The Contractor shall make all arrangements with the local water department for obtaining water connections to provide the water necessary for construction operations and shall pay all costs.

4. TEMPORARY ELECTRICITY

The Contractor shall make all arrangements with the Public Service Company for obtaining electrical connections to provide the electrical power necessary for construction operations and security lighting and shall pay all electrical connection and power costs.

The Contractor shall be responsible with obtaining an electrical permit from the City Electrical Inspector.

INSURANCE REQUIREMENTS

Insurance shall be in such form as will protect the Contractor from all claims and liabilities for damages for bodily injury, including accidental death, and for property damage, which may arise from operations under this contract whether such operation by himself or by anyone directly or indirectly employed by him.

AMOUNT OF INSURANCE

- A) Commercial General Liability:
Bodily injury or Property Damage - \$2,000,000
Per occurrence and general aggregate
- B) Automobile and Truck Liability:
Bodily Injury or Property Damage - \$2,000,000
Per occurrence and general aggregate

Additionally, the Contractor shall purchase and maintain the following types of insurance:

- A) Workers Comprehensive Insurance coverage in at least statutorily required amounts for all people employed by the Contractor to perform work on this project.
- B) Contractual Liability Insurance coverage in the amounts specified above under Comprehensive General Liability.
- C) Product and Completed Operations coverage to be included in the amounts specified above under Comprehensive General Liability.

ADDITIONAL INSURED

All liability policies (including any excess policies used to meet coverage requirements) shall include the City of Portsmouth, New Hampshire as named Additional Insured.

- 1) The contractor's insurance shall be primary in the event of a loss.
- 2) The Additional Insured endorsement must include language specifically stating that the entity is to be covered for all activities performed by, or on behalf of, the contractor, including the City of Portsmouth's general supervision of the contractor.
- 3) City of Portsmouth shall be listed as a Certificate Holder and Additional Insured. The City shall be identified as follows:

City of Portsmouth
Attn: Legal Department
1 Junkins Avenue
Portsmouth, NH 03801

MEASUREMENT AND PAYMENT

1. MEASUREMENT OF QUANTITIES

- (a) All work completed under the contract will be measured according to the United States standard measure.
- (b) The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice. Unless otherwise stated all quantities measured for payment shall be computed or adjusted for "in place" conditions.
- (c) Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures having an area of 9 square feet or less. Unless otherwise specified, transverse measurements for area computations will be the dimensions shown on the plans or ordered in writing.
- (d) Structures will be measured according to lines shown on the plans or as ordered unless otherwise provided for elsewhere in the specifications.
- (e) In computing volumes of excavation, embankment, and borrow, the average end area method will be used. Where it is impracticable to measure by the cross-section method, acceptable methods involving three-dimensional measurement may be used. When measurement of borrow in vehicles is permitted, the quantity will be determined as 80 percent of the loose volume.
- (f) In computing volumes of concrete, stone and masonry, the prismatic method will be used. The term "ton" will mean the short ton consisting of 2,000 pounds avoirdupois.
- (g) Except as specified below, all materials that are measured or proportioned by weight shall be weighed on scales which the Contractor has had sealed by the State or by a repairman registered by the Commissioner of Agriculture. All weighing shall be performed in a manner prescribed under the Rules and Regulations of the Bureau of Weights and Measures of the New Hampshire Department of Agriculture.
- (h) Weighing of materials on scales located outside New Hampshire will be permitted for materials produced or stored outside the state, when requested by the Contractor and approved. Out-of-state weighing in order to be approved, must be performed by a licensed public weigh master or a person of equal authority in the state concerned on scales accepted in the concerned state.
- (i) Each truck used to haul material being paid for by weight shall bear a plainly legible identification mark, and if required, shall be weighed empty daily at such times as directed.
- (j) When material is weighed, the individual weight slips, which shall be furnished by the Contractor, for trucks, trailers, or distributors, shall show the following information: the date; the project; the material or commodity; the dealer or vendor; the Contractor or Subcontractor; the location of the scales; the vehicle registration number or other approved legible identification mark; the tare and net weights, with gross weights when applicable; and the weigher's signature or his signed initials.
- (k) The right is reserved to weight any truck, trailer, or distributor, at locations designated, before and after making deliveries to the project.
- (l) Bituminous materials will be measured by the gallon or ton.

MEASUREMENT AND PAYMENT (continued)

(m) When material is specified to be measured by the cubic yard but measurement by weight is approved, such material may be weighed and the weight converted to cubic yards for payment purposes. Necessary conversion factors will be determined by the Owner.

(n) The term "lump sum" when used as an item of payment will mean complete payment for the work described in the item.

(o) When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories, so as to provide the item complete and functional. Except as may be otherwise provided, partial payments for lump sum items will be made approximately in proportion to the amount of the work completed on those items.

(p) Material wasted without authority will not be included in the final estimate.

2. SCOPE OF PAYMENT

(a) The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials and for performing all work under the contract in a complete and acceptable manner and for all risk, loss, damage or expense of whatever character arising out of the nature of the work or the prosecution thereof.

(b) The Contractor shall be liable to the Owner for failure to repair, correct, renew or replace, at his own expense, all damage due or attributable to defects or imperfections in the construction which defects or imperfections may be discovered before or at the time of the final inspection and acceptance of the work.

(c) No monies, payable under the contract or any part thereof, except the first estimate, shall become due or payable if the Owner so elects, until the Contractor shall satisfy the Owner that the Contractor has fully settled or paid all labor performed or furnished for all equipment hired, including trucks, for all materials used, and for fuels, lubricants, power tools, hardware and supplies purchased by the Contractor and used in carrying out said contract and for labor and parts furnished upon the order of said Contractor for the repair of equipment used in carrying out said contract; and the Owner, if he so elects, may pay any and all such bills, in whole or in part, and deduct the amount of amounts so paid from any partial or final estimate, excepting the first estimate.

3. COMPENSATION FOR ALTERED QUANTITIES

(a) Except as provided for under the particular contract item, when the accepted quantities of work vary from the quantities in the bid schedule the Contractor shall accept as payment in full, so far as contract items are concerned, at the original contract unit prices for the accepted quantities of work done. No allowance will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor resulting either directly from such alterations or indirectly from unbalanced allocation among the contract items of overhead expense on the part of the Bidder and subsequent loss of expected reimbursements therefore or from any other cause.

(b) Extra work performed will be paid for at the contract bid prices or at the price negotiated between the Owner and the Contractor if the item was not bid upon. If no agreement can be negotiated, the Contractor will accept as payment for extra work, cost plus 15% (overhead and profit). Costs shall be substantiated by invoices and certified payroll.

MEASUREMENT AND PAYMENT (continued)

4. PARTIAL PAYMENTS

Partial payments of work accepted by the City will be made on a monthly basis during the contract period minus the retainage amount. See Article VI of the Contract Agreement regarding retainage schedule.

5. FINAL ACCEPTANCE

Upon due notice from the Contractor of presumptive completion of the entire project, the City Engineer will make an inspection. If all construction provided for and contemplated by the contract is found complete to his satisfaction, this inspection shall constitute the final inspection and the City Engineer will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of the final inspection.

If, however, the inspection discloses any work in whole or in part, as being unsatisfactory, the City Engineer will give the Contractor the necessary instructions for correction of such work, and the Contractor shall immediately comply with and execute such instructions. Upon correction of the work, another inspection will be made which shall constitute the final inspection provided the work has been satisfactorily completed. In such event, the City Engineer will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

6. ACCEPTANCE AND FINAL PAYMENT

(a) When the project has been accepted and upon submission by the Contractor of all required reports, completed forms and certifications, the Owner will review the final estimate of the quantities of the various classes of work performed. The Contractor may be required to certify that all bills for labor and material used under this contract have been paid.

(b) The Contractor shall file with the Owner any claim that the Contractor may have regarding the final estimate at the same time the Contractor submits the final estimate. Failure to do so shall be a waiver of all such claims and shall be considered as acceptance of the final estimate. From the total amount ascertained as payable, an amount equal to two percent (2%) of the whole will be deducted and retained by the Owner for the guaranty period.

(c) All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

7. GENERAL GUARANTY AND WARRANTY OF TITLE

(a) Neither the final certification of payment nor any provision in the contract nor partial or entire use of the improvements embraced in this Contract by the Owner or the public shall constitute an acceptance of work not done in accordance with the Contract or relieve the Contractor of liability in respect to any express or implied warranties or responsibility for faulty materials or workmanship. The Contractor shall promptly remedy any defects in the work and pay for any damage to other work resulting therefrom which shall appear within a period of twelve (12) months from the date of final acceptance of the work. The Owner will give notice of defective materials and work with reasonable promptness.

(b) No material, supplies or equipment to be installed or furnished under this Contract shall be purchased subject to any chattel mortgage or under a conditional sale, lease purchase or other agreement by which an interest therein or in any part thereof is retained by the Seller or supplier. The Contractor shall warrant good title to all materials, supplies and equipment installed or incorporated in the work and upon completion of all work, shall deliver the same together with all improvements and appurtenances constructed or placed thereon by him to the Owner free from any claims, liens or charges. Neither the Contractor nor any person, firm or corporation furnishing

MEASUREMENT AND PAYMENT (continued)

any material or labor for any work covered by this Contract shall have the right to a lien upon any improvements or appurtenances thereon.

Nothing contained in this paragraph, however, shall defeat or impair the right of persons furnishing materials or labor to recover under any bond given by the Contractor for their protection or any rights under any law permitting such persons to look to funds due the Contractor in the hands of the Owner. The provisions of this paragraph shall be inserted in all subcontractors and material contracts and notice of its provisions shall be given to all persons furnishing materials for the work when no formal contract is entered into for such materials.

8. NO WAIVER OF LEGAL RIGHTS

(a) Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or be stopped from recovering from the Contractor or his Surety, or both, such overpayment as it may sustain by failure on the part of the Contractor to fulfill his obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

(b) The Contractor, without prejudice to the Contract shall be liable to the terms of the Contract, shall be liable to the Owner for latent defects, fraud or such gross mistakes as may amount to fraud, and as regards the Owner's right under any warranty or guaranty.

9. TERMINATION OF CONTRACTOR'S RESPONSIBILITY

Whenever the improvement provided for by the Contract shall have been completely performed on the part of the Contractor and all parts of the work have been released from further obligations except as set forth in his bond and as provided in Section 8 above.

SHOP DRAWINGS

Shop Drawings for this project shall be submitted under the following conditions:

1. The Contractor shall submit working and detail drawings, well in advance of the work, to the City Engineer for review.
2. The Contractor's drawings shall consist of shop detail, erection and other working plans showing dimensions, sizes and quality of material, details and other information necessary for the complete fabrication and erection of the pertinent work.
3. The Contractor shall submit two (2) sets of drawings to the City Engineer.
4. Prior to the approval of the drawings, any work done or materials ordered for the work involved shall be at the Contractor's risk.
5. One (1) set of the drawings will be returned to the Contractor approved or marked with corrections to be made. After approval has been given, the Contractor shall supply the City Engineer with two sets of the revised detail working drawings.
6. The City Engineer's approval of the Contractor's working drawings will not relieve the Contractor from responsibility for errors in dimensions or for incorrect fabrication processes, or from responsibility to complete the contract work.

STANDARD SPECIFICATIONS

The Standard Specifications for Road and Bridge Construction of the State of New Hampshire Department of Transportation and any Addenda shall apply to all technical and measurement aspects of this project only.

However, the Standard Specifications for Road and Bridge Construction of the State of New Hampshire Department of Transportation and any Addenda shall NOT apply to General Requirements, Control of Work, Temporary Facilities, Payment, Insurance Requirements, etc. **with the exception that pavement escalation will be allowed in accordance with the NHDOT standard specifications.**

TECHNICAL SPECIFICATIONS

As noted above, the Standard Technical Specifications for this project are the Standard Specifications for Road and Bridge Construction of the State of New Hampshire Department of Transportation and any Addenda shall apply to all technical and measurement aspects of this project only.

SPECIAL PROVISION

AMENDMENT TO SECTION 306 – RECLAIMED STABILIZED BASE (RSB)

<u>ITEM 306.2XX</u>	<u>RECLAIMED STABILIZED BASE REMOVED AND REHANDLED, XX” DEEP (F)</u>	<u>SQUARE YARD</u>
<u>ITEM 306.36</u>	<u>STONE FOR RECLAIMED STABILIZED BASE</u>	<u>TON</u>

The work under these items shall conform to the relevant provisions of Section 306 of the Standard Specifications and the following.

Add to Description:

1.2 The following work shall be included in the item:

1.2.1 Lower existing utility structures to a depth below the material to be scarified.

1.2.2 Prepare road surface in accordance with reclaimer manufacturer recommendations.

1.2.3 Reclaim roadway to standard specification gradations.

1.2.4 Re-grade stabilized base according to typical section.

1.2.5 Saw Cutting asphalt surfaces.

1.2.6 Layout of grades or structures. Finished grade is assumed to be the preexisting elevation unless directed otherwise. Confirm with the Engineer prior to starting.

1.3 The following work shall not be paid for in the item:

1.3.1 Reclamation of pavement beyond the limit of work or the replacement of pavements in these areas for the convenience of the Contractor. Strict attention shall be made to minimize damage to pavement outside the limit of work.

Materials

Add to 2.1

2.1.4 Additional stone for reclaimed stabilized base shall be 1 ½” – 2” angular crushed stone.

Construction Requirements

Add to 3.1:

3.1.1 Use only a self-propelled or towed reclaiming machine specifically designed to process the existing asphalt surface and a specified amount of subsurface gravel to the tolerances specified herein.

3.1.2 Equipment Needed: Hammer Mill, Bomag type reclaimer or other approved equivalent, grader, water truck, vibratory roller, towing unit for reclaiming unit if not self-propelled.

Add to 3.5:

3.5.1 If required by the engineer, Contractor shall take samples of the existing pavement and base gravel to determine the need for additional gravel, stone and/or bituminous asphalt. Samples shall be taken at an interval of not less than one every 200 linear feet of roadway to be reclaimed or as directed.

3.5.2 Testing shall be performed at an NHDOT approved laboratory in accordance with AASHTO T 164.

Add 3.13:

3.13.1 All utility structures shall be lowered to prevent damage by the processing.

3.13.2 Where applicable, cut pavement according to Section 02555 of the Specifications.

3.13.3 The road pavement thickness and an approximately equal thickness of gravel base shall be reclaimed.

3.13.4 Reclaiming:

3.13.4.1 Apply water to insure optimum water content.

3.13.4.2 The reclaimer shall process the material to the specified gradation.

3.13.4.3 The process shall be repeated until the "Stabilized Base" meets the required specification.

3.13.5 Placement of the Stabilized Base:

3.13.5.1 Where specified remove the stabilized base and perform the necessary regrading of the underlying roadbed in accordance with the plans and profiles, typical specifications or as directed by the Engineer.

3.13.5.2 The stabilized base shall be compacted in accordance with NHDOT Section 304, "Aggregate Base Course", current edition.

3.13.5.3 The finish grade shall not vary more than plus or minus a quarter inch (+/- 1/4") from a ten foot (10') straight line applied parallel to or perpendicular to the centerline.

3.13.5.3 Excess material becomes the property of the contractor unless otherwise specified.

3.14. Contractor shall sawcut existing drives as directed by the engineer.

Pay Items

203A	Excavation and removal of excess reclaim	Cy
203B	Excavation of Unsuitables under RSB	Cy
214	Fine Grading	Sy
306.2X	Reclaimed Stabilized Base (various depths)	Sy
306.36	Stone for RSB (Includes cost of Blending in stone with reclaimer, delivery and spreading)	Ton

SPECIAL PROVISION
AMENDMENT TO SECTIONS 401 AND 403

<u>ITEM 403.11(B,H,W)</u>	<u>HOT BITUMINOUS PAVEMENT, MACHINE METHOD</u>	<u>TON</u>
<u>ITEM 403.12</u>	<u>HOT BITUMINOUS PAVEMENT, HAND METHOD</u>	<u>TON</u>
<u>ITEM 403.13L</u>	<u>HOT BITUMINOUS PAVEMENT, HAND METHOD PATCHING</u>	<u>SY</u>
<u>ITEM 403.13S</u>	<u>HOT BITUMINOUS PAVEMENT, HAND METHOD PATCHING</u>	<u>SY</u>

The work under these items shall conform to the relevant provisions of Sections 401 and 403 of the Standard Specifications and the following.

Description

1.1 Description

- A. Work Included: Furnish and install bituminous concrete pavement courses in accordance with Sections 401 of the NHDOT Standard Specifications for Road and Bridge Construction (latest edition) and as specified in this section.
- B. All reference to NHDOT, NHDOT personnel or the Department may be construed as the Engineer, the City of Portsmouth, their agents and their representatives.

1.2 Quality Assurance

- A. Work shall conform to NHDOT Section 401, Tier 2 except as noted herein:
 - 1. Ride Smoothness: Section 401.3.17.3.4.1 shall apply except variations exceeding **3/8** inch in profile or cross slope shall be eliminated.
 - 2. Ride Smoothness: Section 401.3.17.3.4.4 shall apply except high points **0.5** inches in 25 feet shall corrected.

Materials

2.1 Materials

- A. Materials shall conform to NHDOT Section 401 except the following:
 - 1. **The maximum amount of Total Reused Binder (TRB) in the pavement mix design shall be .5% and the mix shall meet all volumetric mix design criteria.**
 - 2. Asphalt Cement shall not contain any form of used, recycled or refined oil. Suppliers of PG Binder shall certify that the PG Binder does not contain any used, recycled or refined oil.
 - 3. All 1/2" (12mm), 3/4" inch (19mm) and 1 inch (25mm) pavement mixes shall be designed using the 50 gyration N design, unless specified otherwise.
 - 4. Liquid asphalt cement binder shall have a Performance Grade (PG) of PG 64-28 for all standard bituminous and PG 64-E for all high strength bituminous pavements.
 - 5. All high strength asphalt, when specified, shall be 50 gyration unless otherwise directed.

2.2 Pavement Mix Designs

Pavement mix designs shall meet NHDOT Section 401.2.5.1 except the following:

- A. Minimum asphalt binder content shall be as follows:

Minimum Asphalt Binder Content		
Mix Type	50 Gyration	75 Gyration*
3/8-in (9.5 mm)	6.3	5.9
1/2-inch (12.5 mm)	5.9	*
3/4-inch (19 mm)	5.3	*

The required minimum asphalt content is based on the use of aggregate with a specific gravity of 2.65 to 2.70. The minimum asphalt content requirement may be adjusted when aggregate with a higher specific gravity is used, or the minimum may be adjusted at the Engineer’s discretion if it is believed to be in the best interest of the Owner. All mix designs shall be submitted to the Engineer for verification and approval.

*75 Gyration mix is not allowed for these sizes without express written permission of the engineer.

- B. Method Requirements NHDOT Section 401.2.6 shall apply including the following:
1. Coarse Aggregate: Stockpiled coarse aggregate shall meet the requirements of 2.6.1, Table 2.
 2. Tolerances: All mixtures shall conform within the range of tolerances provided in NHDOT Section 401.2.6.2
 3. When Non-Compliant test result, it shall be the Contractor’s responsibility to correct non-compliant pavement. The Contractor may be required to remove non-compliant material that is poorly graded or material exhibiting cracks, open joints or other imperfections (**no payment will be made for this material or its removal**).

Construction Requirements

Construction requirements shall be in accordance with Sections 401 of the NHDOT Standard Specifications for Road and Bridge Construction (latest edition) **and** as specified in this section.

1. Prior to placing any mix, a mix design shall be submitted for approval and pre-paving conference shall be held with the Owner, Contractor, and Engineer to discuss the proposed paving schedule, source of mix, type and amount of equipment to be used, sequence of paving pattern, rate of mix supply, traffic control, and general continuity of the operation. Special attention shall be made to the paving pattern sequence to minimize cold joints.
2. The Contractor shall notify the Engineer one week in advance of paving operations to allow sufficient time for scheduling personnel.
3. Any pavement course four inches (compacted depth) or greater shall be placed and compacted in two lifts.
4. Sweeping. Existing pavement or previously laid courses shall be thoroughly dry and free from all dust, dirt, and loose material. Sweeping with a power broom, supplemented by hand brooming, may be necessary.
5. Tack coat. Surfaces of any pavement course shall have a tack coat of emulsified asphalt applied in accordance with NHDOT Specifications. Application of emulsified asphalt shall be between 0.03 and 0.05 gal/yd².
6. Joint adhesive shall be used for all transverse and lateral seams when placing more than 100 tons of asphalt or more. This item is subsidiary unless a separate pay item is provided.

6. Utility covers, frames and grates, valves and other castings shall be set and raised. Contact surfaces of the drainage and utility castings shall be painted with a thin coating of suitable bituminous material. Surface pavement shall be removed from covers and castings immediately following pavement operations.
7. Method requirements NHDOT Section 401.3.1.2 shall apply.
8. In addition to 3.1.A.7 above, the following performance requirements shall apply:
 - a). Tier 2 QA/QC performance requirements shall apply.
 - b). Ride Smoothness: NHDOT Section 401.3.17.3.4.1 shall apply except variations exceeding $\frac{3}{8}$ inch in profile or cross slope shall be eliminated.
 - c). Ride Smoothness: Section 401.3.17.3.4.4 shall apply except high points 0.5 inches in 25 feet shall be corrected.
9. For items 403.13L and 403.13S remove existing asphalt and gravel as needed. Saw cut edges, pave in two lifts a new asphalt patch using hand work or machine as appropriate.

Method of Measurement

Patches completed under items 403.13L and 403.13S will be measured by the square yard of road successfully repaired. All other items listed here will be measured in accordance to the standard specifications.

Basis of Payment

Patches completed under items 403.13L and 403.13S will be paid for by the square yard of road successfully repaired. Excavation of existing asphalt, preparing the hole for pavement to a depth of 4" below the surface and paving in the hole with hot mix asphalt are all included in the pay item. No additional payment will be made unless the crushed gravel under the existing pavement needs to be replaced, and then the quantity will be paid for under items 203.1 and 304.3 respectively.

All other pavement items will be paid for in accordance to the standard specifications.

**SPECIAL PROVISION
CREATE SECTION 420**

ITEM 420

CONSTRUCT SPEED TABLES

U

Description

This item is to be used for payment to construct a speed table constructed of hand worked asphalt to be shaped as depicted in the detail or as directed by the Engineer. This item includes the speed table pavement markings. Speed table signage will be paid under 615.0301 separately.

Method of Measurement

This item will be measured by the complete unit in place. Pavement milling to key the table into the pavement is subsidiary. Speed table markings are subsidiary.

Construction Requirements

The Unit will be constructed in one day unless allowed by Engineer.
Pavement markings shall be constructed the same day or temporary pavement markings will be provided. Signage will be installed the same day as well.
Prior to paving speed table, pavement milling at least 2' wide and 1.5" deep shall be completed to key in the new table.
The table shall be constructed half at a time so that traffic can continue in the alternate lane.
Two layers of pavement shall be used, binder and finish.

Basis of Payment

Payment will be made for the complete unit.

Speed tables signs required: (Item 615.0301) 29 SF per speed table
2 - W16-7p, Left or Right as appropriate, 2 SF per sign
2 - W16-9P, 2 SF per sign
4 - W17-1, 6.25 SF per sign
4 - Galvanized U-channel Posts with breakaway hardware (subsidiary)

Pay Items

420	Construct Speed Table and pavement markings	U
615.0301	Type C signs constructed on galvanized U channel posts with breakaway	SF

SECTION 604

CATCH BASINS, DROP INLETS, AND MANHOLES FRAMES, GRATES AND COVERS

Amend Section 604 to include:

Materials

Add 2.11: Catch basin frames and grates to be replaced shall NHDOT Type B or Neenah R-3303 (or approved equal) for Curb Inlet style and be fabricated in the USA.

Add 2.12: 32" Drain manhole frames and covers to be replaced shall dual hinged, Ergo XL from EJIW – 41421025L01. 32" Hinged and gasketed with locking cam and must be fabricated in the USA. 24" Covers to be replaced must be EJIW – 001040029L02 or approved equal with locking cam fabricated in the USA.

Add 2.13: 32" City Sewer manhole frames and covers to be used on Portsmouth Streets are dual hinged Ergo XL from EJIW – 32" Hinged and gasketed with locking cam and are fabricated in the USA. Covers have the City Logo **and will be provided by the City** and then installed normally. The Contractor will need to pick up and transport the SMH covers from the Portsmouth DPW yard. 32" Sewer manhole frames and covers to be replaced in the Pease Area shall dual hinged, Ergo XL from EJIW – 41421025L01. 32" Hinged and gasketed with locking cam and must be fabricated in the USA. 24" Covers to be replaced must be EJIW – 001040030L01 or equal with locking cam or equal fabricated in the USA and must be approved for use by the Department.

Add 2.14: Structures that are adjusted will be backfilled with high early strength concrete.

Add 2.15: Bricks shall be Grade SS, Hard Brick

Add 2.16: Mortar for bricks shall be composed of 1 part portland cement, ½ part hydrated lime and 3 parts sand with Portland cement being Type II and the Hydrated Lime being type S.

Construction Requirements

Add 3.10: Use only clean bricks laid in a bed of mortar so that all bricks are uniform and smooth on the inside of the structure. All Bricks shall be laid perpendicular to the manhole so that only the butt ends of the brick are showing to maximize bearing capacity.

Add 3.11: Remove all loose material from excavation around structures to ensure no compaction failures will occur.

Add 3.12: Place Concrete to within 2" of the surface and after the material has set up sufficiently, pave with 3/8" bituminous hot wearing course mix around each structure up to the surrounding grade of the remaining pavements surrounding the structure excavation.

Add 3.13: Each structure that is reset must have the Concrete placed and the perimeter paved around or otherwise securely protected without compromising safety before opening the lane back up to traffic. Structures like catch basins that are not in the traveled way do not need to be paved around during the same work day as long as the Concrete has been installed and they are protected overnight by appropriate approved warning devices. All lanes must be open to traffic at the end of the day.

Add 3.14: Whenever working on structures that have an invert, the Contractor must use a device that prohibits fresh mortar from landing down in the invert. Cleaning the manhole after the fact

is not a suitable practice to avoid the device. No manholes shall be worked on without the device.

Basis of Payment

Amend 5.2: Any Catch basins or manhole frames adjusted will be measured by Vertical Foot from the finished ground elevation to the surface that is undisturbed.

If the top of the surface undisturbed is non uniform in elevation, the average height will be used. Sound masonry material shall not be removed without the Engineer’s approval. All measurements will be to the nearest .1 of a foot. A minimum of 1 VF will be paid for each structure.

Manholes or other structures will be paid for once. Lowering structures for reclaiming is incidental to the reclamation item.

Pay Items

403.12	Hot Bituminous Asphalt, Hand Method	Ton
520.1	Concrete fill around manhole and CB structures	Cy
604.0007	Install Polyethylene liner under CB F&G (Not to be used on DI’s)	Ea
604.45	Adjust CB or Manhole Frame and Grate/Cover to grade brick with mortar (1 VF Min. Paid)	Vf
604.61C	32” SMH Cover provided by City, pick up at the City DPW Building and deliver to site	Ea
604.61	Provide new 32” SMH Cover purchased by the Contractor (for Pease Area if needed)	Ea
604.611	Provide new 24” SMH Cover purchased by the Contractor	Ea
604.62	Provide new 32” DMH Cover purchased by the Contractor	Ea
604.621	Provide new 24” DMH Cover purchased by the Contractor	Ea
604.72B	Provide new CB Type B F&G purchased by the Contractor	Ea
604.72C	Provide new CB Type Curb Inlet F&G purchased by the Contractor	Ea

SECTION 608

Item 608.24 and 608.26 – Concrete Sidewalks

Description:

1.1.1 This work shall consist of furnishing, installing all labor, material and equipment necessary to complete the construction of the sidewalks and curb ramps, as shown on the drawings.

2.2 Materials

Amend to: Portland Cement Concrete shall be Class AA 4,000 psi, 5-7% air entrained concrete with poly-fiber reinforcing.

3.1 Method of Measurement:

This work shall be measured by the square yard.

4.1 Basis of Payment:

This work shall be paid for at the Contract Unit Price for each item.

SPECIAL PROVISION

To Section 608 (NHDOT Standard Specifications) Sidewalks
(not a NHDOT Standard Specification)

Amend Section 608 to read:

**SECTION 608.5
Brick Sidewalk**

6.01 SCOPE OF WORK

- A. The work shall consist of constructing brick sidewalks as directed in the field by the Engineer.

6.02 METHODS OF CONSTRUCTION

- A. All labor and materials shall conform to the State of New Hampshire Standard Specifications for Road and Bridge Construction, Section 608.
- B. New bricks shall be Pinehall Full Range Pathway and conform to the requirements of ASTM Standard Specifications for Building Bricks Designation C902 SX type 1. The bricks shall be No. 1, wire cut type for paving, with a compressive strength of not less than 8,000 pounds per square inch. The bricks shall not be cored or have frogs and shall be of a standard size (2.25" x 4" x 8"). The Engineer will have 5 working days to approve the brick submittals before they are installed. It is the responsibility of the Contractor to provide suitable brick samples for approval.
- C. Excavation for sidewalks shall be at a depth of 13 inches below finish grade. In areas not butting curbing or buildings, the excavation shall be 6 inches wider than the finished sidewalk width. At all drive crossings, the depth of excavation shall be increased accordingly. The Contractor's price shall include neat and square cutting of existing asphalt road surface as needed. All unsuitable material shall be removed and disposed of off-site at the Contractor's own expense.
- D. The base material for sidewalks shall consist of 8" of type 304.3 crushed gravel.
- E. The Contractor shall lay the bricks so that approximately 4.5 bricks shall cover one square foot (tight joints).
- F. The sidewalk shall pitch 1/4 inch per foot towards the street or as directed and shall meet or exceed ADA requirements.
- G. In areas where the edge of the brick sidewalk is not adjacent to granite curbing, the Contractor shall install edging to hold the bricks in place. Such edging shall be installed per the manufacturer's recommendations.

- H. In areas with a closed drainage system, the contractor shall provide “silt sacks” to prevent brick dust from entering the collection system. Also, the area will be swept daily to keep dust levels as low as possible.
- I. All half bricks will be snapped if possible and all efforts will be made to keep brick dust to a minimum. All cuts not made by snapping will be wet cut.
- J. Prior to placing the brick, the sidewalks will be paved parallel to grade with 3/8” bituminous asphalt top hot mix paving 2” compacted thickness. Paving for this will be paid for under item 403.12. 1” of 1:3 dragon type II portland cement / course sand mix will then be placed on the asphalt base and the pavers will be dry laid on the mixture.

Method of Measurement

4.1 This item is measured by the square yard.

Basis of Payment

Pay Item and Unit

304.3	Crushed Gravel in Place	Cubic Yard
403.12	Hand Method Bituminous Paving	Ton
608.5	Brick Sidewalk	Square yard

SPECIAL PROVISION

SECTION 608

Item 608.52 – Detectable Warning Surfaces

Description:

1.1.1 This work shall consist of furnishing, installing all labor, material and equipment necessary to complete the construction of the curb ramp detectable warning surfaces.

2.1 Materials

Detectable Warning surfaces shall be rectangular cast iron panels for linear crossings. Color to be natural.

Detectable Warning surfaces for multi directional crossing ramps shall be curved to match the radius of roadway curbing. These shall be as manufactured by Tuf-tile or approved equal, color to be natural.

3.1 Method of Measurement:

This work shall be measured by the square yard.

4.1 Basis of Payment:

This work shall be paid for at the Contract Unit Price for each item.

608.54a SY DETECTABLE WARNING DEVICES, CAST IRON (Rectangular)

608.54b SY DETECTABLE WARNING DEVICES, CAST IRON (Radius sections)

SPECIAL PROVISION

SECTION 611

Water Main Shut off Boxes

Amend Section 611 to include:

Materials

Add: All materials must be preapproved by the Department prior to the beginning of work

Construction Requirements

Add:

1. all valves boxes in the work area have been pre-cleaned and exercised by the Water Department prior to the start of work. At the conclusion of work, all valve boxes shall be: clean, vertical, accessible for correct use, exposed and flush with the finished surface. Any work required to ensure these requirements are met is the duty of the Contractor for no additional payment.
2. The Contactor is expected to have all necessary materials in stock and on hand at the work site prior to commencing work.

Basis of Payment

Add:

1. Any valve boxes to be adjusted will be adjusted with the least invasive and most effective cost method unless expressly approved by the engineer.
2. The cost of lowering and protecting the valve boxes shall be subsidiary to the reclamation or milling items as appropriate. Only the cost to bring the valve boxes to finish grade shall be paid. Valve boxes shall not be unnecessarily damaged.

Pay Items

611.90001	EA	Adjust Existing Gate Valve Sleeves
611.90001A	EA	Replace Broken Gate Valve box top
611.90001B	EA	Replace Broken Gate Valve box top and base
611.90001C	EA	Replace Broken Gate Valve box top with variable insert riser
611.90001D	EA	Adjust Gate Valve box with riser ring

SPECIAL PROVISIONS
(not a NHDOT Standard Specification)

Sections 614, 616, 625

ELECTRICAL WORK

PART I – GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings also apply to work of this section.
- B. The Contractor must be familiar with all other Sections of this specifications and the associated Drawings, which affect the scope of work. Where paragraphs of this Section conflict with similar paragraphs elsewhere, the more stringent requirements shall prevail.

1.02 DESCRIPTION OF WORK

- A. The Contractor shall furnish a complete finished product, which meets all applicable codes and standards, and the intent and specific requirements of the Drawings and specifications for this project. It is the intent of these specifications that the electrical system shall be suitable in every way for the service (and use) required. All materials and all work, which may be reasonably implied as being incidental to the work of this Section, shall be furnished at no extra cost to the Owner.
- B. As used in this Section, “*provide*” means “furnish and install”, “*furnish*” means “to purchase and deliver to the project site complete with every necessary appurtenance and support”, and “*install*” means “to unload at the delivery point at the site and perform every operation necessary to establish secure mounting and correct operation at the proper location in the project”.
- C. Perform work and provide (furnish and install) material and equipment as shown on Drawings and as specified, or indicated, in this Section of the specifications. Completely coordinate work of this Section with work of other trades and provide a complete and fully functional installation. Drawings and specifications form complimentary requirements; provide work specified and not shown, and work shown and not specified as though explicitly required by both. Although work is not specifically shown or specified, provide supplementary or miscellaneous items, appurtenances, devices and materials obviously necessary for a sound, secure and complete installation.
- D. Remove all debris caused by Contractors’ work.

- E. Provide demolition and relocation of existing electrical items as shown on the drawings.
- F. The work under this section shall require that the Contractor provide all labor, materials, equipment, tools, supplies and transportation involved in the installation of electrical equipment as specified.
- G. The work to be done under this contract generally includes, but is not limited to the following:

Electrical System

1. Provide two new electrical services. One 208/480 800 Amp for electric charging of vehicles, one 208/240 for the existing signal cabinet at the corner of Congress and Maplewood and for the 10 street lighting poles shown on the plan. Coordinate with Eversource to replace service for traffic signal. All Eversource fees are the responsibility of the City. Meters are to be placed under the City of Portsmouth and the City will call in work orders.
2. Provide new conduit and handhole system for outdoor electrical work, in locations as shown on Contract Drawings. Provide precast concrete electric handholes (18"x18"x24") in location as shown and "Electric" logo on cover rated for H-20 loading.
3. Provide new light poles pre-cast or cast in place concrete bases for new proposed decorative lighting poles in locations and quantities as shown on Contract Drawings. Precast foundations to be reinforced with wire and bolt patterns shall be as shown on Contract Drawings, to match City-standard light poles.
4. Install new decorative light poles and fixtures, along with necessary accessories in quantities and locations as shown on Contract Drawings.
5. Provide conduit and cabling for outdoor lighting between fixtures, hand holes, etc.
6. Conduits outside below grade to be PVC Schedule 40 buried in sand with warning tape for lower voltages, schedule 80 for primary voltage and rigid steel for 5' on either side of new light bases. Conduit sizes as indicated on Contract Drawings. Provide all necessary grounding, including ground rods at each light pole foundation if required by NEC or local authorities.
7. Provide startup services for new lighting system.
8. Provide other associated electrical equipment necessary for a complete system, shown, or implied in these Specifications and on Contract Drawings.

1.03 SITE VISIT

- A. Each bidder shall visit the site of the proposed work and fully acquaint himself with the conditions there relating to construction and labor, and should fully inform himself as to the facilities involved, and the difficulties and restrictions attending the performance of the Contract. The Bidder should thoroughly examine and familiarize himself with Drawings, Technical Specifications and all other Bid and Contract Documents. The Contractor, by the execution of the Contract, shall in no way be relieved of any obligation under it due to his failure to receive or examine any form or legal document or to visit the site and acquaint himself with the conditions there existing and the Owner will be justified in rejecting any claim thereof.

1.04 GUARANTEE

- A. Guarantee work of this Section in writing for one year from date of Owner's acceptance. Repair or replace defective materials, equipment, workmanship and installation that develop within this period, promptly and to Owner's satisfaction and correct damage caused in making necessary repairs or replacements under guarantee with no extra cost to Owner. Contractor shall transfer all equipment warranties for all systems to Owner.

1.05 REFERENCE STANDARDS AND SPECIFICATIONS

- A. Perform work strictly as required by rules, regulations, standards, codes, ordinances, and laws of local, state, and federal government, and other authorities that have lawful jurisdiction.
- B. All materials and installations shall be in accordance with the latest edition of the National Code, and all applicable local codes and ordinances. Materials and equipment shall be listed by Underwriters Laboratories (UL). Special Attention shall be paid to the latest edition of the following standards:

American National Standards Institute	ANSI
American Society for Testing & Materials	ASTM
Illuminating Engineering Society	IES
Institute of Electrical & Electronics Engineers	IEEE
Insulated Cable Engineers' Association	ICEA
National Electrical Code	NEC
National Electrical Manufacturer's Association	NEMA
National Electrical Safety Code	NESC
InterNational Electrical Testing Association	NETA
National Fire Protection Association	NFPA
Occupational Safety & Health Administration	OSHA
Underwriter's Laboratories, Inc.	UL

- C. The above listed codes and standards are referenced to establish minimum requirements and wherever this Section requires higher grades of materials and

workmanship than required by the listed codes and standards, this Section shall apply. In the event a conflict occurs between the above listed codes and standards and this Section, the more stringent requirement shall govern.

1.06 SUBMITTALS

- A. Within 10 days after Award of General Contract, submit shop drawings and product data on below listed items for approval. Submit copies as requested.
- B. Check, stamp and mark with project name shop drawings and product data before submitting for approval. Specifically indicate on shop drawing transmittal form, or by separate letter any deviations from Contract Documents because of standard shop practice or other reason. Rectify with no extra cost to Owner, deviations which escape Engineer's scrutiny and have not been indicated on shop drawings.
- C. List of materials and equipment requiring shop drawings shall include:
 - 1. Concrete Products and Light Bases
 - 2. Hand holes
- D. The Engineer's review shall be only for conformance with the design concept of the project and compliance with the specifications and Drawings. The responsibility of, and the necessity of, furnishing materials and workmanship required by the specifications and Drawings which may not be indicated on the shop drawings is included under the work of this Section.

1.07 INSPECTIONS AND FEES

- A. Obtain all necessary permits and licenses, file necessary plans and pay all fees for permits and inspections. Permit fees are the responsibility of the Contractor as part of his bid, as is all coordination as fees with the local utility. Contractor is also responsible for obtaining any site-specific utility requirements for this project prior to the start of construction and notifying local utility for all inspections prior to backfilling, etc.

1.08 INTERPRETATION OF DRAWINGS

- A. Drawings are diagrammatic and indicate general arrangement of systems and work included in Contract. Drawings are not intended to specify or show every offset, fitting or component; however, Contract Documents require components and materials whether or not indicated or specified as necessary to make installation complete and operational.

- B. Any work installed contrary to, or without review by, the Engineer shall be subject to change as directed by the Engineer, and no extra compensation will be allowed for making these changes.
- C. Circuit layouts are not intended to show the number of fittings, or other installation details. Additional circuits shall be installed wherever needed to conform to the specific requirements of the equipment or local codes.
- D. As work progresses and for duration of Contract, maintain complete and separate set of prints of Contract Drawings at job site at all times. Record work completed and all changes from original Contract Drawings clearly and accurately, including work installed as a modification or addition to the original design

PART II – MATERIALS & PRODUCTS

2.01 GENERAL

- A. Materials and products furnished shall be designed for the intended use, shall meet all requirements of the latest edition of the National Electric Code (NEC), and all local codes.
- B. Materials shall be manufactured in accordance with the standards indicated in this Section, and typical industry standards and codes for the products specified. Materials and equipment shall be Underwriter’s Laboratory (UL) listed.
- C. The materials used shall be new, unused, and of the best quality for the intended use. All equipment shall have the manufacturer’s name, address, model or type designation, serial number and all applicable ratings clearly marked thereon in a location which can be readily observed after installation. The required information should be marked on durable nameplates that are permanently fastened to the equipment.
- D. Electrical equipment shall at all times during construction be adequately protected against mechanical injury or damage by water. Electrical equipment shall not be stored outside exposed to the elements. If any equipment or apparatus is damaged, such damage shall be repaired at no additional cost, or replaced at no additional cost as directed by the Engineer.

2.02 RACEWAYS

- A. Rigid Metallic Conduit: UL6 and ANSI C80.1.
- B. Flexible Metallic Conduit: UL1. Liquidtight® flexible metal conduit shall be used in wet locations.

- C. Polyvinyl Chloride (PVC) Conduit, electrical, gray, Schedule 40 or 80 as specified, meeting the requirements of UL 651 and NEMA TC-2. If concrete encasement is required, a minimum of 3,000 psi concrete shall be used.
- D. Minimum size of conduit shall be 3/4". Unless indicated on Drawings, conduit sizes can be sized in accordance with National Electric Code (NEC). Conduit bends shall not have kinks or flats, and shall not be less than standard radii.
- E. Rigid Galvanized Steel (RGS) conduit shall be used for 5' to entrance and exit of each light pole, except where noted. Conduit shall be fully threaded at both ends and each length shall be furnished with one threaded coupling. All 90 degree conduit sweeps shall be RGS for all entry and exit into concrete pads and at riser poles, with ground bushings connected to new grounding with minimum #4AWG ground wire for conduit grounding bushings.
- F. Expansion fittings shall be provided on all conduits as required by the 2008 National Electrical Code, and as required by local and state codes. This includes, but is not limited to, vertical conduit risers coming from below-grade.

2.03 WIRE AND CABLE

- A. Unless otherwise noted, conductors for power, lighting, and grounding *above grade* shall be No. 12 through No. 2 AWG, NEC type THWN/THHN, meeting the requirements of UL 83. Conductors for power and lighting shall be no smaller than No. 12 AWG. **All underground pole to pole conductors shall be No. 8 (or larger if required). Assume 250 Watts per lantern for circuit and voltage drop calculations.**
- B. Where required by code, conductors for power, lighting, grounding, and control *below grade* (and in wet locations) shall be No. 2 AWG and larger, NEC type XHHW (or XHHW-2), meeting the requirements of NEMA WC7 and ICEA S-66-524.
- C. The outside covering of all wiring for power, lighting, grounding, and control uses shall be color coded to identify polarity.

2.04 WIRE AND CABLE CONNECTORS AND DEVICES

- A. Wire and cable connectors and devices shall meet the requirements of UL 486. Connectors, including miscellaneous nuts, bolts, and washers shall be silicon bronze. Ferrous materials shall not be used. All connectors below grade shall be water-proof secondary type, gel-filled, bolted submersible connectors (gel-port style). No "wire-nuts" are allowed to be used below grade. **All electrical connections shall be coated in anti-corrosive grease.**

2.05 BOXES

- A. Pull Boxes, Junction Boxes, and Equipment Enclosures: NEMA ICS 6.
- B. Pull boxes, junction boxes, and equipment enclosures shall be of NEMA Type 1 construction for indoor use, and NEMA Type 3R construction for outdoor or wet location use, unless otherwise noted.
- C. Box sizes shall not be less than that required by the National Electrical Code.

2.06 WARNING TAPE

- A. Warning tape shall be six (6) inches wide, polyethylene not less than 3.5 mil thick with a minimum strength of 1,500 psi. Install 18 inches below final grade. Tape shall be red for electric conduit, and red or yellow for communication conduit. Tape shall have black lettering on two lines as indicated below:
- B. For Electric conduit:

CAUTION CAUTION CAUTION
BURIED ELECTRIC LINE BELOW

2.07 ELECTRIC HANDHOLES

- A. Electric Handholes are to be precast concrete and provided in the dimensions as shown on the Contract Drawings. Handhole size as indicated on Contract Drawings.
- B. Handholes shall be provided with skid-resistant cast iron surface covers, with an “Electric” logo. Handholes and Covers shall be design for street-rated, heavy duty applications, meeting the requirements of the either: AASHTO HS-20 loading, with a minimum design load of 15,000 lbs for both the handhole box and cover. . Handholes shall meet the requirements of the latest edition of the National Electric Code (2008 or later) with regards to structural integrity, installation methods, grounding of the cover and metallic parts, etc.
- C. A layer of 6-inches of crushed rock shall be installed below and in the bottom of each handhole to assist with drainage, and this compacted gravel base material shall extend out beyond the sidewalls of the handhole. Conduits shall sweep up and be at least 4-inches above top of crushed rock layer.
- D. Handhole size to be 18”W x 18”L x 24”D minimum for this project.

2.08 FOUNDATIONS FOR LIGHTING POLES

- A. Provide approved precast foundations, and other devices as necessary and as required.
- B. Foundations for 14-foot light poles shall be as shown on Contract Drawings, including number, type and location of anchor bolts. Foundations shall be made of minimum 5,000 psi concrete (at 28 days) and have steel reinforcement meeting ASTM A-615, grade 60 (cover to steel, 1" minimum). Foundations shall have 2-2" RGS conduits for lighting circuits, 180 degrees apart. Foundations to be installed with the top of the concrete approximately 1/2" inch above final grade. Foundation minimum size is 15" diameter x 4'-0" in length. Conduits to be flush with top of concrete to not interfere with anchor bolts or pole base.
- C. Pole to base connection threads shall be coated in 'blue' removable type locktite or approved equal.

2.09 DECORATIVE LIGHTING

- A. Install light poles and fixtures in quantities and locations as shown. Pole to be Spring City "Hancock", 10-foot, with 12-inch bolt circle. Light poles and fixtures will be installed by Contractor. All fasteners for the access panels of the poles shall be coated in never seize grease.
- B. Fixture is "Newstamp" RUS-TUR-177 "PORTSMOUTH". Fixture to be 120V. The set screws to mount the fixture to the base shall be stainless steel bolts.

2.10 METER/CIRCUIT BREAKER ENCLOSURES

- A. Meter enclosures shall be by Millbank. Cabinets to be sized as follows:
 - a. 120/208 – 200 Amp for Traffic signals and lighting and future park electrical needs. Provide load side wiring to lighting fixtures and traffic signal.
 - b. 208/480 – 800 Amp for electric vehicle charging. The City will install the chargers, no electrical work besides conduit will be needed for the load side of this cabinet.

The City will receive and approve cut sheets before ordering. Cabinets will be powder coated black.

PART III – EXECUTION

3.01 GENERAL

- A. This Section covers the requirements for installation of materials, proper workmanship, testing, cleaning, grounding, and work methods to be followed by

the Contractor. This Section also includes specific instructions and to be used in conjunction with the contract Drawings. Any discrepancies noted between the specification, Drawings, and actual installation shall be reported immediately to the Owner, Engineer, and Architect. Failure on the part of the Contractor to report discrepancies immediately will be considered negligent and Contractor will be responsible for correcting actions at no cost to Owner.

- B. Contractor is responsible for coordinating work with other trades, Owner, and Architect's schedule. Work will be coordinated such that systems can be properly located, and conflicts and delays are avoided. Contractor shall consider commencement of work acceptance of existing conditions.

3.02 MATERIALS AND WORKMANSHIP

- A. Work shall be executed in workmanlike manner and shall present neat, rectilinear and mechanical appearance when completed. Do not run raceway exposed unless shown exposed on Drawings. Material and equipment shall be new and installed according to manufacturer's recommended best practice so that complete installation shall operate safely and efficiently.

3.03 CONTINUITY OF SERVICES

- A. Do not interrupt existing services without Owner's, Utilities, Engineer's and Architect's approvals.

3.04 TESTING, INSPECTION AND CLEANING

- A. Test wiring and connections for continuity and grounds before fixtures are connected; demonstrate insulation resistance by megger test as required at not less than 500 volts. Insulation resistance between conductors and grounds for secondary distribution systems shall meet National Electrical Code (NEC) and interNational Electrical Testing Association (NETA) requirements.
- B. Verify and correct as necessary: voltages, tap settings, trip settings and phasing on equipment from secondary distribution system to point of use. Test secondary voltages at transformers, bus in panelboards, and at other locations on distribution systems as necessary. Test secondary voltages under no-load and full-load conditions.
- C. Replace lamps that fail within 90 days after acceptance by Owner at no extra cost to Owner (no exceptions).
- D. Provide necessary testing equipment and testing services.
- E. Failures or defects in workmanship or materials revealed by tests or inspection shall be corrected promptly and retested. Replace defective material.

3.05 WIRING METHODS

- A. Install wire and cables in approved raceways as specified and as approved by authorities that have jurisdiction.
- B. Run concealed conduit in as direct lines as possible with a minimum number of bends of longest possible radius. Run exposed conduit parallel to or at right angles to building/field lines. Bends shall be free from dents or flattening. The exact locations and routing of conduit shall be determined by the Contractor subject to the approval of the Owner and Engineer.
- C. Polarity of all electrical connections shall be observed in order to preserve phase relationship in all feeders and equipment.
- D. Splices shall be made in neat, workmanlike manner using approved mechanical connectors. After splicing, insulation equal to that on the spliced wires shall be applied at each splice. Splices are permitted only in junction boxes, outlet boxes, or other permanently accessible locations. Splices installed in electric handholes shall be weather and waterproof, pre-molded polymer splices. Hand taping of splices below-grade is not acceptable.

3.06 GROUNDING

- A. Bond and ground equipment and systems connected under this Section in accordance with standards of the NEC and other applicable regulations and codes.
- B. Copper fittings for ground connections shall conform to the requirements of ASTM B 30. All bolts, u-bolts, cap screws, nuts, and lock washers for copper fitting shall be of approved corrosion-resisting material. Compression connectors required for all below-grade grounding connections. Exothermic (cad-weld) connectors are also acceptable for use below grade. The use of bolted grounding and ground rod connectors below grade is not acceptable.
- C. Ground Rods shall be 5/8" diameter and 8' in length, as required by applicable codes (NEC, NESC). All wire used for grounding shall be no smaller than #4 Awg copper, stranded conductor.

3.07 INSTALLATION OF LIGHTING FIXTURES

- A. Verify construction of light pole foundations is suitable, and provide fixtures, poles, hardware, and other accessories suitable for construction encountered.
- B. Coordinate installation of fixtures with installation of surrounding materials and landscaping (if applicable). Investigate lighting fixture locations and foundation supports to ensure that no interference exists between lighting fixtures, supports,

and other equipment including that provided by other trades. Report any possible interference's to the Engineer.

- C. Light pole bases shall be ½” below finished grade. Light poles shall be set no more than ½” above finished grade.

3.08 EXECUTION – INSTALLATION OF ELECTRICAL EQUIPMENT

- A. Contractor to Provide (furnish & install) all items as indicated as Contractor-furnished and install all items as indicated as City-furnished, and all necessary minor and expected accessories.
- B. Contractor to meet with local wiring inspector prior to the start of any work and obtain any local site requirements and restrictions, which must be followed. Contractor shall also meet with local utility, any other Town/City officials, as directed by Owner and wire inspector, prior to the start of work, or ordering of materials. Failure to meet with the local officials and utility prior to ordering materials and start of construction will be considered negligent and all necessary corrections resulting from this failure will be at no cost to Owner.
- C. Provide, furnish and install all products and work outlined in this Specification.
- D. Provide all grounding of electrical lighting. Grounding to be installed per installation details and National Electrical Code.
- E. Balance the lighting, or electrical load evenly on all circuits and on all phases of each circuit.
- F. Provide new hand holes and conduit system for lighting and electrical work, in locations as shown on Contract Drawings.
- G. Install all equipment in locations as shown on Contract Drawings. All deviations must be approved, in advance by Engineer.
- H. Install all equipment per manufacturer's instructions.
- I. Clean-up excavated areas, and restore with new loam & seed or pave to match existing surfaces, as directed by Engineer.

Pay Items

520	CY	Class A Concrete Backfill for Curb or Structures
614.72114	Lf	2” sch 40 lighting conduit in sand bed per conduit
614.72114	Lf	3” sch 40 conduit in sand bed per conduit
614.74114	Lf	4” sch 40 conduit in sand bed per conduit
614.75118	Lf	5” sch 80 primary voltage conduit in concrete per conduit
625A	1	U Remove and dispose of existing light poles and bases
625B	1	Ea New light pole base
625C	10	Ea New street light pole and lantern
626	x	Ea 8’x 9’ transformer pads

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665	Ls	Load side wiring for street lights and Signals
677A	Ea	208/480 charging cabinet (Millbank) including service set up
677B	Ea	120/208 site lighting cabinet (Millbank) including service set up

SPECIAL PROVISION

SECTION 641

LOAM & SEED

641.01 Scope of Work: The work shall consist of furnishing and installing loam & seed in all areas indicated on the plan or as ordered by the Engineer, including necessary excavation for placing loam.

641.02 Methods of Construction:

641.02a The work shall conform to all applicable materials and subsections of the State of New Hampshire Standard Specifications for Road and Bridge Construction; including sections 641, 642, 643 and 644. Lawns and grass strips shall be restored to their original condition or better as existing prior to roadway construction.

641.02b The minimum and maximum PH value shall be from 5.5 to 7.6. Limestone shall be used as ordered to raise the PH of the soil as determined by the Engineer.

641.02c Fertilizer shall be used as ordered, a standard commercial grade fertilizer conforming to all State and Federal regulations and to the Standards of the Association of Official Agricultural Chemists.

641.02d Loam shall be spread upon previously prepared subgrade surface to the depth of 4" or as specified by the Engineer and shall be raked carefully to remove all questionable materials. Loam shall be spread in such a manner as to establish a loose, friable seedbed. In order to maintain a consistent grade, loam placed adjacent to lawns or where directed shall be compacted with a roller weighing approximately 100 pounds per foot of roller width. All depressions exposed during the rolling procedure shall be filled with additional loam, and rolled.

641.02e Loam shall consist of loose friable topsoil with no admixture of refuse or material toxic to plant growth. Loam shall be free from stones, lumps, stumps or similar objects larger than 3/4" in greater diameter, subsoil, roots or weeds.

641.02f Grass seed shall be standard Park Seed Type 15. If hand seeded, hay mulch shall be applied at the same time as the seed; or later, or both as directed by the Engineer.

641.02g Contractor shall be responsible for protecting and caring for all seeded areas until final acceptance of the work. Contractor shall repair at his own expense any damage to seeded areas caused by pedestrian or vehicular traffic.

641.03 Method of Measurement:

This work shall be measured by the square yard of lawn area restored as specified herein. Areas of loam less than 4" thick will be prorated for payment.

641.04 Basis of Payment:

This work shall be paid for at the Contract Unit Price as listed in Item # 641 in the Bid Specification.

This price shall include all equipment, material and labor incidental thereto.

END OF SECTION

SPECIAL PROVISION

AMENDMENT TO SECTION 572.5,608,609 – Granite steps, walls and Curbing Installation

Materials:

Add to 2.1: Curbing will be manufactured by Swenson Granite Works, Concord NH.

Basis of Payment:

Amend 5.3: Class A Concrete backfill will be used for curb installation and will be paid for under item 520.1 by the cubic yard installed.

SPECIAL PROVISION

AMENDMENT TO SECTION 608.6C – Handrails

Materials:

Add to 2.1: Handrails will be galvanized and Colorgalv coating will be applied by Duncan Galvanizing of Everett Ma. Rails shall be black and coatings shall be warranted for 10 years.

SPECIAL PROVISION

AMENDMENT TO SECTION 618.6 – Uniformed Officers

AMENDMENT TO SECTION 618.7 – Traffic Control Flaggers

618.6 UNIFORMED OFFICERS

Portsmouth Police will be hired at the discretion of the Engineer. Only Portsmouth Police can be hired for police traffic details unless other officers are assigned by Portsmouth PD.

618.7 TRAFFIC CONTROL FLAGGERS

Whenever the contractor is working in areas where uniformed officers are not required by the City, flaggers may be hired under the discretion of the Engineer. The quantity of flaggers will be discussed and will need to be agreed to during the traffic control planning for the street.

Method of Measurement:

The uniformed officer work shall be measured by the exact cost billed to the contractor based on the man-hours worked.

The flagger work shall be measured by the exact cost billed to the contractor based on the man-hours worked. The City shall approve the flagging company and labor rate prior to the beginning of the work.

Basis of Payment:

This work shall be paid for from the Contract Price Allowance as listed under Items 618.6 & 618.7 in the Bid Proposal Form using the actual cost of the labor on the project.

SPECIAL PROVISION

AMENDMENT TO SECTION 619 – Maintenance of Traffic

Add to 619:

Construction Requirements

All work shall be prosecuted so pedestrian and traffic flow can be maintained. Only one travel lane closure at a time will be allowed without prior approval from the Engineer.

The Contractor will develop both a construction staging and traffic control plan for this project. The plans shall be submitted to be approved by the Engineer.

Work on RT33 will need to be performed during off-peak hours only. Work will not be allowed between the hours of 7AM to 9AM and 3PM to 6PM Monday through Friday. The costs for nighttime illumination of intersections if needed and all night time traffic control devices as determined to be needed will be covered by this item.

Work on all other areas will be limited to 7AM to 6PM daily. Work on Saturdays needs to be requested 48 hours ahead of time and only allowed if approved by the Director.

Dust and traffic control as may be ordered by the Engineer will be paid for under this item. Streets that are reclaimed will need daily watering and calcium control as needed as ordered by the Engineer.

Method of Measurement:

The traffic control items shall be measured on a unit basis under Maintenance of Traffic.

All costs associated with the application of these measures or other measures directed by the Engineer shall be paid for under these items and will not be further chargeable to the project, except as stipulated and specified under Contract Items.

Basis of Payment:

This work shall be paid for from the Contract Unit Price as listed under Item 619 (Maintenance of Traffic). This unit price shall include all equipment, materials and labor thereto.

SPECIAL PROVISION

Prosecution of Work, Bridge St Parking Lot

The following items are crucial to the success of this project:

- The City will require 2 weeks' notice prior to work commencing.
- The project should be substantially complete (usable) by June 14th. The City will be concurrently working on the Hanover Garage so it is essential to us that the lot be available by this date.
- Hours of work will be 7:00 am to 4:30 pm daily unless allowed by the Engineer.
- Electrical Items will need to be ordered at least two months before the work starts in order to ensure that the parking lot is not without lighting when complete. It is recommended that the existing lighting be maintained until the new system is able to be installed. Understanding that some items will lag behind, final completion for the project must occur by September 1st.
- Work includes: Pavement reclamation, removal of old lighting and planters, removal of a small decorative brick wall, sign removal and relocation, paving, structure resetting, lighting conduit, lighting with bases, new electrical cabinets with foundation and electrical service upgrades, transformer bases, striping, curbing and sidewalk replacement.
- See plan attached to bid for locations of items, layout and instructions for reconstruction.

It is critical that this parking lot is not substantially upset for more than a three week period.

March 15, 2013

SPECIAL ATTENTION ASPHALT CEMENT ADJUSTMENT

All bid items involving asphalt concrete mixtures (except items 403.4 & 403.6) listed in Sections: 403, Hot Bituminous Pavement and 411, Plant Mix Surface Treatment; containing asphalt cement will be subject to a price adjustment. This adjustment will take effect when the monthly price for asphalt cement as furnished by the Bureau of Materials and Research differs from the base price contained in the proposal.

The price adjustment will be based on the percent of virgin asphalt cement stated in the Approved Mix Design containing the maximum percentage of reclaimed asphalt pavement. In the event of breakdown or unforeseen circumstances other than weather, an Approved Virgin Mix Design may be used. The price adjustment will then be based on the total percent of virgin asphalt cement in that approved design.

The base price* of asphalt cement for this Contract is: \$ XXXXX per ton.

* Source: The base price is developed from data published in the *Asphalt Weekly Monitor*, a publication from Poten and Partners, Inc. (Applies to contracts advertised after January 1, 2012)

The **monthly price** of asphalt cement will be furnished by the Bureau of Materials and Research on the first business day following the 14th calendar day of each month.

The contract prices of Hot Bituminous Pavement, Recycled Bituminous Pavement and Plant Mix Surface Treatment will be paid under the respective items in the contract. The price adjustment, as provided herein, upwards or downwards, will be made at the end of each month in which the work was accomplished as follows:

A contract adjustment will be made under Item 1010.2 based on; [monthly price minus the base price] X [Approved Mix Design percent of virgin asphalt cement] X [tons of pavement used].

When no item for Asphalt Cement Adjustment is included in the contract no adjustments will be made.

Item 1010.2 Asphalt Cement Adjustment 1 Dollar
1 Not a bid item

Preliminary Street List and repair method

Streets and work may be added, revised or removed as budget allows

Mobilization, SWPPP and Maintenance of Traffic items will be paid according to the predetermined ratio schedule listed here under each street.

2022 Paving Estimate

Arboretum Drive (Final Overlay and Striping)

Item #	Description	Quantity	Unit
403.11	1.25" of 1/2" Machine Pave	1380	Tons
403.12	Hand Method Pave	5	Tons
403.6	Pavement Joint Adhesive	5700	Lf
410.22	Tack Coat (Subsidiary)	19360	Sy
417B	Cold Planing Butt Joints	50	Sy
604.45	Adjust CB or MH Covers	2	Vf
618.7	Flaggers	24	Hr
619	Maintenance of Traffic	0.04	Ls
632.0104	4" Painted Lane Striping	32000	Lf
692	Mobilization	0.04	U

Durham St (Final Overlay and Striping)

Item #	Description	Quantity	Unit
403.11	1.25" of 1/2" Machine Pave	218	Tons
403.12	Hand Method Pave	20	Tons
403.6	Pavement Joint Adhesive	1000	Lf
410.22	Tack Coat (Subsidiary)	2545	Sy
417B	Cold Planing Butt Joints	50	Sy
604.45	Adjust CB or MH Covers	6	Vf
618.7	Flaggers	16	Hr
619	Maintenance of Traffic	0.01	Ls
632.0104	4" Painted Lane Striping	1700	Lf
692	Mobilization	0.01	U

Banfield Rd Peverly Hill to 422 Banfield end joint (+/- 4100')..... (Final Pavement and Striping)

Item #	Description	Quantity	Unit
304.33	Shoulder Gravel	30	Cy
403.11	1.50" of 3/8" Machine Pave	1080	Tons
403.12	Hand Method Pave	20	Tons

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403.6	Pavement Joint Adhesive	4200	Lf
410.22	Tack Coat (Subsidiary)	12600	Sy
417B	Cold Planing Butt Joints	50	Sy
604.45	Adjust CB or MH Covers	3	Vf
618.7	Flaggers	400	Hr
619	Maintenance of Traffic	0.03	Ls
632.0104	4" Painted Lane Striping	17000	Lf
632.3118	18" Thermoplastic Line	60	Lf
632.32	Thermoplastic Word or Symbol	60	Sf
692	Mobilization	0.03	U

Little Harbor Rd (Final Pavement and Striping, add speed tables and widen and add curbing for 3 parking spaces along cemetery)(speed table locations and amount TBD)

Item #	Description	Quantity	Unit
304.33	Shoulder Gravel	20	Cy
304.3	Crushed Gravel	50	Cy
403.11	1.5" of 3/8" Finish Paving Machine Pave	750	Tons
403.12	Hand Method Pave	20	Tons
410.22	Tack Coat (Subsidiary)	8800	Sy
417B	Cold Planing Butt Joints	200	Sy
420	Construct 3" High Speed Table Inc. Markings	2	U
609.01	6" High Straight Sloped Granite Curb	120	Lf
609.811	4" high bituminous cape cod curb	200	Lf
615.0301	Traffic Signs, Type C	87	Sf
618.7	Flaggers	100	Hr
619	Maintenance of Traffic	0.04	Ls
692	Mobilization	0.04	U

Middle Rd (RT 33) from Peverly to Urban Compact (Mill and Fill 1.5")

Item #	Description	Quantity	Unit
403.11	1.5" Machine Pave	910	Tons
403.11H	1.5" Machine Pave High Strength (Islington and Peverly)	300	Tons
403.12	Hand Method Pave	20	Tons
403.6	Pavement Joint Adhesive	8000	Lf
410.22	Tack Coat (Subsidiary)	14124	Sy
413	Crack Sealant	6000	Lb
417	Cold Planing 1.5"	14124	Sy
604.45	Adjust CB or MH Covers	5	Vf
604.6130S	Provide New 30" Hinged SMH Frame and Cover	2	Ea
604.6130D	Provide New 30" Hinged DMH Frame and Cover	2	Ea

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604.72	Purchase and Install new CB F&G	1	Ea
608.26	6" Thick HC Ramps	10	Sy
608.54	Cast Iron HC Panels	5	Sy
609.5	Reset Existing Vertical Granite Curb	100	Lf
611.90001	Adjusting Water Gates	4	Ea
616.65	Traffic Loops	6	Ea
618.7	Flaggers	300	Hr
619	Maintenance of Traffic	0.07	Ls
632.0104	4" Painted Lane Striping	15600	Lf
632.3106	6" Thermoplastic Line	300	Lf
632.3112	12" Thermoplastic Line	120	Lf
632.3118	18" Thermoplastic Line	100	Lf
632.32	Thermoplastic Word or Symbol	350	Sf
692	Mobilization	0.07	U

Dodge Ave and Harvard, Princeton and Greenland Area (Reclaim and pave 4")

203A	Excavation of Reclaim	700	Cy
214	Fine Grading	5100	Sy
306.206	Reclaimed Stabilized Base	5100	Sy
403.11	2.75" of 3/4" Winter Binder" Machine Pave	800	Tons
403.11	1.5" Machine Pave	560	Tons
403.12	Hand Method Pave	100	Tons
403.6	Pavement Joint Adhesive	1000	Lf
410.22	Tack Coat (Subsidiary)	6500	Sy
417	Cold Planing 1.5"	12600	Sy
604.0007	Poly CB Liner	4	Ea
604.45	Adjust CB or MH Covers	12	Vf
604.61	Install City Provided 32" SMH Cover	4	Ea
604.6130S	Provide New 24" Hinged SMH Frame and Cover	0	Ea
604.6130D	Provide New 30" Hinged DMH Frame and Cover	0	Ea
604.72	Purchase and Install new CB F&G	1	Ea
611.90001	Adjusting Water Gates	7	Ea
618.7	Flaggers	100	Hr
619	Maintenance of Traffic	0.05	Ls
632.0104	4" Painted Lane Striping	0	Lf
632.3106	6" Thermoplastic Line	0	Lf
632.3112	12" Thermoplastic Line	30	Lf
632.3118	18" Thermoplastic Line	0	Lf
632.32	Thermoplastic Word or Symbol	0	Sf
692	Mobilization	0.05	U

Court St from Middle St to Pleasant St & Rogers St/Court Pl (Reclaim Court St, Pave 5", Mill and Fill Rogers St 1.5")

Item #	Description	Quantity	Unit
203A	Excavation of Reclaim	690	Cy
214	Fine Grading	4138	Sy
306.106	Reclaimed Stabilized Base	4138	Sy
403.11	3.50" of 3/4" Winter Binder" Machine Pave	825	Tons
403.11	1.5" Machine Pave	500	Tons
403.12	Hand Method Pave	65	Tons
403.6	Pavement Joint Adhesive	1800	Lf
410.22	Tack Coat (Subsidiary)	5238	Sy
413	Crack Sealant	200	Lb
417	Cold Planing 1.5" (Rogers St & Court Place)	1700	Sy
604.0007	Poly CB Liner	27	Ea
604.45	Adjust CB or MH Covers	43	Vf
604.61	Install City Provided 32" SMH Cover	10	Ea
604.6130S	Provide New 24" Hinged SMH Frame and Cover	0	Ea
604.6130D	Provide New 30" Hinged DMH Frame and Cover	2	Ea
604.72	Purchase and Install new CB F&G	1	Ea
608.26	6" Thick HC Ramps	15	Sy
608.54	Cast Iron HC Panels	10	Sy
609.5	Reset Existing Vertical Granite Curb	120	Lf
611.90001	Adjusting Water Gates	18	Ea
618.7	Flaggers	300	Hr
619	Maintenance of Traffic	0.06	Ls
632.0104	4" Painted Lane Striping	3000	Lf
632.3106	6" Thermoplastic Line	0	Lf
632.3112	12" Thermoplastic Line	450	Lf
632.3118	18" Thermoplastic Line	50	Lf
632.32	Thermoplastic Word or Symbol	100	Sf
692	Mobilization	0.06	U

Woodbury Speed Humps (Locations TBD)

417	Cold Planing 1.5" (Under speed tables)	300	Sy
420	Construct 3" High Speed Table Inc. Markings	3	U
608.26	6" Thick HC Ramps	10	Sy
608.54	Cast Iron HC Panels	8	Sy
609.5	Reset Existing Vertical Granite Curb	30	Lf
615.0301	Traffic Signs, Type C	120	Sf

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618.7	Flaggers	100	Hr
619	Maintenance of Traffic	0.02	Ls
692	Mobilization	0.02	U

New Castle Ave and Marcy St (Box Out Marcy and upper Newcastle and pave 4.5", Mill and Fill Newcastle Ave by Seawall 1.5")

Item #	Description	Quantity	Unit
203A	Excavation of Reclaim/Road Box 18"	653	Cy
214	Fine Grading	3925	Sy
306.106	Reclaimed Stabilized Base	3925	Sy
403.11	3.00" of 3/4" Winter Binder" Machine Pave	670	Tons
403.11	1.5" Machine Pave	702	Tons
403.12	Hand Method Pave	50	Tons
403.13L	Patching ≥30 square yards	500	Sy
403.6	Pavement Joint Adhesive	3200	Lf
410.22	Tack Coat (Subsidiary)	8206	Sy
413	Crack Sealant	200	Lb
417	Cold Planing 1.5" (New Castle Ave along seawall area stopping just prior to bridge)	4282	Sy
604.0007	Poly CB Liner	30	Ea
604.45	Adjust CB or MH Covers	65	Vf
604.61	Install City Provided 32" SMH Cover	22	Ea
604.6130S	Provide New 24" Hinged SMH Frame and Cover	1	Ea
604.6130D	Provide New 30" Hinged DMH Frame and Cover	2	Ea
604.72	Purchase and Install new CB F&G	1	Ea
608.26	6" Thick HC Ramps	30	Sy
608.54	Cast Iron HC Panels	10	Sy
609.5	Reset Existing Vertical Granite Curb	120	Lf
611.90001	Adjusting Water Gates	14	Ea
618.7	Flaggers	600	Hr
619	Maintenance of Traffic	0.07	Ls
632.0104	4" Painted Lane Striping	11000	Lf
632.3106	6" Thermoplastic Line		Lf
632.3112	12" Thermoplastic Line	600	Lf
632.3118	18" Thermoplastic Line		Lf
632.32	Thermoplastic Word or Symbol		Sf
692	Mobilization	0.07	U

Pannaway Manor for road work to support sidewalk contract

203A	Excavation of Reclaim	1500	Cy
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214	Fine Grading	17000	Sy
306.206	Reclaimed Stabilized Base	17000	Sy
403.11	2.50" of 3/4" Winter Binder" Machine Pave	2280	Tons
403.11	1.5" Machine Pave	1300	Tons
403.12	Hand Method Pave	75	Tons
403.6	Pavement Joint Adhesive	5000	Lf
410.22	Tack Coat (Subsidiary)	17000	Sy
604.45	Adjust CB or MH Covers	57	Vf
611.90001	Adjusting Water Gates	14	Ea
618.7	Flaggers	600	Hr
619	Maintenance of Traffic	0.10	Ls
692	Mobilization	0.10	U

Kearsarge Way and Atlantic Heights (Mill and Fill 1.5" Various Spots)(See map for locations of work)

Item #	Description	Quantity	Unit
403.11	1.5" Machine Pave	970	Tons
403.11H	1.5" Machine Pave High Strength (Kearsarge at Market)	230	Tons
403.12	Hand Method Pave	100	Tons
403.13L	Patching ≥30 square yards	1000	Sy
403.6	Pavement Joint Adhesive	3000	Lf
410.22	Tack Coat (Subsidiary)	13645	Sy
413	Crack Sealant	2000	Lb
417	Cold Planing 1.5"	11275	Sy
604.45	Adjust CB or MH Covers	60	Vf
604.61	Install City Provided 32" SMH Cover	4	Ea
604.6130D	Provide New 30" Hinged DMH Frame and Cover	3	Ea
604.72	Purchase and Install new CB F&G	1	Ea
608.26	6" Thick HC Ramps	40	Sy
608.54	Cast Iron HC Panels	10	Sy
609.5	Reset Existing Vertical Granite Curb	160	Lf
611.90001	Adjusting Water Gates	24	Ea
616.65	Traffic Loops	2	Ea
618.7	Flaggers	250	Hr
619	Maintenance of Traffic	0.07	Ls
632.0104	4" Painted Lane Striping	24000	Lf
632.3112	12" Thermoplastic Line	500	Lf
632.3118	18" Thermoplastic Line	40	Lf
632.32	Thermoplastic Word or Symbol	50	Sf
692	Mobilization	0.07	U

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State St (Columbia to Middle) & Union St Islington to State (Mill and repave State, Reclaim Union)

203A	Excavation of Reclaim	160	Cy
214	Fine Grading	970	Sy
306.206	Reclaimed Stabilized Base	970	Sy
403.11	3.00" of 3/4" Winter Binder" Machine Pave	150	Tons
403.11	1.5" Machine Pave	850	Tons
403.12	Hand Method Pave	160	Tons
403.13L	Patching ≥30 square yards	1000	Sy
403.6	Pavement Joint Adhesive	2000	Lf
410.22	Tack Coat (Subsidiary)	10000	Sy
417	Cold Planing 1.5"	9000	Sy
604.0007	Poly CB Liner	10	Ea
604.45	Adjust CB or MH Covers	23	Vf
604.61	Install City Provided 32" SMH Cover	3	Ea
604.6130S	Provide New 24" Hinged SMH Frame and Cover	2	Ea
604.6130D	Provide New 30" Hinged DMH Frame and Cover	0	Ea
604.72B	Purchase and Install new CB F&G Type B	4	Ea
604.72C	Purchase and Install new CB F&G Curb Inlet	2	Ea
608.26	6" Thick HC Ramps	40	Sy
608.54	Cast Iron HC Panels	15	Sy
609.5	Reset Existing Vertical Granite Curb	200	Lf
611.90001	Adjusting Water Gates	11	Ea
616.65	Traffic Loops	1	Ea
618.7	Flaggers	240	Hr
619	Maintenance of Traffic	0.06	Ls
632.0104	4" Painted Lane Striping	4500	Lf
632.3112	12" Thermoplastic Line	500	Lf
632.32	Thermoplastic Word or Symbol	18	Sf
692	Mobilization	0.06	U

Mirona (Reclaim worst areas, mill near Route 1)

203A	Excavation of Reclaim	1150	Cy
214	Fine Grading	7650	Sy
306.206	Reclaimed Stabilized Base	7650	Sy
403.11	3.00" of 3/4" Winter Binder" Machine Pave	1300	Tons
403.11	1.5" Machine Pave	890	Tons
403.12	Hand Method Pave	60	Tons
403.6	Pavement Joint Adhesive	2400	Lf
410.22	Tack Coat (Subsidiary)	10425	Sy

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417	Cold Planing 1.5"	2800	Sy
604.0007	Poly CB Liner	14	Ea
604.45	Adjust CB or MH Covers	24	Vf
604.61	Install City Provided 32" SMH Cover	10	Ea
604.6130D	Provide New 30" Hinged DMH Frame and Cover	1	Ea
604.72	Purchase and Install new CB F&G	2	Ea
611.90001	Adjusting Water Gates	12	Ea
616.65	Traffic Loops	2	Ea
618.7	Flaggers	160	Hr
619	Maintenance of Traffic	0.08	Ls
632.0104	4" Painted Lane Striping	10000	Lf
632.3112	12" Thermoplastic Line	220	Lf
632.3118	18" Thermoplastic Line	70	Lf
632.32	Thermoplastic Word or Symbol	112	Sf
692	Mobilization	0.08	U

Boyd Road (Reclaim, grade and repave)

203A	Excavation of Reclaim	350	Cy
214	Fine Grading	2150	Sy
306.106	Reclaimed Stabilized Base	2150	Sy
403.11	2.75" of 3/4" Winter Binder" Machine Pave	336	Tons
403.11	1.5" Machine Pave	153	Tons
403.12	Hand Method Pave	30	Tons
403.6	Pavement Joint Adhesive	500	Lf
410.22	Tack Coat (Subsidiary)	2150	Sy
604.45	Adjust CB or MH Covers	3	Vf
604.61	Install City Provided 32" SMH Cover	3	Ea
611.90001	Adjusting Water Gates	7	Ea
618.7	Flaggers	40	Hr
619	Maintenance of Traffic	0.02	Ls
632.0104	4" Painted Lane Striping	60	Lf
632.3112	12" Thermoplastic Line	20	Lf
692	Mobilization	0.02	U

Dearborn St (Reclaim, grade and repave)

203A	Excavation of Reclaim	122	Cy
214	Fine Grading	730	Sy
306.106	Reclaimed Stabilized Base	730	Sy

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403.11	2.75" of 3/4" Winter Binder" Machine Pave	114	Tons
403.11	1.25" Machine Pave	52	Tons
403.12	Hand Method Pave	40	Tons
403.6	Pavement Joint Adhesive	300	Lf
410.22	Tack Coat (Subsidiary)	730	Sy
611.90001	Adjusting Water Gates	1	Ea
618.7	Flaggers	16	Hr
619	Maintenance of Traffic	0.01	Ls
692	Mobilization	0.01	U

Elwyn Park (mill, patch as nec. and overlay) on Coolidge, Grant, Taft and Garfield between Hoover and McKinnley, reclaim and repave Nixon Park and Grant Way

203A	Excavation of Reclaim	500	Cy
214	Fine Grading	3333	Sy
306.106	Reclaimed Stabilized Base	3333	Sy
403.11	2.50" of 3/4" Winter Binder" Machine Pave	475	Tons
403.11	1.5" Machine Pave	1570	Tons
403.12	Hand Method Pave	50	Tons
403.13L	Patching ≥30 square yards	1000	Sy
403.6	Pavement Joint Adhesive	6000	Lf
410.22	Tack Coat (Subsidiary)	18333	Sy
417	Cold Planing 1.5"	15000	Sy
604.0007	Poly CB Liner	20	Ea
604.45	Adjust CB or MH Covers	48	Vf
604.61	Install City Provided 32" SMH Cover	5	Ea
604.6130S	Provide New 24" Hinged SMH Frame and Cover	1	Ea
604.6130D	Provide New 30" Hinged DMH Frame and Cover	0	Ea
604.72B	Purchase and Install new CB F&G Type B	3	Ea
604.72C	Purchase and Install new CB F&G Curb Inlet	0	Ea
611.90001	Adjusting Water Gates	10	Ea
616.65	Traffic Loops	0	Ea
618.7	Flaggers	800	Hr
619	Maintenance of Traffic	0.09	Ls
632.0104	4" Painted Lane Striping	200	Lf
632.3112	12" Thermoplastic Line	200	Lf
692	Mobilization	0.09	U

South St (Mill and Fill 2" from Haven Rd to Middle Road)

Item #	Description	Quantity	Unit
403.11	1.5" Machine Pave	1740	Tons

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403.11H	1.5" Machine Pave High Strength (150' either side@ Middle St)	160	Tons
403.12	Hand Method Pave	30	Tons
403.13L	Patching ≥30 square yards	1000	Sy
403.6	Pavement Joint Adhesive	5200	Lf
410.22	Tack Coat (Subsidiary)	16700	Sy
413	Crack Sealant	300	Lb
417	Cold Planing 1.5"	16700	Sy
604.45	Adjust CB or MH Covers	40	Vf
604.61	Install City Provided 32" SMH Cover	6	Ea
604.6124S	Provide 24" Hinged SMH Cover	10	Ea
604.6130D	Provide New 30" Hinged DMH Frame and Cover	2	Ea
604.72	Purchase and Install new CB F&G	6	Ea
611.90001	Adjusting Water Gates	24	Ea
618.7	Flaggers	400	Hr
619	Maintenance of Traffic	0.08	Ls
632.0104	4" Painted Lane Striping	20000	Lf
632.3112	12" Thermoplastic Line	800	Lf
632.3118	18" Thermoplastic Line	100	Lf
632.32	Thermoplastic Word or Symbol	300	Sf
692	Mobilization	0.08	U

**Bridge St
Lot**

201.1	Clearing & Grubbing Landscaped Areas (incl. Tree Protection)	1	LS
202.21	Removal of Existing Sidewalks	350	SY
202.3	Plug Pipe	6	LF
202.4	Removal of Existing Pipe (as Directed by Engineer)	20	LF
202.5	Removal of CB, Drop Inlets, and Manholes	1	EA
203.1	Common Excavation (Sidewalks & Conc. Pads)	50	CY
203.1	Common Excavation (Pavement Sub-Grade - 6")	300	CY
214	Fine Grading (Pavement Base)	2500	SY
214A	Fine Grading (Sidewalks)	85	SY
304.4	Crushed Gravel in Place (Pavement)	20	CY
304.3	Crushed Gravel in Place (Sidewalks)	20	CY
306.112	12" Reclaimed Stabilized Base	2700	SY
306.212	Rehandle Reclaimed Base Material	800	CY
306.36	1.5-2.0" Crushed Stone (Mixed w/ Reclaimer)	200	TN
403.11A	Machine Method, Binder (3")	400	TN
403.11B	Machine Method, Wearing (1.5")	200	TN
403.12	Hand Method	20	TN

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520	Class B Curb Backfill	30	CY
603.81212	12" Dia. PVC Drain Pipe	35	LF
603.8112	12" Dia. PVC Inserta Tee (Incl. Core)	1	EA
604.0007	Poly Liner for CB	1	EA
604.0008	Eliminator Oil/Water Separator	1	EA
604.12	New Catchbasin w/ Frame & Grate	1	EA
604.5	Adjust Existing Structures (Sewer, Drain, Elec, Tele)	5	EA
608.24A	4" Concrete Sidewalk & Pads	100	SY
608.26	Concrete Pads (Parking Meter & EV Charge Station)	2	SY
608.6A	New Granite Steps	48	LF
608.6B	Reset Granite Seats on new Conc. Footing (if necessary)	2	EA
608.6C	ADA Handrails	2	EA
609.16	New 6" Straight Vertical Granite Curb	230	LF
609.26	New 6" Curved Vertical Granite Curb	20	LF
609.56	Reset Existing Vertical Granite Curb	500	LF
572.5	Granite Block Retaining Wall	70	LF
614	Install Transformer Pads (Pre-Cast)	2	EA
614	Install Site Lighting Cabinet, Complete (120/240)(Incl. Conc. Pad)	1	EA
614	Install Site Lighting Cabinet, Complete (208/480)(Incl. Conc. Pad)	1	EA
614.512	18" Conc. Electric Pull Box	1	EA
614.7214	2" Sch 40 PVC Conduit (Lighting)	630	LF
614.7314	3" Sch 40 PVC Conduit	800	LF
614.7414	4" Sch 40 PVC Conduit (Power)	100	LF
614.7518	5" Sch 80 PVC Conduit in Concrete (Primary Power)	650	LF
615	Bollard (Conc. Filled and Painted Yellow)	8	EA
615.0071A	New Steel Sign Posts	10	EA
615.0071B	Relocate Existing Sign Post	5	EA
615.02	New Parking Sign	25	SF
615.024A	Relocate Sign to New Post	4	EA
615.024B	Relocate Wayfinding or Lot Designation Sign (incl. new footings)	2	EA
619	Maintenance of Traffic	0.1	Ls
625	Remove & Dispose Existing Light Pole & Base	6	EA
625.1	Light Pole Base	10	EA
625.1	Street Light Pole	10	EA
632.0104	4" Paint Striping (Chlorinated Rubber Paint)	1200	LF
632.02A	Painted ADA Symbol (incl. Blue Background)(4'x4')	3	EA
632.02B	Painted EV Symbol (4'x4')	4	EA
641	Loam for Planting Beds (18" Deep)	125	CY
692	Mobilization	0.1	U