

CONTRACT DOCUMENTS AND SPECIFICATIONS

For

Aldrich Park Rehabilitation, Court St, Portsmouth NH

Bid Proposal #38-22

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City of Portsmouth, New Hampshire

Prepared by:

City of Portsmouth
Engineering Division
Public Works Department

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Aldrich Park Rehabilitation

INVITATION TO BID

Sealed bid proposals, **plainly marked, “Bid Proposal #38-22 Aldrich Park Rehabilitation”, on the outside of the mailing envelope as well as the sealed bid envelope**, delivered to the front desk at City Hall, 1 Junkins Avenue, Portsmouth, New Hampshire, 03801, addressed to the Finance/Purchasing Department, will be accepted until **April 14, 2022 at 10:30 a.m.** at which time all bids will be publicly opened and read aloud.

This project consists of the repair of the Aldrich Park on Court St near Atkinson St. in Portsmouth, NH. Specifically, the work includes fencing, lighting, landscaping, brick pavers and other ancillary tasks.

Specifications may be obtained from the City’s web site: <http://www.cityofportsmouth.com/finance/purchasing>, 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> 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 with all sections of the work shall be completed by August 15th, 2022. Contractor will have no more than 40 working days to complete and the park should be usable if the contractor demobilizes while waiting for materials. 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 site work. Any Bid submitted by a Bidder not pre-qualified will be rejected as non-conforming. Any subcontractor working on the project will be pre-approved 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 reject 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, emailed 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 tasks 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**Aldrich Park Rehabilitation**

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	1	Ls	Clearing and Grubbing of Landscaped Areas	_____	_____
201.21	200	Sy	Removal of existing sidewalks	_____	_____
201.22	75	Sy	Removal of existing Rubber Mats	_____	_____
203.1	50	CY	Common Excavation	_____	_____
206.19	4*	HR	Structure Excavation Exploratory	_____	_____
214	200	SY	Fine Grading Sidewalks	_____	_____
304.3	50	CY	Crushed Gravel for Sidewalk	_____	_____
403.12	28	Ton	Hand Method Paving	_____	_____
520	2	CY	Class A Concrete Backfill for Curb or Structures	_____	_____
592.12	265	SF	Segmented block retaining Wall	_____	_____
607.806	45	LF	New 6' high wood fence	_____	_____
607.9708	50	LF	Adjust and reinstall existing 8' high fence	_____	_____
608.24	130	SF	4" Concrete pads	_____	_____
608.26	25	SF	6" Concrete sidewalk (ADA)	_____	_____
608.5A	160	SY	Brick Sidewalk	_____	_____
608.5B	40	SY	Reset Existing Brick Sidewalk	_____	_____
608.54	10	SF	Rectangular Cast Iron Truncated Dome Panels	_____	_____
609.010	135	LF	New Cobble Landscape Edging	_____	_____
609.5	12	LF	Reset curbing	_____	_____
614.A	1	Ea	Remove existing electrical meter box	_____	_____
614.B	1	Ea	Install site lighting and meter cabinet	_____	_____
614.C	1	Ea	Install load side electrical system complete	_____	_____
614.D	5	Ea	Install new bollard lights	_____	_____

PROPOSAL FORM (continued)

614.E	14	Ea	Install new in ground perimeter up-lighting	_____	_____
614.7214	530	Lf	2" sch 40 lighting conduit in sand bed	_____	_____
614.7314	15	Lf	3" sch 40 conduit in sand bed	_____	_____
615.024	2	Ea	Relocate sign to new post	_____	_____
618.7	1	Allow	Flaggers	<u>\$15,000.00</u>	<u>\$15,000.00</u>
619.1	1	U	Maintenance of Traffic	_____	_____
625A	2	Ea	Remove and dispose of existing light poles and base (12" below grade)	_____	_____
625B	2	Ea	New light pole base	_____	_____
625C	2	Ea	New street light pole and lantern	_____	_____
640.A	1	Ea	Water meter/backflow/irrigation box	_____	_____
640.B	1	Ea	Park Irrigation Complete	_____	_____
640.C	1	Ea	Drinking water fountain	_____	_____
641	15	CY	Loam (Landscaped Areas)	_____	_____
645	1	Ea	Catch Basin silt sack	_____	_____
645.631	110	Lf	Silt Log	_____	_____
646.51	110	Sy	Turf Establishment	_____	_____
692	1	U	Mobilization	_____	_____
800.1	1	LS	Alter Swing Set Structure	_____	_____
800.2	75	Sy	New Rubber Mat (Fall Safe Tiles) (Incl. Base material)	_____	_____
800.3A	2	Ea	Refurbish and reinstall benches	_____	_____
800.3B	1	Ea	Remove and Replace Existing Bench	_____	_____

TOTAL FOR BASE BID (Basis of award)

Total in Figures \$ _____.

In Words \$ _____

Add/Alt 1. Repair of Existing Iron Fence

607.98A	1	Ea	Repair Existing Iron Fence	_____	_____
607.98B	125	Lf	Refurbish Existing Iron Fence	_____	_____

Add/Alt 2. Mural and Quote written on fence

800.4	1	Ls	Add Mural and Quote onto fence	_____	_____
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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

Email: _____

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

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. Fencing _____
 - b. Pavers/Block _____
 - c. Electrical _____
 - d. Plumbing _____
 (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**Aldrich Park Rehabilitation**

THIS AGREEMENT made as of the ___ day of _____ in the year **2022**, by and between the City of Portsmouth, New Hampshire (hereinafter call the Owner) and _____ (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. All work must be complete by August 15, 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:

Aldrich Park Rehabilitation

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,
Director Finance & Administration

NOTICE TO PROCEED

DATE: _____, 2022

PROJECT: Aldrich Park Rehabilitation

TO: _____

YOU ARE HEREBY NOTIFIED TO COMMENCE WORK IN ACCORDANCE

WITH THE AGREEMENT DATED _____, 2022 AND ALL WORK SHALL BE COMPLETED PRIOR

TO August 15, 2022.

CITY OF PORTSMOUTH, N.H.

BY: Peter H. Rice

TITLE: Public Works Director

ACCEPTANCE OF NOTICE

RECEIPT OF THE ABOVE NOTICE TO PROCEED IS HEREBY ACKNOWLEDGED BY

This the _____ day of _____ 20__

By: _____

Title: _____

22
CHANGE ORDER

Change Order

Date of Issuance: _____, 2022

Owner: CITY OF PORTSMOUTH, N.H

Contractor: _____

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

Description: _____

Purpose of Change Order: _____

Attachments: _____

CHANGE IN CONTRACT PRICE

CHANGE IN CONTRACT TIME

Original Contract Price:
\$

Original Completion Date:
August 15, 2022

Contract Price prior to this
Change Order:
\$

Contract Time prior to this
Change Order:
August 15, 2022

Net Increase of
this Change Order:
\$

Net Increase or Decrease of
this Change Order:
_____ Days

Contract Price with all
approved Change Orders:
\$

Contract Time with all
approved Change Orders:

RECOMMENDED:

by _____

by _____

by _____

PW Director

Deputy Finance Director

Finance Director

APPROVED:

APPROVED:

by _____
City Manager

by _____
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: **Aldrich Park**

(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:

Aldrich Park

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

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

SECTION 201

CLEARING & GRUBBING

Amend Section 201 to include:

Construction:

Add 3.1.9: Contractor to obtain approval from the City and homeowners prior to any landscape / plantings removal.

Add 3.5: Tree Protection - Refer to Section 01110, 3.28 of the General Requirements for protection of existing trees and penalties for tree damage. Contractor to supply construction fencing as shown in the Contract Drawings to protect trees and delineate area of no allowable disturbance. Cost of fencing is incidental to the contract.

Add 3.5.1: The Contractor shall be held responsible for the health and survival of the existing trees in the immediate vicinity of the construction area. Damage that, in the Engineer's opinion, can be remedied by corrective measures shall be repaired immediately. Broken limbs shall be pruned according to industry standards. Wounds shall not be painted. Trees or shrubs that are damaged irreparably shall, at the Engineer's discretion, be replaced.

Method of Measure

Amend 4.1: Clearing & Grubbing Landscaped Areas will be measured by the Lump Sum.

Basis of Payment

Amend 5.1: Clearing & Grubbing Landscaped Areas will be paid for by contract unit price.

Pay Item

Pay unit

201.1	Clearing & Grubbing Landscaped Areas	Lump Sum
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END OF SECTION

SPECIAL PROVISION**SECTION 202****REMOVAL OF STRUCTURES AND OBSTRUCTIONS**

Amend Section 202 to include:

Construction

Add 3.10: Where identified in the drawings, or at the direction of the Engineer, existing private pavers, cobblestones, etc. not designated for re-use shall be neatly stacked on pallets and returned to the homeowners. Stacking of material shall be considered incidental to pay item.

Method of Measure

Add 4.7: Removal of sidewalk, driveways, and aprons will be measured by the square yard.

Basis of Payment

Add 5.10: Removal of sidewalk, driveways, and aprons will be paid for by contract unit price.

Pay Item

202.21	Removal of Existing Sidewalk
202.22	Removal of Existing Rubber Mats

Pay unit

Square Yard
Square Yard

END OF SECTION

SPECIAL PROVISION**SECTION 206****STRUCTURE EXCAVATION**

Amend Section 206 to include:

Method of Measure

Amend 4.4: Common Structure Excavation - Exploratory will be measured, by the Hour to the nearest 0.25 hour. The unit price under this item shall constitute full compensation for all excavation, backfill, pavement repair, surface restoration, or other work incidental to excavation or restoration of test pits. The pay item units are hourly for a crew and equipment necessary to complete the work, size of crew and equipment must be adequate for the work. Duration of work shall begin once excavation begins and conclude when backfill is complete. In the event the test pit must be left open for an extended period of time for inspections, the Engineer will notify the Contractor payable time will be temporarily halted.

Basis of Payment

Amend 5.4: Common Structure Excavation – Exploratory will be measured and paid for by the Contract unit price, by the Hour.

Pay Item

206.19 Common Structure Excavation - Exploratory

Pay unit

Hour

END OF SECTION

SPECIAL PROVISION

SECTION 214

FINE GRADING

Amend Section 214 to include:

Construction Requirements

Add 3.4: Sidewalk base material shall extend to any confining material (i.e. curb, retaining wall, hard edging, etc.). When a confining element is not present, base material for sidewalk shall extend to 6” beyond the edge of the finished surface.

Method of Measurement

Amend 4.1: Fine grading area shall be limited to the extents identified in 3.4 above. Fine grading will be measured by the Square Yard to the nearest 0.1 square yard.

Basis of Payment

Amend 5.1: Fine Grading (Sidewalks) will be paid for by the Contract unit price.

Pay Item

214 Fine Grading (Sidewalks)

Pay unit

Square Yard

END OF SECTION

SPECIAL PROVISION

SECTION 304

AGGREGATE BASE COURSES

Amend Section 304 to include:

Material Requirements

Add 2.12: Sources of Aggregate and preliminary test results shall be submitted ten working days prior to any placement of material on the job. Failure of these preliminary tests will be grounds for rejection of material from that source. Aggregates will be tested on the job and shall meet these specifications as the material is incorporated into the work. All Measurements shall be in-place compacted quantities in accordance with the plans and specifications.

Method of Measurement

Amend 4.1: Base course materials of sand, gravel, crushed gravel, crushed aggregate, crushed stone (fine and course gradation) shall be measured by the cubic yard using average lengths, widths and depths of the areas to be filled to the nearest 0.1 cubic yard, or as determined by the engineer. Measurement shall be compacted, complete in place.

Basis of Payment

Amend 5.1: Base course materials of sand, gravel, crushed gravel, crushed aggregate, crushed stone (fine and course gradation) shall be measured and paid for by the Contract unit price, by the cubic yard.

Add 5.4: The cost of the all laboratory testing including compaction testing at 1 test per 50' in areas to be designated by the Engineer, shall be the responsibility of the Contractor and subsidiary to the pay item.

Pay Item

304.3 Crushed Gravel in Place (Sidewalk)

Pay unit

Cubic Yard

END OF SECTION

SPECIAL PROVISION

SECTION 401 and 403

ASPHALT PAVEMENT

Description

- 1.1 This work shall consist of furnishing and installing bituminous 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.
- 1.2 All references to NHDOT, NHDOT Personnel or the Department may be construed as the Engineer, the City of Portsmouth, their agents and representatives.
- 1.3 Work shall conform to NHDOT Section 401, Tier 2 except as noted herein:
 - 1.3.1 Ride Smoothness: Section 401.3.17.3.4.1 shall apply except variations exceeding $\frac{3}{8}$ inch in profile or cross slope shall be eliminated.
 - 1.3.2 Ride smoothness: Section 401.3.17.3.4.4 shall apply except high points **0.5** inches in 25 shall be corrected.

Materials:

- 2.1 **Materials:** Materials shall conform to NHDOT 401 except the following:
 - 2.1.1 **The maximum amount of Total Reused Binder (TRB) in the pavement mix shall be 0.5% and the mix shall meet all volumetric mix design criteria.**
 - 2.1.2 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.
 - 2.1.3 All $\frac{3}{4}$ " (19mm) and 1 inch (25mm) pavement mixes shall be designed using the 50 gyration N design, unless otherwise specified.
 - 2.1.4 Liquid asphalt cement binder shall have Performance Grade (PG) of PG64-28 for all standard bituminous and PG 64-E for all high strength bituminous pavements. NHDOT QC/QA Specifications shall be followed for high strength mixes.
 - 2.1.5 All high strength asphalt, when specified, shall be 50 gyration unless otherwise specified.
- 2.2 **Pavement Mix Designs:** Pavement mix designs shall meet NHDOT Section 401.2.5.1 except the following:
 - 2.2.1 Minimum asphalt binder content shall be as follows:

Minimum Asphalt Binder Content		
Mix Type	50 Gyration	75 Gyration*
3/8-in (9.5mm)		5.9%
1/2-in (12.5mm)	5.9%	*
3/4-in (19.0mm)	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 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 with stone size above 3/8" not allowed without expressed written permission of the Engineer.

2.2.2 Method requirements NHDOT Section 401.2.6 shall include the following:

2.2.2.1 Coarse Aggregate: Stockpiled coarse aggregate shall meet the requirements of 2.6.1, Table 2.

2.2.2.2 Tolerances: All mixtures shall conform within range of tolerances provided in NHDOT Section 401.2.6.2.

2.2.2.3 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 Section 401 of the NHDOT Standard Specifications **and** as specified in this section.

- 3.1** Prior to placing any mix, a pre-paving conference shall be held with the Owner, Contractor, and Engineer to discuss the proposed paving schedule, source 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.
- 3.2** The Contractor shall notify the Engineer one week in advance of paving operations to allow sufficient time for scheduling personnel.
- 3.3** Any pavement course four inches (compacted depth) or greater shall be placed and compacted in two lifts.
- 3.4** 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.

- 3.5** 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 0.02 and 0.05 gal/yd².
- 3.6** **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.**
- 3.7** 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 casting immediately following pavement operations. Open grates shall be covered to ensure pavement material does not fall into structure.
- 3.8** Method requirements NHDOT Section 401.3.1.2 shall apply.
- 3.9** In addition to 3.7 above, refer to Section 1.3 for additional QC/QA requirements.
- 3.10** Contractor shall place a permanent trench patch to a depth that matches existing pavement for all utility trenches, or at a location per direction of the Engineer, immediately after completing the trench backfill and compaction.

Method of Measurement:

Add 4.2: Permanent bituminous pavement placed for trenches will be measured by ton compacted in place, to the nearest 0.1 ton.

Basis of Payment

Add 5.4: Trench pavement and brick sidewalk base asphalt shall be measured and paid for under the Hand Method pay item.

<u>Pay Item</u>		<u>Pay unit</u>
403.12	Hand Method	Ton

END OF SECTION

SPECIAL PROVISION**SECTION 607****FENCES**

Amend Section 607 to include:

Materials**Add 2.7: Wood Fence.**

- 2.7.1 Wood fence and posts shall be constructed of cedar (#2 or better). Posts shall be 5"x5", panels shall be 1" minimum thickness.
- 2.7.2 Fence panels shall be vertical tongue and groove panel with horizontal rails at the top and bottom. Top shall also have a horizontal cap. Posts shall have caps.
- 2.7.3 All metal parts, including screws shall be stainless steel.
- 2.7.4 Wood materials shall be free of holes, cracks, warps, stains, or otherwise unsuitable flaws.
- 2.7.5 Wood fence shall be painted with an exterior grade latex primer and finish paint. Color to match existing fence.

Add 2.8: Iron Fence.

- 2.8.1 Replacement of parts of the existing iron fence shall be done with matching materials.

Construction Requirements**Add 3.8 Wood Fence**

- 3.8.1 Fence shall be constructed at locations shown on plans.
- 3.8.2 Construct fence that is plumb, vertically straight, and such that the top cap will form a continuous line with no dips or abrupt changes. Fence line shall be strung out to provide a straight and true line.
- 3.8.3 All posts shall be placed in concrete footings.
- 3.8.4 Where existing fence is identified to be re-used in the Project, the Contractor shall remove in such a manner as to maintain integrity of all components. Contractor shall safely store the fence to be re-used. Any components damaged during removal and/or storage shall be repaired or replaced at no additional cost to the Owner. Existing wood fence identified for re-use, shall be adjusted to match the height of the adjacent fencing.

Add 3.9 Iron Fence

- 3.9.1 Contractor shall repair damaged iron fence sections to restore panel to original visual condition. Contractor to provide Engineer with proposed repair technique for approval.
- 3.9.2 Contractor has option to remove iron fence to make repairs and refurbish in a shop, or in place.
- 3.9.3 Refurbishing of existing iron fence shall include the removal of the existing paint. This may be completed with sanding, scraping, or sandblasting. Engineer shall approve method prior to beginning. Method must provide an acceptable way to contain and collect debris (paint chips and sandblast material) so that it can be disposed of completely and properly.

3.9.4 Once iron fence is down to bare metal, Provide and apply metal primer and paint to manufacturers recommended thickness. Paint color shall be black (match existing) unless otherwise directed by the Engineer.

Method of Measurement

Amend 4.2: Post assemblies will not be measured.

Amend 4.4: Temporary fence will not be measured.

Add 4.5: Iron Fence repair shall be measured per panel repaired.

Basis of Payment

Amend 5.1: Delete last two sentences.

Amend 5.2: The accepted quantity of fencing adjusted and reset will be paid for at the Contract unit price per linear foot.

Amend 5.3: Temporary fence shall be subsidiary to the other pay items.

Add 5.4: Post assemblies shall be subsidiary to the fence pay items.

Pay Item

607.806	New 6' High Wood Fence
607.9708	Adjust & Re-Install Existing 8' High Wood Fence
607.98A	Repair Existing Iron Fence (Panel)
607.98B	Refurbish Existing Iron Fence

Pay unit

Linear Foot
Linear Foot
Each
Linear Foot

END OF SECTION

SPECIAL PROVISION

SECTION 608

SIDEWALKS

Amend Section 608 to include:

Description

Amend 1.1: This work shall consist of constructing sidewalks of either hot bituminous pavement, Portland cement concrete, reinforced when specified, Brick, or Pavers. Portland cement concrete sidewalks shall receive a protective coating unless otherwise directed.

Materials

Amend 2.2: Portland cement concrete shall be Class AA (4000 psi) conforming to Section 520.

Add 2.3.1: Curb ramps (at crosswalk locations) shall be 6" deep, class AA 4000 psi synthetic fiber reinforced.

Add 2.3.2: 4" sidewalks shall be reinforced with synthetic fibers.

Add 2.6: New bricks shall be manufactured by Pine Hall Brick and shall be Traditional edge, Pathway, Full Range. 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.

Add 2.6.4: Detectable warning surfaces for straight curb ramps shall consist of panels from Neenah Foundry, East Jordan Iron Works, or approved equal. Detectable warning surfaces for radius curb ramps shall consist of a combination of straight and wedge panels from Tuftile or approved equal. The units shall be cast into Portland cement or other owner approved material, as recommended by the manufacturer. The panels shall be of cast iron.

Add 2.6.5: Straight curb ramps shall use panels with a minimum width of 24". Cutting of panels is prohibited. Radius curb ramps shall consist of a combination of straight and wedge panels matching the curvature of the curb ramp. Calculation of panel sizes, types and quantities shall be determined by the manufacturer. All panels shall be a minimum of 24" in depth and shall span the entire width of the ramp.

Construction Requirements

Amend 3.2.6.1: Construct transverse and longitudinal crack control joints by sawing, jointing tool or other approved method to a minimum depth of one third the slab thickness. If the jointing tool is not capable of constructing a joint to the correct depth, saw the joint to the correct depth. Saw crack control joints as soon as concrete has hardened sufficiently to permit sawing without excessive raveling and before uncontrolled shrinkage cracking occurs, usually between four and twenty four hours. Control joints for cracking shall be spaced at 5 ft., unless otherwise specified. Construct expansion joints at 25 ft. intervals. Bond breaker shall be used at all construction joints.

Amend 3.3.3: Install detectable warning devices and any anchoring hardware in accordance with manufacturer's instructions. Panel shall be set in a bed of 6" wet concrete.

Add 3.4 Brick and Paver Sidewalks

- 3.4.1 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.
- 3.4.2 The base material for sidewalks shall consist of 304.3 crushed gravel to a minimum depth of 8" as determined by the Engineer. Base material to extend past edge of sidewalk 6" in areas not adjacent to walls, curb or buildings.
- 3.4.3 A 3/8" bituminous asphalt hot mix pavement shall be placed parallel to grade and compacted to a minimum thickness of 2". Asphalt base to be extended 6" in areas where edging is to be used.
- 3.4.4 Place a 1:3 Portland cement / course sand pre-blended mix on the asphalt base to a thickness of 1". Pavers to be dry laid on the mixture.
- 3.4.5 The Contractor shall lay the bricks so that approximately 5.0 bricks shall cover one square foot (tight joints).
- 3.4.6 The sidewalk shall pitch 1/4 inch per foot towards the street or as directed.
- 3.4.7 In areas where the edge of the brick sidewalk is not adjacent to granite curbing or buildings, the Contractor shall install edging to hold the bricks in place. Such edging shall be installed per the manufacturer's recommendations and incidental to the pay item.
- 3.4.8 In areas with a closed drainage system, the contractor shall provide "silt sacks" to prevent brick dust from entering the collection system. The area shall be swept daily to keep dust levels as low as possible.
- 3.4.9 All half bricks needed for running bond work 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.
- 3.4.10 All masonry shall be laid by skilled workmen under adequate supervision, and shall be laid true to lines and levels referred to in previous paragraphs. Masonry work shall not be laid in temperatures below 40 degrees Fahrenheit unless provisions are made to adequately protect the masonry materials and the finished work from frost. All masonry materials used in freezing weather shall be at a temperature between 50 degrees Fahrenheit and 90 degrees Fahrenheit. Protect masonry against freezing for a minimum of forty-eight (48) hours after being laid. Anti-freezing admixtures will not be allowed in the mortar. Frozen work shall not be built upon. Any completed work found to be affected by frost shall be taken apart and rebuilt at the Contractor's expense.

Method of Measurement

Amend 4.1: Concrete sidewalks will be measured by the square foot to the nearest 1.0 square foot. Brick sidewalks will be measured by the square yard to the nearest 1.0 square foot. The area occupied by the curb will not be included in the final pay quantity.

Add 4.3: ADA Detectable warning panels will be measured by the square foot installed.

Basis of Payment

Amend 5.1: Sidewalks will be paid for at the Contract unit price per square foot complete in place.

Add 5.4: ADA Detectable warning panels will be paid for at the Contract unit price per square foot of panel installed.

Pay Item

214	Fine Grade (Sidewalk Only)
304.3	Crushed Gravel in Place (Sidewalk & Pads)
403.12	Hand Method Paving
608.24	4" Concrete Pads
608.26	6" Concrete Sidewalks (Accessible Ramps)
608.54	ADA Detectable Warning Panels
608.5A	Brick Sidewalk & Cobble Hardscape
608.5B	Reset Existing Brick Sidewalk

Pay unit

Square Yard
Cubic Yard
Ton
Square Foot
Square Foot
Square Foot
Square Yard
Square Yard

END OF SECTION

SPECIAL PROVISION

SECTION 609

CURBING

Amend Section 609 to include:

Materials

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

Add 2.8: Granite cobble edging shall match existing material.

Construction:

Amend 3.3.1: Curbing to be reset shall be carefully removed and stored. Curb shall be removed in such a manner as to not chip the ends when lifting. The contractor shall replace any curbing damaged or lost because of his negligence. All exposed portions or reset curbing shall be cleaned by sand blasting.

Add 3.3.2: Granite curb to be reset shall be 3.5 feet in length (minimum) and 18” height (minimum) and in good condition.

Add 3.4: Granite cobble edging shall have joints mortared.

Basis of Payment

Amend 5.3: Class A Concrete backfill will be used for curb installation and will be paid for under item 520.

Pay item

609.01 New Cobble Landscape Edging
609.56 Reset Existing Vertical Granite Curb

Pay unit

Linear Foot
Linear Foot

END OF SECTION

SPECIAL PROVISIONS
(not a NHDOT Standard Specification)

Sections 614, 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 new electrical service. 120/240V Millbank Meter/breaker cabinet to replace the existing metering and breaker set up. Coordinate with Eversource to replace service. Meters are to be placed under the City of Portsmouth account.
2. Provide new conduit and handhole system for outdoor electrical work, in locations as shown on Contract Drawings. Provide precast concrete electric handholes (14"x14"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, new bollard lights, new up lighting, power for irrigation, etc. 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, 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
 - 3. Bollard Lights
 - 4. Up lighting
 - 5. Millbank Cabinet
 - 6. Street light pole and fixtures
- 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 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", 9-foot-2 inch, 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" 239P 38" high, this fixture matches the lights already on Court St, it is smaller than the normal fixture. Fixture to be 120V. The set screws to mount the fixture to the base shall be stainless steel bolts.
- C. Bollard lights to be King KLCS-T1AF-V-40(SLL)-4003-120:277-E11-DB-3K
- D. Up Lights to be HEPER Zerox S Dyno 3000K

2.10 METER/CIRCUIT BREAKER ENCLOSURES

- A. Meter enclosures shall be by Millbank. Cabinets to be sized as follows:
 - a. 120/240 – 100 Amp for lighting and park electrical needs. Provide load side wiring to lighting fixtures, tree outlet and irrigation/metering box.

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

614A	Ea	Remove Existing Electric Meter Box, Complete
614B	Ea	Install Site Lighting Cabinet, Complete (120/240)(Incl. Conc. Pad)
614C	Ls	Install Electric System, Complete
614D	Ea	New Bollard Lights
614E	Ea	New In-Ground Perimeter Fence Up-Lighting
614.7214	Lf	2" sch 40 lighting conduit in sand bed per conduit

614.7314	Lf	3" sch 40 conduit in sand bed per conduit
625.1	Ea	Remove & Replace Light Pole Base
625.5	Ea	Remove & Replace Street Light

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

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

SECTION 615

SIGNS

Amend Section 615 to include:

Materials

Amend 2.9.1.1: The design, arrangement, color, and spacing of copy shall be in accordance with, the NHDOT Standard Plans for Road Construction, or the MUTCD and the FHWA “Standard Highway Signs”.

Amend 2.9.1.2: All sign sheeting and copy materials shall be fabricated from components of compatible systems warranted by the same manufacturer in accordance with the NHDOT Qualified Products List Product Qualification Criteria/Acceptance Criteria.

Amend 2.9.1.3: Blank.

Method of Measurement:

Amend 4.2: Traffic sign Type A, B, C will be measured by the square foot as shown in the plans, including all necessary mounting hardware.

Add 4.7: Steel Sign Post shall be measured by the unit installed as shown in the plans for new signage only. New posts are required for relocation of existing signs, which is subsidiary to the Relocate Existing Sign pay item.

Basis of Payment

Amend 5.2: Traffic sign Type A, B, C, AA, BB or CC will be paid for at the Contract unit price per square foot installed.

Add 5.3: Steel sign post will be paid for at the Contract unit price per unit installed.

Pay item

615.024 Relocate Sign on New Post

Pay unit

Each

END OF SECTION

SPECIAL PROVISION

SECTION 618

FLAGGERS

Amend Section 618 to include:

Description

Add 1.2: Daily traffic control personnel will be required to facilitate traffic through the work zone quickly and safely. The use of, type of, and number of personnel will be reviewed and approved with the Engineer.

Method of Measurement

Amend 4.1: Uniformed Officers and Flaggers shall be measured as an allowance based on the dollar amount of invoices, submitted without Contractor markup. Invoices must only reflect the actual hours worked in the field. Hours billed to the Contractor for minimum time requirements that are not hours actually on duty are excluded from payment under this item.

Basis of Payment

Amend 5.1: Uniformed Officers and Flaggers will be paid by the invoices provided. The dollar limit (allowance) prescribed in the Bid Schedule shall not limit the Engineer or Owner in determination of the value of the work. Payment for uniformed flaggers shall be the actual hours on duty directing traffic.

Pay Item

618.7 Flaggers

Pay unit

Dollar

END OF SECTION

SPECIAL PROVISION

SECTION 619

MAINTENANCE OF TRAFFIC

Amend Section 619 to include:

Construction Requirements

Add 3.4: All work shall be prosecuted so pedestrian and traffic flow can be maintained. No travel lane or sidewalk closures will be allowed without prior approval from the Engineer. If lane closures are required, a traffic flagging and/or detour plan will be generated and will need to be approved by the Department prior to its implementation. It should be expected that detours will not be typically allowed for day to day work except for non-preventable road closures caused by the installation of certain structures or systems that would make one-way reversible traffic impossible or unsafe.

Add 3.5: The Contractor will develop a construction staging plan for the project. The plan shall be submitted to be approved by the Engineer.

Add 3.6: Access shall be maintained to the abutting driveways and entrances at all times during construction. Open lanes of the road shall be graded safely for traffic at all times. A 24 hour contact will be required in case of emergency or safety concerns or in case the road surface needs attention.

Add 3.7: Pedestrian walkways etc. may be ordered by the Engineer if the need arises. The Contractor is responsible for the safety of pedestrians at all times, including non-working hours.

Add 3.8: 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.

Add 3.9: If contractor does not respond accordingly to requests from the Engineer to provide access, or repair roadways and walkways to an acceptable condition in a timely manner, the City may complete this work and back charge the Contractor. Additionally, the City may hold back funds to the 619.1 Maintenance of Traffic pay item.

Basis of Payment

Amend 5.1.3: The material cost of calcium chloride is subsidiary to the Pay Item.

Amend 5.1.4: The material cost of permanent construction signs is subsidiary to the Pay Item.

Add 5.1.10: The following items are subsidiary to the 619.1 Pay Item: Traffic control, construction signs (permanent and temporary), temporary message boards, temporary traffic loops, traffic control plans, traffic cones and barrels and other methods of dust control as ordered by the Engineer.

Pay item

619.1 Maintenance of Traffic

Pay Unit

Lump Sum

END OF SECTION

SPECIAL PROVISION

SECTION 640

LANDSCAPE IRRIGATION and TURF

Description

1.1 This work shall consist of removal of landscaping items and reconstructing to as good as or better condition. Landscaping items shall include, but not limited to, plantings, landscaping retaining walls, stepping stones, etc. Contractor shall familiarize themselves with the areas of construction to determine the extent of necessary reconstruction.

1.2 This work shall consist of furnishing and installing an irrigation system to the specified planting locations.

1.3 This work shall consist of furnishing and installing a drinking fountain.

Materials

Amend Section 2: Refer to Section 02920 for loam and seed requirements.

2.1 Existing material may be re-used if in good condition.

2.2 If the Engineer has determined the existing materials are not in good condition, or items were damaged during removal, then replacement materials will be required.

2.3 Irrigation System: Major materials and equipment are as follows:

2.3.1 Enclosure: Hubbell Hot Box – Fiberglass flip top lockable.

2.3.2 Supply plumbing hook up including installation of City supplied meter, all necessary valves and connections, back flow device, blow off hook ups etc.

2.3.3 Controller: Hunter Pro-C programmable

2.3.4 Power: GFCI Outlet in Red Dot weatherproof cover.

Construction Requirements

3.1 The Contractor may carefully remove landscaping items, store and re-install without damage. Items that are in poor condition will require replacement materials. Otherwise, the Contractor shall reconstruct the landscaped areas with new materials.

3.2 Work shall be completed in as good or better condition than the items removed.

3.3 Reconstructed items shall be installed in such a manner as to comply with NHDOT Standard Specifications for the specific item being installed.

3.4 Tree Protection - Refer to Section 01110, 3.28 of the General Requirements for protection of existing trees and penalties for tree damage.

3.5 Contractor shall submit shop drawings and full irrigation design to the City for approval prior to ordering individual components.

3.6 Construct a complete and functioning irrigation system that distributes water appropriately and this able to be winterized in fall. Provide “As-Built” drawings after irrigation system has been installed. System shall have a 2-year warranty with start-up and shut-down service for 2 years after installation. System shall include spray heads for lawn area and drip irrigation for planting beds.

3.7 Drinking fountain shall be installed per manufacturer’s specifications and as shown in the Contract Drawings.

Method of Measurement

4.1 Water Control Box shall be measured for number of units installed.

4.2 Site irrigation will be measured as Lump Sum.

4.3 Drinking Fountain shall be measured for number of units installed.

4.4 Loam placed in planting areas (12” to 18” depth) shall be measured by the cubic yard, to the nearest 0.1 cubic yard.

4.5 Turf establishment shall be measured by the square yard, to the nearest 0.1 square yard.

Basis of Payment

- 5.1 Water Control Box shall be paid at the contract unit price after installation is complete and operational.
- 5.2 Site irrigation shall be paid at the contract unit price after installation is complete and operational.
- 5.3 Drinking Fountain shall be paid at the contract unit price after installation is complete and operational.
- 5.4 Loam shall be paid at the contract unit price in place.
- 5.5 Turf establishment shall be paid for at the contract unit price.

<u>Pay Item</u>		<u>Pay unit</u>
640.A	New Water Control Box, Complete	Each
640.B	New Site Irrigation, Complete	Lump Sum
640.C	New Drinking Fountain, Complete	Each
641	Loam	Cubic Yard
646.51	Turf Establishment w/Mulch & Tackifier	Square Yard

END OF SECTION

SPECIAL PROVISION

SECTION 645

EROSION CONTROL

Amend Section 645 to include:

Description

Add 1.3: The work under this item includes the furnishing, installation, maintenance and removal of a reusable fabric sack to be installed in drainage structures for the protection of wetlands and other resource areas and the prevention of silt and sediment from the construction site from entering the storm water collection system at the locations specified in the contract plans or as directed by the Engineer.

Materials

Add 2.12: The silt sack shall consist of a pre-manufactured non-woven geotextile intended for use as inlet protection; manufactured items include SiltSack, and approved equals.

Construction Requirements

Add 3.1.14: Contractor shall install per manufacturer's recommendation. Silt sacks shall be maintained weekly or after every storm event. The Contractor shall remove and dispose of the silt sack following construction, and shall remove any accumulated debris inside the Catch Basin.

Pay Item

Pay unit

645	Catch Basin Silt Sack	Each
645.631	Silt Fence or Silt Log	Linear Foot

END OF SECTION

SPECIAL PROVISION

SECTION 800

PARK FEATURES

Description

- 1.1** This work shall consist of altering the existing galvanized swing set structure to allow for removal of trash and debris within the structure.
- 1.2** This work shall consist of replacing the rubber (fall safe) tile mat under the existing swing set with new base and tiles.
- 1.3** This work shall consist on the refurbishment and replacement of existing wood slat / metal structure benches in the park.

Materials

- 2.1** The existing swing set structure is constructed of galvanized steel. Alterations and repairs to the structure shall be completed with similar materials, galvanized to match.
- 2.2** New fall safe tiles shall be interlocking style with a rubber surface designed for a 6' fall height. In general, this is 3.25" to 3.75" thick. Contractor to provide certification of fall-height rating. Tiles shall be designed for the purpose of playground safety.

Construction Requirements

- 3.1** The Contractor shall provide the Engineer with a detailed description of proposed alterations to the swing set structure for approval prior to commencing the work. It is anticipated that the bottom steel plates will simply be removed from one side. Areas with newly exposed steel shall be re-galvanized with zinc paint.
- 3.2** Fall safe tiles shall be installed per manufacturers requirements.
- 3.3** Benches
- 3.3.1** Refurbishing of existing benches (bench w/o back) shall consist of re-applying stain on wood portions, and repainting metal sections.
- 3.3.2** Replacement of existing bench (bench w/back) shall consist of removal of existing bench. Contractor shall provide removed bench to the City DPW for their use. Provide and install new bench to match the existing No Back benches already in the Park.

Method of Measurement

- 4.1** Alter Existing Swing Set Structure will not be measured.
- 4.2** New Rubber Mat shall be measured by the square yard, to the nearest 0.1 square yard.
- 4.3** Remove & Refurbish Existing Bench shall be measured for number of units installed.
- 4.4** Remove & Replace Existing Bench shall be measured for number of units installed.

Basis of Payment

- 5.1** Alter Existing Swing Set Structure shall be paid at the contract unit price.
- 5.2** New Rubber Mat shall be paid at the contract unit price.
- 5.3** Remove & Refurbish Existing Bench shall be paid at the contract unit price.
- 5.4** Remove & Replace Existing Bench shall be paid at the contract unit price.

Pay Item

Pay unit

800.1	Alter Existing Swing Set Structure	Lump Sum
800.2	New Rubber Mat	Square Yard
800.3A	Remove & Refurbish Existing Bench	Each
800.3B	Remove & Replace Existing Bench	Each

SPECIAL PROVISION

SECTION 800.4

Mural and Quote on Fencing

Description

1.1 This work shall consist of recreating artwork that was originally depicted here.

Materials

2.1 Use artistic quality exterior paints designed to last 10 years or more. Mural shall be painted on appropriate background paints.

Construction Requirements

3.1 The Contractor shall subcontract this work out to local artist who has the skills to recreate the original mural (or similar) and quote from the original Thomas Bailey Aldrich story

Method of Measurement

4.1 Lump Sum, complete in place and approved by the City.

Basis of Payment

5.1 Shall be paid at the contract lump sum price.

Pay Item

800.4 Paint Mural and Poem on Fence

Pay unit

Lump Sum

SECTION 15415

DRINKING FOUNTAIN

Edit the Section title to read either "Drinking Fountains" or "Water Coolers" if only one of these two types of fixtures is specified in this Section.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

Lead-free statement: Some states require, or may soon require, that the wetted surfaces of plumbing fixtures described in this section have a weighted-average lead content of no more than 0.25% when used in applications intended to convey or dispense water for human consumption through drinking or cooking. The specifier is urged to be aware of requirements of authorities having jurisdiction and to edit text below to suit project requirements. Additional information is available at the following website: www.weareleadfree.net

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

1.2 SUMMARY

- A. This Section includes the following **drinking fountains** and related components:

Adjust list below to suit Project.

1. Drinking fountains.
2. Fixture supports.

1.3 SUBMITTALS

- A. Product Data
- B. Shop Drawings: Diagram power, signal, and control wiring.
- C. Field quality-control test reports.
- D. Operation and Maintenance Data: For fixtures to include in emergency, operation, and maintenance manuals.

1.4 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

First paragraph below is appropriate for private commercial projects. Delete Public Laws 90-480 and 101-336 if not required by authorities having jurisdiction.

- B. Regulatory Requirements: Comply with requirements in ICC A117.1, "Accessible and Usable Buildings and Facilities"[; **Public Law 90-480, "Architectural Barriers Act"; and Public Law 101-336, "Americans with Disabilities Act";]**

for fixtures for people with disabilities.

- C. NSF Standard: Comply with NSF 61, "Drinking Water System Components--Health Effects," for fixture materials that will be in contact with potable water.

Retain paragraph below for drinking fountains.

- D. ARI Standard: Comply with ARI's "Directory of Certified Drinking Water Coolers" for style classifications.

Retain both paragraphs below for water coolers.

- E. ARI Standard: Comply with ARI 1010, "Self-Contained, Mechanically Refrigerated Drinking-Water Coolers," for water coolers and with ARI's "Directory of Certified Drinking Water Coolers" for type and style classifications.

- F. ASHRAE Standard: Comply with ASHRAE 34, "Designation and Safety Classification of Refrigerants," for water coolers. Provide HFC 134a (tetrafluoroethane) refrigerant, unless otherwise indicated.

PART 2 - PRODUCTS

Articles in Part 2 specify drinking fountains and water coolers. Retain and edit only those articles applicable to Project. See Editing Instruction No. 2 in the Evaluations for cautions about combinations of fixture components.

2.1 DRINKING FOUNTAINS

See Editing Instruction No. 1 in the Evaluations for cautions about naming manufacturers and products.

Refer to the table for drinking fountains in the Evaluations for lists of manufacturers' products. Use this table in combination with manufacturers' catalogs or product data to insert series, type, model, and designation of other characteristics.

Copy and edit paragraph and subparagraphs below for each freestanding-type drinking fountain.

- A. Drinking Fountain < >:

Retain one of first three subparagraphs and list of manufacturers below. See Division 1 Section "Product Requirements."

1. Manufacturers: Murdock, Inc.

2. Description: **Accessible**, Style F, freestanding drinking fountain.

If basis-of-design product manufacturer's name, product name or designation, and description above are explicit enough, requirements in six

subparagraphs and associated subparagraphs below may be reduced or omitted.

a. Pedestal:

- 1)Material: **Stainless steel.**
- 2)Shape: **Round with side receptors.**

b. Receptor(s):

- 1)Number: **Three.**
- 2)Material: **Stainless steel.**
- 3)Shape: Round.
- 4)Bubbler: Two offset, bilevel and bottle filler in pedestal.

c. Controls: **Push button** with adjustable stream regulator.

d. Access to Internal Components: Panel in pedestal.

e. Supply: **NPS 3/4", reduced to 1/2" at fixture (DN 15)** with ball, gate, or globe valve.

f. Drain: Grid with NPS 1-1/4 (**DN 32**) minimum **horizontal waste and trap complying with ASME A112.18.2 waste to drainage system.**

B. SUPPLY LINES

1. Shall be type K copper, 3/4" minimum size installed per Portsmouth Water Dept standards in sand bedding, see details. Also supply backflow devices and protective enclosures as determined to be necessary in the water meter cabinet.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine roughing-in for water and waste piping systems to verify actual locations of piping connections before fixture installation. Verify that sizes and locations of piping and types of supports match those indicated.
- B. Examine ground for suitable conditions where fixtures are to be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLICATIONS

- A. Set freestanding and pedestal drinking fountains on ground.
- B. Use chrome-plated brass or copper tube, fittings, and valves in locations exposed to view. Plain copper tube, fittings, and valves may be used in concealed locations.

3.3 INSTALLATION

- A. Follow manufacturer instructions for installation.
- B. Install fixtures level and plumb. For fixtures indicated for children, install at height required by authorities having jurisdiction.

- C. Install water-supply piping with shutoff valve on supply to each fixture to be connected to water distribution piping. Use ball, gate, or globe valve. Install valves in locations where they can be easily reached for operation.
- D. Install trap and waste piping on drain outlet of each fixture to be discharged into a reservoir of crushed stone constructed under the fountain for this purpose.

Delete paragraph below if sealants are provided in Division 7 Section "Joint Sealants."

3.4 CONNECTIONS

Coordinate piping installations and specialty arrangements with schematics on Drawings and with requirements specified in piping systems. If Drawings are explicit enough, these requirements may be reduced or omitted.

- A. Piping installation requirements are located in manufacturer installation documents.
- B. Connect fixtures with water supplies, stops, and risers, and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures.
- C. Ground equipment according to Division 16 Section "Grounding and Bonding."
- D. Connect wiring according to Division 16 Section "Conductors and Cables."

3.5 FIELD QUALITY CONTROL

Retain this Article for water coolers.

- A. Water Cooler Testing: After electrical circuitry has been energized, test for compliance with requirements. Test and adjust controls and safeties.
 - 1. Remove and replace malfunctioning units and retest as specified above.

3.6 ADJUSTING

- A. Adjust fixture flow regulators for proper flow and stream height.

3.7 CLEANING

- A. After completing fixture installation, inspect unit. Remove paint splatters and other spots, dirt, and debris. Repair damaged finish to match original finish.
- B. Clean fixtures, on completion of installation, according to manufacturer's written instructions.

END OF SECTION 15415

SUPPLEMENTAL SPECIFICATION

SECTION 01544

TREE PROTECTION

Description

- 11** The purpose of these items is to prevent damage to branches, stems and root systems of existing individual trees as well as shrubs and other quality vegetation to remain, and to ensure their survival. To the extent possible, to avoid soil compaction within the root zone, construction activities including, but not limited to, vehicle movement, excavation, embankment, staging and storage of materials or equipment shall not occur underneath the canopy (drip line) of trees to remain. Where these activities will occur within 10 feet of the canopy of trees or where directed, the Contractor shall take the appropriate protective measures specified herein.
- 12** The Contractor shall be solely responsible for judging the full extent of the work requirements, including, but not necessarily limited to any equipment and materials necessary for providing tree protection.
- 13** Prior to any construction activities, the Contractor shall walk the site with the Engineer and City Arborist to identify which trees will require protection and to determine approved measures. The Arborist shall make recommendations as to appropriate methods to protect the trees.
- 14** The Contractor is responsible for the protection of all existing trees and plants within and immediately adjacent to the construction area that are not designated to be removed for the length of the construction period.

Materials

- 2.1** Fence and temporary fence posts shall be subject to the approval of the Engineer.
- 2.2** Fencing for individual plants shall be polyethylene fencing or chain link fence (new or used).
- 2.3** Incidental to these items, the Contractor shall provide water for maintaining plants in the construction area that will have exposed root systems for any period during construction.

Construction Requirements

- 31** To the extent possible, to avoid soil compaction within the root zone, construction activities including, but not limited to, vehicle movement, excavation, embankment, staging and storage of materials or equipment shall not occur underneath the canopy (drip line) of trees to remain. Where these activities will occur within 10 feet of the canopy of trees, the Contractor shall provide Individual Tree Protection as specified herein.

- 32** For individual tree protection, the Contractor shall set posts and fencing at the limits of the tree canopy. Where construction activities closer to the trees is unavoidable, the contractor shall tie branches out of the way and place wood chips to a depth of 6 inches on the ground to protect the root systems. The Contractor shall wrap the area of the trunk of the tree with burlap prior to armoring with 2x4 cladding. Cladding for tree trunks shall extend from the base of the tree to at least 8 feet from the base.
- 33** To the extent possible, temporary landscaped fencing shall be installed at the limit of tree canopy and shall be staked and maintained vertical for the length of the contract.
- 34** Where excavation within canopy is unavoidable, the Contractor shall use equipment and methods that shall minimize damage to the tree roots, per recommendations of the Certified Arborist. Such methods may require root pruning prior to, as well as during, any excavation activities.
- 35** All fencing, trunk protection, branch protection, and woodchips shall be maintained throughout the duration of the contract. Protective fencing shall be repaired and woodchip mulch replaced as necessary during the duration of the contract at no additional cost.

Cutting and Pruning

Some pruning of roots and branches may be a necessary part of construction. Pruning will be performed on the same side of the tree that roots have been severed.

The Contractor shall notify the City Arborist to oversee any cutting of limbs, stem or roots of existing trees. All cuts shall be clean and executed with an approved tool. Under no circumstances shall excavation in the tree protection area be made with mechanical equipment that might damage the existing root systems.

Any tree root area exposed by construction shall be covered and watered immediately. Exposed tree roots shall be protected by dampened burlap at all times until they can be covered with soil.

Watering

Water each tree within the construction area where work is in progress twice per week until the surrounding soil of each tree is saturated for the duration of construction activities.

Removal of Protection

After all other construction activities are complete, but prior to final seeding, wood chips, temporary fencing, branch protection, and trunk protection materials shall be removed and disposed off-site by the Contractor at no additional cost.

Tree Damage

The Contractor shall be held responsible for the health and survival of the existing trees in the immediate vicinity of the of the construction area. Damage that, in the Engineer's opinion, can be remedied by corrective measures shall be repaired immediately. Broken limbs shall be pruned according to industry standards. Wounds shall not be painted. Trees or shrubs that are damaged irreparably shall, at the Engineer's discretion, be replaced. Cost of replacement trees shall be borne by the Contractor.

END OF SECTION