

Bid#37-19
Market Street Gateway, Phase 2

Addendum #1
Issued: February 25, 2019

This addendum forms part of the original document marked "**Bid 37-19 Market St Gateway Improvements Phase 2**"

Addendum#1 clarifies questions that have been asked and adjusts the bid due date and final completion date.

Questions regarding Bid Document:

1. What is the project estimate?
\$2,290,000.00
2. Can you add an item for Mobilization to the Bid?
Yes, see new proposal form attached.
3. Mast Arms for the Signals cannot be manufactured in time, can the completion date be set back?
Yes, the new date is shown below.
4. There is not enough time allotted for bid due to coordination with many sub-contractors.
The Bid opening has been pushed back.
5. There are insufficient push buttons listed in the specification for the traffic signal.
See revised specification attached.

The following changes shall be incorporated into the bid document:

1. **The attached proposal sheet supersedes the original.**
2. **The date for final completion shall be changed to May 14, 2020**
3. **The bid opening date shall be March 14, 2019 @ 1 PM in the Finance Department**
4. **The attached specification for Item 616 shall supersede the original.**

Bidders are to acknowledge this addendum within their proposals. Failure to do so may subject a bidder to disqualification.

PROPOSAL FORM

Market Street Gateway Improvements Phase 2, Bid 37-19

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 Director of Public Works. 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 therefore the following item prices, to wit:

ITEM #	EST. QTY.	UNITS	ITEM DESCRIPTION & UNIT PRICE IN WORDS	UNIT PRICE IN FIGURES	ITEM TOTAL IN FIGURES
201.02	3.42	Acre	GRUBBING (F)	\$ _____	\$ _____
202.41	123	Lf	REMOVAL OF EXISTING PIPES 0-24" DIAMETER (F)	\$ _____	\$ _____
202.5	1	Ea	REMOVAL OF EXISTING STRUCTURES	\$ _____	\$ _____
202.7	620	LF	REMOVAL OF GUARDRAIL	\$ _____	\$ _____
203.1	5205	CY	COMMON EXCAVATION	\$ _____	\$ _____

PROPOSAL FORM (continued)

ITEM #	EST. QTY.	UNITS	ITEM DESCRIPTION & UNIT PRICE IN WORDS	UNIT PRICE IN FIGURES	ITEM TOTAL IN FIGURES
203.2	100	CY	ROCK EXCAVATION	\$ _____	\$ _____
203.6	1600	CY	EMBANKMENT IN PLACE (F)	\$ _____	\$ _____
206.1	42	CY	COMMON STRUCTURE EXCAVATION.	\$ _____	\$ _____
206.19	14	CY	COMMON STRUCTURE EXPLORATORY EXCAVATION.	\$ _____	\$ _____
206.2	30	CY	ROCK STRUCTURE EXCAVATION	\$ _____	\$ _____
304.3	701	CY	CRUSHED GRAVEL	\$ _____	\$ _____
304.90	268	CY	3/8" PEA STONE (Biomedian)	\$ _____	\$ _____
304.91	1073	CY	NHDOT #4 CRUSHED STONE (Biomedian)	\$ _____	\$ _____
403.11	20	Tons	Machine Method Bituminous Paving	\$ _____	\$ _____
403.12	170	Tons	Hand Method Bituminous Paving	\$ _____	\$ _____
520.1	60	Cy	Concrete, Class A curb backfill	\$ _____	\$ _____
583.1	16	CY	RIP RAP TYPE A	\$ _____	\$ _____
603.33112	2	EA	12" CORR. POLYETHYLENE END SECTION	\$ _____	\$ _____

PROPOSAL FORM (continued)

ITEM #	EST. QTY.	UNITS	ITEM DESCRIPTION & UNIT PRICE IN WORDS	UNIT PRICE IN FIGURES	ITEM TOTAL IN FIGURES
603.33115	1	EA	15" CORR. POLYETHYLENE END SECTION	\$ _____	\$ _____
603.33124	1	EA	24" CORR. POLYETHYLENE END SECTION	\$ _____	\$ _____
603.82212	80	Lf	12" HDPE Drain Pipe	\$ _____	\$ _____
603.82215	470	Lf	15" HDPE Drain Pipe	\$ _____	\$ _____
603.82215	52	Lf	24" HDPE Drain Pipe	\$ _____	\$ _____
604.0007	8	Ea	Polyethylene Liner for CB	\$ _____	\$ _____
604.1	8	Ea	Eliminator© systems Oil/Water Separator Hood	\$ _____	\$ _____
604.2	3	Ea	Core and boot existing drain structures 12-15"	\$ _____	\$ _____
604.12	8	Ea	4' Diameter New Catch Basins (Type B Complete)	\$ _____	\$ _____
604.22	1	Ea	New Drop Inlet Basin (Type B Frame & Grate) (Contingency item)	\$ _____	\$ _____
604.324	2	Ea	4' Diameter Drain Manhole with Hinged ERGO XL Manhole Cover	\$ _____	\$ _____
604.4	2	LF	RECONSTRUCTING/ADJUSTING MASONRY FOR CATCH BASINS & DROP INLETS (Frame and Grate covered under 604.72 below)	\$ _____	\$ _____

PROPOSAL FORM (continued)

ITEM #	EST. QTY.	UNITS	ITEM DESCRIPTION & UNIT PRICE IN WORDS	UNIT PRICE IN FIGURES	ITEM TOTAL IN FIGURES
604.51	1	LF	RECONSTRUCTING/ADJUSTING MASONRY FOR SEWER MANHOLES (Frame and Cover covered under 604.61 below)	\$ _____	\$ _____
604.52	1	LF	RECONSTRUCTING/ADJUSTING MASONRY FOR DRAINAGE MANHOLES (Frame and Cover covered under 604.62 below)	\$ _____	\$ _____
604.61	1	EA	Install New Hinged Sewer Manhole Covers if directed (Frame and Cover Provided by City)	\$ _____	\$ _____
604.62	1	EA	Provide and Install New Hinged Drain Manhole Covers if directed (32" or 24" as appropriate)	\$ _____	\$ _____
604.72	4	EA	Provide and Install New CB Frame & Grate if directed (Existing Structures Only)	\$ _____	\$ _____
605.512	310	Lf	12" Corrugated Perforated HDPE Underdrain With fittings as necessary	\$ _____	\$ _____
605.79	4	Ea	Underdrain flushing basins	\$ _____	\$ _____
606.1203	620	Lf	Beam Guardrail Standard Section (Steel Post)	\$ _____	\$ _____
606.1255	2	U	Beam Guardrail Terminal Unit EAGRT	\$ _____	\$ _____
606.1285	3	U	Beam Guardrail Bridge Approach	\$ _____	\$ _____
606.91	300	Lf	Resetting Beam Guardrail	\$ _____	\$ _____

PROPOSAL FORM (continued)

ITEM #	EST. QTY.	UNITS	ITEM DESCRIPTION & UNIT PRICE IN WORDS	UNIT PRICE IN FIGURES	ITEM TOTAL IN FIGURES
608.24	2687	Sy	4" Concrete Sidewalk	\$ _____	\$ _____
608.26	50	Sy	6" Concrete Sidewalk in Ramp Areas	\$ _____	\$ _____
608.54	6	Sy	Detectable Warning Surface Panels Cast Iron	\$ _____	\$ _____
609.01	902	Lf	New Straight Vertical Granite Curb 5" Wide	\$ _____	\$ _____
609.02	140	Lf	New Curved Vertical Granite Curb 5" Wide	\$ _____	\$ _____
609.216	1067	Lf	New straight sloped Granite Curb	\$ _____	\$ _____
609.236	38	Lf	New curved sloped Granite Curb	\$ _____	\$ _____
609.5	40	Lf	Reset Existing Curb (Indeterminate quantity)	\$ _____	\$ _____
611.90001	1	EA	Adjusting <u>Existing</u> Gate Valves and Stops to Finish Grade (Indeterminate quantity)	\$ _____	\$ _____
614.321	10	Lf	2" Steel Conduit	\$ _____	\$ _____
614.331	10	Lf	3" Steel Conduit	\$ _____	\$ _____
614.511	18	Ea	Concrete Electrical Pull Boxes	\$ _____	\$ _____
614.512	5	Ea	Concrete Electrical Pull Boxes	\$ _____	\$ _____

PROPOSAL FORM (continued)

ITEM #	EST. QTY.	UNITS	ITEM DESCRIPTION & UNIT PRICE IN WORDS	UNIT PRICE IN FIGURES	ITEM TOTAL IN FIGURES
614.72114	2217	Lf	2" Schedule 40 PVC Conduit (Lighting)	\$ _____	\$ _____
614.72118	10	Lf	2" Sch. 80 PVC Conduit (Contingency item)	\$ _____	\$ _____
614.73114	100	Lf	3" Schedule 40 PVC Conduit	\$ _____	\$ _____
614.73118	665	Lf	3" Sch. 80 PVC Conduit (road crossings)	\$ _____	\$ _____
615.0072	1000	Lb	Galvanized Steel U channel Breakaway Sign Posts	\$ _____	\$ _____
615.03	68	Sf	Traffic Signs type C	\$ _____	\$ _____
615.032	23	Sf	Traffic Signs type C with breakaway mounts	\$ _____	\$ _____
615.014	10	U	Relocating Traffic Signs, type C	\$ _____	\$ _____
616.191	1	U	Traffic Signals Market/Noble's Island	\$ _____	\$ _____
618.6	1	Allow	Portsmouth Police w/wo vehicle <u>No Mark Up Allowed</u> (Only Exact Cost will be paid)	<u>\$20,000.00</u>	<u>\$20,000.00</u>
618.7	1	Allow	Uniformed Flaggers <u>No Mark Up Allowed</u> (Only Exact Cost will be paid)	<u>\$40,000.00</u>	<u>\$40,000.00</u>
619.1	1	U	Maintenance of Traffic	\$ _____	\$ _____
621.6	6	Ea	Snow Plowable Markers	\$ _____	\$ _____
625.2	14	Ea	Light Pole Bases	\$ _____	\$ _____

PROPOSAL FORM (continued)

ITEM #	EST. QTY.	UNITS	ITEM DESCRIPTION & UNIT PRICE IN WORDS	UNIT PRICE IN FIGURES	ITEM TOTAL IN FIGURES
628.2	5450	Lf	Saw Bituminous Pavement	\$ _____	\$ _____
632.0104	5025	Lf	4" Paint Striping (Chlorinated Rubber Paint)	\$ _____	\$ _____
632.0106	4292	Lf	6" Paint Striping (Chlorinated Rubber Paint)	\$ _____	\$ _____
632.3112	682	Lf	12" Thermoplastic Stop/Crosswalk	\$ _____	\$ _____
632.32	655	Sf	Thermoplastic Symbol/Word	\$ _____	\$ _____
632.911	6249	Lf	Obliterate Lines 12" wide or under	\$ _____	\$ _____
632.92	50	Sf	Obliterate Pavement Markings Symbols and Words	\$ _____	\$ _____
641.1	3400	Cy	Loam for Planting Beds and Parks	\$ _____	\$ _____
641.2	800	Cy	Planting Media for Biomedian	\$ _____	\$ _____
644.516	3400	Sy	Coastal Salt Tolerant Meadow Seed Mix	\$ _____	\$ _____
645.112	452	Cy	Bark Mulch	\$ _____	\$ _____
645.531	1340	Lf	Silt Fencing or silt log	\$ _____	\$ _____
645.7	1	Ls	SWPPP	\$ _____	\$ _____

PROPOSAL FORM (continued)

ITEM #	EST. QTY.	UNITS	ITEM DESCRIPTION & UNIT PRICE IN WORDS	UNIT PRICE IN FIGURES	ITEM TOTAL IN FIGURES
645.71	128	Hr	SWPPP Inspections	\$ _____	\$ _____
645.9	9	Ea	Catch Basin Silt Sacks	\$ _____	\$ _____
646.512	1	Ls	Turf Establishment with Mulch	\$ _____	\$ _____
651.13	10	Ea	JUNIPERUS VIRGINIANA (See Specifications for Substitutions)	\$ _____	\$ _____
652.06	7	Ea	ACER RUBRUM (See Specifications for Substitutions)	\$ _____	\$ _____
652.17	38	Ea	BETULA NIGRA (See Specifications for Substitutions)	\$ _____	\$ _____
652.52	14	Ea	NYSSA SYLVATICA	\$ _____	\$ _____
652.691	15	Ea	QUERCUS BOREALIS 'RUBRA' (See Specifications for Substitutions)	\$ _____	\$ _____
653.97	12	Ea	SOPHORA JAPONICA 'REGENT'	\$ _____	\$ _____
654.21	121	Ea	ILEX GLABRA	\$ _____	\$ _____
654.211	191	Ea	ILEX GLABRA 'COMPACTA'	\$ _____	\$ _____
654.45	370	Ea	JUNIPERUS VIRGINIANA 'GREY OWL'	\$ _____	\$ _____

PROPOSAL FORM (continued)

ITEM #	EST. QTY.	UNITS	ITEM DESCRIPTION & UNIT PRICE IN WORDS	UNIT PRICE IN FIGURES	ITEM TOTAL IN FIGURES
655.02	34	Ea	AMELANCHIER CANADENSIS (See Specifications for Substitutions)	\$ _____	\$ _____
655.06	51	Ea	ARONIA MELANCARPA	\$ _____	\$ _____
655.27	48	Ea	CLETHRA ALNIFOLIA	\$ _____	\$ _____
655.701	113	Ea	FOTHERGILLA GARDENII	\$ _____	\$ _____
655.702	35	Ea	FOTHERGILLA MAJOR 'MT AIRY'	\$ _____	\$ _____
655.703	15	Ea	FOTHERGILLA MAJOR	\$ _____	\$ _____
655.801	122	Ea	ILEX VERTICILLATA 'WINTER RED'	\$ _____	\$ _____
655.802	8	Ea	ILEX VERTICILLATA 'JIM DANDY'	\$ _____	\$ _____
656.02	260	Ea	MYRICA PENNSYLVANICA	\$ _____	\$ _____
656.321	278	Ea	RHUS AROMATICA 'LOW GROW'	\$ _____	\$ _____
656.42	423	Ea	ROSA RUGOSA 'ALBA'	\$ _____	\$ _____
656.73	91	Ea	VACCINIUM CORYMBOSUM	\$ _____	\$ _____
656.82	38	Ea	VIBURNUM DENTATUM	\$ _____	\$ _____

PROPOSAL FORM (continued)

ITEM #	EST. QTY.	UNITS	ITEM DESCRIPTION & UNIT PRICE IN WORDS	UNIT PRICE IN FIGURES	ITEM TOTAL IN FIGURES
658.161	87	Ea	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	\$ _____	\$ _____
658.311	122	Ea	ECHINACEA PURPUREA 'WHITE SWAN'	\$ _____	\$ _____
658.345	74	Ea	EUPATORIUM FISTULOSUM	\$ _____	\$ _____
658.54	161	Ea	LIATRIS SCARIOSA	\$ _____	\$ _____
658.791	256	Ea	SCHIZACHYRIUM SCOPARIUM	\$ _____	\$ _____
658.858	266	Ea	SPOROBOLIS HETEROLEPSIS	\$ _____	\$ _____
658.866	135	Ea	SYMPHYOTRICHUM NOVAE-ANGLAIE	\$ _____	\$ _____
665.14	27	Ea	PARK BOLLARD LIGHTS	\$ _____	\$ _____
665.17	9	Ea	STREET LIGHTING TYPE-A 24' SINGLE ARM	\$ _____	\$ _____
665.18	5	Ea	STREET LIGHTING TYPE-B 24' DOUBLE ARM	\$ _____	\$ _____
665.91	1	Ea	METER CABINET PANEL AND ELECTRICAL WORK FOR LIGHTING AND SIGNAL POWER	\$ _____	\$ _____
692	1	Ea	MOBILIZATION	\$ _____	\$ _____

TOTAL FOR PROJECT BASE BID

In Figures \$ _____

PROPOSAL FORM FOR ADDITIONAL/ALTERNATIVE BID #1
CONSTRUCTION ITEMS

<u>It is mandatory to fill out this section as well.</u>					
ITEM #	EST. QTY.	UNITS	ITEM DESCRIPTION & UNIT PRICE IN WORDS	UNIT PRICE IN FIGURES	ITEM TOTAL IN FIGURES
665.15	3	Ea	UPLIGHTS AT PARK SIGNS	\$ _____	\$ _____
665.16	19	Ea	KIOSK LIGHTING	\$ _____	\$ _____
900.01	17	EA	BENCH	\$ _____	\$ _____
900.02	8	EA	BICYCLE RACK	\$ _____	\$ _____
900.03	2	EA	TRASH RECEPTACLE	\$ _____	\$ _____
900.04	2	EA	PARK SIGN - LARGE	\$ _____	\$ _____
900.05	1	EA	PARK SIGN - MEDIUM	\$ _____	\$ _____
900.06	1	LS	KIOSK CONCRETE SANDBLASTING AND STAINING FOR GREAT BAY	\$ _____	\$ _____
900.07	17	EA	BRONZE TABLETS IN WALKS	\$ _____	\$ _____
900.08	1	LS	CONCRETE PATH SANDBLASTING AND STAINING FOR FLORA	\$ _____	\$ _____
900.11	1	EA	KIOSK INTERPRETIVE PANEL FRAME (LARGE)	\$ _____	\$ _____

PROPOSAL FORM (add alt 1 continued)

ITEM #	EST. QTY.	UNITS	ITEM DESCRIPTION & UNIT PRICE IN WORDS	UNIT PRICE IN FIGURES	ITEM TOTAL IN FIGURES
900.12	1	EA	KIOSK INTERPRETIVE PANEL FRAME (MEDIUM)	\$_____	\$_____
901.1	1	LS	KIOSK STRUCTURE	\$_____	\$_____

The contractor will be provided an extra 30 working days and time extension if this add-alt is selected for approval.

TOTAL FOR PROJECT ADDITIONAL/ALTERNATIVE BID #1

In Figures \$_____

PROPOSAL FORM FOR ADDITIONAL/ALTERNATIVE BID #2
CONSTRUCTION ITEMS

It is mandatory to fill out this section as well.

403.11	750	Tons	Machine Pave 1/2"-50 Gyr 1.5" Overlay	\$_____	\$_____
403.119	200	Tons	Machine Pave 1/2"-50 Gyr High Strength, 1.5" Overlay (Traffic Signal Areas)	\$_____	\$_____
403.6	4000	LF	Pavement Joint Adhesive,	\$_____	\$_____
417	11,100	Sy	Cold Planing (No work on bridge deck)	\$_____	\$_____
413.1	6000	Lbs	Crack Sealing	\$_____	\$_____
1010.2	2000	\$	Asphalt Cement Adjustment	\$2,000.00	\$2,000.00

The contractor will be provided an extra 10 working days if this add-alt is selected for approval.

TOTAL FOR PROJECT ADDITIONAL/ALTERNATIVE BID #2

In Figures \$_____

PROPOSAL FORM FOR ADDITIONAL/ALTERNATIVE BID #3
CONSTRUCTION ITEMS

It is mandatory to fill out this section as well.

659.5 1 U Irrigation system for planted areas \$ _____ \$ _____

TOTAL FOR PROJECT ADDITIONAL/ALTERNATIVE BID #3

In Figures \$ _____

PROPOSAL FORM FOR ADDITIONAL/ALTERNATIVE BID #4
CONSTRUCTION ITEMS

It is mandatory to fill out this section as well.

673 1 U Installation of Sara Long Bridge Plaque \$ _____ \$ _____

TOTAL FOR PROJECT ADDITIONAL/ALTERNATIVE BID #4

In Figures \$ _____

To Bidder:

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 and/or easements and agreements from one or more impacted property owners are not received.

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.

TOTAL FOR PROJECT (BASE BID + ADD ALTERNATIVE BID 1 + ADD ALTERNATIVE BID 2+ ADD ALTERNATIVE BID 3+ ADD ALTERNATIVE BID 4) AND BASIS OF AWARD

In Figures \$ _____

In Words \$ _____

Form Continues on Next Page

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

Date:

Company

By: _____
Signature

Business Address

Title: _____

City, State, Zip Code

Telephone: _____

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

By: _____
Signature & Title

Date

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.

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

Email
Address: _____

SPECIAL PROVISION
AMENDMENT TO SECTION 616 - TRAFFIC SIGNALS

Item 616.191 – Alterations to Traffic Signals

This special provision provides for the reconstruction of the existing traffic control signal at the intersection of Market Street and Noble's Island in the City of Portsmouth, NH.

GENERAL:

- All provisions of Section 616, except as modified or changed below, shall apply.
 1. The Contractor shall be responsible for the traffic signal operation and maintenance once alterations to the existing signals, excavation or other work within 75 feet of the stop bar at any leg of the intersection has begun. The Contractor shall notify the City of Portsmouth Department of Public Works (603-427-1530) with names and phone numbers of persons to be contacted in case of a malfunction. The Contact person(s) must be available 24 hours a day, seven days a week. The Contractor shall also keep a signal log in the cabinet to track all maintenance work the Contractor completes on the signal system. This log shall be placed within a plastic cover and shall at least include the description of the trouble call, corrective action taken, date, time, and personnel who completed the work.
 2. It is not intended that every fitting, minor detail or feature be shown and described, as the assumption is made that the Contractor and/or their Subcontractor is an expert in the particular area of responsibility and is capable of interpreting the plans, Specifications, and Special Provisions so that the bid and/or construction shall include all items required to provide complete, fully operational traffic control signal system and that they shall be provided and installed in a neat and workmanlike manner.
 3. All quantities for traffic signal items as listed below shall be checked against the plans by the Contractor. Where a discrepancy between the quantities is noted, the plans shall override.
 4. The traffic signal must be inspected and approved by the City of Portsmouth Department of Public Works (603-427-1530) prior to placing in operation. The Contractor shall contact David Desfosses (603-766-1411) one week prior to turning the signals on. If the Contractor does not speak directly with David Desfosses they must leave a detailed message with the Administrative Assistant and expect a call back. Leaving a message does not constitute an approval.
 5. The Contractor shall install a generator anchoring system to the new traffic controller cabinet's cement concrete foundation. The location of the anchoring system will be on the side of the cabinet that houses the controller's power supply and installed to the minimum 12" raised concrete foundation (see location A on Attachment A Detail Plan). If the controller cabinet doesn't have a raised foundation to accommodate the anchoring system then the Contractor shall install the anchoring system to the front

access pad of the controller cabinet. The anchoring system shall be a ½-inch x 13 tpi galvanized wrought eyebolt with a thread length of 1 5/8-inch. The eyebolt shall be installed in a 5/8-inch diameter drilled hole into the concrete foundation or pad (the location of the drilled hole shall be placed in an area where it does not interfere with the existing controller cabinet anchor bolt system to the concrete foundation). The eyebolt shall be bonded into the concrete by an epoxy compound [Component “A” (105 resin) and Component “B” (205 hardener)], with the epoxy compound filling the drilled hole and covering the threads of the eyebolt. The epoxy compound shall be a product as included on the Department’s Qualified Product List. [See “Attachment A” Detail Plan]

6. The electrical service modifications and new hook-up shall be paid for by the Contractor. The monthly power costs will continue to be paid for by the City of Portsmouth during the construction contract.
7. The notation of approved equal or equivalent is denoted on several items and requires specific approval by the Engineer and the City.
8. Removal of all old signal equipment and removing all foundations down to 12” below grade is subsidiary to this item.

Add to 2.1:

2.1.3 List of Major Materials:

- 1 – Maintain existing traffic signal cabinet and controller during the duration of construction and remove and dispose of following switch-over to the new cabinet control listed below. Any ancillary equipment requested to be shall be salvaged and delivered to DPW.
- 1 – Existing loop detectors will be abandoned following the installation of the video detection system. The Contractor shall properly dispose of all old cabling unless otherwise directed by the City of Portsmouth.
- 1 – The traffic signal equipment shall be housed in a “P” Type cabinet that is on the NHDOT approved products list and assembled by the equipment manufacturer with a 12-inch extension base. The interior and exterior of the controller cabinet shall be powder coated, white on the inside and black on the exterior. The cabinet shall be equipped with a pull out keyboard tray, an LED interior light, and a standard generator hook-up for future auxiliary power needs. The cabinet shall be equipped with a newly installed ground rod array and lightning arresting connections on all external cables leads. The cabinet shall be furnished on a cement concrete foundation. Cabinet to be provided with thermostatically controlled dual exhaust fans and electric heat unit.
- 1 – 16-Phase programmable traffic actuated signal controller of current NEMA specifications (TS2-Type 1) with internal time-based coordination with associated MMU to be operated in conflict monitor mode. The controller shall be a Siemens model m60 NEMA controller with compatible MMU. The controller shall include an integrated Ethernet port.
- 1 – System cable drop for connection between interconnect / video system to City of Portsmouth Department of Public Works.
- 1 – System cable modem in controller cabinet for broadband service between interconnect / video system and City of Portsmouth Department of Public Works. [The

installation/service connection cost to be paid by the Contractor; monthly service to be assumed by the Portsmouth DPW]

1 – EDI 16-channel Ethernet equipped enhanced malfunction management unit (as noted above), set-up to operate in conflict monitor mode. The MMU shall be compatible with the Siemens model m60 NEMA controller and shall include an integrated Ethernet port, or approved equal.

1 – ½ inch x 13 tpi galvanized wrought eyebolt with a thread length of 1-5/8-inch.

1 – Two-part epoxy bonding agent (105 resin and 205 hardener).

1 – Generator transfer switch, hookup and cord from GenTran.

1 – Environmentally Hardened Ethernet Switch.

1 – 4-Channel Video Detection – Miovision Smartview 360, Grid Smart omni-directional, Iteris – Vantage Series (4 camera system), or approved equal Video Cameras with manufacturer cables and rack cards, including hardware mounted on the mast arms (include spare camera if Vantage system is provided) with integral counting capability.

1 – Rack Mounted Video Detection Processor and Cabling of the same manufacturer as above.

1 – 9” Color flat screen portable monitor or approved equal, compatible with installed video detection system, with capabilities to view video detection. [This monitor will become the property of the Portsmouth DPW.]

1- Galvanized steel, gloss black powdercoat painted, approximately 26’ high mast arm signal pole with foundation, with 50’ signal arm, 6’ black powdercoat luminaire arm KA72-T-2-6’-KPL20 to match luminaire poles to be mounted at 45 degree rotation to the arm and same height as luminaire poles, with nut covers, Union Metal Manufacturing Company, Design 50400, Valmont Industries, Inc., Design F283A, or approved equal.

1- Galvanized steel, gloss black powdercoat painted, approximately 26’ high mast arm signal pole with foundation, with 45’ signal arm, 6’ black powdercoat luminaire arm KA72-T-2-6’-KPL20 to match luminaire poles to be mounted at 45 degree rotation to the arm and same height as luminaire poles, with nut covers, Union Metal Manufacturing Company, Design 50400, Valmont Industries, Inc., Design F283A, or approved equal.

1- Galvanized steel, gloss black painted, approximately 26’ high mast arm signal pole with foundation, with 25’ signal arm, 6’ black powdercoat luminaire arm KA72-T-2-6’-KPL20 to match luminaire poles to be mounted at 45 degree rotation to the arm and same height as luminaire poles, with nut covers, Union Metal Manufacturing Company, Design 50400, Valmont Industries, Inc., Design F283A, or approved equal.

1- Galvanized steel, gloss black powdercoat painted, approximately 26’ high mast arm signal pole with foundation, with 20’ signal arm, 6’ black powdercoat luminaire arm KA72-T-2-6’-KPL20 to match luminaire poles to be mounted at 45 degree rotation to the arm and same height as luminaire poles, with nut covers, Union Metal Manufacturing Company, Design 50400, Valmont Industries, Inc., Design F283A, or approved equal.

4 - King Lighting Powder coated Black K833 Solitaire LED pendant with deep dish lens luminaires to be mounted on all four of the new mast arm assemblies in the Nobles Island Intersection.

10 – One-way, three-section, 12-inch black polycarbonate signal heads with LED modules, type (Eagle, Duralight Corp., G.E. Lighting (Gelcore) or Dialight/Trastar), mounted on mast arms with Astro-Bracs, with 5-inch black louvered backplates. The outside perimeter of the backplate shall be lined with a fluorescent-yellow 2-inch strip of Type IX or XI retroreflective sheeting to highlight the three-section signal head.

8 – One-way, 16-inch black polycarbonate pedestrian signal head with LED countdown module, type (Leotek, G.E. Lighting or Dialight/Trastar) side-mounted on mast arms with brackets, or on signal posts. The pedestrian signal indications shall provide countdown indications.

6 – Polara Pedestrian push button assemblies, mounted on traffic signal poles or posts. The push button assemblies shall provide Accessible Pedestrian signal (APS) capabilities; including vibratory warning and audio/audible warning. Push buttons shall be mounted perpendicular to the path of travel and detectable arrow parallel to the path of travel. Push button assemblies shall include a R10-3e sign, mounted with the push button, with arrow facing the corresponding crossing path.

1 – Optical Fire Preemptor Phase Selector, GTT Opticom Model 764, with a Model 760 Card Rack, or City approved Opticom brand equivalent for City compatibility based on Portsmouth Fire Department requirements.

4 – Optical Fire Preemptor receivers, GTT Opticom Model 711 or City approved Opticom brand equivalent for City compatibility based on Portsmouth Fire Department requirements.

2 – Confirmation strobe lights, 120 VAC, with red Lexan optic lens. Whelan Model, IAC 12 RP.

2 – 24” x 18” R3-17 “BIKE LANE” sign rigidly mounted on mast arm using an Astro Brac or other similar rigid sign bracket.

1- 30” x 30” R10-15 “RT TURN YIELD TO PEDESTRIAN” sign rigidly mounted on mast arm using an Astro Brac or other similar rigid sign bracket.

2- 48” x 24” D3-1 “Market St” sign rigidly mounted on mast arm using an Astro Brac or other similar rigid sign bracket.

1- 96” x 48” D3-1b “← Nobles Island / NH Port Auth. →” sign rigidly mounted on mast arm using an Astro Brac or other similar rigid sign bracket.

1- 96” x 48” D3-1c “←NH Port Auth. / Nobles Island →” sign rigidly mounted on mast arm using an Astro Brac or other similar rigid sign bracket.

2.1.4 Ethernet Switch. This work shall consist of furnishing, installing, and testing an Ethernet Switch that meets the requirements of a 100 Mbps Ethernet Switch.

2.1.4.1 The Ethernet Switch shall include a minimum of four single mode fiber optic patch cords, each one meter in length, and terminated on both ends with Type SC single mode fiber optic connectors

2.1.4.2 The Ethernet Switch shall include sufficient Category 6 Ethernet patch cords, each one meter in length, and terminated on both ends with Type RJ45 connectors to provide full connectivity within the cabinet as shown in the Contract Documents.

2.1.4.3 The Ethernet Switch shall include all accessories required for a full and complete installation, including but not limited to all connecting cables, serial to Ethernet modems, power supplies, and mounting hardware.

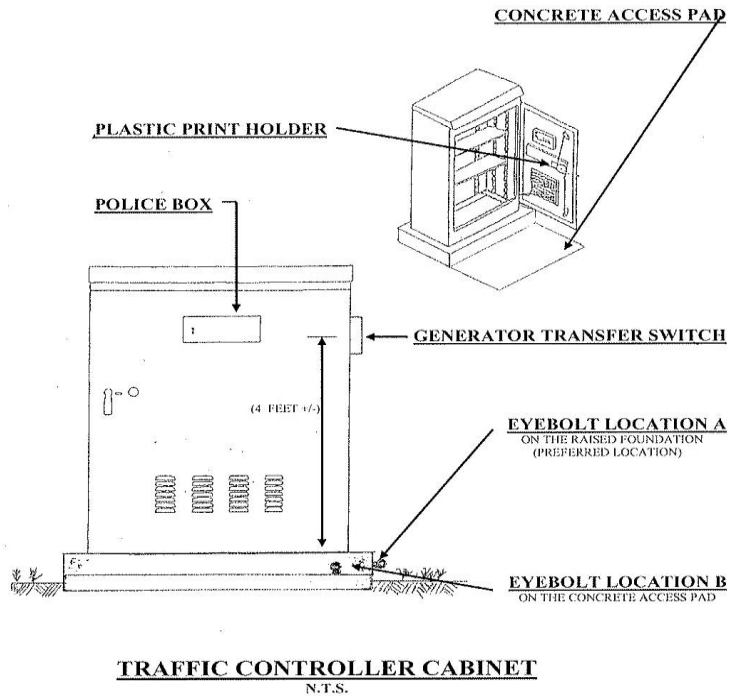
Add to 3.15

- **3.15.2** Contractor shall be responsible for maintaining operations of the traffic signal during construction. The labor and equipment necessary to complete this application will be included in the cost.

Add to 5.1

5.1.2 Alterations to Traffic Signals will be paid for at the Contract lump sum price complete in place. The price shall be full compensation for all labor, equipment, hardware and incidentals necessary to make the traffic signal operational.

ATTACHMENT "A"



614.512	CONCRETE PULL BOX - 18 INCH	EA
614.73118	3" PVC CONDUIT, SCH 80	LF
616.191	TRAFFIC SIGNALS, MARKET/NOBLES ISLAND	U