

**CONTRACT DOCUMENTS AND SPECIFICATIONS**

**for**

**ROCK STREET PARK  
REHABILITATION PROJECT**

**Bid Proposal #41-19**

John P. Bohenko, City Manager

City of Portsmouth, New Hampshire

Prepared by:

terra firma landscape architecture  
163.a Court Street  
Portsmouth, NH 03801

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## **ROCK STREET PARK REHABILITATION PROJECT**

### **INVITATION TO BID**

**Sealed** bid proposals, **plainly marked**, **ROCK STREET PARK REHABILITATION PROJECT** Bid Proposal #41-19 **on the outside of the mailing envelope as well as the sealed bid envelope**, addressed to the Finance/Purchasing Department, City Hall, 1 Junkins Avenue, Portsmouth, New Hampshire, 03801, will be accepted until **1:00 p.m. on March 11, 2019** at which time all bids will be publicly opened and read aloud.

A **Mandatory** Pre-Bid Meeting shall be conducted on **February 28, 2019** at **10:00 a.m.** at the Portsmouth Public Works Department, 680 Peverly Hill Road, Portsmouth.

Questions regarding the project must be submitted in writing to **Lori MacGinnis** at [purchasing@cityofportsmouth.com](mailto:purchasing@cityofportsmouth.com) by close of business **March 4, 2019** and will be answered in the form of an addendum posted on the City's website <http://www.cityofportsmouth.com/finance/purchasing.htm> by close of business **March 7, 2019**.

**PROJECT SYNOPSIS:** Reconstruction of an existing City Park, including earthwork, landscaping, fencing, playground structures, irrigation and reconstruction of amenities.

**This project is funded by the City's Community Development Block Grant (CDBG), which is received from the U.S. Department of Housing and Urban Development (HUD) and administered by the Portsmouth Community Development Department. Project work must be completed in accordance with all applicable statutes, laws, and regulations.**

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

**All work shall be completed by September 30, 2019.** Liquidated damages shall be assessed per Article VII of this contract for work extending beyond this mandated completion date.

The City of Portsmouth 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.

## **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 5%. 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 does not meet the required licensing qualifications;
- 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**

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

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

### **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 Bonds**

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

- Labor and materials payment bond in the sum equal to 100 percent of the contract amount.
- Performance bond in the sum equal to 100 percent of the contract amount.

At the time of project completion, the Owner may, in its sole discretion, permit the Contractor to substitute a maintenance bond in lieu of holding retainage for the entire guaranty period. If a bond is furnished it shall meet the following criteria:

- The bond shall be in an amount equal to 20 percent of the contract amount. Such bond shall guarantee the repair of all damage due to faulty materials or workmanship provided or done by the contractor. The guarantee shall remain in effect for a period of one year after the date of final acceptance of the job by the Owner.

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.

8. Additional Information

Requests for additional information or questions should be to Lori MacGinnis, at [purchasing@cityofportsmouth.com](mailto:purchasing@cityofportsmouth.com) or 603-610-7227.

9. Reservation of Rights

The City of Portsmouth 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.

**PROPOSAL FORM**

**ROCK STREET 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.
7. The bidder shall include a Completed Statement of Bidders Qualifications with the information requested in above-section entitled "Rock Street Park Rehabilitation."

**PROPOSAL FORM**  
**CONSTRUCTION ITEMS**

ITEM #	EST. QTY.	UNIT S	ITEM DESCRIPTION	UNIT PRICE IN FIGURES	ITEM TOTAL IN FIGURES
1.1	1	LS	EXISTING COBBLESTONE EDGING REMOVAL AND RE-USE PER PLAN	_____	_____
1.2	3	Ea	BENCHES TO BE RELOCATED	_____	_____
1.3	4	Ea	BENCH SEATS TO BE REPLACED WITH IPE SLATS IN KIND	_____	_____
1.4	2	Ea	BOUNCY ANIMALS TO BE RELOCATED	_____	_____
1.5	1	Ea	REMOVAL OF EX. JUNGLE GYM	_____	_____
1.6	1	Ea	REMOVAL OF EX. SWING STRUCTURE	_____	_____
1.7	10	LF	CHAIN-LINK TOP RAIL REPLACEMENT ONLY, TO REPAIR EXISTING FENCE	_____	_____
1.8	1	LS	REMOVAL OF SUDBURY ST BRICK PAVE	_____	_____
1.9	1	LS	EXCAVATE OUT WALK BASE MATERIAL 15" DEEP IF DETERMINED TO BE NECESSARY	_____	_____
1.10	1	LS	REMOVE AND REPLACE IRRIGATION	_____	_____
1.11	37	LF	EX. CHAIN LINK FENCE TO BE REMOVED	_____	_____
1.12	179	LF	REMOVAL OF WOOD STOCKADE FENCE	_____	_____
1.13	1	Ea	REMOVAL OF WOOD STAGE (SAVE METAL ORNAMENTAL WORK)	_____	_____
1.14	22	Ea	23-48"+ LONG GRANITE SEAT BLOCKS (TO BE RECONDITIONED)(INSTALLATION ITEM BELOW)	_____	_____
2.1	1	Ea	BASKETBALL HOOP INSTALLED COMPLETE	_____	_____
2.2	360	SY	PAVED WALKWAY 3" BITUMINOUS ASPHALT	_____	_____
2.3	4812	SF	PLANTING BEDS ROTOTILLED	_____	_____
2.4	18	CY	10% AGED COMPOST IN PLANTING BEDS	_____	_____
2.5	60	CY	MULCH FOR PLANTING BEDS	_____	_____
2.6	8540	SF	LAWN	_____	_____
2.7	8540	SF	ROTOTILLING LAWN	_____	_____

2.8	6	Ea	CARPINUS 1.5" CAL.	_____	_____
2.9	6	Ea	AMELANCHIER 1.5" CAL	_____	_____
2.10	2	Ea	WITCHAZEL 4-5' HT	_____	_____
2.11	2	Ea	FRINGE TREE 5-6' HT HVY	_____	_____
2.12	4	Ea	PARROTIA 2" CAL SPECIMEN	_____	_____
2.13	2	Ea	HALESIA 'JERSEY BELLE' 2" CAL	_____	_____
2.14	12	Ea	THUJA OCCIDENTALIS 'NIGRA'	_____	_____
2.15	1	Ea	JUNIPERUS 'EMERALD SENTINEL'	_____	_____
2.15	709	Ea	GROUNDCOVERS (XAN, GER, FERNS)	_____	_____
2.16	90	Ea	SHRUBS (RHUS 1 GAL.)	_____	_____
2.17	53	Ea	ORNAMENTAL GRASSES	_____	_____
2.18	155	LF	NEW STOCKADE FENCE	_____	_____
2.19	1	Ea	NEW SWING (2 REGULAR, 1 TODDLER)	_____	_____
2.20	1	Ea.	NEW DOUBLE SLIDE	_____	_____
2.21	1	Ea	SPIDERNEST CLIMBING NET	_____	_____
2.22	1	Ea	WATER FOUNTAIN AND SUPPLY TUBING INSTALLATION COMPLETE (CITY SUPPLIED FOUNTAIN)	_____	_____
2.23	155	CY	ENGINEERED WOOD FIBER	_____	_____
2.24	20	Ea	PICK THROUGH, PICK UP AND INSTALL CITY STONE 4' LONG BLOCKS FOR PLAYGROUND	_____	_____
2.25	360	SY	CHIP SEAL FOR BITUMINOUS WALKWAY (SEE SPECIFICATION)	_____	_____
2.26	2392	SF	RESURFACING OF AND PAINTING OF PLAY COURT	_____	_____
2.27	500	SF	PURIOUS PAVEMENT OVER TREE ROOTS	_____	_____
2.28	76	LF	STONE SITTING WALLS (18" HT) (INSTALL RECONDITIONED STONES)	_____	_____
2.29	5	Ea	STREET LIGHT (INSTALLATION ONLY) (PROVIDED BY CITY)	_____	_____
2.30	5	Ea	STREET LIGHT FOUNDATIONS	_____	_____
2.31	1	EA	MILBANK ELECTRIC CABINET AND ALL CONDUIT, PULL BOXES AND WIRING	_____	_____

**PROPOSAL FORM** (continued)

				<b>UNIT PRICE IN FIGURES</b>	<b>ITEM TOTAL IN FIGURES</b>
2.31	84	LF	8' BLACK VINYL COATED 9GA STEEL CHAIN-LINK FENCE BY BASKETBALL COURTS	_____	_____
2.32	63	LF	4' BLACK VINYL COATED 9GA STEEL CHAIN-LINK FENCE	_____	_____
2.33	245	LF	NEW P/T EDGING AT PLAYGROUND	_____	_____
2.34	1	LS	FINISH GRADING, EARTHWORK, DRAINAGE	_____	_____
2.35	50	CY	CRUSHED GRAVEL FOR VARIOUS APPLICATION	_____	_____

**All quantities are estimates only. Contractor shall inspect park conditions to verify quantities for pricing determination. Only major items are listed, anything not listed but otherwise shown on plans or described in the specifications is incidental.**

**TOTAL FOR PROJECT AND BASIS OF AWARD**

Total in Figures \$ \_\_\_\_\_

In Words \$ \_\_\_\_\_

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

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

\_\_\_\_\_  
Date

\_\_\_\_\_  
Company

By: \_\_\_\_\_  
Signature

\_\_\_\_\_  
Business Address

Title: \_\_\_\_\_

\_\_\_\_\_  
City, State, Zip Code

Telephone: \_\_\_\_\_

The Bidder has received and acknowledged Addenda No. \_\_\_\_\_ through \_\_\_\_\_.



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

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 the City could email future bid invitations/specifications of this type. Thank you in advance for your cooperation.

Email Address: \_\_\_\_\_

## **BID SECURITY BOND**

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

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned

\_\_\_\_\_, as Principal, and

\_\_\_\_\_, as Surety, are hereby

held and firmly bound unto \_\_\_\_\_

IN THE SUM OF \_\_\_\_\_

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

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

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

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

NOW THEREFORE,

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

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

**BID SECURITY BOND** (continued)

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

IN WITNESS WHEREOF, the parties hereto have duly executed

this bond on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
(Name of Principal)

(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. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_
  - e. \_\_\_\_\_
  - f. \_\_\_\_\_
  - g. \_\_\_\_\_

**STATEMENT OF BIDDERS QUALIFICATIONS** (continued)

h. \_\_\_\_\_

i. \_\_\_\_\_

*(The City reserves the right to approve subcontractors for this project)*

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**

### **ROCK STREET PARK REHABILITATION PROJECT**

THIS AGREEMENT made as of the \_\_\_\_\_ in the year **2019**, 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 rehabilitation of Rock Street Park. 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 shall be completed by September 30, 2019.

**ARTICLE IV - CONTRACT PRICE** Owner shall pay Contractor for performance of the work 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 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.

**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 **THREE HUNDRED DOLLARS (\$300)** for each calendar day beyond the specified completion date. 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 Invitation to Bid
- 8.2 Instruction to Bidders
- 8.3 Contractor's Bid and Bonds
- 8.4 Contract Agreement
- 8.5 Notice of Award, Notice to Proceed
- 8.6 General Requirements, Control of Work, Temporary Facilities, Insurance Requirements, Measurement and Payment
- 8.7 Special Requirements for Community Development Block Grant (CDBG) Projects
- 8.8 Standard and Technical Specifications
- 8.9 Contract Drawings
- 8.10 Special Provisions
- 8.11 Appendices
  - A. Compliance with Laws and Regulations
  - B. Federal Labor Standards Provisions
  - C. Applicable Davis-Bacon Wage Rate Decision
- 8.12 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: \_\_\_\_\_  
John P. Bohenko

TITLE: City Manager



## NOTICE OF INTENT TO AWARD

Date:

To:

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

<b>PORTSMOUTH ROCK STREET PARK REHABILITATION PROJECT</b>
---

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 ten (10) calendar days from the date of this Notice.

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

City of Portsmouth  
Portsmouth, New Hampshire

Judie Belanger,  
Finance Director

**NOTICE TO PROCEED**

DATE:

PROJECT: **ROCK STREET PARK REHABILITATION PROJECT**

TO:

YOU ARE HEREBY NOTIFIED TO COMMENCE WORK IN ACCORDANCE

WITH THE AGREEMENT DATED,

ALL WORK SHALL BE COMPLETED BY \_\_\_\_\_.

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:\_\_\_\_\_

## CHANGE ORDER

---

Change Order #  
Owner: CITY OF PORTSMOUTH, N.H.

Date of Issuance:

Contractor:

---

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

Description:

Purpose of Change Order:

Attachments:

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### CHANGE IN CONTRACT PRICE

### CHANGE IN CONTRACT TIME

Original Contract Price:  
\$

Original Completion Date:

---

Contract Price prior to this  
Change Order:  
\$

Contract Time prior to this  
Change Order:

---

Net Increase of  
this Change Order:  
\$

Net Increase or Decrease of  
this Change Order:

---

Contract Price with all  
approved Change Orders:  
\$

Contract Time with all  
approved Change Orders:

---

RECOMMENDED:

APPROVED:

by\_\_\_\_\_

by\_\_\_\_\_

by\_\_\_\_\_

by\_\_\_\_\_

Planning Director

City Finance

City Manager

Contractor

by\_\_\_\_\_

DPW Director (if applicable)

## **PERFORMANCE BOND**

(This format provided for convenience, actual Performance 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 as surety, hereinafter called Surety, are held and firmly bound unto the City of Portsmouth, N.H. Obligee, hereinafter called Owner, in the amount of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents. WHEREAS, Contractor 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 if the Contractor shall well and faithfully do and perform the things agreed by him to be done and performed, according to the terms of said Contract and such alterations as may be made in said Contract during progress work, and shall further indemnify and save harmless the said Owner in accordance with the Contract and shall remedy without cost to the Owner any defect which may develop within one year from the time of completion and acceptance of the work.

The Surety hereby waives notice of any alteration in work or extension of time made by the Owner or any of its agents or representatives.

Whenever Contractor shall be, and declared by Owner to be, in default under the Contract, the Owner having performed Owner's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

(1) Complete the Contract in accordance with its terms and conditions, or

PERFORMANCE BOND (continued)

(2) Obtain a bid or bids for submission to the Owner for completing the Contract in accordance with its terms and conditions, and upon determination by Owner and Surety of the lowest responsible bidder, arrange for a contract between such bidder and Owner and make available as work progresses (even though there should be a default or a succession of defaults under the contract of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price", as used in this paragraph, shall mean the total amount payable by the Owner to Contractor under the Contract and any amendments thereto, less the amount paid by Owner to Contractor.

Any suit under this bond must be instituted before the expiration of (2) years from the date on which final payment under the contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators or successors of Owner.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_

A.D., 20\_\_\_\_ .

In the presence of:

\_\_\_\_\_  
(Witness) (Principal) (Seal) BY: \_\_\_\_\_

\_\_\_\_\_  
(Surety Company)

\_\_\_\_\_  
(Witness) (Title) (Seal) BY: \_\_\_\_\_

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.

## **LABOR AND MATERIALS 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 MATERIALS 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.



## **MAINTENANCE BOND**

At the Owner's election, a maintenance bond may be substituted for retainage at the completion of the project. If the Owner permits a maintenance bond, it shall be in the amount of Twenty Percent (20%) of the contract price with a corporate surety approved by the Owner. Such bond shall be provided at the time of Contract completion and shall guarantee the repair of all damage due to faulty materials or workmanship provided or done by the Contractor. This guarantee shall remain in effect for a period of one year after the date of final acceptance of the job by the Owner.

**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:

**ROCK STREET PARK REHABILITATION PROJECT**

\_\_\_\_\_  
(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

\_\_\_\_\_  
\_\_\_\_\_, 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:

**ROCK STREET PARK REHABILITATION PROJECT**

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:

\_\_\_\_\_  
print name of witness: \_\_\_\_\_

By: \_\_\_\_\_  
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. Mobilization & Demobilization
- b. Clean up
- c. Temporary Facilities
- d. Transportation and disposal of demolition debris and waste materials
- f. Restoration of property
- g. Cooperation with other contractors, abutters and utilities.
- h. 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 buildings, pavement, 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) 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.

## **CONTROL OF WORK** (continued)

(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) All facilities, infrastructure and features shall be protected and preserved during construction. Any damaged items shall be repaired or 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 Eversource for obtaining electrical connections to provide the electrical power necessary for construction setup, 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) Comprehensive 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 sufficient to meet statutory requirements 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.
- D) Pollution Liability coverage of at least \$1,000,000 sufficient to cover the work described in this contract.

### **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) Removal and replacement of existing roof membrane and insulation shall be reimbursed at unit price per square foot as measured in-place.

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

(g) 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.

(h) 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.

### 4. PARTIAL PAYMENTS

Partial payments will be made on a monthly basis during the contract period. From the total amount ascertained as payable, an amount equivalent to ten percent (10%) of the whole will be deducted and retained by the Owner up until fifty percent (50%) completion of the work. Five Percent (5%) of the whole will be deducted and retained by the Owner up until substantial completion. At which point the Contractor can request a reduction down to two percent (2%) in accordance with Final Payment.

### 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 equivalent to ten percent (10%) of the whole will be deducted and retained by the Owner up until fifty percent (50%) completion of the work. Five Percent (5%) of the whole will be deducted and retained by the Owner up until substantial completion and for the guaranty period. At which point the Contractor can request a reduction down to two percent (2%) in accordance with Final Payment. This retainage may be waived, at the discretion of the City, provided the required Maintenance Bond has been posted. After approval of the final estimate by the Owner, the Contractor will be paid the entire sum found to be due after deducting all previous payments and all amounts to be retained or deducted under the provisions of the contract.

(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 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.

## **SPECIAL REQUIREMENTS FOR COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG) FUNDED PROJECTS**

### **AUTHORITY**

Provisions of this Agreement are pursuant to the authority set forth in Title 24 of the Code of Federal Regulations, Part 570 (Housing and Urban Development regulations concerning Community Development Block Grants (CDBG)), and all other applicable federal, state, county or municipal authorities which shall impose any local laws, regulations and policies governing funds provided under this Agreement.

### **FUNDING**

This project is funded in part by the City's Community Development Block Grant (CDBG), which is received from the U.S. Department of Housing and Urban Development and administered by the Portsmouth Community Development Department. Project work must be completed in accordance with all applicable statutes, laws, and regulations.

### **ASSURANCES**

1. The CONTRACTOR will comply with Title VI of the Civil Rights Act of 1964, codified in United States Code Title 42 2000 (d), and implemented at 24 CFR Part 1 as well as 24 CFR Part 570.602, and in accordance therewith, no person in the United States shall, on the grounds of race, color, national origin, religion, age or sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under, any program or activity funded in whole or in part with the Community Development funds or any other Federal financial assistance. The CONTRACTOR will immediately take any measures necessary to effectuate this Agreement.
2. CONTRACTOR will comply with Section 3 of the Housing and Urban Development Act of 1968, as amended; and implemented at 24 CFR Part 135 and in accordance therewith, in all work made possible by or resulting from this Agreement, affirmative action will be taken to ensure that residents (preferably low to moderate income as defined by U.S. Housing and Urban Development) of the City are given maximum opportunities for training and employment and that business concerns located in or owned in substantial part by residents of the City are to the greatest extent feasible, awarded contracts.
3. As this Agreement is funded by monies of the United States, CONTRACTOR shall comply with all of the provisions of Executive Order No. 11246 ("Equal Employment Opportunity") as supplemented by the regulations of the United States Department of Labor (41 C.F.R. Part 60), and with any rules, regulations and guidelines as the State of New Hampshire or the United States issue to implement these regulations. All activities and contracts are subject to Executive Order 11246, as amended and implemented at 41 CFR Chapter 60. In carrying out the Statement of Work (Exhibit A), the CONTRACTOR shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, marital or familial status, age, mental or physical handicap. The CONTRACTOR shall post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Government setting forth the provisions of this nondiscrimination clause. The CONTRACTOR shall state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, marital or familial

status, age, mental or physical handicap. The CONTRACTOR shall incorporate the foregoing requirements of this paragraph in all of its contracts for program work, and will require all of its subcontractors for such work to incorporate all such EEO requirements as are applicable. CONTRACTOR further agrees to permit the State, the United States, or any designated representative of either, to have access to any of the CONTRACTOR's books, records, and accounts for the purpose of ascertaining compliance with the aforesaid rules regulations and orders, and the covenants and conditions of this Agreement.

4. CONTRACTOR shall comply with all other program requirements as described in this Agreement and in 24 CFR Part 570.503, and listed in Appendix A "Compliance by Grantee and Any Contractors, and Subcontractors with Laws and Regulations."

5. CONTRACTOR shall comply with Federal Labor Standards and Applicable Davis-Bacon Wage Rates, as attached in Appendices B and C and incorporated herein by reference.

### **CONFLICT OF INTEREST**

No officer, employee or agent of the City, or any other person who exercises any functions or responsibilities in connection with the Community Development Program, shall have any personal or financial interest, direct or indirect, in this Agreement; and, the CONTRACTOR shall take appropriate steps to assure compliance with the conflict of interest rules in 2 CFR Part 200.112.

### **POLITICAL ACTIVITY PROHIBITED - HATCH ACT**

Neither the Community Development funds provided under this Agreement, nor administration of this project shall be in any way or to any extent engaged in the conduct of political activities in contravention of Chapter 15 of Title 5, United States Code.

### **FAITH-BASED ORGANIZATIONS**

Executive Order 13279 allows a government contractor or subcontractor that is a religious organization, corporation, association, educational institution, or society to take religion into consideration in the employment of individuals to perform work connected with the services offered by such corporation, association, educational institution, or society of its activities. Such contractors and subcontractors are not exempt or excused from complying with the other requirements contained in Executive Order 11246. CONTRACTOR must adhere to 24 CFR 570.200(j) Faith-based activities.

### **DRUG FREE WORKPLACE**

The CONTRACTOR shall establish a drug-free workplace policy that shall include:

1. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the CONTRACTOR's workplace and specifying the actions that will be taken against employees for violation of such prohibition;
2. Establish an ongoing drug-free awareness program to inform employees about:
  - a. The dangers of drug abuse in the workplace;
  - b. The CONTRACTOR's policy of maintaining a drug-free workplace;

- c. Any available drug counseling, rehabilitation, and employee assistance programs; and;
- d. The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace.

## **ENVIRONMENTAL REVIEW COMPLIANCE**

The CONTRACTOR agrees to abide by provisions of the National Environmental Policy Act of 1969 and other provisions of law which further the purposes of such Act as required by Title 1 of the Housing and Community Development Act of 1974 as amended from time to time and in compliance with the Environmental Review Procedures of the Community Development Block Grant Program at CFR Part 58 and any subsequent regulations issued by the U.S. Department of Housing and Urban Development (HUD). The CONTRACTOR agrees that any costs incurred prior to the City receiving a Release of Funds authorization from HUD are not eligible for reimbursement. The CONTRACTOR further agrees not to obligate funds or begin implementation of the project prior to the CONTRACTOR receiving specific written authorization from the City to proceed and where applicable, a formal Removal of Grant Conditions by U.S. Department of Housing and Urban Development (HUD).

## **LEAD BASED PAINT**

The CONTRACTOR agrees to abide by provisions of 24 CFR Part 35 Lead Based Paint Poisoning Prevention in Certain Residential Structures. The Final Rule Published by U.S. Department of Housing and Urban Development (HUD) effective as of January 11, 2002.

## **TERMINATION**

CONTRACTOR and the City will comply with the noncompliance and termination provisions in 2 CFR 200.338. In addition to the remedies for noncompliance in 2 CFR §200.338, in accordance with 2 CFR §200.338 and 339, the City may suspend or terminate this Agreement in whole or in part if the CONTRACTOR fails to comply with any terms and conditions of this Agreement or upon the occurrence of any Event of Default or any other breach of this Agreement. The City can withhold all funding and disbursements, demand repayment for amounts disbursed, terminate all payments, and/or exercise all rights and remedies available to it under the terms of this Agreement, the Grant Documents, under statutory law, equity or under common law. If the City terminates this Agreement, the CONTRACTOR shall also forfeit to the City all unexpended monies awarded under the Agreement. CONTRACTOR may also be required to refund all CDBG funds awarded by the City. In accordance with 2 CFR §200.339, the City can terminate the Agreement with the consent of the CONTRACTOR in which case the CONTRACTOR and the City must agree upon the termination conditions, including the effective date, and in the case of partial termination, the portion to be terminated. In accordance with 2 CFR §200.339(a)(4), this Agreement may also be terminated by the City with written notification setting forth the reason for such termination, the effective date and in the case of partial termination, the portion to be terminated. However, if the City determines in the case of partial termination that the reduced or modified portion of the award will not be accomplished for which the award was made, the City may terminate the award in its entirety. If this award is terminated or partially terminated, the CONTRACTOR remains responsible for compliance with the closeout requirements in 2 CFR §200.343 and post-closeout requirements set forth in 2 CFR §200.344. All remedies shall be deemed cumulative and, to the extent permitted by law, the election



of one or more remedies shall not be construed as a waiver of any other remedy the City may have available to it.

## **PRE-CONSTRUCTION CONFERENCE**

- Once the Contract Document is completed, the City coordinates timeframe for the pre-construction conference with the CONTRACTOR.
- The purpose of the pre-construction conference is to coordinate the construction start-up timeframe and to ensure that all of the proper payroll documentation will be produced and that federal requirements describing Equal Employment Opportunity and Section 3 requirements will be met.

## **COMPLIANCE MONITORING**

- The General CONTRACTOR must submit weekly certified payrolls including weekly certified payrolls for all Subcontractors to the City for review and compliance with applicable State or Davis Bacon Wage Rates;
- Construction Progress Payments are submitted to the City for review and approval;
- The City is responsible for conducting on-site employee interviews for compliance with applicable prevailing wage rates and compliance with all federal, state and local requirements concerning – Section 3, MBE/WBE, etc.;
- The City will periodically monitor the construction; and
- Prior to the issuance of final contractor payment the following must be received:
  1. Certification that all prevailing wage documentation has been completed;
  2. Copies of employee interview forms completed by the City;
  3. Release of Liens Statement from general CONTRACTOR;
  4. Final Field Report from project manager authorizing final payment; and
- 5. All required Section 3 and EEO forms (if applicable)

## **STANDARD SPECIFICATIONS**

The Standard Specifications for Road and Bridge Construction of the State of New Hampshire Department of Transportation and any Addenda shall apply but without regard to Section 100 “General Conditions” of those Standard Specifications and without regard to any of those NHDOT provisions that allow for an adjustment for changing fuel and asphalt prices.

## **CONTRACT DRAWINGS**

See the following:

“E-1 EXISTING CONDITIONS”

“D-1 DEMO PLAN”

“L-1 LANDSCAPE PLAN”

“L-2 HARDSCAPE DETAILS

“L-3 PLANTING DETAILS”

“C-1 LAYOUT AND UTILITIES”

“C-2 GRADING AND DRAINAGE PLAN”

“C-3 DETAILS SHEET A”

“C-4 DETAILS SHEET B”

“C-5 EROSION CONTROL PLAN”

## **Special Provisions**

See the following:

“PROSECUTION OF WORK”

“FENCES”

“CHIP SEAL WALKWAY”

“STREET LIGHTS”

“LIGHTING CABINET AND ELECTRICAL WORK FOR LIGHTING AND SERVICE”

“SECTION 32 18 23.54 ASPHALT BASKETBALL COURT COLOR COATING”

“SECTION 11480 (11 65 00) GYMNASIUM AND PLAY FIELD EQUIPMENT”

“SECTION 11 68 13 PLAYGROUND EQUIPMENT”

“SECTION 32 18 16 ENGINEERED WOOD FIBER PRODUCT SPECIFICATION”

“SECTION 15415 DRINKING FOUNTAINS AND WATER COOLERS“

“SECTION 32 93 00 PLANTS”

“SECTION 32 92 00 TURF AND GRASSES”

“SECTION 32 9100 PLANTING SOIL”

“SECTION 659.5 IRRIGATION”

## **PROSECUTION OF WORK SCHEDULE**

It is the City's goal to have the project substantially complete by June 30<sup>th</sup>, 2019 with 50% of work and materials completed and invoiced by April 24<sup>th</sup>. If however that goal is not attainable due to contractor schedule, availability of materials etc., then the City will allow a differing schedule allowing that all materials are purchased and invoiced prior to April 24<sup>th</sup> and whatever site work (such as demolition) that is possible to begin is completed and invoiced prior to June 30<sup>th</sup> allowing for safe use of the playground portion of the park during school vacation namely from July 1 to Aug. 30<sup>th</sup>, 2019. With all work being completed by September 30, 2019.

## FENCES

### Description

1.1 This work shall consist of the constructing, removing and resetting railings, fences, and gates as shown on the plans or as ordered.

### Materials

#### 2.2 Chain Link Fence.

2.2.1 Chain link fence shall conform to AASHTO M 181.

2.2.2 Unless otherwise stipulated, fencing material shall be 9 gauge, 2" mesh, Type II or Type IV fabric. The specific diameter for Type IV fabric is the metallic coated diameter and the PVC coating shall not be used when determining wire size. All vinyl-coated fabric used on the project shall be black.

2.2.2.1 Fabric up to and including 96" high shall be knuckled at the top and bottom selvages.

2.2.3 Metallic coated steel posts, rails, or gate frames shall conform to AASHTO M 181 Grade 1 or Grade 2. Miscellaneous fittings and hardware shall conform to AASHTO M 181 Section 29.

2.2.4 Tension bars shall not be less than 0.25 by 0.75".

2.2.5 Wire ties and clips for fastening fabric to posts and top rail shall be of the same material and the same or larger gauge as the fabric.

### Construction Requirements

#### 3.1 General.

3.1.1 The Contractor shall perform such clearing and grubbing as may be necessary to construct the fence to the required grade and alignment.

3.1.2 At locations where breaks in a run of fencing are required, or at intersections with existing fences, appropriate adjustment in post spacing shall be made.

3.1.3 The fence shall be permanently connected to the existing fence as shown in the plans or as approved by the Engineer.

3.1.4 Posts, braces, or anchors shall be embedded in concrete and temporary guys or braces may be required to hold the posts in proper position until such time as the concrete has set sufficiently to hold the posts. Unless otherwise permitted, no materials shall be installed on posts or strain placed on guys and bracing set in concrete until 3 days have elapsed from the time of placing of the concrete.

3.1.4.1 The portions of aluminum posts which will be in contact with concrete shall be coated both inside and outside with protective coating to 1" above the top of the concrete. The coating shall be allowed to dry for at least 24 hours before the concrete is placed.

3.1.4.2 In wet areas, when it is impractical to place concrete, steel drive anchor assemblies may be required.

3.1.5 All posts shall be set plumb and firm and to the required grade, spacing, and alignment. Cutting of the posts will be allowed only with the approval of the Engineer.

3.1.6 When it is necessary to drill into rock to set a steel post, the post may be shortened, provided a minimum length of 12" of post is grouted in the rock.

3.1.9 All surplus material and other debris shall be removed.

#### 3.3 Chain Link Fence.

3.3.1 The fence shall be erected so that the bottom is between 1 and 2" above the ground.

3.3.1.1 The top rail shall pass through the post tops to form a continuous brace from end to end of each section of fence, and shall be securely fastened to the posts at post assemblies by suitable clamps.

3.3.1.2 Post assemblies as shown on the plans shall be installed at ends, at corners or changes in line where the angle of deflection is 30 degrees or more, at abrupt changes in vertical grades where pull posts are required, and at gates. Moreover, at least one post assembly shall be installed for every 500 ft. of run.

3.3.1.3 Braces shall be spaced approximately midway between the top and the ground, and extend to the first line post. Braces shall be securely fastened to posts by suitable clamps.

3.3.1.4 Truss rods shall be installed as shown on the plans.

3.3.2 Fabric shall be fastened to the post with suitable fabric bands, stretcher bar bands, and hook bolts and to the top rail with tie wires as shown on the plans. The fabric shall be free from sags and bends.

3.3.4 All holes within 2 ft. of the fence shall be filled with suitable approved material and compacted properly.

3.4 Resetting. The existing railing or fencing shall be carefully removed, transported and reset at the required location. The reset railing or fencing shall be at least equivalent in strength and appearance to the original railing or fencing. Additional materials such as fittings or hardware shall be furnished and installed as necessary.

#### Method of Measurement

4.1 All fence, new or reset, will be measured by the linear foot, to the nearest 0.1 of a foot. Measurement will be along the top of the fence for each continuous run.

4.1.1 Woven wire fence and chain link fence will be measured from center to center of end posts or gate posts as the case may be.

4.1.2 Railing reset will be measured from end to end of rail.

4.2 Post assemblies of the kind specified will be measured by the number of units. A unit shall consist of the post and all its required hardware and anchorages.

4.3 Gates will be measured as complete units of the size and type specified.

4.4 Temporary fence, including gates, locking devices (if necessary), and keys (if necessary), will be measured by the linear foot in accordance with 4.1.

#### Basis of Payment

5.1 The accepted quantities of fencing of the type specified and of the height required will be paid for at the Contract unit price per linear foot, complete in place. This unit price shall include the cost of furnishing all labor, tools and equipment to satisfactorily complete the work and shall include excavation, concrete or steel drive anchor assemblies, posts, hardware, fencing and any repair of material damaged by the Contractor's operation. Gates and post assemblies, complete in place, shall be paid for as units. Clearing necessary to provide space for erecting the fencing will be paid for as provided under Item 201.6.

5.1.1 Removing existing fence lines within 1 1/2 feet of the centerline of the new fence shall be subsidiary to the fence item.

5.2 The accepted quantity of railing or fencing reset will be paid for at the Contract unit price per linear foot complete in place, except that the cost of furnishing additional materials, including new post concrete embedment, required through no fault of the Contractor will be paid as provided for in 109.04. Removing old concrete embedment from the posts will be subsidiary to the resetting item.

5.3 The accepted quantities of temporary fence, including gates, locking devices (if necessary), and keys (if necessary), will be paid for by the linear foot, complete in place.

## WOOD FENCES & GATES

### Part 1 GENERAL

#### 1.1 SECTION INCLUDES

- A. Requirements regarding wood fencing.

#### 1.2 SUBMITTALS

- A. Drawings: Indicate plan layout, grid, size and spacing of components, accessories, fittings, anchorage, and post section.
- B. Data: Submit manufacturer's installation instructions and procedures, including details of fence and gate installation.

### Part 2 PRODUCTS

#### 2.1 GENERAL

- A. All wood materials shall be treated wood, or wood of a natural resistance to decay. Materials shall be free from loose knots, cracks, and other imperfections.

#### 2.2 WOOD BOARDS OR SLATS

- A. Wood boards or slats shall be of cedar, redwood, combed spruce or similar wood acceptable to the City.
- B. Wood boards or slats shall be between 3/8 inches and 5/8 inches thick and be no greater than 6 inches wide.

#### 2.3 POSTS

- A. Fence and Man Gate posts shall be 4-inch by 4-inch.
- B. Truck Gate posts shall be at minimum dual 6-inch by 6-inch or as recommended by manufacturer.
- C. Posts shall be pressure treated redwood, douglas fir-larch, cedar or similar wood acceptable to DISTRICT.
- D. Buried post ends should be treated with an approved wood preservative product.

#### 2.4 GATES

- A. Provide additional horizontal, vertical, and diagonal members to ensure proper gate operation and for attachment of wood, hardware and accessories. Consult manufacturer as necessary.
- B. Accessibility: Gate stops, latches and locks shall be accessible from either side of gate.
- C. Types: Man Gates and Truck Gates WOOD FENCES & GATES
  - 1. Man Gates a. Openings shall be a minimum of 3 feet wide.
  - 2. Truck Gates a. Openings shall be a minimum of 12 feet wide.
- D. Gate designs shall be approved by DISTRICT prior to installation.

#### 2.5 GATE HARDWARE

- A. Gate hardware including, but not limited to, latches, hinges, stops and bolts shall be stainless steel, powder coated black, or galvanized.
- B. Hinges and Pins shall be heavy duty and sized as per manufacturer's recommendations.
- C. For truck gates (double-leaf), a drop rod or stop shall be installed on one leaf, include at least one guide and shall extend into concrete base or similarly solid base.
- D. Dual access (accessible and lockable from either side) latch and lock systems are required on all gates.
  - 1. The following dual access latch and lock systems are allowed and must be approved in writing by the District prior to installation:
    - a. Lock Thru™ Latch (website: <http://www.hooverfence.com/woodfence/lockthru.htm>);
    - b. Sure Latch (website: <http://surelatch.com/gate-latches/7-lockable-two-way-latch-and-pin.html>);
    - c. or Equal.

### Part 3 EXECUTION

#### 3.1 PREPARATION.

A. Follow all applicable blue stakes procedures.

#### 3.2 LAYOUT OF WORK

A. Replace fences in kind unless otherwise directed.

#### 3.3 INSTALLATION OF POSTS

A. Posts shall be set true to line and grade.

#### 3.4 INSTALLATION OF FENCE

A. According to manufacturer's instructions.

#### **Pay Item**

6' High Stockade Wooden Fence

#### **Pay Unit**

Linear Foot



## SPECIAL PROVISION

### AMENDMENT TO SECTION 410

#### Item 410.1– Chip Seal (Not a standard DOT Specification)

#### DESCRIPTION

Work shall consist of the Contractor furnishing and applying liquid asphalt and treated stone surface on top of a properly prepared and cured bituminous surface. Bituminous shim should be at least 2-3 weeks old prior to chip seal application.

#### MATERIALS

##### a. Liquid Asphalt

Liquid asphalt grades shall be: CRS – 2 (3% Latex), CMS -2 (3% Latex), RS -2 (3% Latex), HFMS -2 (3% Latex) or MC 3000 conforming to AASHTO specifications M208, M140 or M82

##### b. Latex Additive

The latex additive shall be Ultrapave 70 (Anionic) or Ultrapave 1156 (Cationic) or equivalent conforming to the following specifications. It is required that the latex be co-milled at the bulk emulsion facility, to ensure complete and balanced blending. The emulsion manufacturing plant must be open to inspection by the awarding authority.

	Anionic	Cationic
Monomer Ratio (Butadiene/Styrene)	(76+/-2/24+/-2)	(76+/-2/24+/-2)
Solids, min%	67	59
Solids, min lbs./gal	5.2	4.8
Coagulum (80 mesh screen max)	0.1%	0.1%
pH of Latex	9.5 – 10.5	4.0 – 5.5
Brookfield Visc (Model RVT, #3 spindle @20 RPM)	800 - 2000	5000 max
Mechanical Stability	Excellent	Excellent

##### c. Treated Stone

Stone shall be crushed quarry stone, free of dust, soft stone or other contaminants, with a minimum of 70% of all stones have a fractured face. All stone shall satisfy a 35% maximum for the L.A. Abrasion Test and a 35% maximum for the Flakiness Index Test. Stone shall be treated prior to application with Liquid Asphalt Material at the rate of 0.2% to 0.5% residual asphalt to ensure uniform treatment of all stones.

STONE COLOR SHALL BE **GRAYISH BLUE**, SUBMIT SAMPLES FOR APPROVAL.

#### REQUIRED STONE GRADATION

##### 9.5mm (3/8") STONE

SIEVE SIZE	% PASSING
9.5 mm (3/8")	100
6.3 mm (1/4")	10 - 60
4.75 mm (#4)	0 - 25
2.36 mm (#8)	0 - 5

Maximum passing 0.075 mm, (#200), sieve **shall not exceed 2.0%**, wet washed, for all sized aggregates in surface treatments.

## MATERIAL QUANTITIES

The quantity of asphalt material to be used shall be in the range of 0.35 to 0.50 gallons per square yard, or the quantity of MC- 3000 to be used shall be in the range of 0.25 to 0.35 gallons per square yard. Cover aggregate shall be spread in the range of 20 to 30 pounds per square yard. The Contractor will use us lab test to design specific material quantities to meet existing field conditions. Variations in material quantities will be made without adjustment to contract unit price. The Contractor must maintain a laboratory open to the inspection of the awarding agency.

## EQUIPMENT

The equipment used by the Contractor shall include, but not be limited to the following.

a. ASPHALT DISTRIBUTOR

The asphalt distributor shall contain suitable mechanical circulating and heating mechanisms to provide a uniform approved temperature of the entire mass of material. The distributor shall be equipped with radar type sensor used to measure ground speed, and feed a digital volumetric accumulator capable of measuring gallons applied and distance traveled. It shall be capable of applying asphalt material in accurately measured quantities at any rate between 0.1 to 2.0 gallons per square yard, of roadway surface, at any length of spray bar up to 16 feet. The distributor shall be capable of maintaining a uniform rate if distribution of asphalt material regardless of change in grade, width or direction of the road. It shall be equipped with an electronic control for setting asphalt pump discharge rate and on/off switching of spray nozzles in one (1) foot increments which shall be located in the truck cab. The spray nozzles and pressure system shall provide a sufficient and uniform fan-shaped spray of asphalt throughout the entire length of the spray bar at all times while operating. The spray shall completely cover the roadway surface receiving the treatment.

b. AGGREGATE SPREADER

The aggregate spreader shall be hydrostatically driven and self-propelled. It may be equipped with a hydraulically controlled variable adjustable head that is capable of spreading stone from 4.5 to 18 feet. The spreader shall be mounted on pneumatic tires and shall apply the treated stone on the road surface in a manner that ensures that the tires do not contact the road surface until after stone has been applied. The unit shall be equipped with an electronic radar type sensor used to measure ground speed and will automatically adjust the stone application rate depending on width of application and the speed of chip spreader. It shall have the ability to apply stone on any grade from 0 to 6%. The spreader shall be equipped with an integral hopper with a minimum capacity of 5 tons, of treated stone which shall be filled be trucks in a manner which ensures that the truck tires never come in contact with asphalt treated road surfaces until the stone has been properly applied. To maintain constant stone application, a self locking truck hitch will permit towing of aggregate trucks without stopping the chip spreader. It will be capable of maintaining positive engagement over irregular terrain.

c. ROLLERS

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

d. TRUCKS

Trucks in sufficient number and size must be used to deliver treated stone to the spreader.

e. BUCKET LOADER

Sufficient in size to load trucks from designated stock pile

## CONSTRUCTION METHODS

### a. Surface Preparation

The contractor shall protect (valve covers, manhole covers, drop inlets, catch basins, curbs, and any other structures within the shoulder area against the application of the surface treatment materials. Contractor shall sweep and clean surface prior to application.

### b. Weather Limitations

Work will not be done unless the road surface is dry. No work shall be done during rain or foggy periods. No work shall be done if the ambient temperature is below 50 degrees.

### c. Spreading Asphalt and Treated Stone

Prior to application of asphalt material on any street, sufficient quantities of materials to cover the entire street/s at the specified rates shall be on site and ready for application. The asphalt material shall not be applied more than 300 feet in advance of the self-propelled aggregate spreader. **AT NO TIME SHALL ANY ASPHALT MATERIAL BE ON THE ROAD SURFACE FOR MORE THAN 15 MINUTES BEFORE IT IS COVERED WITH TREATED STONE.**

### d. Rolling

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

### e. Traffic Control

Traffic control will be the responsibility of the contractor. Unless otherwise specified, the roadway shall be kept open to traffic at all times, with traffic discontinued on the lane being surface treated. Controlled traffic may be permitted as soon as the final layer is applied and rolled. Contractor shall provide loose stone warning signage for three weeks after application.

## Method of Payment

Payment for work under this agreement shall be at the contract unit price per square yard times the number of square yards, as measured by the Engineer, of road surface treated. Price per square yard shall be for complete in place quantities.

## Street Light Installation

### Description

**1.1** This work shall consist of installing the specified lights throughout the project area. Lights include single luminaire streetlights. The lighting shall be at the locations shown on the project plans.

### Materials

**2.1** Street Light: King 204, Black MH 120V **supplied by the City**, see cut sheets attached.

**2.2** Street Light poles are by Whatley and will be **supplied by the City**.

**2.3** Contractor to pick up all supplied materials at the Public Works Building.

**Contractor shall submit shop drawings for concrete bases prior to ordering.**

It is the contractor's responsibility to ensure the required anchor bolts, foundation size and anchor bolt templates are acquired for foundation construction. **Set pole bases 2" below finish grade in order to ensure base plate is hidden from view.**

### Construction Requirements

**3.1** Contractor to coordinate power source, electrical connection, conduit, wiring, electrical metering and load, junction boxes, installation hardware, and foundation and foundation design as appropriate for a complete and powered lighting system. All necessary power source, electrical connection, conduit, wiring, electrical metering and load, junction boxes, installation hardware, and foundation and foundation design as appropriate shall be subsidiary to the appropriate pay item.

All wiring and electrical work shall conform to applicable NEC and City of Portsmouth electrical standards. It is the Contractor's responsibility to ensure all codes are met, including the use of Professional Licensed Electricians as required.

Additional construction requirements shall be documented on the "Site Details" of the project plans.

### Method of Measurement

**4.1** Project Lights will be measured by the number of light fixtures of the specified style in the complete and accepted work.

### Basis of Payment

**5.1** Project Lights will be measured by the number of light fixtures of the specified style in the complete and accepted work.

5.1.1 Payment shall be full compensation for Contractor to coordinate power source, electrical connections, conduit, wiring, electrical metering and load, junction boxes, installation hardware, and foundation and foundation design as appropriate for a complete and powered lighting system.

5.1.2 Payment shall be full compensation for light pole, fixture, finial, arms, luminaires, and wiring for 665.17 Site Lighting. Conduit, wiring between fixtures, junction boxes, and meters shall be paid under separate items. Connections to an electrical meter and panel shall be subsidiary to Item LIGHTING CABINET AND ELECTRICAL WORK FOR LIGHTING AND SERVICE.

<b>Pay item</b>	<b>Unit:</b>
City Supplied Site Lighting installed	EA

**SPECIAL PROVISION – Not a Standard NHDOT Specification**  
**LIGHTING CABINET AND ELECTRICAL WORK FOR LIGHTING AND SERVICE.**

**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 of existing metering and panel system and any relocation and/or reconnection of existing electrical items that are being retained.
- 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 conduit and handhole system for outdoor electrical work, in locations as shown on Drawing. Provide precast concrete electric handholes in locations as shown and “Electric” logo on grey iron cover rated for H-20 loading.
2. Provide new concrete bases for proposed lighting poles in locations and quantities as shown on Drawing. Foundations to be reinforced with conduits and bolt patterns as shown on Contract Drawings and/or as specified by the manufacturer.
3. Install new light poles, fixtures, along with necessary accessories in quantities and locations as shown on Contract Drawings.
4. Provide two (1) new NEMA 3R Electrical Cabinets for outdoor power on new cast-in-place or precast concrete foundations. Foundations to include reinforcement, conduit stubs and grounding, per local and NEC requirements. Provide cabinet with service entrance rated distribution panelboard (min. 10 space), lighting contactor with H/O/A switch, photocell(s), circuit breakers (as needed), outlet (one GFCI duplex inside), and other accessories as shown on Contract Drawings. **Cabinets to be black powder coated Milbank model CP3B type SL.**
5. Provide electrical feed for new outdoor Electrical Cabinets from utility as shown on Drawings, per Local Utility standard requirements. Service to be 100A, 120/240V single-phase, 3-wire. Routing as shown, or as required by NEC or local authorities. Obtain necessary electrical permits prior to starting conduit work. Provide new 100A utility service including all PSNH hookup fees.
6. Provide conduit and cabling for outdoor lighting between fixtures, handholes, Electrical Cabinet, and utility service. Cabling per panel schedules and as shown on Contract Drawings.
7. Conduits outside below grade to be PVC Schedule 40 or as required by utility for service. Conduit sizes as indicated on Drawings or required by utility. Provide all necessary grounding, including ground rods at electrical cabinet location and at each light pole foundation as shown or if required by NEC or local authorities.
8. Provide startup services for new lighting system.
9. Provide other associated electrical equipment necessary for a complete system, shown, or implied in these Specifications and on Contract Drawings.
10. Coordinate with the City and local utility staff for new underground service to site, installation of new conduit, service and electrical requirements.

### 1.03 SITE VISIT

- A. Contractor 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 Contractor should thoroughly examine and familiarize himself with Drawing, 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 AS-BUILT DRAWINGS:

- A. After completion of the electrical installation, the Contractor shall furnish an "as-built" drawings showing all conduits, cables, cabinets, transformers, light poles, etc. to scale with dimensions where required. Instruction sheets and parts lists covering all operating equipment will be bound into a folder and furnished to the Owner in duplicate.

#### 1.05 INSTRUCTIONS:

- A. Within 10 days, after completion and testing of the system, the Contractor will instruct the Owner's personnel in the proper operations and maintenance of the system, in a 1/2 hour training session.

#### 1.06 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.

#### 1.07 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  
National Fire Protection Association  
Occupational Safety & Health Administration  
Underwriter's Laboratories, Inc.

NETA  
NFPA  
OSHA  
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.

#### 1.08 SUBMITTALS

- A. Within 10 days after Award of Contract, submit shop drawings and product data on below listed items for approval by the City. 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. Conduits and Wiring
  2. Service Cabinet and Equipment
  3. Circuit Breakers
  4. Concrete Products and Light Bases
  5. Handholes & Manholes
  6. Lighting Contactors
  7. Receptacles and covers
  8. Grounding materials
- 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.
- E. The Contractor shall furnish at least a complete set of operating and instruction manuals for the equipment provided under this Contract. These manuals shall detail the operation, testing, and maintenance of the electrical equipment and systems. Manuals shall be provided upon Engineer's request or upon project completion, whichever comes first.

#### 1.09 INSPECTIONS AND FEES

- A. Obtain all necessary permits and licenses, file necessary plans and pay all fees for permits and inspections. Permit fees will not be charged by the City, any other permits required are the responsibility of the Contractor as part of his bid, as is all coordination

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.

#### 1.10 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.

#### 1.11 ELECTRIC UTILITY

- A. All coordination with the Electric Utility is the responsibility of the Contractor. All work and materials for the electric service shall be in accordance with the requirements of the Electric Utility, and are to be met under this Section and included in the bid price of the Contractor.

### **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. 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. All conduits placed under roadways, and subject to vehicular traffic, shall be Schedule 80.
- C. Minimum size of conduit shall be 2". 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.
- D. Rigid Galvanized Steel (RGS) conduit shall be used for all entry and exit into concrete pads and at riser poles as required by Eversource, with ground bushings connected to new grounding with minimum #4Awg ground wire for conduit grounding bushings.
- E. Conduits shall be made electrically continuous at coupling and connections to boxes and cabinets by means of joining fasteners or copper bond wires. Conduit shall be connected to grounded structural steel or the ground network. After assembly all conduit locknuts, all EMT coupling fittings, and all bond wire screws shall be set up tight before installation of wiring. Insulated metallic bushings shall be used on all conduits entering panel cabinets, pull-boxes, and wiring gutters, except on branch lighting circuits.
- F. Expansion fittings shall be provided on all conduits as required by the 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. 8 AWG, NEC type THWN/THHN, meeting the requirements of UL 83. Conductors for power and lighting shall be no smaller than No. 12 AWG.
- B. Conductors for power, lighting, grounding, and control *below grade* (and in wet locations) shall be No. 8 AWG or larger, NEC type XHHW (or XHHW-2), meeting the requirements of NEMA WC7 and ICEA S-66-524.
- C. All conductors shall be annealed copper, 98% conductivity, Class B stranded. All conductors should be rated for 600 volts or less, with a thermal rating of 90° C.

- D. 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.

#### 2.05 BOXES

- A. Outlet and Switch Boxes: NEMA OS 1.
- B. Pull Boxes, Junction Boxes, and Equipment Enclosures: NEMA ICS 6.
- C. 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.
- D. Box sizes shall not be less than that required by the National Electrical Code.

#### 2.06 WIRING DEVICES

- A. Wiring Devices: NEMA WD 1.
- B. Wiring devices for shall be specification grade, 20 ampere, gray with Type 302 stainless steel plates. Ground fault current interrupting (GFCI) devices shall be provided where specified and/or required by applicable codes.

#### 2.07 PANELBOARDS

- A. Panelboards: NEMA PB1, and UL 67.

#### 2.08 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 8 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

#### 2.09 ELECTRIC HANDHOLES

- A. Electric Handholes are to be precast concrete as required by utility company. Handhole size as required by utility company.

- 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.

## 2.10 ELECTRICAL CABINET

- A. Provide one outdoor NEMA 3R powder coated black outside, white inside Milbank CP#B cabinet, to contain 100A 1-phase, 3-wire, 120/240V panelboard and associated electrical equipment, etc. Cabinet and equipment components shall be UL listed. Integral locking mechanism, with provision for pad-lock. Cabinets shall be ventilated type. Utility electric meter to be mounted inside of this cabinet.
- B. Contractor to coordinate with sizes of equipment to be installed within cabinets, including panelboard. Dimensions shown are typical and are for reference only. Cabinet to allow installation and removal of all electrical equipment with no interference between equipment. All equipment doors shall open 90 degrees. Electrical Cabinet doors to be provided with stay-open door catches. Contractor is responsible for coordinating size of this equipment prior to submitting Electrical Cabinet for approval.

## 2.11 CAST-IN-PLACE CONCRETE FOUNDATION

- A. Provide the materials, labor and equipment necessary for the installation of the following cast-in place concrete foundations, in accordance with these Specifications, Contract Drawings, Utility & City requirements and all applicable codes & regulations.  
  
Electrical Cabinet Foundation: complete with reinforcing rebar, ground rods, grounding connectors, conduit entrances, etc. as shown and as directed by Owner or Engineer. Contractor responsible for coordinating foundation dimensions to be 6-inches wider than cabinet base dimensions, on all four sides. Cabinet grounding to include a buried loop on all four sides, connected to the two buried ground rods as shown. Foundation shall be 3” above finish grade and 33” deep below grade.
- B. Foundations shall be built with 4,000 psi. Class AA concrete, on a base of crushed gravel and sand, as shown.
- C. Reinforcing rod to be #3 or #4 (as shown) grade 60 bars and shall conform to ASTM A-615 (latest revision). Reinforcing rods shall not be installed any closer than 2” from the face of the concrete.

- D. Provide grounding in the form of one (1) 5/8" diameter x 8'-0" long copperweld ground rod for each foundation, connected with a loop of #1/0Awg bare copper stranded ground wire (as shown), leaving a 3 foot long tail to ground the enclosure, transformers, etc. Buried loop for Electrical Cabinet to be buried approx. 6-8" below finished grade, offset approximately 12-inches from the edge of concrete foundation on all four sides.

## 2.12 FOUNDATIONS FOR LIGHTING POLES

- A. Provide approved cast-in-place foundations, and other devices as necessary and as required.
- B. Foundations for light poles shall be as shown on Drawings or as specified by the manufacturer, including number, type and location of anchor bolts. Foundations shall be made of minimum 4,000 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" conduits for lighting circuits, 180 degrees apart. Foundations to be installed with the top of the concrete below final grade to hide the base plate of the poles. Conduits to be flush with top of concrete to not interfere with anchor bolts or pole base.

## 2.13 LIGHTING

Install light poles and fixtures in quantities and locations as shown on the drawings.

## 2.14 LIGHTING CONTACTOR

- A. Lighting contactor with H/O/A switch to be in Electrical Cabinet. Feed to contactor shall be from photo-control, to be mounted on outside of Electrical Cabinet.

# 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, or Engineer's approvals.

### 3.04 TESTING, INSPECTION AND CLEANING

- A. 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. Test lighting fixtures with specified lamps in place for 100 hours. 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.
- F. Clean panels and other equipment. Panelboard interiors shall be cleaned and vacuumed. Equipment with damage to painted finish shall be repaired to Engineer's or Architect's satisfaction. After completion of project, clean exterior surfaces of electrical equipment.

### 3.05 WIRING METHODS

- A. Install wire and cables in approved raceways as specified and as approved by authorities that have jurisdiction.
- B. Follow homerun circuit numbers and/or notes as shown on Drawings to connect circuits to panelboards. Where homerun circuit numbers are not shown on Drawings, divide similar types of connected loads among phase buses so that currents are approximately equal in normal usage.
- C. 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.
- D. Polarity of all electrical connections shall be observed in order to preserve phase relationship in all feeders and equipment.

- E. 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. Conduit system shall be electrically continuous throughout, grounded at service entrance. Equipment frames, enclosures, boxes, etc. shall be grounded by use of green-jacketed (or bare copper) ground, sized as per Table 250-95 of the NEC.
- C. Green bonding jumper shall be installed in flexible conduits.
- D. 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.
- E. Ground Rods shall be 5/8" diameter and 8' in length, copperweld as required by applicable codes (NEC, NESC). Bonding connections to ground rods shall be permanent, welded or crimped, with copper connectors. All wire used for grounding shall be no smaller than #4 Awg copper, stranded conductor. Contractor shall bond all meter enclosure cabinets, meter sockets, safety disconnects, conduit grounding bushes, etc. .

### 3.07 INSTALLATION OF LIGHTING FIXTURES

- A. Verify construction of light pole foundations is suitable, and provide hardware, and other accessories suitable for construction encountered.
- B. Install Lighting System, as specified elsewhere in this Specification. Ground pole steel/aluminum to power system grounding conductor at each pole location, per NEC.
- C. 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.

### 3.08 EXECUTION – INSTALLATION OF ELECTRICAL EQUIPMENT

- A. Contractor to Provide (furnish & install) all items as indicated as Contractor-furnished and install all items, 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 Paragraph 1.02.G of this Specification Section.
- D. Provide all grounding of electrical cabinet installations and lighting. Grounding to be installed per installation details and National Electrical Code.
- E. Balance the lighting, receptacle and electrical load evenly on all circuits and on all phases of each circuit. Add additional circuits as necessary to balance loads.
- F. Provide new handholes and conduit system for lighting and electrical work, in locations as shown on Contract Drawings and as required.
- G. Install all equipment in locations as shown on Contract Drawings. All deviations must be approved, in advance by Owner and Engineer.
- H. Install all equipment per manufacturer's instructions.
- I. Provide complete "As-Built" drawings to Engineer & Owner.

**END OF SECTION**

## Item 2.26 ASPHALT BASKETBALL COURT COLOR COATING

### PART 1 GENERAL

#### 1.01 SECTION INCLUDES

- A. Application of acrylic color coating system over prepared asphalt concrete pavement.

#### 1.02 REFERENCES

- A. American Society for Testing and Materials (ASTM)
  - 1. C 136 Method of Sieve Analysis of Fine and Coarse Aggregates
  - 2. D 870 Resistance to Water
  - 3. D 4214 Resistance to Chalking
  - 4. D 4587 Resistance to Color Fading
  - 5. D 2939 Section 8 Test Method to Determine Residue by Evaporation

#### 1.03 SYSTEM DESCRIPTION

\*\*\*\*\*

Choices regarding number of coats of resurfacer and color finish should be made based on the following general principles;

- New Construction or overlays- will probably require two coats of acrylic resurfacer.
- Reseals of existing surfaces- will generally only require one coat of acrylic resurfacer. A minimum of two slurry color coats are recommended. Very heavy play surfaces should have a third application. To adjust speed of play a third coat without aggregate will result in a slightly faster and less abrasive surface.

\*\*\*\*\*

- A. Provide [two (2) ] coat [ s ] of Acrylic Resurfacer over prepared surface.
- B. Provide [ [ three (3) ] ] coats of Acrylic Color Coating over prepared surface after Acrylic Resurfacer has dried thoroughly.
- C. Place lines on surface.

\*\*\*\*\*

- D. Colors selected are to be [ FLORIDA GREEN EBONY] inside play lines and [FLORIDA GREEN EBONY] in the perimeter area.

#### 1.05 SUBMITTALS

- A. Product Data
  - 1. Submit Manufacturers printed Product Data Sheets, stating that coating meets above ASTM and EPA standards, and application specifications.

#### 1.06 ENVIRONMENTAL REQUIREMENTS

- A. Apply coating in dry weather when pavement and atmospheric temperatures are fifty (50) degrees F. or above and are anticipated to remain above fifty (50) degrees F., and good drying conditions are present and expected for the next eight (8) hours.
- B. Do not apply if freezing temperatures are expected within least forty-eight (48) hours of application.

#### 1.07 WARRANTY

- A. A two (2) year written dual warranty signed by contractor and materials manufacturer is available.

### PART 2 PRODUCTS

#### 2.01 MANUFACTURER

- A. California Products Corporation, 169 Waverly Street, Cambridge, Massachusetts, or approved equal.
- [ B. ] 1. Materials are listed as standard of quality.

[ C. No other material will be acceptable unless approved by the Architect/ Engineer in writing ten (10) days prior to bid date. ]

## 2.02 MATERIALS

A. The layout and design of color sealcoating shall be installed per contract drawings.

1. The two (2) filler coats shall be Plexipave as manufactured by California Products Corporation, 169 Waverly Street, Cambridge, Massachusetts, or approved equal.
2. Colors shall be as indicated on the plans. The two (2) Plexipave filler coats shall be applied to the cleaned bituminous pavement as specified hereunder. It shall be non-flammable upon exposure to flame. The filler coats shall contain a minimum of 9 lb./gal. of Silica, 100 percent (100%) passing a 100% mesh as pre-mixed at the manufacturer's plant. No sand or silica shall be added to the emulsion in the field. The bituminous pavement shall cure for fourteen (14) days prior to applying the Plexipave Acrylic Color System.

B. Water, if approved, may be added to the Plexipave emulsion mixes. In no case may the quantity of water in the filler coat emulsion mix exceed thirty-three percent (33%) of the emulsion volume. (One (1) part water: two (2) parts filler coat). In no case may the quantity of water in the finish coat emulsion mix exceed fifty percent (50%) of the emulsion volume. (One (1) part water: one (1) part finish coat). Water shall be potable and its temperature above forty degrees F (40°F) upon addition to the emulsions.

C. Color Coating: California Products Company's "Plexichrome" or an approved equal emulsion product. Colors shall match those of the Plexipave filler coats. The Plexichrome shall be applied lengthwise of the court with a wide type pushbroom.

D. The base vehicle for the finish coat shall be an acrylic polymer dispersed in water and which has the ability to withstand extremes in temperature and general weathering. The film former shall provide a non-skid surface upon drying and under all weather conditions. Pigment dispersions in the color coating are to be of the best quality chrome oxides so as to obtain a permanent true color. The coating shall contain no material, which will cause cracking due to extremes in temperatures and is to be factory mixed and consistent in color. It shall be a one hundred percent (100%) acrylic emulsion containing no alkyds, butadiene styrene, or vinyls and shall be thinned with water. It shall not chalk or discolor any equipment.

## 2.03 COLOR SEAL COAT

A. The bituminous concrete pavement shall cure for fourteen (14) days prior to applying the Color Sealcoat System where specified.

B. The Contractor shall furnish and apply to the approved bituminous pavements so designated on the plans: two (2) filler coats and one (1) finish coat of acrylic emulsion color coating.

C. Prior to application of the filler coats, all dirt, sand, dust, and other loose material shall be cleaned from the paved areas to be covered, by sweeping and pressure washing with water. All surfaces shall be dry prior to starting any color seal coating process. The Contractor shall take special precautions to assure that existing pavements are thoroughly cleaned and that all cracks or joints in existing pavements are repaired in conformance with these specifications and to the satisfaction of the Owner. Limits or areas to be color coated shall be taped with

minimum two (2) inch wide tape true as to alignment prior to application of the color coating material.

D. The two (2) filler coats shall be applied so that both coats are of a total quantity and with a uniform spread at the rate of one (1) gallon per each one hundred (100) square feet of surface area. Additional filler coating material is to be used if necessary to complete the court surfaces satisfactory to the Supervisor. The first coat shall be applied length-wise of the court or drive and the second coat cross-wise of the court or drive.

E. After the filler coat applications have been completed and approved, apply one (1) acrylic color emulsion coating to the properly prepared surfaces with a uniform spread at the rate of one (1) gallon per each two hundred (200) square feet of surface area. The color emulsion coating shall be California Products Company's "Plexichrome" or an approved equal emulsion product. Colors shall match those of the Plexipave filler coats. The Plexichrome shall be applied lengthwise of the court with a wide type pushbroom.

F. The entire system of two (2) filler and one (1) finish coat shall be applied with approved squeegees and hair-type pushbrooms, respectively. The material shall be thoroughly mixed by mechanical agitation and all work shall be done in a thorough and workmanlike manner. The emulsion shall be thoroughly stirred in its container as received, by stationery bucket power mixer, so that a creamy, smooth consistency of all the emulsion in the container is assured for ready application. The entire work of color coat surfacing shall be done in accordance with the recommendations of the manufacturer's representative. Special care shall be taken so as to allow none of the material to spatter or flow beyond the perimeter of areas to be covered. The filler coats and finish coat shall not be applied in foggy or rainy weather, or when ambient temperature is below forty five degrees F (45°F), nor shall they be applied if such conditions are anticipated during the next forty-eight (48) hours.

G. The finished surface shall be smooth and uniform, true to required grade and cross section, and free of depressions, ridges, or other irregularities.

## 2.04 EQUIPMENT

A. All equipment, tools, and machinery used for handling materials and executing work shall be in good working condition and capable of applying required coating weights evenly to provide a smooth, uniform coated surface. 32 18 23.54-4 10/05

## PART 3 EXECUTION

### 3.01 EXAMINATION

A. Inspect existing pavement surfaces for condition and defect that will adversely affect quality of work, and which cannot be put into an acceptable condition through normal preparatory work as specified. Do not place coating if defects exist, notify Architect/Engineer.

B. Starting installation constitutes contractor's acceptance of surface as suitable for installation.

### 3.02 PREPARATION - EXISTING BASKETBALL COURT

A. Repair courts.

1. Repair grade depressions: Prior to the application of coating materials, entire surface should be checked for minor depressions or irregularities. This is to be done by flooding the courts and after one-half (1/2) hour marking any depressions where water covers a nickel (approximately one eighth (1/8) inch). Fill such irregularities with court patch binder according to manufacturer's specifications.

2. Clean all cracks thoroughly and fill.

a. Cracks less than one-quarter (1/4) inch in width shall be filled with acrylic crack sealant.

b. Cracks greater than one-quarter (1/4) inch in width shall be filled with court patch binder.

### 3. Cleaning

- a. Thoroughly clean surfaces to be coated to remove all foreign debris (dirt, silt, gravel, leaves, etc.) using mechanically powered forced air sweepers, mechanical street sweepers, steel bristle brooms and/or high pressure water.
- b. Thoroughly scrape mud areas and scrub wash with clean water.
- c. If fungus is present, use a two (2) percent sodium hypochlorite solution to clean affected area. Rinse thoroughly.

4. Protection: Protect adjacent curbs, walks, fences, and other items from receiving color coat or resurfacer.

### 3.03 PREPARATION - NEW BASKETBALL COURTS

#### A. Cleaning

1. Thoroughly clean surfaces to be coated. Remove all foreign debris (dirt, silt, gravel, leaves, etc.) using mechanically powered forced air sweepers, mechanical street sweepers, steel bristle brooms and/or high pressure water.
2. Thoroughly scrape mud areas and scrub wash with clean water.

B. Protection: Protect adjacent curbs, walks, fences, and other items from receiving color coat or resurfacer.

C. New pavements which have been accepted by Architect/Engineer/Owner shall be allowed to cure and pass the “no water break” test before application. Cast one or two gallons of clean water from a suitable clean container (such as a 5 gallon pail) out on the surface. The water should sheet out and wet the surface uniformly without ribboning, crawling, or showing oil rings. (Comparable to water on very clean glass vs. dirty or greasy glass.) If the clean water does not wet the surface uniformly, the asphalt is not ready for coating and should age longer.

### 3.04 APPLICATION

A. When making mixes add water first then while agitating add silica sand slowly. Keep mixture homogeneous prior to beginning application and during entire time mixture is being applied.

B. Apply acrylic resurfacer uniformly over entire pavement per manufacturer’s specifications.

C. Allow adequate time between applications for prior coat to dry thoroughly before applying next coat. Acrylic resurfacer can normally be re-coated after four (4) hours of good drying with sun. Color coats can normally be re-coated after two - four (2 - 4) hours of good drying with sun. Upon completion of final coat keep all foot traffic off sealed surface. Allow the final coat to cure at least twenty-four (24) hours, under good drying conditions, before allowing foot traffic on surface. Less favorable conditions will require longer drying times.

D. Playing lines: Base lines shall be [[ three (3) inches]] (be sure to state width of base lines) wide and playing lines not more than two (2) inches wide, accurately located and marked, and painted with a paint recommended or approved by the manufacturer of the color finish material; however, use of traffic, oil, alkyd, or solvent-vehicle type paint is prohibited. The painting shall be done by skilled mechanics in a workmanlike manner in accordance with the manufacturer’s standard printed instructions. Prior to white line paint application, line paint tape gap filler shall be applied to reduce incidence of fuzzy lines.

### 3.05 PROTECTION

A. Barricade coated areas until coating has dried sufficiently for foot traffic.

### 3.06 SCHEDULE END OF SECTION

**SECTION 11480 (11 65 00)**  
**GYMNASIUM AND PLAY FIELD EQUIPMENT**

**PART 1 GENERAL**

**1.1 SECTION INCLUDES**

- A. Gymnasium and Play Field Equipment:
  - 1. Outdoor basketball backstops.
  - 2. Outdoor basketball backboards.
  - 3. Outdoor basketball goals.

**1.2 RELATED SECTIONS**

- A. SECTION 11480 (11 65 00) GYMNASIUM AND PLAY FIELD EQUIPMENT

**1.3 REFERENCES**

- A. ASTM E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials.
- B. ASTM F 2440 – Standard Specification for Indoor Wall/Feature Padding.
- C. Federal Standard 191 – Textile Test Methods.
- D. NFPA 101 – Life Safety Code.
- E. NFPA 255 – Surface Burning Characteristics of Building Materials.
- F. NFPA 286 – Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth.
- G. NFPA 701 – Methods of Fire Tests for Flame-Resistant Textiles and Films.
- H. UL 214 – Test for Flame-Propagation of Fabrics and Films.

**1.4 DESIGN REQUIREMENTS**

- A. Basketball Backstops: Locate overhead attachments of basketball backstops in keeping with static equivalent loading and point reactions.

**1.5 SUBMITTALS**

- A. Comply with Section 01330 (01 33 00) – Submittal Procedures.
- B. Product Data: Submit manufacturer's product data, including materials, components, fabrication, finish, and installation instructions.

- C. Shop Drawings:
  - 1. Submit manufacturer's shop drawings, including plans, elevations, sections, and details, indicating locations, quantities, dimensions, tolerances, materials, fabrication, connections, hardware, fasteners, finish, options, and accessories.
  - 2. Show location and detail of attachment to building structure.
- D. Design Data:
  - 1. Basketball Backstops:
    - a. Submit manufacturer's design data, indicating static loads and point reactions.
    - b. Submit calculations complete, showing hanger and hoist pulley points.
    - c. General load charts or generic product laboratory test data will not be considered sufficient data.
- E. Test Reports: Submit manufacturer's certified test reports from testing performed by accredited independent testing laboratory, indicating compliance of materials with requirements as specified.
- F. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.
- G. Operation and Maintenance Manual: Submit manufacturer's operation and maintenance manual; including operation, maintenance, adjustment, and cleaning instructions; trouble shooting guide; and parts list.
- H. Warranty: Submit manufacturer's standard, lifetime, and additional warranties.

## **1.6 QUALITY ASSURANCE**

- A. Single Source Responsibility: Provide gymnasium and play field equipment from single manufacturer.
- B. Manufacturer's Qualifications: Minimum of 5 consecutive years experience manufacturing gymnasium and play field equipment similar to that specified.
- C. Installer's Qualifications: Trained and approved by manufacturer.
- D. Regulatory Requirements: Gymnasium and play field equipment shall conform to latest rules and regulations.
  - 1. International Basketball Federation / Federation International de Basketball (FIBA).
  - 2. National Association for Girls and Women in Sport (NAGWS).
  - 3. National Basketball Association (NBA).
  - 4. National Collegiate Athletic Association (NCAA).
  - 5. National Federation of State High School Associations (NFHS).

## **1.7 DELIVERY, STORAGE, AND HANDLING**

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

- B. Storage: Store materials in clean, dry area indoors in accordance with manufacturer's instructions. Keep temporary protective coverings in place.
- C. Handling: Protect materials and finish from damage during handling and installation.

## **1.8 WARRANTY**

- A. Provide 1-year warranty against defects in materials and workmanship, unless otherwise specified.

## **PART 2 PRODUCTS**

### **2.1 MANUFACTURER**

- A. Bison, Inc., 603 L Street Lincoln, NE 68508. 1-800-247-7668 M-F 8-5 CST  
FAX 1-800-638-0698. Web Site <https://www.bisoninc.com/contact-us/>
- B. Substitutions: Requests for substitutions will be considered.

### **2.2 OUTDOOR BASKETBALL SYSTEM**

#### **A. Original Ultimate Playground Basketball System - SKU: BA871-BK**

- 1. BA871-BK System includes
  - a. 6" square, 3/16" wall structural steel tube suitable for a 39" in-ground installation. 45° extension arm shall be 6" square, 3/16" wall structural tube with a 4" square, 1/8" wall steel tube horizontal support and 1/4" thick steel backboard support plate. Pole shall be designed so that rim mounts directly to pole to minimize stress on the backboard. Extension arm shall be mounted by means of 6 each 5/8" grade 8 bolts. Pole system shall provide a minimum setback from the front of pole to front of backboard of 60". Entire pole system shall have a textured black polyester powder coated finish and carry a lifetime functional warranty. Vertical pole shall be capped to keep out rain.
  - b. Backboard shall be constructed of formed and welded steel with a 42" x 60" rectangular playing surface. Skin shall be 12 ga. mild steel and rear structure shall be 7 ga. and 10 ga. steel. All edges of the skin shall be formed in such a way that no shear edges are exposed. Boards with exposed shear edges shall not be considered equal. The backboard shall be coated with a white polyester powder coated finish and have an official-sized orange shooter's square. Backboards shall carry an unconditional lifetime functional warranty.
  - c. Rim shall consist of two 5/8" diameter high strength steel rings welded together at a minimum of six places. Back and side plates shall be 3/16" thick and be continuously welded.
  - d. The net attachment system shall be of a continuous type constructed of 3/16" x 1" steel with punched net attachment slots suitable for nylon (included) or chain (optional) nets. Individual or continuous wire formed netlocks are not an acceptable equal. Rim shall have an unconditional lifetime warranty and orange powder coated finish. Installation to be completed in accordance to manufacturer's instructions. Do not scale drawings. Entire system weight shall be 500#.



## SECTION 11 68 13 PLAYGROUND EQUIPMENT

### Description

1.1 This work shall consist of the relocation, and installation of play equipment as shown on the plans or as ordered. This work shall include furnishing and installing the required equipment, anchors, and base material.

1.2 This work shall consist of constructing, maintaining relocating, and removal of existing play equipment as noted in the Contract or as ordered.

### 2.1 Swings.

#### 2.1.1 General

2.1.1.1 All fabrication shall take place in an enclosed factory environment by personnel experienced in the manufacture of children's play apparatus.

#### 2.1.2 Materials

2.1.2.1 Swing shall consist of two posts, two beams with integrally mounted hangers, two belt swing seats, one tot swing seat and chain. Beams and posts shall be 4-1/2" (o.d.) schedule 40 steel pipe.

2.1.2.2 Belt and tot seats shall be tan rubber and fitted with concealed steel reinforcing straps. Two loops shall be permanently riveted to each belt seat and attach to hardened chain. Swing hangers shall be 1/4 inch thick mild steel plate.

#### 2.1.3. Construction

2.1.3.1 Welds shall be smooth and continuous with no gaps or pin holes. Final product shall be free of weld spatters and burrs. Each chain shall swing freely from a UHMW bushing for maximum wear resistance without requiring periodic maintenance. *Bronze bearings shall not be accepted.*

#### 2.1.4 Finish

2.1.4.1 Posts and beams shall be color finished with CASPAX-7™, a tough, opaque, UV resistant exterior grade polyester powder coating applied to a minimum thickness of 6 mils.

2.1.4.2 Swing pivots shall be finished black. Liquid, epoxy or lead-containing powder coatings are not acceptable.

#### 2.1.5 Manufacturer

2.1.5.1 Columbia Cascade Company, 1300 SW Sixth Avenue, Suite 310, Portland OR 97201-3464 U.S.A. Phone 503/223-1157.

#### 2.1.6 Product

2.1.6.1 (ONE) Double Belt/Single Tot Swing shall be PipeLine® model No. 1583-3 in Regal Blue.

### 2.2 Climbing Net

2.2.1 Climbing net shall conform to ASTM F1487

#### 2.2.2 Materials

2.2.2.1 Post: Galvanized and powder coated steel

2.2.2.2 Cable: 20 mm Braided UV-resistant nylon over seven (7) galvanized steel cables

2.2.2.3 Net Accessories: HDPE plastic

2.2.2.4 Mechanical Assembly: Seamless 2" diameter aluminum crimped cross joint castings.

2.2.2.5 All painted parts are powder coated with a UV-resistant polyester

#### 2.2.3 Anchor Type

2.2.3.1 Post: Concrete bases

2.2.3.2 Net tips: Turnbuckles mounted to plates anchored in concrete bases

## 2.2.4 Colors

2.2.4.1 Net accessories: Blue

2.2.4.2 Standard RAL paint colors: 7035

2.2.4.3 Rope colors: Green

## 2.2.5 Manufacturer

2.2.5.1 Elephant Play 1-877-854-3319 . elephantplay.com [info@elephantplay.com](mailto:info@elephantplay.com)

## 2.2.6 Product

2.2.6.1 Climbitrail Series, Spidernest AN1300

## 2.2.7 Installation

2.2.7.1 Install according to Manufacturer's Instructions

## 2.3 Double Slide

### 2.3.1 General

2.1.1.1 All fabrication shall take place in an enclosed factory environment by personnel experienced in the manufacture of children's play apparatus.

### 2.3.2 Materials

2.3.2.1 Wave Chute, 6" Rails with Stairway with Baluster Handrails shall consist of support posts, entrance platform, stairway with handrails, and a Stainless Steel Slide Chute, plus attachment hardware.

2.3.2.2 Support posts shall be 4-1/2" (o.d.) schedule 40 steel pipe with a minimum wall thickness of 7/32". *Thin wall tubing is not acceptable.*

2.3.2.3 Entrance platform shall be a one-piece welded assembly that consists of a diamond plate steel deck, two sleeved post extensions, safety barrier walls, and attachment hardware. The diamond plate steel deck shall be 1/4" thick and formed to have 2-3/4" reinforced edges. It shall be supplied in the length and width to properly fit the attaching accessory. The sleeved post extensions shall be 4-1/2" o.d. schedule 40 steel pipe with a minimum wall thickness of 7/32". The post extensions shall be welded to the notched edges of the platform and include sleeves to allow for attachment to the structure support posts.

2.3.2.4 The safety barrier walls shall consist of 1-5/16" (o.d.) schedule 40 curved steel pipe frames with 5/8" diameter steel rod pickets. The top of the barrier walls shall extend 38" above the platform surface and include the required safety bars to aid in channeling the users of the structure to a safe, seated position as applicable.

2.3.2.5 Vertical Safety Climber shall consist of vertical safety climber assembly, two side enclosure assemblies, and attachment hardware. Vertical safety climber assembly shall consist of 1-5/16" (o.d.) rungs and 1-11/16" (o.d.) schedule 40 steel pipe frame, and vertical pole, assembled into a one-piece unit. The completed climber shall measure 1'-6" wide and meet the specified height requirements. Side enclosure assembly shall consist of a one-piece enclosure. Enclosure shall be 1-5/16" (o.d.) schedule 40 steel pipe permanently welded to one 5/8" diameter solid steel baluster.

2.3.2.6 Wave Chute stainless steel bedway assembly shall consist of a 18" wide single sheet of 16-gauge T430 bright annealed stainless steel, side rails and safety handrails, and shall include no laps or seams. It shall be permanently attached to the side rails with "monobolts", and shall be reinforced from underneath by 16-gauge galvanized steel battens spaced no further than 4" on center. Each side rail shall be aluminum "D" rail, shall extend 6" above the slide bedway, and have ends closed with the end caps permanently riveted in place. Each side rail shall incorporate safety rails at the top to provide a hand hold for the players and help channel them into a safe, seated, sliding position. The side rails and bedway shall be permanently bent to incorporate a smoothly-formed wave halfway down the assembly. Front pipe brace assembly shall include 1" Schedule 40 galvanized steel tube. Chute shall slope approximately 30 degrees when

properly installed. In the exit area (bottom), side rails and assembly shall be curved to parallel grade as closely as possible, thereby slowing the player for safe discharge.

#### 2.1.3. Construction

2.1.3.1 Welds shall be smooth and continuous with no gaps or pin holes. Final product shall be free of weld spatters and burrs.

#### 2.1.4 Finish

2.1.4.1 Metal components, other than those galvanized or stainless steel, shall be color finished with CASPAX-7™, a tough, opaque, UV resistant exterior grade polyester powder coating applied to a minimum thickness of 6 mils.

#### 2.1.5 Manufacturer

2.1.5.1 Columbia Cascade Company, 1300 SW Sixth Avenue, Suite 310, Portland OR 97201-3464 U.S.A. Phone 503/223-1157.

#### 2.1.6 Product

2.1.6.1 (ONE) Wave Chute, Stainless Steel with 6" Rails, Vertical Safety Climber shall be PipeLine® model No. 1941-6-24-PL, six feet high, in Evergreen.

### Construction Requirements

#### 3.1 General.

##### 3.1.1 SITE PREPARATION

###### 3.1.1 Finished Grade and Underground Utilities

Submit finished grade, underground utilities, storm-drainage system and irrigation system status; and location of underground utilities and facilities. Verify that finished grades are as indicated; the smooth grading has been completed in accordance with Section 31 00 00 EARTHWORK; installation of the underground utilities through the area has been completed in accordance with Section 31 00 00 EARTHWORK; installation of the storm-drainage system through the area has been completed in accordance with Section 33 40 00 STORM DRAINAGE; and the installation of underground sprinklers through the area has been completed in accordance with Section 32 84 24 UNDERGROUND SPRINKLER SYSTEMS. The location of underground utilities and facilities in the area of the operation must be verified. Damage to underground utilities and facilities must be repaired at the Contractor's expense.

##### 3.1.2 Layout

###### 3.1.2.1 General

The layout of the entire outdoor play area must be staked before excavation begins to include the following: all play event configuration access and egress points; use zone perimeters; hard surface areas and pathway widths; exterior plant material and planters; walls and fences; and structures. Provide sufficient space between all adjacent play events and individual play events for play activities and circulation. Moving and rotating play events must be located away from circulation to prevent collisions.

###### 3.1.2.2 Use Zone

The use zone is associated with the following terms; "Clear Area," and "Fall Zone". The use zone must be free of hard surfaces, objects or obstacles that a child could run into or fall on top of and be injured. The use zone must consist of protective surfacing in accordance with the requirements of Section 32 18 16.13 PLAYGROUND PROTECTIVE SURFACING. Use zone perimeters must not overlap hard surfaces. The use zone perimeter must meet or exceed the requirements of paragraph CHILD SAFETY AND ACCESSIBILITY STANDARDS. Use zone perimeters must not overlap except for certain play events as defined in ASTM F1487.

### 3.1.3 Orientation

Bare or painted metal platforms and slide beds must be oriented from the direct sun; or shaded to reduce contact burn risk. Play events that require orientation to adjacent play events or to meet visibility requirements must be properly oriented. 3.1.4 Obstructions Below Ground

When obstructions below ground affect the work, submit shop drawings showing proposed adjustments for approval.

## 3.2 INSTALLATION

Play events must be installed according to the manufacturer's recommendations and as shown to meet the requirements of paragraph CHILD SAFETY AND ACCESSIBILITY STANDARDS.

### 3.2.1 Play Event Modification

Site modifications of play events affect the coverage provided in paragraph WARRANTY; therefore, play events and equipment must not be modified without the written approval of the manufacturer. Submit manufacturer's written approval. 3.2.2 Wood Finishes

Field applied or touch up of wood finishes must meet the same specifications as finishes applied at the factory. Submit wood finish chemical content and toxicity level.

### 3.2.3 Plastic Play Events

Plastic and recycled plastic components must be connected by stainless steel hardware. The hardware must be countersunk. Recycled plastic molded as lumber or wood-polymer lumber must be installed in accordance with the manufacturer's recommendations.

### 3.2.4 Footings

The top elevation of play event footings will be installed at the subbase of the protective surfacing.

### 3.2.5 Multiple-Axis (Rotating) Swing

The multiple-axis (rotating) swing must be located away from other play events and circulation. It must not be attached to a composite structure.

### 3.2.6 Single-Axis (To-Fro) Swing

The single-axis (to-fro) swing must be located on the perimeter of the outdoor play area. It must not be attached to a composite structure.

### 3.2.7 Slide

The required exit region clear area must be provided in accordance with ASTM F1487.

### 3.2.8 Chain or Rope Ladder, Climber or Net Climber

A chain or rope ladder; climber; net climber; and similar components must be installed in the vertical position. Angled or arch positions are not accepted.

3.2.9 Composite Structure The composite structure use zone perimeter must be composed of the use zone perimeters of the play events that, when joined together, comprise the composite structure.

### 3.2.10 Fall Height

3.2.10.1 General The fall height is defined as the vertical distance between the finished elevation of the designated play surface and the finished elevation of the protective surfacing beneath it. For some play events the fall height and paragraph PLATFORM HEIGHT are the same. For some play events the fall height and maximum equipment height are the same. When the furnished play event fall height varies from the play event shown, submit scale drawings defining the revised depth or type of protective surfacing to meet or exceed the requirements of Section 32 18 16.13 PLAYGROUND PROTECTIVE SURFACING must be provided.

#### 3.2.10.2 Measuring Fall Height

EQUIPMENT	MEASURING FALL HEIGHT
Composite Structure.	For a platform surrounded by protective barriers, measure from the platform finished elevation.  For a platform surrounded by guardrails, measure from the guardrail top elevation.
Infant Crawl Area.	A maximum 600 mm 24 inch height, measured from the crawl wall or barrier finished elevation
Playhouse, Nonclimbable	Measure from the designated play surface finished elevation.
Spring Rocking Equipment	Measure from the seat top elevation.
Stationary Equipment, Climbable	Measure from the maximum equipment height finished elevation.
Stationary Equipment, Nonclimbable	Measure from the designated play surface finished elevation.
Swing	Measure from the bottom of the pivot point

3.2.11 Signage For playground areas other than CDC, durable permanent signage must be provided to identify the age group the equipment is designed to accommodate. Signage must be in accordance with Section 10 14 00.10 EXTERIOR SIGNAGE.

### 3.3 RESTORATION AND CLEAN UP

When the operation has been completed, clean up and protect the site. Existing areas that have been damaged from the operation must be restored to original condition at the Contractor's expense.

#### 3.3.1 Clean Up

The site and play events must be cleaned of all materials associated with the operation. Play events and surfaces must be cleaned of dirt, stains, filings, and other blemishes occurring from shipment and installation. Cleaning methods and agents must be as recommended by the manufacturer. Required labeling must be undamaged and visible in accordance with paragraph EQUIPMENT IDENTIFICATION.

#### 3.3.2 Protection

The area must be protected as required or directed by providing barricades and signage. Signage must be in accordance with Section 10 14 00.10 EXTERIOR SIGNAGE.

#### 3.3.3 Disposal of Materials

Excess and waste material must be removed and disposed off Government property.

### 3.4 CHILD SAFETY AND ACCESSIBILITY EVALUATION

a. When the protective surfacing is installed the play events and protective surfacing must be thoroughly inspected and measured to verify the playground meets manufacturer's recommendations, paragraph CHILD SAFETY AND ACCESSIBILITY STANDARDS, and paragraph FALL HEIGHT.

b. The play events must be age appropriate for the age group using them in accordance with paragraph PLATFORM HEIGHT. Determine 1) secure anchoring; 2) all hardware and connectors are tight; 3) all hardware and connectors require tools to loosen; 4) all hooks are closed; 5) head and neck entrapment; 6) sharp points, edges, and protrusions; 7) entanglement; 8) pinch, crush, and shear points; 9) suspended hazards; 10) all component

holes are filled; and 11) recycled plastic components used as load bearing structural members.

c. Use zone distances must be measured to determine the area is free of hard surfaces, objects or obstacles. Determine exceptions to use zone overlaps occur in accordance with paragraph USE ZONE. Play event fall height must be measured and compared to critical height value for thickness of installed protective surfacing. The slide exit region must have the required clear zone. Play events and surfaces must be properly oriented. Chain, rope, net climbers or similar components must be installed in a vertical position. Swing seat clearances must be measured while occupied by a maximum user for the age group using the equipment. Warning labels and manufacturer identification labels must be visible in accordance with paragraph EQUIPMENT IDENTIFICATION.

d. Play events that do not comply must be reinstalled. Fasteners, anchors, hardware and labels that do not comply must be replaced. Ensure positive drainage for the area and the lowest elevation of protective surfacing subgrade has been provided. A written report describing the results of the evaluation must be provided. e. Submit records of measurements and findings by the certified playground safety inspector. Submit verification stating that the installed play events and equipment meet manufacturer's recommendations and paragraph CHILD SAFETY AND ACCESSIBILITY STANDARDS.

### 3.5 RE-INSTALLATION

When re-installation is required, accomplish the following: Re-install the product as specified. Provide new replacement materials supplied by the manufacturer. Material acquisition of replacement parts is the responsibility of the Contractor. Damage caused by the failed installation must be repaired at the Contractor's expense.

## **SECTION 32 18 16**

### **ENGINEERED WOOD FIBER PRODUCT SPECIFICATION**

#### **A. PART 1 – GENERAL**

##### **a. Work Details**

- i. The work specified in this section consists of the installation of Engineered Wood Fiber in accordance with these specifications, and in conformity with the dimensions and notes shown in the plans.

##### **b. Quality Assurance and Compliance Details**

##### **i. Accessibility of Surface Systems - ASTM F1951**

1. Determination of accessibility of surface systems under and around playground equipment.

##### **ii. Impact Attenuation - ASTM F1292-17a**

1. Impact attenuation of surface systems under and around playground equipment.

##### **iii. Standard for Engineered Wood Fiber - ASTM F2075**

1. Minimum characteristics for those factors that determine particle size, consistency, purity and ability to drain.

##### **iv. IPEMA Certification**

1. Manufacturer must provide proof of certification. “In the interest of public playground safety, IPEMA provides an independent laboratory which validates a manufacturer’s certification of conformance to ASTM F1292-17a and ASTM F2075. A list of current validated products, their thickness and critical heights may be viewed at [www.ipema.org](http://www.ipema.org).”

#### **B. PART 2 – MATERIAL DATA**

- a. Product is manufactured of a ground wood fiber comprised of softwoods and/or hardwoods, consisting of randomly sized wood fibers the majority of which do not exceed 2” in length and no more than 15% fines to aid in compaction.
- b. Product to have minimal bark and to be free of twigs, leaf debris and other organic material.
- c. Product depth, after installation, must be in accordance with the procedure described in ASTM F1292-17a and meet guidelines for critical height as set forth by the Consumer Product Safety Commission for use of wood products for protective surfacing.

#### **C. PART 3 – SUB-BASE TYPES & DETAILS**

- a. Engineered Wood Fiber may be installed over compacted earth. If it is deemed that additional drainage is necessary; a layer of gravel can also be a suitable substrate.

#### **D. PART 4 – SITE PREPARATION AND REQUIREMENTS**

- a. For in-ground (i.e. on grade) installations, excavate area to proper depth (12 in. for 12 in. system, 8 in. for 8 in. system).
- b. Both in-ground and above-ground systems must be properly graded. A (1) percent grade is recommended for proper drainage. Engineered wood fiber systems should not be installed on grades exceeding 10 percent. Substrate (for both in-ground and above-ground systems) must be firmly compacted, especially when additional fill material has been provided. The substrate should be free of stones, roots and other vegetation.

#### **E. PART 5 – INSTALLATION**

- a. Purchaser should determine and specify fall heights and equipment use zones as required by the Consumer Product Safety Commission's Handbook for Playground Public Safety, applicable ASTM standards, and state and local codes and regulations.
- b. Installation Instructions
  - i. Install playground equipment
  - ii. For above-ground systems, install retaining wall.
  - iii. Install 3 in. of drainage gravel on a layer of geotextile fabric. The lower end of the site should be connected to drainage to channel collected water away from the site. Overlap all seams a minimum of 3 in. Slit fabric to fit around equipment uprights. Where possible, overlap all slits with next piece of fabric.
  - iv. Cover drainage system (either manufactured drainage or gravel) or earth substrate with geotextile fabric. Overlap all seams a minimum of 3 in. Slit fabric to fit around equipment uprights. Where possible, overlap at slits with next piece of fabric.
  - v. With permanent marker or warning label, mark uprights of equipment with compacted system depth (i.e. 8 in. or 12 in.).
  - vi. Install the engineered wood fiber to the proper depth, mounding in the center of the play areas of the playground. Extra materials will be provided to allow for compaction. Use a small front-end loader to spread surfacing. Operator should be careful not to travel on the fabric or turn sharply on the engineered wood fiber. It will also be necessary to spread manually. Install all the material delivered and please note that the surfacing will be several inches above grade until it compacts. Engineered wood fiber needs to be compacted in order to be considered handicapped accessible. This can be achieved over time and usage, or with a mechanical compactor. Saturating the initial load with water will help with compaction.
  - vii. Install wear mats in excessive wear areas, such as slide exits, under swings, and sliding poles.
  - viii. For a smooth finished surface, hand rake. After two weeks of active use, surface should be raked again.
  - ix. Periodical adjustments of engineered wood fiber are required under slides, swings and other concentrated use zones. Installing mats in these areas will help control displacement in these high use zones. **WARNING:** Failure to maintain engineered wood fiber at the initial installation depth may result in an injury and void your warranty.

#### F. PART 6 – MAINTENANCE

- a. See manufacturer's instructions.



## SECTION 15415

### DRINKING FOUNTAINS AND WATER COOLERS

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](http://www.weareleadfree.net)

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

A.

##### 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 <SUPPLIED BY CITY, INSTALLED BY CONTRACTOR>:

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

1. Manufacturers: Murdock, Inc.
2. Basis-of-Design Product: Subject to compliance with requirements, provide **Water Fountain by Murdock, Inc.**

3. 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 ¾", reduced to ½" 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, ¾" 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.

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 connected to sanitary drainage system.

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 Report test results in writing.

### 3.7 ADJUSTING

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

3.8 Adjust water cooler temperature settings.

3.9 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

## **SECTION 32 93 00**

### **PLANTS**

#### **PART 1 GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Planting items including but not limited to:
  - 1. Plants
  - 2. Planting soils
  - 3. Tree stabilization

##### **1.02 RELATED REQUIREMENTS**

- A. Section 32 92 00 - Turf and Grasses

##### **1.03 REFERENCE STANDARDS**

- A. ANSI-Z60.1 - American Standard for Nursery Stock. As published by the American Association of Nurserymen; Washington, DC. 2004.
- B. ANSI A300 Part 6 – Standard Practices for Planting and Transplanting.
- C. City of Portsmouth, NH Tree Planting Requirements

##### **1.04 ADMINISTRATIVE REQUIREMENTS**

- A. Engage the services of a reputable nursery in the area to furnish and plant such trees and shrubs as recommended by the nursery and as approved by the Landscape Architect.
- B. Pre-installation Meeting: Convene a pre-installation meeting at least 1 month before starting work of this Section; require attendance by all relevant installers. Pre-Installation Meetings shall not be scheduled until which time the submittal and shop drawing process has been 100% completed and approved.

##### **1.05 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: For each type of product indicated, including soils.
  - 1. Plant Materials: Include quantities, sizes, quality, and sources for plant materials.
  - 2. Plant Photographs: Include color photographs in [**digital**] format of each specimen tree to be furnished to the Project. Take photographs from an angle depicting true size and condition of the tree to be furnished. Include a scale rod or other measuring device in each photograph.
- C. Qualification Data: For qualified landscape Installer. Include list of similar projects completed by Installer demonstrating Installer's capabilities and experience. Include project names, addresses, and year completed, and include names and addresses of owners' contact persons.
- D. Product Certificates: For each type of manufactured product, from manufacturer, and complying with the following:
  - 1. Manufacturer's certified analysis of standard products.
  - 2. Analysis of other materials by a recognized laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable.
- E. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of plants during a calendar year. Submit before start of required maintenance periods
- F. Warranty: Sample of special warranty.

## 1.06 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified landscape Installer whose work has resulted in successful establishment of plants.
- B. Professional Membership: Installer shall be a member in good standing of either the Professional Landcare Network or the American Nursery and Landscape Association.
- C. Experience: **[Five]** years' experience in landscape installation in addition to requirements in Division 01 Section "Quality Requirements."
- D. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
- E. Personnel Certifications: Installer's **[field supervisor]** shall have certification in **[one of]** the following categories from the Professional Landcare Network:
  - 1. Certified Landscape Technician - Exterior, with **[installation]** specialty area(s), designated CLT-Exterior.
  - 2. Certified Ornamental Landscape Professional, designated COLP.
- F. Soil-Testing Laboratory Qualifications: An independent or university laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.
- G. Soil Analysis: For each unamended soil type, furnish soil analysis and a written report by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; **[sodium absorption ratio; ]** deleterious material; pH; and mineral and plant-nutrient content of the soil.
  - 1. Testing methods and written recommendations shall comply with USDA's Handbook No. 60.
- H. Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.
  - 1. Selection of plants purchased under allowances will be made by Landscape Architect, who will tag plants at their place of growth before they are prepared for transplanting
- I. Measurements: Measure according to ANSI Z60.1. Do not prune to obtain required sizes.
  - 1. Trees and Shrubs: Measure with branches and trunks or canes in their normal position. Take height measurements from or near the top of the root flare for field-grown stock and container grown stock. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip to tip. Take caliper measurements 6 inches (150 mm) above the root flare for trees up to 4-inch (100-mm) caliper size, and 12 inches (300 mm) above the root flare for larger sizes.
  - 2. Other Plants: Measure with stems, petioles, and foliage in their normal position.
- J. Plant Material Observation: Landscape Architect may observe plant material either at place of growth or at site before planting for compliance with requirements for genus, species, variety, cultivar, size, and quality. Landscape Architect retains right to observe trees and shrubs further for size and condition of balls and root systems, pests, disease symptoms, injuries, and latent defects and to reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site.
  - 1. Notify Architect of sources of planting materials **[seven]** days in advance of delivery to site.
- K. Preinstallation Conference: Conduct conference at **[Project site]**.

## **1.07 DELIVERY, STORAGE, AND HANDLING**

- A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws if applicable.
- B. Bulk Materials:
  - 1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
  - 2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
  - 3. Accompany each delivery of bulk fertilizers and soil amendments with appropriate certificates.
- C. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.
- D. Handle planting stock by root ball.
- E. Deliver plants after preparations for planting have been completed, and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in their appropriate aspect (sun, filtered sun, or shade), protect from weather and mechanical damage, and keep roots moist.
  - 1. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
  - 2. Do not remove container-grown stock from containers before time of planting.
  - 3. Water root systems of plants stored on-site deeply and thoroughly with a fine-mist spray. Water as often as necessary to maintain root systems in a moist, but not overly-wet condition.

## **1.08 PROJECT CONDITIONS**

- A. Field Measurements: Verify actual grade elevations, service and utility locations, irrigation system components, and dimensions of plantings and construction contiguous with new plantings by field measurements before proceeding with planting work.
- B. Notify Construction Manager no fewer than two days in advance of proposed interruption of each service or utility.
  - 1. Do not proceed with interruption of services or utilities without Construction Manager's written permission.
- C. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.
  - 1. Spring Planting: <April 1<sup>st</sup>-June 15<sup>th</sup>>.
  - 2. Fall Planting: <August 25<sup>th</sup>-October 15<sup>th</sup>>.
- D. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions and warranty requirements.



- E. Coordination with Turf Areas (Lawns): Plant trees, shrubs, and other plants after finish grades are established and before planting turf areas unless otherwise indicated.
  - 1. When planting trees, shrubs, and other plants after planting turf areas, protect turf areas, and promptly repair damage caused by planting operations.

## **1.09 WARRANTY**

- A. Special Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner, or incidents that are beyond Contractor's control.
    - b. Structural failures including plantings falling or blowing over.
    - c. Faulty performance of **[tree stabilization]** **[edgings]**.
    - d. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
  - 2. Warranty Periods from Date of **[Substantial Completion]**.
    - a. Trees, Shrubs, Vines, and Ornamental Grasses: **[12]** months.
    - b. Ground Covers, Biennials, Perennials, and Other Plants: **[12]** months.
- B. Include the following remedial actions as a minimum:
  - 1. Immediately remove dead plants and replace unless required to plant in the succeeding planting season.
  - 2. Replace plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
  - 3. A limit of one replacement of each plant will be required except for losses or replacements due to failure to comply with requirements.
  - 4. Provide extended warranty for period equal to original warranty period, for replaced plant material.

## **1.10 MAINTENANCE SERVICE**

- A. Initial Maintenance Service for Trees and Shrubs: Provide maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established but for not less than maintenance period below.
  - 1. Maintenance Period: **[12]** months from date of **[Substantial Completion]**.
- B. Continuing Maintenance Proposal: From Installer to Owner, in the form of a standard yearly (or other period) maintenance agreement, starting on date initial maintenance service is concluded. State services, obligations, conditions, and terms for agreement period and for future renewal options.

## **PART 2 PRODUCTS**

### **2.01 PLANT MATERIAL**

- A. General: Furnish nursery-grown plants true to genus, species, variety, cultivar, stem form, shearing, and other features indicated in Plant Schedule or Plant Legend shown on Drawings and complying with ANSI Z60.1; and with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock, densely

foliated when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

1. Trees with damaged, crooked, or multiple leaders; tight vertical branches where bark is squeezed between two branches or between branch and trunk ("included bark"); crossing trunks; cut-off limbs more than 3/4 inch (19 mm) in diameter; or with stem girdling roots will be rejected.

2. Collected Stock: Do not use plants harvested from the wild, from native stands, from an established landscape planting, or not grown in a nursery unless otherwise indicated.

3. All planting stock shall be specimen quality, free of defects, and disease or injury. The City of Portsmouth, NH reserves the right to refuse/reject any plant material or planting action that fails to meet the standards set forth in the *ANSI A300 Part 6 Standard Practices for Planting and Transplanting* and/or The City of Portsmouth, NH Planting Requirements.

- B. Provide plants of sizes, grades, and ball or container sizes complying with ANSI Z60.1 for types and form of plants required. Plants of a larger size may be used if acceptable to Architect, with a proportionate increase in size of roots or balls.
- C. Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which shall begin at root flare according to ANSI Z60.1. Root flare shall be visible before planting.
- D. Labeling: Label **[at least one]** plant of each variety, size, and caliper with a securely attached, waterproof tag bearing legible designation of common name and full scientific name, including genus and species. Include nomenclature for hybrid, variety, or cultivar, if applicable for the plant as shown on Drawings.
- E. If formal arrangements or consecutive order of plants is shown on Drawings, select stock for uniform height and spread, and number the labels to assure symmetry in planting.

## 2.02 INORGANIC SOIL AMENDMENTS

- A. Sand: Clean, washed, natural or manufactured, and free of toxic materials.

## 2.03 ORGANIC SOIL AMENDMENTS

- A. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through [**1/2-inch (13-mm)**] sieve; soluble salt content of [**5 to 10**] decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:
  - 1. Organic Matter Content: [**50 to 60**] percent of dry weight.
  - 2. Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source-separated or compostable mixed solid waste.
- B. Wood Derivatives: Decomposed, nitrogen-treated sawdust, ground bark, or wood waste; of uniform texture and free of chips, stones, sticks, soil, or toxic materials.
  - 1. In lieu of decomposed wood derivatives, mix partially decomposed wood derivatives with ammonium nitrate at a minimum rate of [**0.15 lb/cu. ft. (2.4 kg/cu. m)**] of loose sawdust or ground bark, or with ammonium sulfate at a minimum rate of [**0.25 lb/cu. ft. (4 kg/cu. m)**] of loose sawdust or ground bark.
- C. Manure: Well-rotted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, debris, and material harmful to plant growth.

## 2.04 PLANTING SOILS

- A. All plantings shall be backfilled with soil from the site and amended no more than 20% with Organic Compost. The only exceptions are new construction where engineered soil is being used in conjunction with Silva Cells and where new planting beds are being created.

1. Additional Properties of Imported Topsoil or Manufactured Topsoil: Screened and free of stones 1 inch (25 mm) or larger in any dimension; free of roots, plants, sod, clods, clay lumps, pockets of coarse sand, paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials harmful to plant growth; free of obnoxious weeds and invasive plants including quackgrass, Johnsongrass, poison ivy, nutsedge, nimblewill, Canada thistle, bindweed, bentgrass, wild garlic, ground ivy, perennial sorrel, and brome grass; not infested with nematodes; grubs; or other pests, pest eggs, or other undesirable organisms and disease-causing plant pathogens; friable and with sufficient structure to give good tilth and aeration. Continuous, air-filled pore space content on a volume/volume basis shall be at least 15 percent when moisture is present at field capacity. Soil shall have a field capacity of at least 15 percent on a dry weight basis.

## 2.05 MULCHES

- A. Organic Mulch: Free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of the following:

1. Type: [**Ground or shredded bark or composted wood chips**].
2. Size Range: [**3 inches (76 mm) maximum, 1/2 inch (13 mm) minimum**].
3. Color: Natural.

## 2.06 TREE STABILIZATION MATERIALS

- A. Stakes and Guys:

1. Upright and Guy Stakes: Rough-sawn, sound, new [**hardwood**], free of knots, holes, cross grain, and other defects, 2-by-2-inch nominal (38-by-38-mm actual) by length indicated, pointed at one end.
2. Wood Deadmen: Timbers measuring 8 inches (200 mm) in diameter and 48 inches (1200 mm) long
3. Flexible Ties: Wide rubber or elastic bands or straps of length required to reach stakes.
4. Guys and Tie Wires: ASTM A 641/A 641M, Class 1, galvanized-steel wire, two-strand, twisted, 0.106 inch (2.7 mm) in diameter.
5. Tree-Tie Webbing: UV-resistant polypropylene or nylon webbing with brass grommets.
6. Guy Cables: Five-strand, 3/16-inch- (4.8-mm-) diameter, galvanized-steel cable, with zinc-coated [**turnbuckles**], a minimum of 3 inches (75 mm) long, with two 3/8-inch (10-mm) galvanized eyebolts.
7. Flags: Standard surveyor's plastic flagging tape, white, 6 inches (150 mm) long.
8. Proprietary Staking-and-Guying Devices: Proprietary stake and adjustable tie systems to secure each new planting by plant stem; sized as indicated and per manufacturer's written recommendations.

## 2.07 MISCELLANEOUS PRODUCTS

- A. Wood Pressure-Preservative Treatment: AWP C2, with waterborne preservative for soil and freshwater use, acceptable to authorities having jurisdiction, and containing no arsenic; including ammoniacal copper arsenate, ammoniacal copper zinc arsenate, and chromated copper arsenate.

- B. Root Barrier: Black, molded, modular panels manufactured with 50 percent recycled polyethylene plastic with ultraviolet inhibitors, 85 mils (2.2 mm) thick, with vertical root deflecting ribs protruding 3/4 inch (19 mm) out from panel, and each panel [**24 inches (610 mm)**] wide.
- C. Antidesiccant: Water-insoluble emulsion, permeable moisture retarder, film forming, for trees and shrubs. Deliver in original, sealed, and fully labeled containers and mix according to manufacturer's written instructions.
- D. Burlap: Non-synthetic, biodegradable .
- E. Planter Drainage Gravel: Washed, sound crushed stone or gravel complying with [**ASTM D 448 for Size No. 8**].
- F. Planter Filter Fabric: [**Woven**] geotextile manufactured for separation applications and made of polypropylene, polyolefin, or polyester fibers or combination of them.
- G. Mycorrhizal Fungi: Dry, granular inoculant containing at least 5300 spores per lb (0.45 kg) of vesicular-arbuscular mycorrhizal fungi and 95 million spores per lb (0.45 kg) of ectomycorrhizal fungi, 33 percent hydrogel, and a maximum of 5.5 percent inert material.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Examine areas to receive plants for compliance with requirements and conditions affecting installation and performance.
  - 1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
  - 2. Do not mix or place soils and soil amendments in frozen, wet, or muddy conditions.
  - 3. Suspend soil spreading, grading, and tilling operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
  - 4. Uniformly moisten excessively dry soil that is not workable and which is too dusty.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Architect and replace with new planting soil.

### **3.02 PREPARATION**

- A. Protect structures, utilities, sidewalks, pavements, and other facilities and turf areas and existing plants from damage caused by planting operations.
- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
- C. Lay out individual tree and shrub locations and areas for multiple plantings. Stake locations, outline areas, adjust locations when requested, and obtain Landscape Architect's acceptance of layout before excavating or planting. Make minor adjustments as required.
- D. Lay out plants at locations directed by Landscape Architect. Stake locations of individual trees and shrubs and outline areas for multiple plantings
- E. Apply antidesiccant to trees and shrubs using power spray to provide an adequate film over trunks (before wrapping), branches, stems, twigs, and foliage to protect during digging, handling, and transportation.

1. If deciduous trees or shrubs are moved in full leaf, spray with antidesiccant at nursery before moving and again two weeks after planting.

- F. Wrap trees and shrubs with burlap fabric over trunks, branches, stems, twigs, and foliage to protect from wind and other damage during digging, handling, and transportation.

### 3.03 PLANTING AREA ESTABLISHMENT

- A. Loosen subgrade of planting areas to a minimum depth of **[8 inches (200 mm)]**. Remove stones larger than **[1 inch (25 mm)]** in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
- B. Spread planting soil to a depth of **[12 inches (300 mm)]** but not less than required to meet finish grades after natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.
1. Spread approximately one-half the thickness of planting soil over loosened subgrade. Mix thoroughly into top **[4 inches (100 mm)]** of subgrade. Spread remainder of planting soil.
- C. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.
- D. Before planting, obtain Landscape Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.
- E. Application of Mycorrhizal Fungi: At time directed by Architect, broadcast dry product uniformly over prepared soil at **[application rate indicated on Drawings]**.

### 3.04 EXCAVATION FOR TREES AND SHRUBS

- A. Planting Pits and Trenches: Excavate circular planting pits with sides sloping inward at a 45-degree angle. Excavations with vertical sides are not acceptable. Trim perimeter of bottom leaving center area of bottom raised slightly to support root ball and assist in drainage away from center. Do not further disturb base. Ensure that root ball will sit on undisturbed base soil to prevent settling. Scarify sides of planting pit smeared or smoothed during excavation.
1. Excavate approximately three times as wide as ball diameter for **[balled and burlapped]** **[balled and potted]** **[container-grown]** **[fabric bag-grown]** stock.
2. Excavate at least 12 inches (300 mm) wider than root spread and deep enough to accommodate vertical roots for bare-root stock.
3. Do not excavate deeper than depth of the root ball, measured from the root flare to the bottom of the root ball.
4. If area under the plant was initially dug too deep, add soil to raise it to the correct level and thoroughly tamp the added soil to prevent settling.
5. Maintain required angles of repose of adjacent materials as shown on the Drawings. Do not excavate subgrades of adjacent paving, structures, hardscapes, or other new or existing improvements.
6. Maintain supervision of excavations during working hours.
7. Keep excavations covered or otherwise protected **[after working hours]**.
8. If drain tile is shown on Drawings or required under planting areas, excavate to top of porous backfill over tile.
9. All planting holes shall be dug by hand- **NO MACHINES**. The only exceptions are **new** construction where new planting pits, planting beds with granite curbing, and planting sites with Silva Cells are being created. If a machine is used to dig in any of these situations and

planting depth needs to be raised the material in the bottom of the planting hole **MUST** be firmed with machine to prevent sinking of the root ball.

- B. Subsoil and topsoil removed from excavations [**may not**] be used as planting soil.
- C. Obstructions: Notify Landscape Architect if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.
  - 1. Hardpan Layer: Drill 6-inch- (150-mm-) diameter holes, 24 inches (600 mm) apart, into free-draining strata or to a depth of 10 feet (3 m), whichever is less, and backfill with free-draining material.
- D. Drainage: Notify Landscape Architect if subsoil conditions evidence unexpected water seepage or retention in tree or shrub planting pits.
- E. Fill excavations with water and allow to percolate away before positioning trees and shrubs.

### **3.05 TREE, SHRUB, AND VINE PLANTING**

- A. Before planting, verify that root flare is visible at top of root ball according to ANSI Z60.1. If root flare is not visible, remove soil in a level manner from the root ball to where the top-most root emerges from the trunk. After soil removal to expose the root flare, verify that root ball still meets size requirements. The root ball of the tree shall be worked so that the root collar of the tree is visible and no girdling roots are present.
- B. Remove stem girdling roots and kinked roots. Remove injured roots by cutting cleanly; do not break.
- C. Set [balled and burlapped stock] and [fabric bag-grown stock] plumb and in center of planting pit or trench with root flare [**2-3” above**] adjacent finish grades.
  - 1. All plantings shall be backfilled with soil from the site and amended no more than 20% with Organic Compost. The only exceptions are new construction where engineered soil is being used in conjunction with Silva Cells and where new planting beds are being created.
  - 2. **ALL** Wire and Burlap shall be removed from the root ball **AND** planting hole.
  - 3. All plantings shall be backfilled in three lifts and **ALL** lifts shall be watered so the planting will be set and free of air pockets- **NO EXCEPTIONS**.
- D. When planting on slopes, set the plant so the root flare on the uphill side is flush with the surrounding soil on the slope; the edge of the root ball on the downhill side will be above the surrounding soil. Apply enough soil to cover the downhill side of the root ball.
- E. An earth berm shall be placed around the perimeter of the planting hole except where curbed planting beds or pits are being used.
- F. At the time the planting is complete the planting shall receive additional water to ensure complete hydration of the roots, backfill material and mulch layer.

### **3.06 TREE STABILIZATION**

- A. Install trunk stabilization as follows unless otherwise indicated:
  - 1. Upright Staking and Tying: Stake trees of 2- through 5-inch (50- through 125-mm) caliper. Stake trees of less than 2-inch (50-mm) caliper only as required to prevent wind tip out. Use a minimum of two stakes of length required to penetrate at least 18 inches (450 mm) below bottom of backfilled excavation and to extend[one-third of trunk height] above grade. Set vertical stakes and space to avoid penetrating root balls or root masses.
  - 2. Use two stakes for trees up to 12 feet (3.6 m) high and 2-1/2 inches (63 mm) or less in caliper; three stakes for trees less than 14 feet (4.2 m) high and up to 4 inches (100 mm) in caliper. Space stakes equally around trees.

3. Support trees with bands of flexible ties at contact points with tree trunk. Allow enough slack to avoid rigid restraint of tree.
4. Support trees with two strands of tie wire, connected to the brass grommets of tree-tie webbing at contact points with tree trunk. Allow enough slack to avoid rigid restraint of tree.

B. Staking and Guying: Stake and guy trees more than 14 feet (4.2 m) in height and more than 3 inches (75 mm) in caliper unless otherwise indicated. Securely attach no fewer than three guys to stakes 30 inches (760 mm) long, driven to grade.

1. Site-Fabricated Staking-and-Guying Method:

- a. For trees more than 6 inches (150 mm) in caliper, anchor guys to wood deadmen buried at least 36 inches (900 mm) below grade. Provide [turnbuckle] for each guy wire and tighten securely.
- b. Support trees with bands of flexible ties at contact points with tree trunk and reaching to [turnbuckle]. Allow enough slack to avoid rigid restraint of tree.
- c. Support trees with strands of cable or multiple strands of tie wire, connected to the brass grommets of tree-tie webbing at contact points with tree trunk and reaching to [turnbuckle]. Allow enough slack to avoid rigid restraint of tree.
- d. Attach flags to each guy wire, 30 inches (760 mm) above finish grade.
- e. Paint [turnbuckles] with luminescent white paint.

2. Proprietary Staking and Guying Device: Install staking and guying system sized and positioned as recommended by manufacturer unless otherwise indicated and according to manufacturer's written instructions.

C. Root-Ball Stabilization: Install at- or below-grade stabilization system to secure each new planting by the root ball unless otherwise indicated.

1. Wood Hold-Down Method: Place vertical stakes against side of root ball and drive them into subsoil; place horizontal wood hold-down stake across top of root ball and screw at each end to one of the vertical stakes.
2. Install stakes of length required to penetrate at least [18 inches (450 mm)] below bottom of backfilled excavation. Saw stakes off at horizontal stake.
3. Install screws through horizontal hold-down and penetrating at least 1 inch (25 mm) into stakes. Pre-drill holes if necessary to prevent splitting wood.
4. Install second set of stakes on other side of root trunk for larger trees as indicated.
5. Proprietary Root-Ball Stabilization Device: Install root-ball stabilization system sized and positioned as recommended by manufacturer unless otherwise indicated and according to manufacturer's written instructions.

D. Palm Bracing: Install bracing system at three or more places equally spaced around perimeter of trunk to secure each palm until established unless otherwise indicated.

1. Site-Fabricated Palm-Bracing Method:

- a. Place battens over padding and secure battens in place around trunk perimeter with at least two straps, tightened to prevent displacement. Ensure that straps do not contact trunk
- b. Place diagonal braces and cut to length. Secure upper ends of diagonal braces with galvanized nails into battens or into nail-attached blocks on battens. Do not drive nails, screws, or other securing devices into palm trunk; do not penetrate palm trunk in any

fashion. Secure lower ends of diagonal braces with stakes driven into ground to prevent outward slippage of braces.

2. Proprietary Palm-Bracing Device: Install palm-bracing system sized and positioned as recommended by manufacturer unless otherwise indicated and according to manufacturer's written instructions.

### **3.07 ROOT BARRIER INSTALLATION**

- A. Install root barrier where trees are planted within [66 inches (1500 mm)] of paving or other hardscape elements, such as walls, curbs, and walkways unless otherwise shown on Drawings.
- B. Align root barrier [vertically] [with bottom edge angled at 20 degrees away from the paving or other hardscape element] and run it linearly along and adjacent to the paving or other hardscape elements to be protected from invasive roots.
- C. Install root barrier continuously for a distance of [60 inches (1500 mm)] in each direction from the tree trunk, for a total distance of [10 feet (3 m)] per tree. If trees are spaced closer, use a single continuous piece of root barrier.
  1. Position top of root barrier [flush with finish grade] [1/2 inch (13 mm) above finish grade] [per manufacturer's recommendations].
  2. Overlap root barrier a minimum of 12 inches (300 mm) at joints.
  3. Do not distort or bend root barrier during construction activities.
  4. Do not install root barrier surrounding the root ball of tree.

### **3.08 GROUND COVER AND PLANT PLANTING**

- A. Set out and space ground cover and plants other than trees, shrubs, and vines [12 inches (225 mm) apart] [24 inches (300 mm) apart] [as indicated] in even rows with triangular spacing.
- B. **All plantings shall be backfilled with soil from the site and amended no more than 20% with Organic Compost. The only exceptions are new construction where engineered soil is being used in conjunction with Silva Cells and where new planting beds are being created.**
- C. Dig holes large enough to allow spreading of roots.
- D. For rooted cutting plants supplied in flats, plant each in a manner that will minimally disturb the root system but to a depth not less than two nodes.
- E. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water.
- F. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.
- G. Protect plants from hot sun and wind; remove protection if plants show evidence of recovery from transplanting shock.
- H. At the time the planting is complete the planting shall receive additional water to ensure complete hydration of the roots, backfill material and mulch layer.

### **3.09 PLANT AREA MULCHING**

- A. Mulch backfilled surfaces of planting areas and other areas indicated.
  1. Trees[ and Tree-like Shrubs] in Turf Areas: Apply [organic] mulch ring of [2-3"] average thickness, with [12-inch (300-mm)] radius around trunks or stems. Do not place mulch within [3 inches (75 mm)] of trunks or stems.
  2. Organic Mulch in Planting Areas: Apply [2-3"] average thickness of organic mulch [extending 12 inches (300 mm) beyond edge of individual planting pit or trench] [and] [over



whole surface of planting area], and finish level with adjacent finish grades. Do not place mulch within [3 inches (75 mm)] of trunks or stems.

### **3.10 PLANT MAINTENANCE**

A. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, adjusting and repairing tree-stabilization devices, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings. Spray or treat as required to keep trees and shrubs free of insects and disease.

B. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.

C. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.

### **3.11 CLEANUP AND PROTECTION**

A. During planting, keep adjacent paving and construction clean and work area in an orderly condition.

B. Protect plants from damage due to landscape operations and operations of other contractors and trades. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.

C. After installation and before [Substantial Completion], remove nursery tags, nursery stakes, tie tape, labels, wire, burlap, and other debris from plant material, planting areas, and Project site.

### **3.12 DISPOSAL**

A. Remove surplus soil and waste material including excess subsoil, unsuitable soil, trash, and debris and legally dispose of them off Owner's property.

**END OF SECTION**

**SECTION 32 92 00**  
**TURF AND GRASSES**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Turf and grasses

**1.02 RELATED REQUIREMENTS**

- A. Section 32 93 00 Plants

**1.03 REFERENCE STANDARDS**

- A. ANSI-Z60.1 - American Standard for Nursery Stock. As published by the American Association of Nurserymen; Washington, DC. 2004.

**1.04 ADMINISTRATIVE REQUIREMENTS**

- A. Provide labor, materials, and equipment necessary to complete the work of this Section, and, without limiting the generality thereof, furnish and install the following:
  - 1. Loam and seeding.
  - 2. Temporary erosion control
  - 3. General revegetation of disturbed areas
  - 4. Sod
  - 5. Hydroseeding and hydromulch
- .B. Restore damage by construction operations including but not limited to replacement of lawn areas and where applicable trees and shrubs damaged during construction. This includes but is not limited to lay down areas, contractor parking locations and areas contaminated by spills or leaks during construction.
- C. Pre-installation Meeting: Convene a pre-installation meeting at least 1 month before starting work of this Section; require attendance by all relevant installers. Pre-Installation Meetings shall not be scheduled until which time the submittal and shop drawing process has been 100% completed and approved.

**1.05 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Source Quality Control:
  - 1. General: Ship seeding materials with certificates of inspection required by governing authorities.
  - 2. Topsoil Testing: Provide soils testing by an approved soil testing laboratory, for both existing stockpiled topsoil and any topsoil imported from other sources. Submit following materials certification for each source of topsoil used.
    - a. Ph Factor.
    - b. Mechanical Analysis.
    - c. Percentage of Organic Content.
    - d. Recommendations on type and quantity of additives required to establish satisfactory Ph factor and supply of nutrients to bring topsoil to satisfactory level for planting.
- C. Seed mixture shall be submitted for review by Owner's Grounds Manager.
- D. Submit sod grass seed mix for review by Owner's Grounds Manager.
- E. Submit product information with mix ratios and amounts for hydromulching to be used during hydroseeding for review by Owner's Grounds Manager.

## **1.06 DELIVERY, STORAGE, AND HANDLING**

- A. Topsoil: Provide only dry, loose topsoil complying with requirements. Frozen or muddy topsoil will not be permitted.
- B. Provide seed label to Owner's Authorized Representative.
- C. Prior to the installation, cover and store all sod in a cool, dry shaded area.

## **1.07 PROJECT CONDITIONS**

- A. Seeding Season: Unless variance is requested in writing and approved by Owner's Grounds Manager, perform seeding only during following periods:

- 1. Lawns: April 1 to June 15, or between August 15 to October 1.

## **PART 2 PRODUCTS**

### **2.01 TOPSOIL**

- A. General: Contractor shall provide additional topsoil if needed as required completing landscape work.
- B. Topsoil Material: Fertile, friable, natural topsoil of loamy character, without admixture of subsoil material, obtained from a well-drained arable site, free from all clay, lumps, coarse sands, stones, plants, roots, sticks, and other foreign materials greater than 1" in every dimension, with acidity range of between Ph 6.0 and 7.0, and shall contain not less than 6% organic matter by weight as determined by loss on ignition of moisture-free samples as dried at 65 degrees C. Topsoil shall be free of primary noxious weeds.
- C. Topsoil stockpiled from on-site stripping may be utilized if in compliance with the requirements for new topsoil.

### **2.02 SOIL AMENDMENTS**

- A. Fertilizer:
  - 1. Provide a complete fertilizer and a standard product complying with the State and United States fertilizer laws. At least 40 percent by weight of the nitrogen content of fertilizer shall be derived from organic materials.
  - 2. Granular Fertilizer for Lawn Areas: Contain not less than 10 percent nitrogen, 10 percent phosphorous, and 10 percent potash by weight of ingredients or as otherwise indicated by topsoil test results .
- B. Ground Limestone: Dolomitic limestone.
- C. Mulch for Seeded Areas:
  - 1. Provide long fibered salt hay or threshold straw, free from noxious weeds and other undesirable material. Use no material which is excessively wet, decayed, or compacted as to inhibit even and uniform spreading. Use no chopped hay, grass clippings or other short fibered material unless directed by Owner's Authorized Representative.

### **2.03 GRASS MATERIALS**

- A. Grass Seed: Provide fresh, clean, new-crop seed complying with tolerance for purity and germination established by Official Seed Analysts of North America. Provide seed mixture composed of grass species, proportions and minimum percentages of purity, germination, and maximum percentage of weed seed, as specified.
- B. Seed Mixture:
  - 1. Seed mixture shall consist of 1/3 Kentucky blue, 1/3 perennial rye, and 1/3 fine fescue. Turf type tall fescue is unacceptable.

C. Hydroseed Mixture:

1. All work will be carried out by an approved spraying machine specifically used for this work. Amounts of fertilizer used shall reflect recommendations outlined in the Soil Analysis. The Contractor shall submit to the Owner's Grounds Manager for approval, prior to the start of work, a certified statement as to number of pounds of fertilizer, amounts and types of grass seed, and processed fiber, per one hundred (100) gallons of product.

2. Hydromulch: Shall products and application rate shall be as approved by the Owner's Grounds Manager.

D. Sod:

1. Sod shall be good quality, free of weeds, disease and insects, and of good color and density. Sod shall be machine cut at a uniform soil thickness necessary for plant viability during the harvest-transport-installation cycle. Individual pieces of sod shall be cut to the suppliers' standard width and length. Maximum allowable deviation from standard widths and lengths shall be five (5%) percent. Standard size sections of sod shall be strong enough to support their own weight, and retain their size and shape when suspended vertically from a firm grasp on the upper ten (10%) percent of the section.

2. Sod grass mix shall be "Dark Elite Sod Blend" consist of the following seed mixtures:

- a. 30% percent to be Right Kentucky Bluegrass
- b. 30% percent to be Midnight Star Kentucky Bluegrass
- c. 20% percent to be Midnight 11 Kentucky Bluegrass
- d. 20% percent to be Courtyard Kentucky Bluegrass

3. The sod shall be as grown by a source approved by the Owner's Grounds Manager.

4. Sod shall be machine cut at a uniform soil thickness of 3/4 in. plus or minus 1/4 in. at the time of cutting. Measurement for thickness shall exclude top growth and thatch. Individual pieces of sod shall be cut to the supplier's standard width and length. Maximum allowable deviation from standard widths and lengths shall be five (5%) percent. Broken pads and torn or uneven ends will not be acceptable. Sod shall be at least one (1) year old from time of original seeding

## **PART 3 EXECUTION**

### **3.01 PREPARATION**

A. Planting Soil (Topsoil) Depths: Unless indicated otherwise, provide planting soil depths not less than following:

1. Seeded Areas: 5-inches.

B. Preparation for Seeded Areas at Changed Grades:

1. Loosen subgrade of lawn areas to a minimum depth of 5 inches. Remove stones over 1 inch in any dimension and sticks, roots, rubbish and other extraneous matter. Limit preparation to areas which will be planted promptly after preparation.

2. Place approximately 1/2 of total amount of topsoil required. Work into top of loosened subgrade to create a transition layer and then place remainder of top soil. Add specified soil amendments and mix thoroughly into upper 5 inches of topsoil.

C. Preparation for Seeded Areas, General:

1. Fine grade lawn areas to smooth, even surface with loose, uniformly fine texture. Fine grade to meet existing grade and prevent any ponding of water. Roll, rake and drag lawn areas, remove ridges and fill depressions, as required to meet finish grades. Remove all lumps, clots, stones, roots, and other extraneous matter greater than 1" size. Limit fine grading to areas which can be planted immediately after grading.

2. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface moisture to dry before planting lawns. Do not create a muddy soil condition.
3. Restore seeded areas to specified condition if eroded or otherwise disturbed after fine grading and prior to planting.
4. Apply Topsoil Additives according to soil test recommendations and manufacturers instructions.

### **3.02 SOD AND SEED BED PREPARATION LAWN AREAS**

- A. The minimum depth of topsoil in all lawn areas shall be five (5") inches. Contractor is responsible for supplying all topsoil needed from off-site sources if stockpiles are inadequate.
- B. Grade all lawn areas to finish grades as indicated on the Drawings. When no grades are shown, areas shall have a smooth and continuous grade between existing or fixed controls and elevations shown on plans. Roll, scarify, rake and level as necessary to obtain true even lawn surfaces. All lawn areas shall slope to drain. Finish grades shall be approved by the Owner's Field Representative prior to commencing any sodding or seeding work. Install soil additive per manufacturer's instructions and as indicated on the Drawings.
- C. Place soil amendment in the areas of the lawn areas as shown on the Drawings. Follow the supplier's recommendations for installation.
- D. Spreading Limestone: Spread ground limestone evenly over the topsoiled surface. Incorporate limestone within the top two (2") inches of soil prior to finish raking. Apply limestone at the rate recommended by the testing and analysis agency.

### **3.03 SEEDING AREAS**

- A. Do not use wet seed or seed which is moldy or otherwise damaged in transit or storage.
- B. Sow seed using a spreader or seeding machine. Do not seed when wind velocity exceeds 5 miles per hour. Distribute seed evenly over entire area by sowing equal quantity in 2 directions at right angles to each other.
- C. Application Rate: Sow seed mixture at rate recommended by supplier for seasonal conditions and use.
- D. Rake seed lightly into top 1/8 inch of soil, roll lightly with hand roller weighing approximately 100 pounds per foot of width, and water with fine spray.
- E. Protect seeded areas against erosion by spreading specified lawn mulch after completion of seeding operations. Spread uniformly to form a continuous blanket not less than 1-1/2 inch loose measurement over seeded areas.
- F. It shall be up to the contractor to mow the grass for the first three times. Mowing should be a minimum of 5 days apart while making sure not to mow more than one third of the grass blade off each time. Wet bunched up clippings will be picked up and disposed of by the contractor. Mower blades will be sharp and mower deck clean of old clippings grease and oil. After the third mowing the contractor will inform the Owner to set up a meeting with the Grounds Manager to verify the grow in is complete before the Owner accepts the final product.

### **3.04 SODDING**

- A. Sod may be placed from April 15th to November 1st as long as the ground is not frozen.
- B. Sod shall be harvested, delivered, and transplanted within a period of 36 hours.
- C. Immediately prior to sodding operations, after all grading is complete and acceptable, the sod bed shall be lightly scratched with a fine toothed harrow or hand rake to provide a slightly roughened surface to accept the sodding application.

- D. The soil on which the sod is laid shall be reasonably moist and shall be watered, if necessary. The sod shall be laid smoothly, edge to edge, and where continuous or solid sodding is called for on the plans sod shall be laid with the longest dimension parallel to the contours. Vertical joints between sods shall be staggered. Immediately after laying, sod shall be pressed firmly into contact with the sod bed by tamping, rolling, or by other approved methods so as to eliminate all air pockets, provide true and even surfaces, insure knitting and protect all exposed sod edges, but without displacement of the sod or deformation of the sod surface. Contractor will topdress newly sodded areas with approved screened topsoil to fill all voids.
- E. In all swales, and on all slopes steeper than one on three and elsewhere as specified or as directed by the Owner's Representative, sods shall be held in place by stakes. Pegging shall be done immediately after tamping. At least one stake shall be driven through each strip of sod to be pegged and the stakes shall be not more than two feet apart. Stakes shall have their flat sides against the slope and be driven flush.
- F. Sod shall be watered during and immediately after installation to prevent drying. It shall then be thoroughly irrigated to a depth sufficient that the underside of the new sod pad, and soil immediately below the pad, are thoroughly wet. Contractor shall be responsible for having adequate water available at the site prior to and during the installation of all sod.

### **3.05 OTHER LANDSCAPE RESTORATION**

- A. After construction all surrounding trees and shrubs impacted by construction will be aerated with a Gro-Gun to relieve compaction. A deep root fertilization using a half rate of Arbor-green fertilizer and a full rate of Mycor Tree injection will follow the aeration process.

### **3.06 CLEANUP AND PROTECTION**

- A. During seeding work, keep pavements clean and work areas in orderly condition.
- B. Protect seeding work and materials from damage due to seeding operations, operations by other contractors and trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair or replace damaged seeding work as directed.

### **3.07 ACCEPTANCE**

- A. When seeding and restoration work is completed, Owner's Authorized Representative will, upon request, make an inspection to determine acceptability.
  - 1. Seeding work may be inspected for acceptance in parts agreeable to Owner's Authorized Representative, provided work offered for inspection is complete.
  - 2. Acceptance of seeded areas will be given only upon attainment of a reasonably thick uniform stand of grass of not less than 80 percent permanent grass coverage, free from weeds or sizable thin or bare spots.
  - 3. Acceptance of any seeded area shall be in writing. After acceptance, Contractor will be relieved of further expense for maintaining such areas, other than for damage caused by any Work under the Contract.

**END OF SECTION**

## **SECTION 32 9100**

### **PLANTING SOIL**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

- A. The scope of work includes all labor, materials, tools, supplies, equipment, facilities, transportation and services necessary for, and incidental to performing all operations in connection with furnishing, delivery, and installation of Compost and /or the modification of existing site soil for use as Planting Soil, complete as shown on the drawings and as specified herein.
- B. The scope of work in this section includes, but is not limited to, the following:
  - 1. Locate, purchase, deliver and install soil amendments.
  - 2. Modify existing stockpiled site soil.
    - a. Modify existing site soil in place for use as Planting Soil.
    - b. Install existing or modified existing soil for use as Planting Soil.
  - 3. Install Compost into Planting Soil.
  - 4. Clean up and disposal of all excess and surplus material.

##### **1.2 CONTRACT DOCUMENTS**

- A. Shall consist of specifications, general conditions, and the drawings. The intent of these documents is to include all labor, materials, and services necessary for the proper execution of the work. The documents are to be considered as one. Whatever is called for by any parts shall be as binding as if called for in all parts.

##### **1.3 RELATED DOCUMENTS AND REFERENCES**

- A. Related Documents:
  - 1. Drawings and general provisions of contract, including general and supplementary conditions and Division I specifications, apply to work of this section.
  - 2. Related Specification Section
    - a. Section 32 93 00- Planting
    - b. Section 32 92 00– Lawn
- B. References: The following specifications and standards of the organizations and documents listed in this paragraph form a part of the Specification to the extent required by the references thereto. In the event that the requirements of the following referenced standards and specification conflict with this specification section the requirements of this specification shall prevail. In the event that the requirements of any of the following referenced standards and specifications conflict with each other the more stringent requirement shall prevail.
  - 1. ASTM: American Society of Testing Materials cited section numbers.
  - 2. U.S. Department of Agriculture, Natural Resources Conservation Service, 2003. National Soil Survey Handbook, title 430-VI. Available Online.
  - 3. US Composting Council [www.compostingcouncil.org](http://www.compostingcouncil.org) and [http://compostingcouncil.org/admin/wp-content/plugins/wp-pdfupload/pdf/191/LandscapeArch\\_Specs.pdf](http://compostingcouncil.org/admin/wp-content/plugins/wp-pdfupload/pdf/191/LandscapeArch_Specs.pdf).

4. *Methods of Soil Analysis*, as published by the Soil Science Society of America (<http://www.soils.org/>).
5. *Up by Roots: healthy soils and trees in the built environment*. 2008. J. Urban. International Society of Arboriculture, Champaign, IL.

#### 1.4 VERIFICATION

- A. All scaled dimensions on the drawings are approximate. Before proceeding with any work, the Contractor shall carefully check and verify all dimensions and quantities, and shall immediately inform the Owner's Representative of any discrepancies between the information on the drawings and the actual conditions, refraining from doing any work in said areas until given approval to do so by the Owner's Representative.

#### 1.5 PERMITS AND REGULATIONS

- A. The Contractor shall obtain and pay for all permits related to this section of the work unless previously excluded under provision of the contract or general conditions. The Contractor shall comply with all laws and ordinances bearing on the operation or conduct of the work as drawn and specified. If the Contractor observes that a conflict exists between permit requirements and the work outlined in the contract documents, the Contractor shall promptly notify the Owner's Representative in writing including a description of any necessary changes and changes to the contract price resulting from changes in the work.
- B. Wherever references are made to standards or codes in accordance with which work is to be performed or tested, the edition or revision of the standards and codes current on the effective date of this contract shall apply, unless otherwise expressly set forth.
- C. In case of conflict among any referenced standards or codes or among any referenced standards and codes and the specifications, the more restrictive standard shall apply or Owner's Representative shall determine which shall govern.

#### 1.6 PROTECTION OF WORK, PROPERTY AND PERSON

- A. The Contractor shall adequately protect the work, adjacent property, and the public, and shall be responsible for any damages or injury due to the Contractor's actions.

#### 1.7 CHANGES IN WORK

- A. The Owner's Representative may order changes in the work, and the contract sum adjusted accordingly. All such orders and adjustments plus claims by the Contractor for extra compensation must be made and approved in writing before executing the work involved.
- B. All changes in the work, notifications and contractor's request for information (RFI) shall conform to the contract general condition requirements.

#### 1.8 CORRECTION OF WORK

- A. The Contractor shall re-execute any work that fails to conform to the requirements of the contract and shall remedy defects due to faulty materials or workmanship upon written notice from the Owner's Representative, at the soonest possible time that can be coordinated with other work and seasonal weather demands but not more than 180 (one hundred and eighty) days after notification.

#### 1.9 SUBMITTALS

- A. See the contract General Conditions for policy and procedures related to submittals.



- B. Product data and certificates: For each type of manufactured product, submit data and certificates that the product meets the specification requirements, signed by the product manufacturer, and complying with the following:
  - 1. Submit manufacturers or supplier's product data and literature certified analysis for standard products and bulk materials, complying with testing requirements and referenced standards and specific requested testing.
    - a. For each Compost product submit the following analysis by a recognized laboratory:
      - 1.) pH
      - 2.) Salt concentration (electrical conductivity)
      - 3.) Moisture content %, wet weight basis
      - 4.) Particle size % passing a selected mesh size, dry weight basis
      - 5.) Stability carbon dioxide evolution rate mg CO<sub>2</sub>-C per g OM per day
      - 6.) Solvita maturity test
      - 7.) Physical contaminants (inerts) %, dry weight basis
      - 8.) US EPA Class A standard, 40CFR § 503.13, Tables 1 and 3 levels Chemical Contaminants mg/kg (ppm)
- C. Samples: Submit samples of each product and material, where required by Part 2 of the specification, to the Owner's Representative for approval. Label samples to indicate product, characteristics, and locations in the work. Samples will be reviewed for appearance only.
  - 1. Submit samples a minimum of 8 weeks prior to the anticipated date of the start of soil installation.

#### 1.10 QUALITY ASSURANCE

- A. Installer Qualifications: The installer shall be a firm having at least 5 years of experience of a scope similar to that required for the work, including the preparation, mixing and installation of soil mixes to support planting. The installer of the work in Section: Planting, shall be the same firm installing the work in this section.
  - 1. The bidders list for work under this section shall be approved by the Owner's Representative.
  - 2. Installer Field Supervision: When any Planting Soil work is in progress, installer shall maintain, on site, an experienced full-time supervisor who can communicate with the Owner's Representative.
  - 3. Installer's field supervisor shall have a minimum of five years experience as a field supervisor installing soil, shall be trained and proficient in the use of field surveying equipment to establish grades and can communicate in English with the Owner's Representative.
  - 4. The installer's crew shall be experienced in the installation of Planting Soil, plantings, and irrigation (where applicable) and interpretation of planting plans, soil installation plans, and irrigation plans (where applicable).
  - 5. Submit references of past projects and employee training certifications that support that the Contractors meet all of the above installer qualifications and applicable licensures.
- B. Soil testing laboratory qualifications: an independent laboratory, with the experience and capability to conduct the testing indicated and that specializes in USDA agricultural soil

testing, Planting Soil Mixes, and the types of tests to be performed. Geotechnical engineering testing labs shall not be used.

- C. Soil compaction testing: following installation or modification of soil, test soil compaction with a penetrometer.
  - 1. Maintain at the site at all times a soil cone penetrometer with pressure dial and a soil moisture meter to check soil compaction and soil moisture.
    - a. Penetrometer shall be AgraTronix Soil Compaction Meter distributed by Ben Meadows, [www.benmeadows.com](http://www.benmeadows.com) or approved equal.
    - b. Moisture meter shall be “general digital soil moisture meter” distributed by Ben Meadows, [www.benmeadows.com](http://www.benmeadows.com) or approved equal.
  - 2. Prior to testing the soil with the penetrometer check the soil moisture and penetrometer readings in the mockup soils. Penetrometer readings are impacted by soil moisture and excessively wet or dry soils will read significantly lower or higher than soils at optimum moisture.
  - 3. The penetrometer readings shall be within 20% plus or minus of the readings in the approved mockup when at similar moisture levels.

#### 1.11 SITE CONDITIONS

- A. It is the responsibility of the Contractor to be aware of all surface and subsurface conditions, and to notify the Owner’s Representative, in writing, of any circumstances that would negatively impact the health of plantings. Do not proceed with work until unsatisfactory conditions have been corrected.
  - 1. Should subsurface drainage or soil conditions be encountered which would be detrimental to growth or survival of plant material, the Contractor shall notify the Owner’s Representative in writing, stating the conditions and submit a proposal covering cost of corrections. If the Contractor fails to notify the Owner’s Representative of such conditions, they shall remain responsible for plant material under the warrantee clause of the specifications.
  - 2. This specification requires that all Planting Soil and Irrigation (if applicable) work be completed and accepted prior to the installation of any plants.

#### 1.12 SOIL COMPACTION – GENERAL REQUIREMENTS

- A. Except where more stringent requirements are defined in this specification. The following parameters shall define the general description of the threshold points of soil compaction in existing, modified or installed soil and subsoil.
- B. The following are threshold levels of compaction as determined by each method.
  - 1. Acceptable Compaction: Good rooting anticipated, but increasing settlement expected as compaction is reduced and/or in soil with a high organic matter content.
    - a. Bulk Density Method – Varies by soil type see Chart on page 32 in Up By Roots.
    - b. Standard Proctor Method – 75-85%; soil below 75% is unstable and will settle excessively.
    - c. Penetration Resistance Method – about 75-250 psi, below 75 psi soil becomes increasingly unstable and will settle excessively.
  - 2. Root limiting Compaction: Root growth is limited with fewer, shorter and slower growing roots.
    - a. Bulk Density Method – Varies by soil type see Chart on page 32 in Up By Roots.
    - b. Standard Proctor Method – above approximately 85%.

- c. Penetration Resistance Method – about 300 psi.
- 3. Excessive Compaction: Roots not likely to grow but can penetrate soil when soil is above field capacity.
  - a. Bulk Density Method – Varies by soil type see Chart on page 32 in Up By Roots.
  - b. Standard Proctor Method – Above 90%.
  - c. Penetration Resistance Method – Approximately above 400 psi

#### 1.13 EXCAVATING AND GRADING AROUND UTILITIES

- A. Contractor shall carefully examine the civil, record, and survey drawings to become familiar with the existing underground conditions before digging.
- B. Determine location of underground utilities and perform work in a manner that will avoid damage. Hand excavate as required. Maintain grade stakes set by others until parties concerned mutually agree upon removal.

### PART 2 – PRODUCTS

#### 2.1 COMPOST

- A. Compost: Hawk Ridge Compost
  - 1. Manufacturer: Casella Organics, 110 Main St., Suite 1308, Saco, ME 04072, 800-933-6474
- B. Provide a two gallon sample with manufacturer's literature and material certification that the product meets the requirements.

### PART 3 – EXECUTION

#### 3.1 SITE EXAMINATION

- A. Examine site to confirm that existing conditions are satisfactory for the work of this section to proceed.
  - 1. Confirm that the subgrade is at the proper elevation and compacted as required. Subgrade elevations shall slope toward the under drain lines as shown on the drawings.
  - 2. Confirm that no adverse drainage conditions are present.
  - 3. Confirm that no conditions are present which are detrimental to plant growth.
  - 4. Confirm that utility work has been completed per the drawings.
  - 5. Confirm that irrigation work, which is shown to be installed below prepared soil levels, has been completed.
- B. If unsatisfactory conditions are encountered, notify the Owner's Representative immediately to determine corrective action before proceeding.

#### 3.2 COORDINATION WITH PROJECT WORK

- A. The Contractor shall coordinate with all other work that may impact the completion of the work.
- B. Prior to the start of work, prepare a detailed schedule of the work for coordination with other trades.
- C. Coordinate the relocation of any irrigation lines, heads or the conduits of other utility lines that are in conflict with tree locations. Root balls shall not be altered to fit around lines. Notify the Owner's Representative of any conflicts encountered.

### 3.3 SITE PREPARATION

- A. Excavate to the proposed subgrade. Maintain all required angles of repose of the adjacent materials as shown on the drawings or as required by this specification. Do not over excavate compacted subgrades of adjacent pavement or structures. Maintain a supporting 1:1 side slope of compacted subgrade material along the edges of all paving and structures where the bottom of the paving or structure is above the bottom elevation of the excavated planting area.
- B. Remove all construction debris and material including any construction materials from the subgrade.
- C. Confirm that the subgrade is at the proper elevation and compacted as required. Subgrade elevations shall slope approximately parallel to the finished grade and/or toward the subsurface drain lines as shown on the drawings.
- D. Protect adjacent walls, walks and utilities from damage or staining by the soil. Use 1/2 inch plywood and or plastic sheeting as directed to cover existing concrete, metal and masonry work and other items as directed during the progress of the work.
  - 1. At the end of each working day, clean up any soil or dirt spilled on any paved surface.
  - 2. Any damage to the paving or site features or work shall be repaired at the Contractor's expense.

### 3.4 INSTALLATION OF COMPOST TILL LAYER

- A. After Planting Soil Mixes are installed in planting bed areas and just prior to the installation of shrub or groundcover plantings, spread 3 – 4 inches of Compost over the beds and roto till into the top 4 - 6 inches of the Planting Soil. This step will raise grades slightly above the grades required in paragraph "Fine Grading". This specification anticipates that the raise in grade due to this tilling will settle within a few months after installation as Compost breaks down. Additional settlement as defined in paragraph "Planting Soil and Planting Soil Mix installation" must still be accounted for in the setting of final grades.
- B. Till 2" of Compost into lawns prior to seeding.

### 3.5 CLEAN-UP

- A. During installation, keep the site free of trash, pavements reasonably clean and work area in an orderly condition at the end of each day. Remove trash and debris in containers from the site no less than once a week.
  - 1. Immediately clean up any spilled or tracked soil, fuel, oil, trash or debris deposited by the Contractor from all surfaces within the project or on public right of ways and neighboring property.
- B. Once installation is complete, wash all soil from pavements and other structures. Ensure that mulch is confined to planting beds and that all tags and flagging tape are removed from the site. The Owner's Representative seals are to remain on the trees and removed at the end of the warranty period.
  - 1. Make all repairs to grades, ruts, and damage to the work or other work at the site.
  - 2. Remove and dispose of all excess Planting Soil, subsoil, mulch, plants, packaging, and other material brought to the site by the Contractor.

END OF SECTION 32 9100

## **Section 659.5**

### **Irrigation System for planted areas**

#### **Description**

**1.1** This work shall consist of furnishing and installing an irrigation system in all the planting areas.

#### **Materials**

**2.1** Major materials for the new irrigation system are as follows:

Controller: Controller by Weathermatic

Techline CV dripper check valves

Drip Valve controls by Hunter

Power conduit for the controller is subsidiary.

**Contractor shall submit shop drawings or manufacturer's cut sheets on selected equipment prior to ordering.**

#### **Construction Requirements**

**3.1** Create a functioning system that distribute water appropriately and that is able to be winterized in the fall with a two year warranty.

The City will tap the main, provide meter and backflow of appropriate size with ground box.

Provide construction as-builts of the system and start up and shut down services for 2 years after installation.

#### **Method of Measurement**

**4.1** This is priced as a complete unit.

#### **Basis of Payment**

**5.1** Payment will be made when the system is complete and accepted.



## **SHOP DRAWINGS**

See the following attached:

“STREET LIGHTS CUT SHEET”

“BISON PRODUCT SPECIFICATIONS”

“BISON INSTRUCTION MANUAL”

“COLUMBIA CASCADE SWINGS”

“INSTALLATION MANUAL – SPIDERNEST (AN1300)”

“SPECIFICATION SHEET – AN1300 SPIDERNEST”

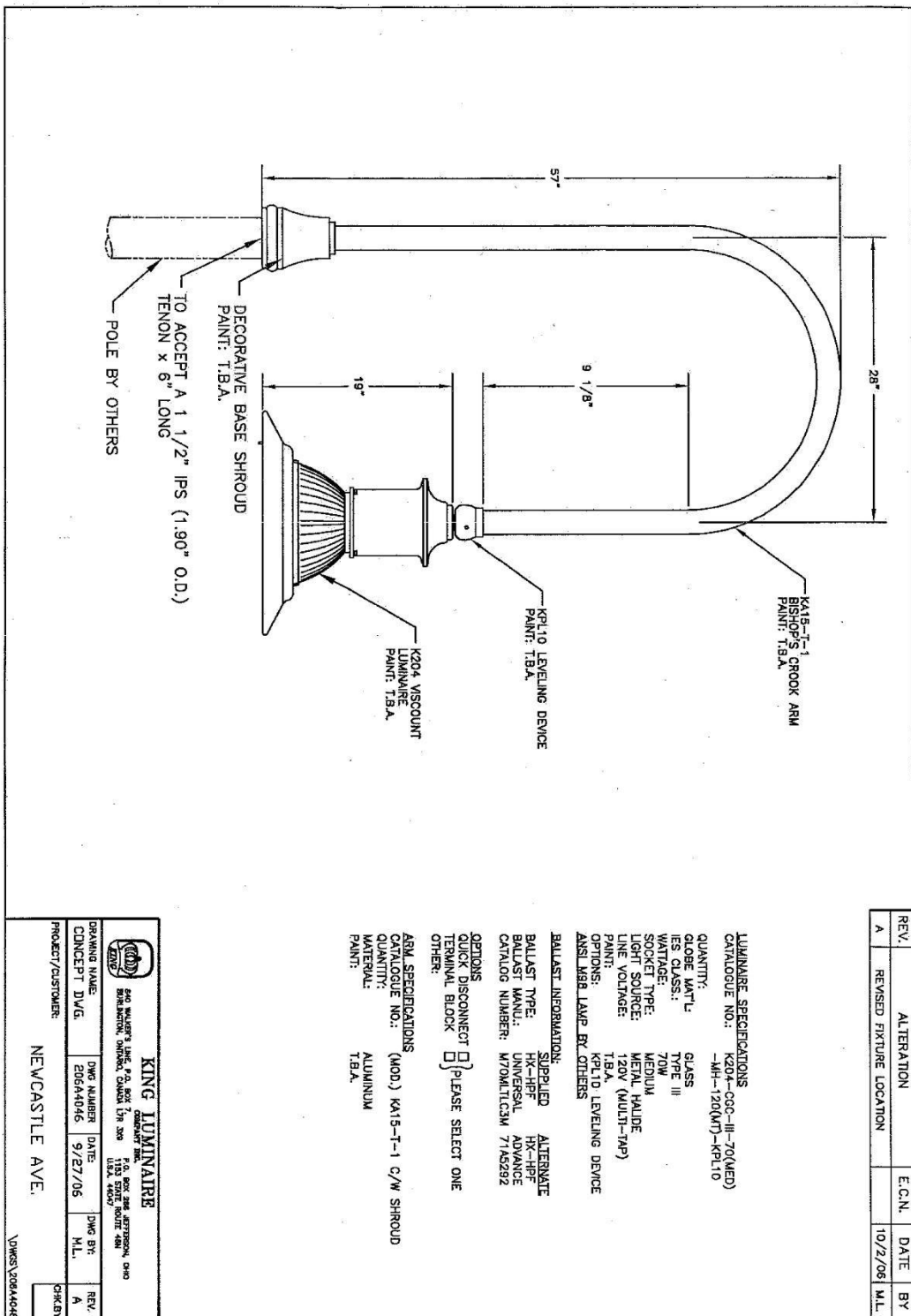
“COLUMBIA CASCADE DOUBLE SLIDE”

“MURDOCK OUTDOOR BOTTLE FILLERS SUGGESTED SPECIFICATION”

“CONTEMPORARY DRINKING FOUNTAINS INSTALLATION/MAINTENANCE  
INSTRUCTIONS”

“HAWK RIDGE COMPOST”

“CITY OF PORTSMOUTH DPW WATER INSTALLATION, SERVICE + METERS”







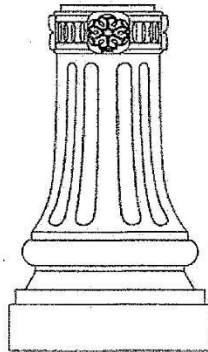
Home » Our Products » Decorative Posts



DESIGN A POST

DESIGN AND BUILD  
YOUR OWN POST  
and submit for a quote

get »



## XF45- D5M D5M • base and post

Base Cover Height	36
Post Top Diameter	4.5
Base Cover Width	20
Mounting Height	10'3.1M to 20'6.1M
Available As Extreme	Yes
Typical Applications	
Standard Features	
Other Specs	

Select Series Jump To...

### SERIES SPECIFICATIONS

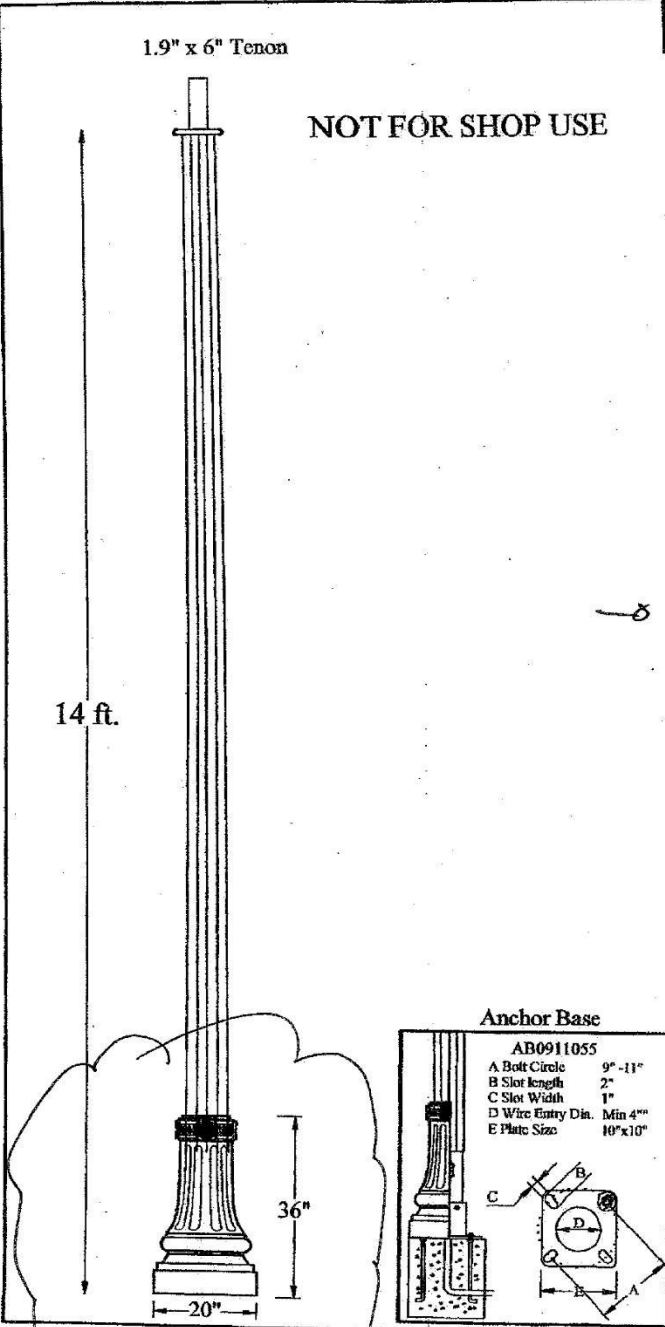
☛ [Application, Features & Benefits](#)

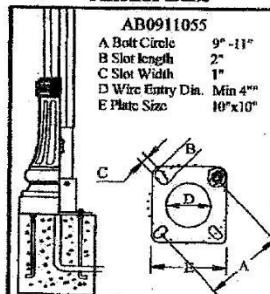
☛ [Colors](#)

### PRODUCT DOWNLOAD

☛ [XF45-D5M D5M Spec Sheet - pdf](#)

☛ [XF45-D5M D5M - DWG](#)

 <p>1.9" x 6" Tenon</p> <p>14 ft.</p> <p>36"</p> <p>20"</p> <p><b>NOT FOR SHOP USE</b></p>	<b>TYPE:</b>
	<p align="center"><b>POST SPECIFICATIONS</b></p> <p>Assembly Part #: XF45-D5M-14-AB-BLK-19-60 WDN1255</p> <p>Pole Top Diameter: 4.5 in.</p> <p>Bottom Diameter: 7.3 in.</p> <p>Shaft: Inner Core is Continuous filament wound strands Outer Shell is elastomeric composite Fluted shape with .20" per foot taper</p> <p>Shaft Length: 14 ft.</p> <p>Base Cover: D5M</p> <p>Color: High Gloss Black UV-resistant Urethane coating</p> <p>Tenon: 1.9" OD x 6" Length</p> <p>Hand Hole: 2 1/2" x 5" Oval 18" Above Grade</p> <p>Anchor Bolts: N/A</p> <p>Rep: Spec-Lines, Inc.</p> <p>Project: New Castle Ave</p> <p>Sold To: CED-Gilman Electric</p> <p>Approval: Date:</p> <p>Submittal No.: 122806</p> <p align="center"><b>WHATLEY, INC.</b> 6980 E. 54th Place, Commerce City, CO. 80022 (303)-287-8053 FAX (303)-286-7216</p>

**Anchor Base**



## DECORATIVE LAMP POST

FLUTED TAPERED POLE 4.5 INCHES AT POST TOP

- Fluted, tapered XTREME™ composite core, elastomeric clad urethane pole shaft
- Direct Embedded and Anchor Base models
- One piece XTREME™ elastomeric urethane base cover

POLE **XF45**  
DECORATIVE BASE **D5M**



### Ordering Information

SAMPLE CATALOG NUMBER LOGIC

	B	C	D	E	F	G
XF45-D5M	12	AB	MTB	30	-30	R1
XF45-D5M	20	DE	HTG	40	-35	•
BASE & POLE DESIGN	ABOVE GRADE HEIGHT	INSTALLATION METHOD	COLOR	TENON O.D.	TENON HEIGHT	OPTIONS

#### B ABOVE GRADE HEIGHT

Cat No.	Description
10	10 feet/3.0M
11	11 feet/3.4M
12	12 feet/3.7M
13	13 feet/4.0M
14	14 feet/4.3M
15	15 feet/4.6M
16	16 feet/4.9M
17	17 feet/5.2M
18	18 feet/5.5M
19	19 feet/5.8M
20	20 feet/6.1M

#### D COLOR

Cat No.	Description
BLK	Black
MTB	Matte Black
DBZ	Dark Bronze
DGR	Dark Green
HTG	Hunter Green
ALM	Natural Aluminum
WHT	White
GRY	Grey
CC	Custom color - Please provide a min. 3 x 3 color chip.
RAL	Please provide a four digit RAL color number.

#### C INSTALLATION METHOD

Cat No.	Description
DE	Direct Embedded
AB	Anchor Base

#### D TENON O.D. (OUTSIDE DIAMETER)

Cat No.	Description
23	2 3/8 (60 mm)
27	2 7/8 (73 mm)
30	3 (76 mm)
35	3 1/2 (89 mm)
40	4 (102 mm)

#### E TENON HEIGHT

Cat No.	Description
-30	3.0 (76 mm)
-35	3.5 (89 mm)
-40	4.0 (102 mm)
-50	5.0 (127 mm)
-60	6.0 (178 mm)

Tenons include a cast decorative ring at the top of the pole.

¥ For other tenon sizes contact the factory.

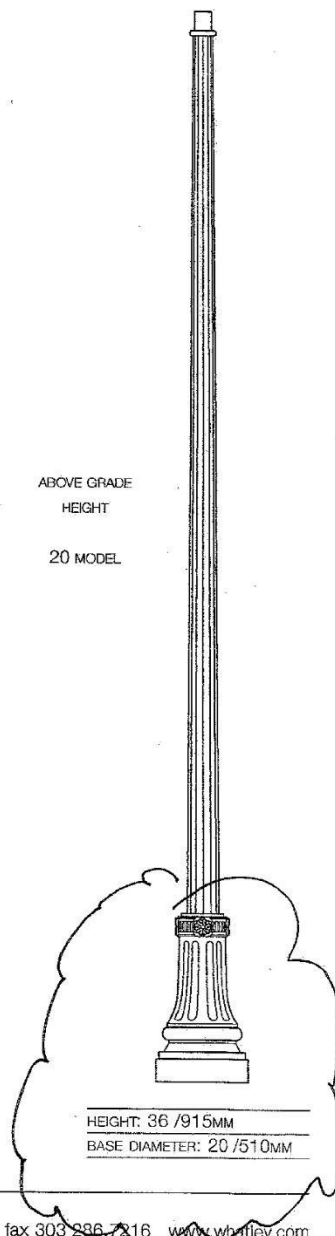
#### F OPTIONS

Cat No.	Description
DTC	Top pole cap and drilling for a side mounted arm(s). Provide template or drawing for hole locations.
R1	Single receptacle and housing with spring loaded cover. Molded in dark grey color. Standard location is 12 /305mm below the top of the pole.
RC	Receptacle housing and a NEC approved cover. GFCI receptacle by others. Standard location is 12 /305mm below the top of the pole.

¥ Other accessories are shown on the Accessories specification sheet.

ABOVE GRADE  
HEIGHT

20 MODEL



WHATLEY INC. A VALMONT COMPANY

XF45-D5M.pdf

6980 E. 54th Place Commerce City, CO 80022 877 959.7678 fax 303 286.7216 www.whatley.com

## Specifications

### POLE SHAFT

The XTREME™ pole shaft shall be round tapered, with 16 flutes and a .20 /5mm per foot taper, with the top of the post at 4.5 /114mm diameter. The hand hole shall be 2.5 /62mm x 5 /125mm with a cover. The inner shaft shall be constructed of continuous fiberglass filament combined with a thermosetting polyester resin. The glass filament shall be helically wound at alternating high and low angle layers for maximum compressive and bending strength. The outer shaft shall be a proprietary elastomeric urethane, molded to the inner composite shaft, forming a unitized pole shaft with a minimum thickness of .75 /19mm. The pole shaft shall be highly resistant to impact, chipping, or damage to the finish from vandalism. The hand hole area and hardware attachment areas shall be reinforced. The poles shall be designed with a minimum safety factor of 2:1 and have a maximum deflection of 10% under full wind loading conditions. The butt end of the embedded-type post shall be enlarged and square to increase the resistance to rotation and provide maximum ground bearing resistance (anti-lift). The post shall be non-conductive and chemically inert.

### PERFORMANCE CRITERIA

The post shall be designed with a minimum safety factor of 2:1 and have no more than a 10% deflection at full wind loading. The post shall deflect no more than 2.5% of the above-ground length with 100 lbs. of lateral top load (stiffness). Poles shall be tested and rated per ASCE 7-98 and AASHTO 2001 specifications for pole structures.

### DIRECT EMBEDDED INSTALLATION

Direct embedded poles shall have a 2.5 /62mm x 5 /125mm slot for conduit entrance 24 inches (610mm) below finished grade. Embedded depths may vary per local codes, site soil conditions, drainage and very high wind conditions.

### ANCHOR BASE

Anchor bases shall be constructed of steel base with a hot dipped, galvanized finish. The base shall be factory bonded to the post. The anchor base shall have four holes at ninety degrees, accommodating a bolt circle of 9 inches (230mm) to 11 inches (280mm).

### POST TOP

A painted steel tenon shall be firmly bonded to the pole for mounting a post-top luminaire or arm.

### FINISH

The surface of the post shall be uniform and consistent for the entire length of the post. A UV-resistant catalyzed urethane coating shall be extremely durable and retains its gloss after a 5000 hour exposure test (ASTM) to the sun, with no dulling or chalking of the surface.

### ORNAMENTAL BASE COVER

The ornamental decorative base cover shall be one piece and constructed from a proprietary elastomeric urethane and finished to match the post. The base shall be corrosion free and extremely resistant to impact and chipping. The base cover shall slip over the pole and be secured with three stainless steel hex head socket locking screws.

### WARRANTY

The products shall be warranted to be free of defects for three years from the date of shipment from the factory.

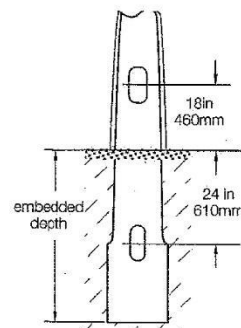
## Wind Loading Data

### for Direct Embedded and Anchor Base

Cat No.	Description	WT	WIND SPEED (MPH) WITH 3 SECOND GUST FACTOR							
			90	100	110	120	130	140	150	
10	10 feet/3.10M	67	11.9	9.4	7.5	6.1	5.0	4.2	3.5	
11	11 feet/3.35M	70	11.9	9.4	7.4	6.0	4.9	4.1	3.4	
12	12 feet/3.66M	75	11.9	9.3	7.4	5.9	4.8	4.0	3.3	
13	13 feet/3.96M	78	11.9	9.2	7.3	5.8	4.7	3.9	3.2	
14	14 feet/4.27M	82	11.8	9.1	7.1	5.7	4.6	3.7	3.1	
15	15 feet/4.57M	86	11.7	9.0	7.0	5.6	4.5	3.6	3.0	
16	16 feet/4.88M	90	10.7	8.2	6.3	5.0	4.0	3.2	2.6	
17	17 feet/5.18M	95	10.4	7.9	6.1	4.8	3.8	3.0	2.4	
18	18 feet/5.49M	100	10.1	7.6	5.8	4.5	3.5	2.7	2.2	
19	19 feet/5.79M	108	9.7	7.3	5.5	4.2	3.2	2.5	1.8	
20	20 feet/6.10M	115	9.4	6.9	5.1	3.8	2.9	2.2	1.5	

Wind speed values are for a 3 second gust per ASCE 7-98 and AASHTO 2001. Calculated per ASCE 7-98, 50-year recurrence interval, 1.0 Importance factor. Assumes load 12 inches above the pole top. Safety factor = 2.0

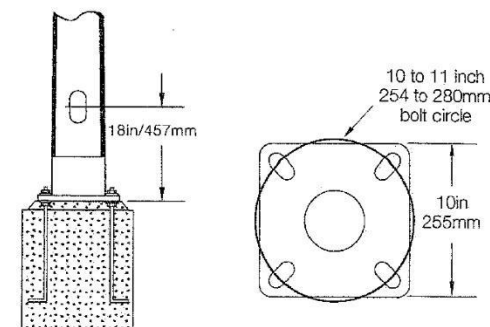
Y Weights listed are with anchor bases. Deduct twenty (20) pounds for direct embedded poles.



SHAFT LENGTH	EMBEDDED DEPTH
10 to 14 feet	3ft/.91M
15 to 20 feet	4ft/1.2M

Embedded depths may vary per local codes, site soil conditions, drainage and very high wind conditions.

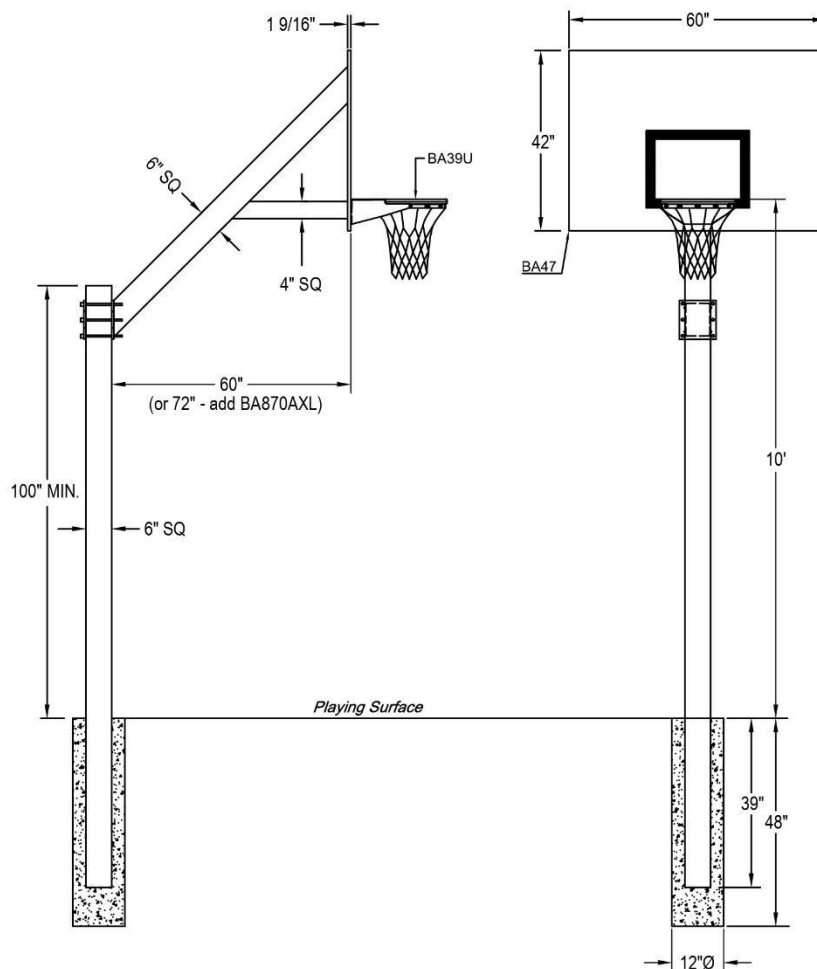
### Anchor Base Installation - AB



WHATLEY INC. A VALMONT COMPANY

www.whatley.com

**Whatley**



Pole shall be constructed of 6" square, 3/16" wall structural steel tube suitable for a 39" in-ground installation. 45° extension arm shall be 6" square, 3/16" wall structural steel tube with a 4" square, 1/8" wall steel tube horizontal support and 1/4" thick steel backboard support plate. Pole shall be designed so that rim mounts directly to pole to minimize stress on the backboard. Extension arm shall be mounted by means of 6 each 5/8" grade 8 bolts. Pole system shall provide a minimum setback from the front of pole to front of backboard of 60". Entire pole system shall have a textured black polyester powder coated finish and carry a lifetime functional warranty. Vertical pole shall be capped to keep out rain. Backboard shall be constructed of formed and welded steel with a 42" x 60" rectangular playing surface. Skin shall be 12 ga. mild steel and rear structure shall be 7 ga. and 10 ga. steel. All edges of the skin shall be formed in such a way that no shear edges are exposed. Boards with exposed shear edges shall not be considered equal. The backboard shall be coated with a white polyester powder coated finish and have an official-sized orange shooter's square. Backboards shall carry an unconditional lifetime functional warranty. Rim shall consist of two 5/8" diameter high strength steel rings welded together at a minimum of six places. Back and side plates shall be 3/16" thick and be continuously welded. The net attachment system shall be of a continuous type constructed of 3/16" x 1" steel with punched net attachment slots suitable for nylon (included) or chain (optional) nets. Individual or continuous wire formed netlocks are not an acceptable equal. Rim shall have an unconditional lifetime warranty and orange powder coated finish. Installation to be completed in accordance to manufacturer's instructions. Do not scale drawings. Entire system weight shall be 500#.



## PRODUCT SPECIFICATION

BA871-BK ULTIMATE™ PLAYGROUND BASKETBALL SYSTEM

REVISED 4/26/18

603 L Street, Lincoln, NE 68508 - Phone: (800) 247-7668 - Fax: (800) 638-0698 - [www.bisoninc.com](http://www.bisoninc.com) - [info@bisoninc.com](mailto:info@bisoninc.com)

— **Instruction Manual** —

# BA871, BA872

Ultimate Playground Basketball System Instructions



Customer Service  
(800) 247-7668

## PARTS LIST

Item	Qty	Description	Item	Qty	Description
A	1	Vertical Pole	I	1	BA47U/47A Backboard (2 req'd on Model BA872)
B	1	Extension Arm (2 req'd on Model BA872)	J	1	BA39U Rim (2 req'd on Model BA872)
C	1	Mounting Plate (Not req'd on Model 872)	K	1	Rim Mounting Hardware (included with BA39U/BA39U-GV)
D*	6	5/8" x 8" Hex Bolts	L	2	7/16" x 1-1/2" Carriage Bolt (4 req'd on Model BA872)
E*	6	5/8" Hex Nuts	M*	2	7/16" Flat Washers (4 req'd on Model BA872)
F*	6	5/8" Flat Washers	N*	2	7/16" Lock Washers (4 req'd on Model BA872)
G*	6	5/8" Lock Washers	O*	2	7/16" Hex Nuts (4 req'd on Model BA872)
H	8	3/8" x 1-1/2" Spring Pins	P	1	Pole Cap

\* Stainless Steel on BA871 and BA872 Coastal System

### Warning!!!

The *Extension Arm* is EXTREMELY heavy!  
Stay away from the area below the *Extension Arm/Backboard* while installing or adjusting!  
**Serious injury or death may occur.**

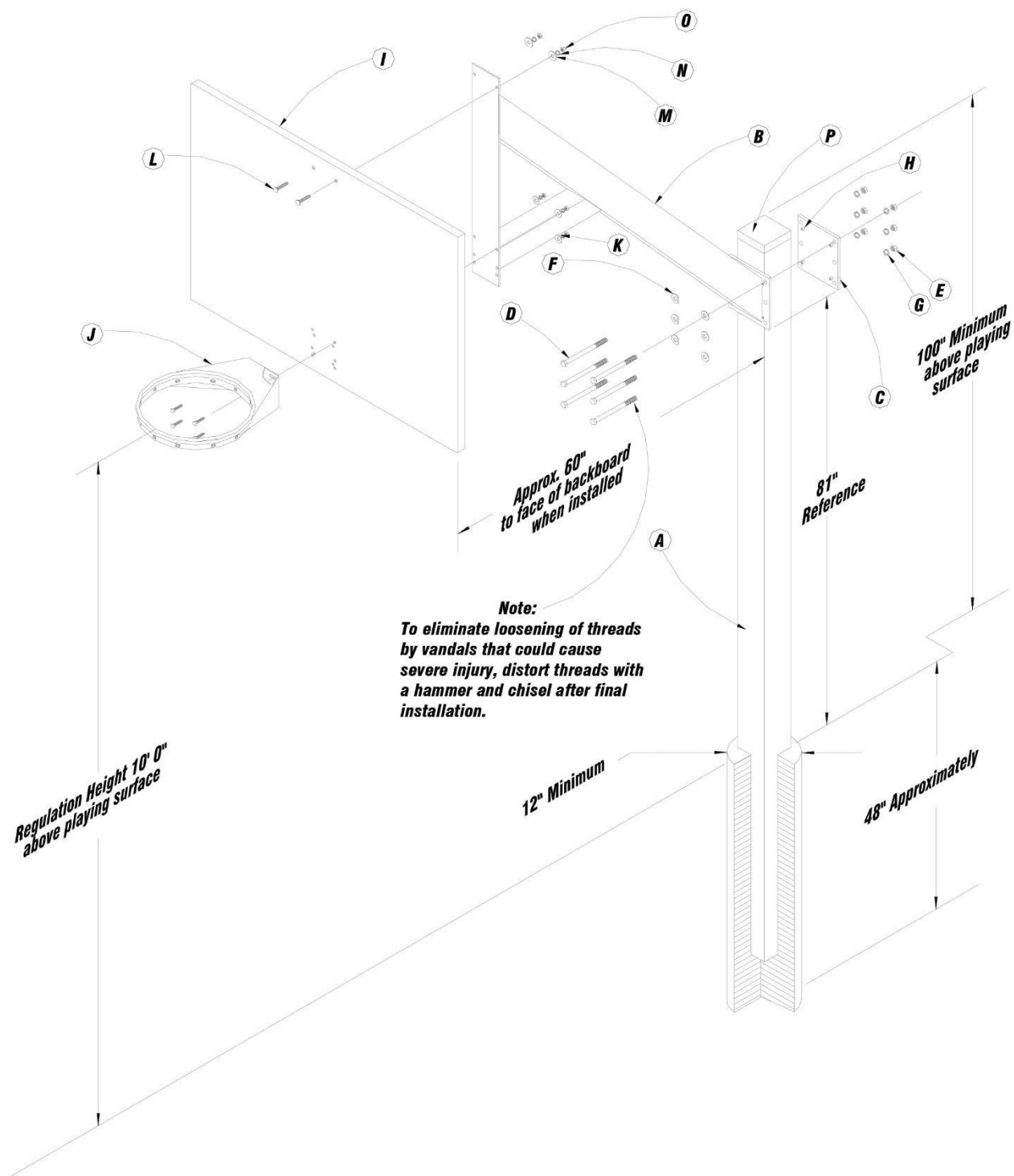
- ◆ To eliminate the possibility of vandals loosening the extension arm clamp bolts, distort the threads with a hammer and chisel when installation is complete.
- ◆ Inspect all contents prior to installation. Report any missing parts to dealer immediately.
- ◆ Read all instructions before proceeding.

Date: 05/02/17   Rev: 8   B.A.   N.J.C.   File: Bisonserver\publisher\instructions\BA871   Ref#: 930153

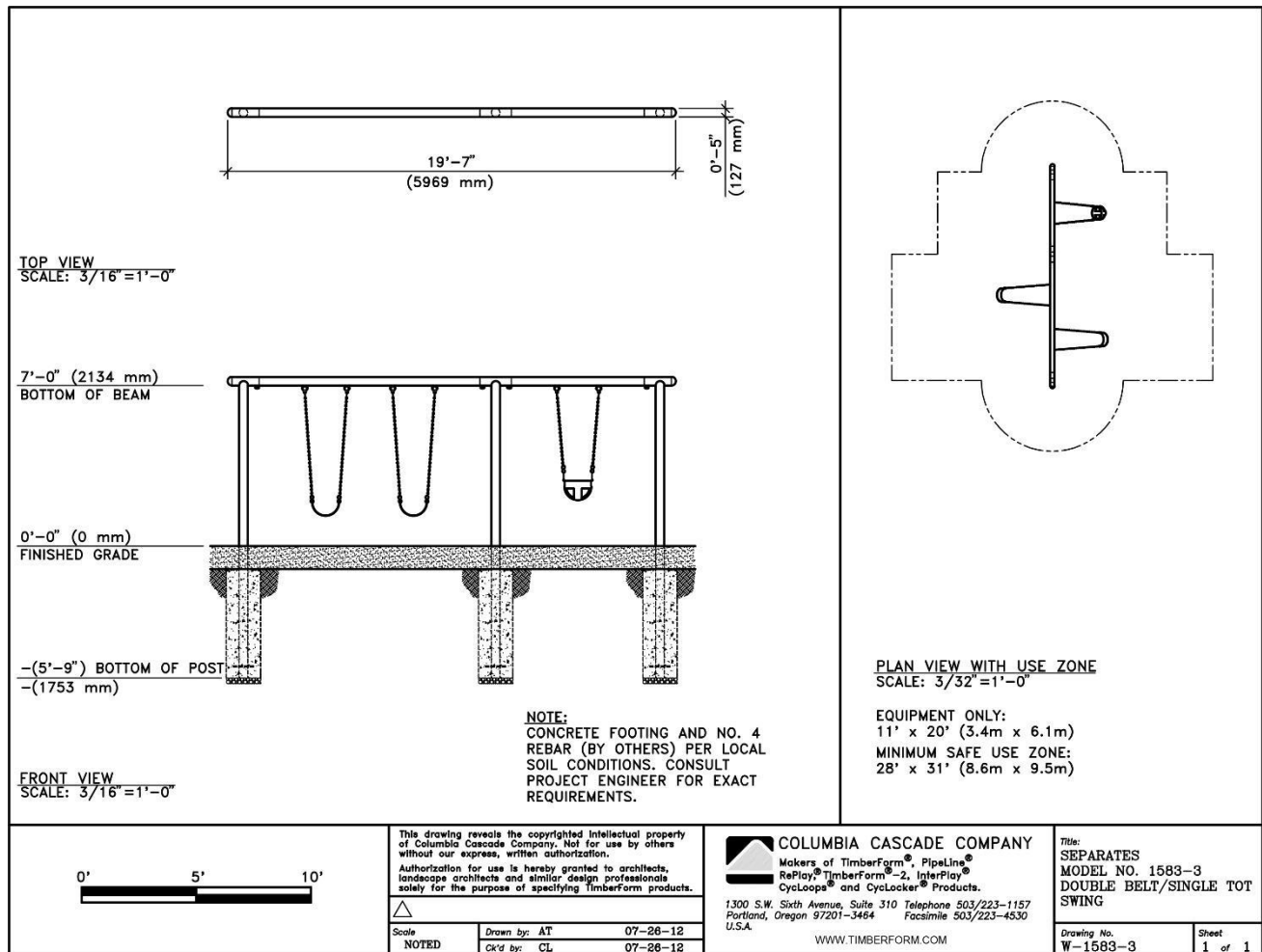
1. Position the *Vertical Pole (A)* taking into consideration that the *BA47U/BA47A Backboard (I)* will be approximately 5' from the front of the *Vertical Pole (A)*. Dig a 12" minimum diameter by 48" deep hole. It is advisable to bell out the bottom of the hole about 4" larger in diameter. A larger diameter hole is always better than a hole that is not large enough.
2. Make sure that you have the following tools available prior to pouring the concrete footing: a level, a broomstick or similar pole, bracing materials, and a tape measure. If you have made your hole larger than 12" diameter x 48" deep, than you will require more concrete. Having enough concrete before you start will ensure proper strength of the footing.
3. Mix concrete according to instructions on the bag. It is advantageous to have the mixture be "wet". This will increase your working time and allow the batches to mix in the hole. Pour the hole full to ground level. Insert the broomstick into the wet concrete and agitate up and down, REPEAT SEVERAL TIMES. Insert the *Vertical Pole (A)* into the concrete while continuing to agitate broomstick to ensure the mixture fills in good around the *Vertical Pole (A)*. Make sure that at least 100" of pole extends above desired playing surface to ensure official 10'-0" playing height. (Approximately to decal on pole, **see illustration.**) Clean excess concrete off of the *Vertical Pole (A)* with a damp towel and smooth the top of the footing. Level the *Vertical Pole (A)* and apply bracing materials to support while concrete cures.
4. Install 4 (four) *Spring Pins (H)* in *Mounting Plate (C)* so that they are flush with the back side of the *Mounting Plate (C)*. Install 4 (four) *Spring Pins (H)* in the *Mounting Plate (C)* on the *Extension Arm (B)* with the *Spring Pins (H)* flush to the *BA47U/BA47A Backboard (I)* side. These *Spring Pins (H)* are essential to the alignment of the *Extension Arm (B)* to the *Vertical Pole (A)*. Spring pins will be pre-installed in "Hot-Dip" Galvanized poles.
5. After allowing 48 hours curing time for the concrete, mount the *Extension Arm (B)* as shown using hardware provided. The *Extension Arm (B)* can be loosely mounted at the ground level and raised to correct height depending on equipment availability.

**WARNING! EXTENSION ARM IS EXTREMELY HEAVY! STAY AWAY FROM THE AREA BELOW THE EXTENSION ARM/BACKBOARD WHILE INSTALLING OR ADJUSTING. SERIOUS INJURY OR DEATH MAY OCCUR.**

6. Install the *Model BA47U/BA47A Backboard (I)* over the top lip on the *Extension Arm (B)* and attach the *BA47U/BA47A Backboard (I)* to arm with the 7/16" hardware provided (L)(M)(N)(O). Finger tighten only.
7. Install the *Model BA39U Rim (J)* using the hardware provided with it.
8. Tighten all bolts making sure the *Model BA39U Rim (J)* is at the desired height.
9. Install the *Pole Cap (P)*.
10. To eliminate possible loosening of the extension arm bolts by vandals, which could cause serious injury or death, distort the thread on the six 5/8" x 8" *Hex Bolts (D)* with a chisel and hammer



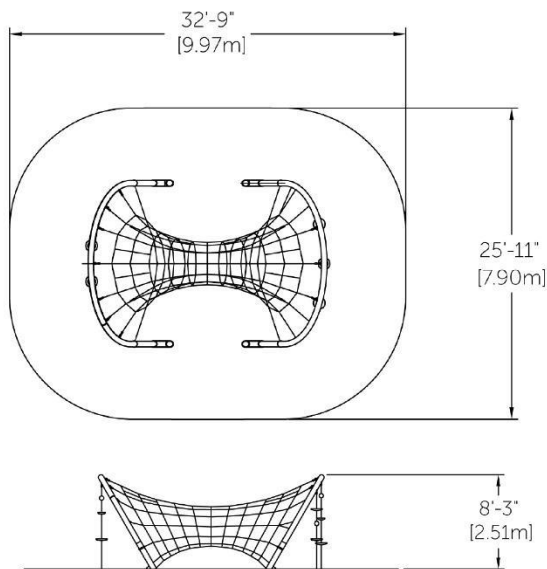






# CLIMBITRAIL SERIES

INSTALLATION MANUAL  
SPIDERNEST  
AN1300



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Publish 02 / 2017  
Modified



## Specifications

Age group: 2-5 & 5-12 years

Fall height: 8'-3

Capacity: 35

Maximum required space US (ASTM) & CANADA (CAN/CSA) :  
32'-9" x 25'-11" (9,97m x 7,90m)

## Materials

Post: Galvanized and powder coated steel

Cable: 20 mm Braided UV-resistant nylon over seven (7) galvanized steel cables

Net accessories: HDPE plastic

Mechanical assembly: Seamless 2" diameter aluminum crimped cross joint castings

All painted part are powder coated with a UV-resistant polyester

## Anchor type

Post: Concrete bases

Net tips: Turnbuckles mounted to plates anchored in concrete bases

## Play value

An opportunity to enhance general playful freedom of movement, enhance stability, coordination and global motricity skills. Those kinds of play equipment create high sensory stimulation by the feeling of the bounce.

## Net accessories colors

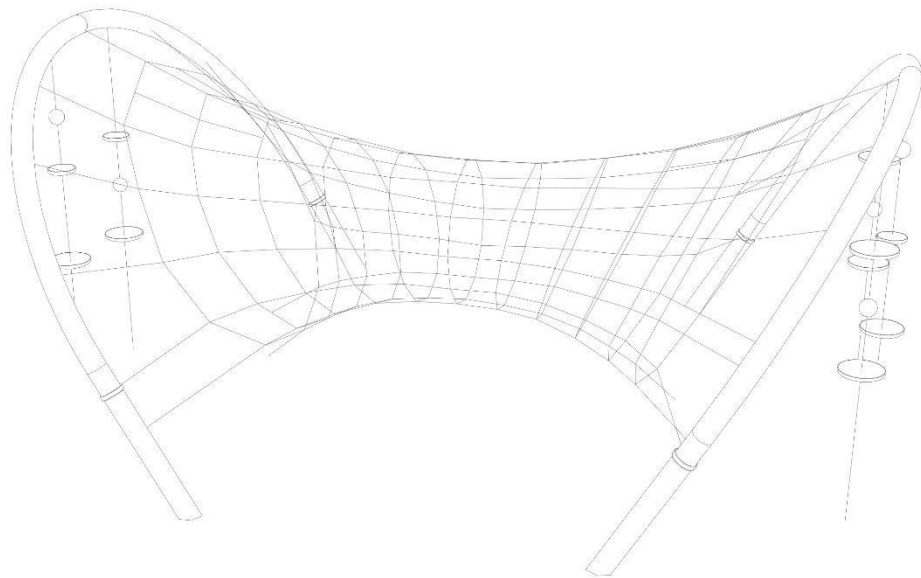


## Standard RAL paint colors



## Rope colors





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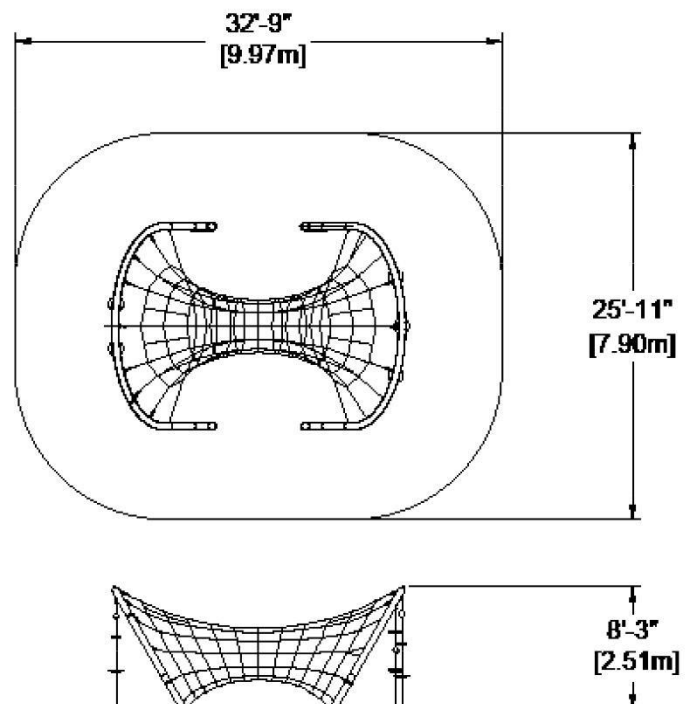
### Safety area

The requirements for space and safety clearances are taken from BS-EN 1176-1 / ASTM-F1487-11 / CSA Z614-14.

The use zone for stationary equipment shall extend no less than 72 in. (USA) or 1,80m (Canada) from all sides of the play structure.

Fall height for this play structure is 8'-3" (2,51m).

Surfacing shall meet the minimum impact attenuation requirements of Specification F1292 and/or CEN EN 1177.



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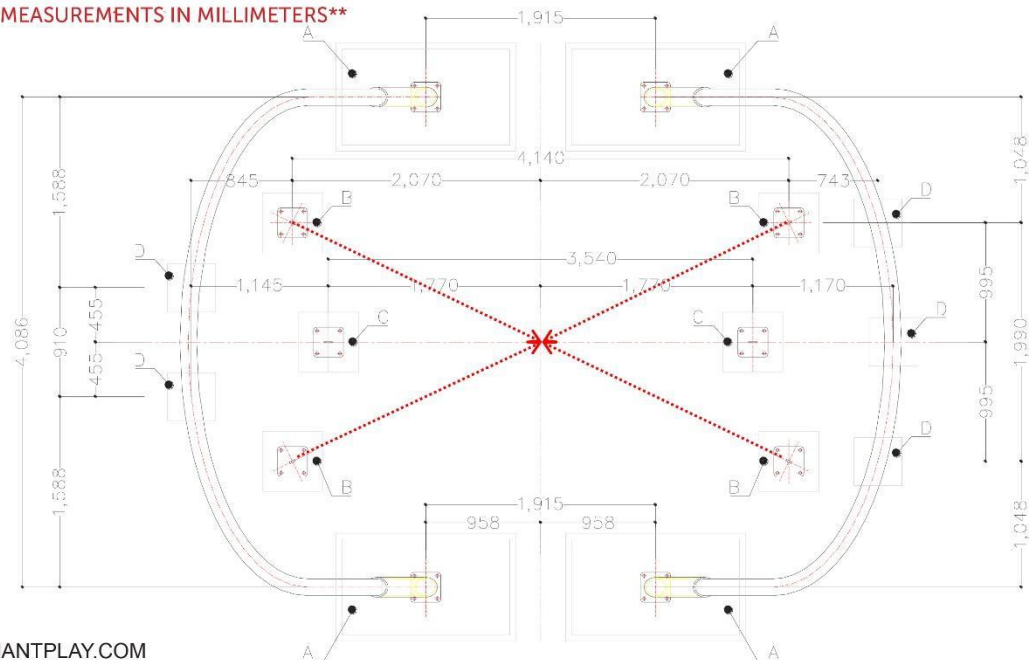


## Foundation work

Please refer to following details for foundation work.

Put the four (4) turnbuckle plates (Detail B) to face center of equipment.

**\*\*ALL DOCUMENT MEASUREMENTS IN MILLIMETERS\*\***



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## Foundation Detail A

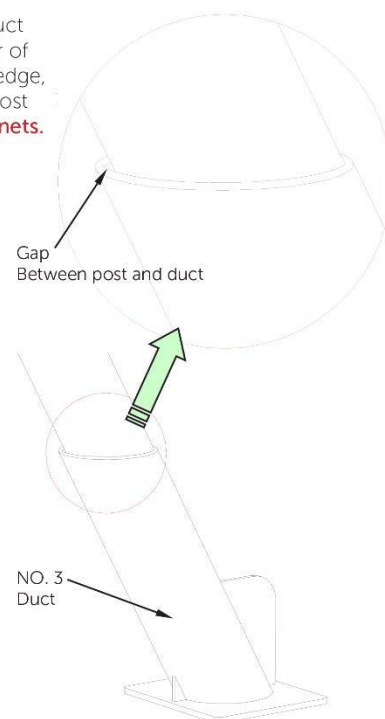
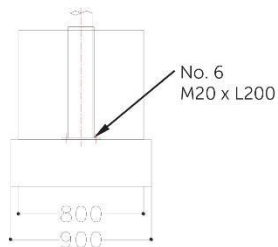
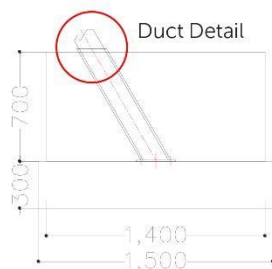
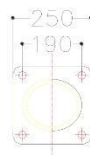
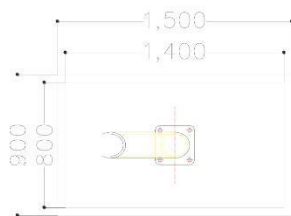
### Pouring Concrete

Pour concrete into wooden support frame until flush to top edge. Allow 3-5 days for concrete to cure before proceeding to next step.

\*Concrete is to be wet concrete with minimum 25MPa (3500 psi).

### Duct Detail

After putting the post inside duct and positioning it in the center of duct and vertically by using wedge, pour mortar in gap between post and duct **after assembling all nets**.

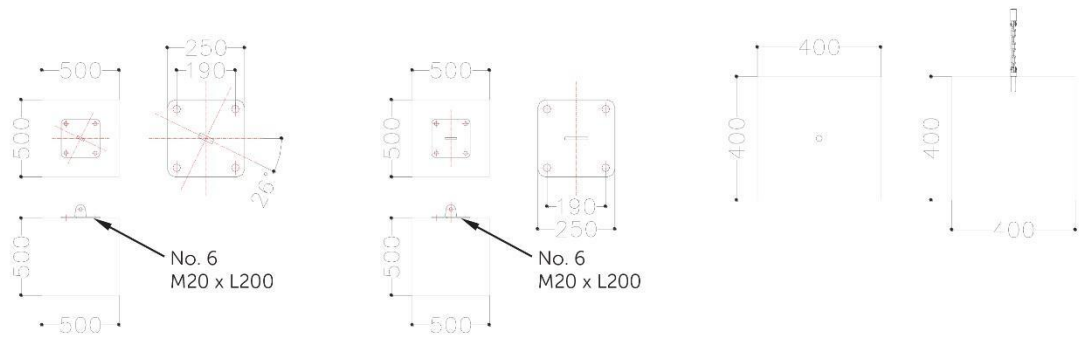


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Foundation Detail B, C and D



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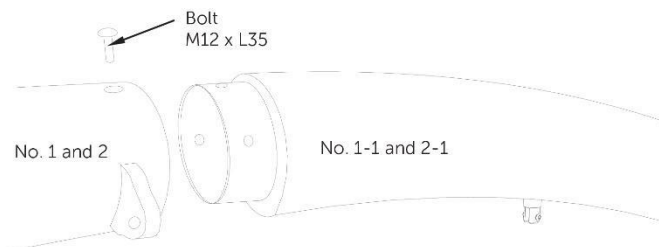
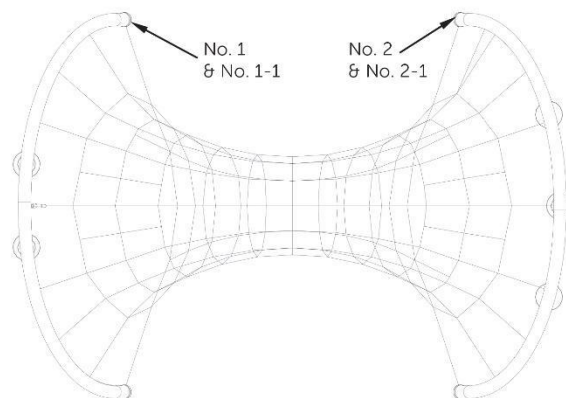
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## Overall Assembly

Assemble the parts in the following order:

1. Insert the pipes into the Ducts.  
(pour mortar in gap between post and duct after assembling all nets)
2. Insert No. 1-1 pipe into No. 1 pipe.
3. Set the holes on the pipe and put bolts into the holes.
4. Fasten the bolts.
5. Repeat with No. 2 and No. 2-1 pipe.



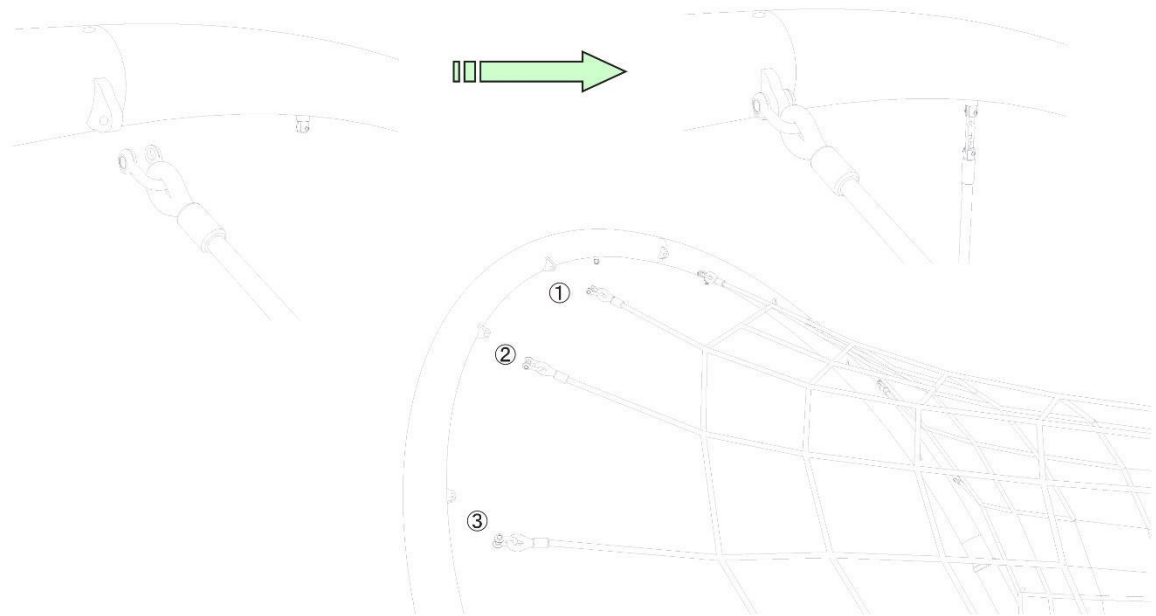
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## Overall Assembly

6. Assemble the net from top to bottom in order as the following picture (use eye bolts provided in the shipping box).



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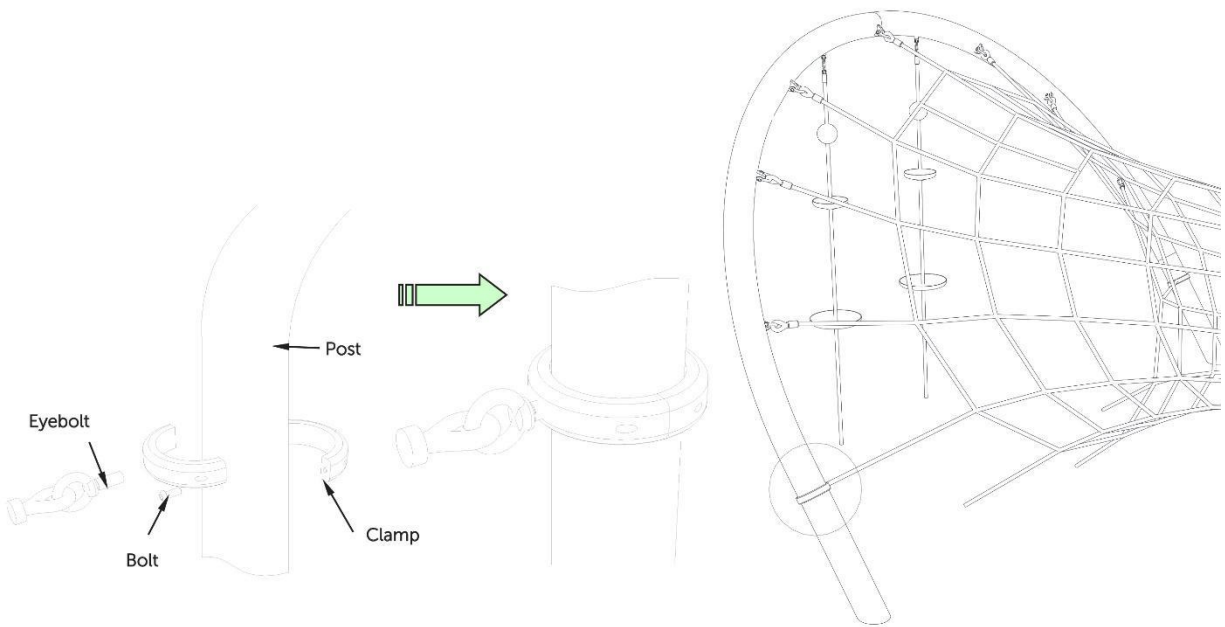
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## Overall Assembly

7. Take equipment's position and check tension of the net.
8. Attach bottom part of the net jointed eyebolt and clamp to the post.



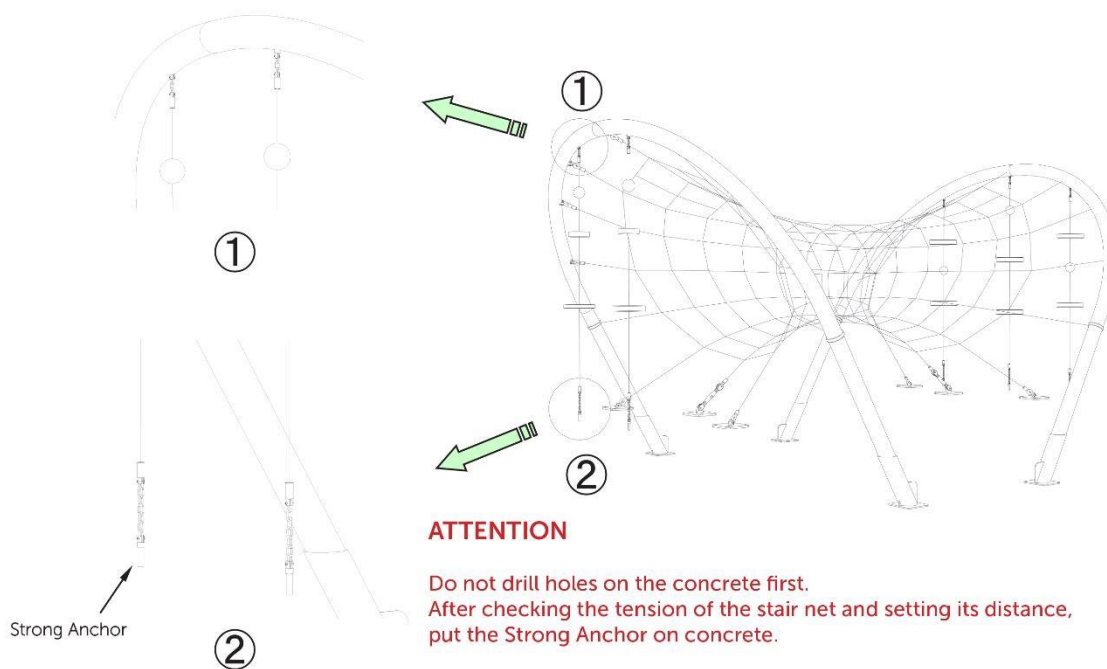
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## Overall Assembly

9. Assemble vertical ropes as the picture to the post.
10. Drive the ropes through the concrete foundation.



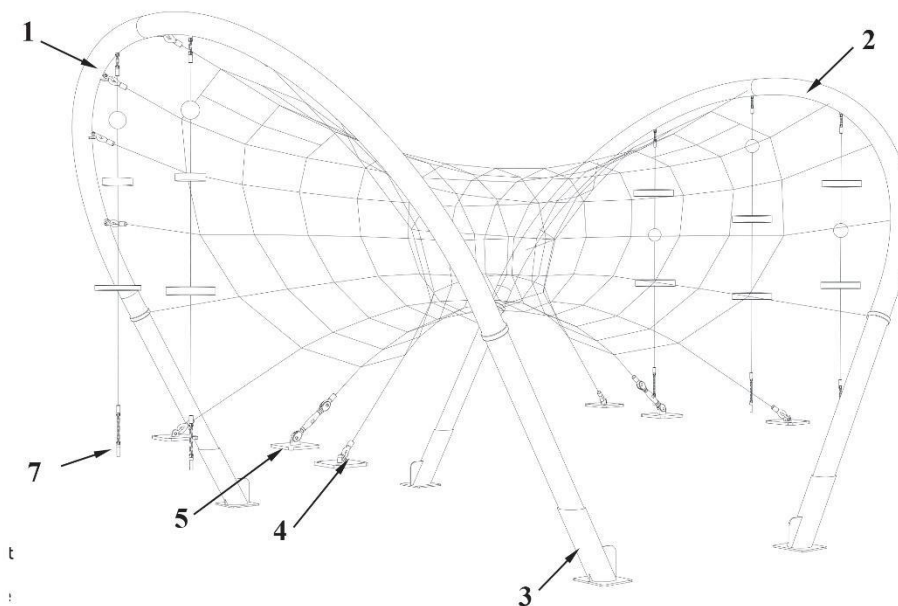
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## Overall Assembly

- 1 & 2: Main posts
- 3: Duct
- 4: Shackle Plate
- 5: Turnbuckle Plate
- 6: Set Anchor
- 7: Strong Anchor



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### A. General safety measures

On the playground there should be a sign(pictogram) giving the following information:

- a) general emergency telephone number;
- b) telephone number to contact maintenance personnel;
- c) name of the playground;
- d) address of playground; and
- e) other relevant local information, if applicable.

The entry, exit and emergency paths to and from a playground, intended for use by the public and emergency services, should be accessible and free of obstacles at all times.

NOTE Attention is drawn to local regulations.

### B. Procedures

Defects that occur during operation and which put safety at risk should be corrected without delay. If this is not possible, the equipment should be secured against use e.g. by immobilization or removal.

There should be written operational procedures covering the measures to be taken in the event of accidents, fire and the like. Until unsafe equipment is repaired and released for use, access by the public should be prevented. Information about accidents brought to the attention of the manager should be recorded on a form that includes the following details:

- a) date and time of accident;
- b) age and sex of victim and clothing worn, including footwear;
- c) equipment involved;
- d) number of children on site at the time of the accident;
- e) description of accident;
- f) injury sustained including part(s) of body affected;
- g) action taken;
- h) witness statements;
- i) any subsequent equipment modification;
- j) weather conditions; and
- k) any other relevant information.



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### **C. Routine maintenance**

To reduce accidents, the owner or operator should ensure that an appropriate routine maintenance schedule is established, implemented and maintained. This should take into account local conditions and the manufacturer's instructions that can affect the necessary inspection frequency. The schedule should list the components to be maintained and should also give procedures for dealing with complaints and breakdowns.

The routine maintenance of playground equipment and surfaces should consist of preventative measures to maintain their level of safety, performance and compliance with the relevant part(s) of EN 1176. Such measures should include:

- a) tightening of fastenings;
- b) re-painting and re-treatment of surfaces;
- c) maintenance of any impact attenuating surfaces;
- d) lubrication of bearings;
- e) marking of equipment to signify loose fill finished surface level;
- f) cleaning;
- g) removal of broken glass and other debris or contaminants;
- h) restoring loose fills to the correct level; and maintenance of free space areas.

### **D. Corrective maintenance**

Corrective maintenance should include measures to correct defects, or to re-establish the necessary levels of safety of the playground equipment and surfaces. Such measures should include:

- a) replacement of fastenings;
- b) welding of welding repairs;
- c) replacement of worn or defective parts; and
- d) replacement of defective structural components.

### **E. Personal safety**

Repairs during operation that could put the safety of maintenance personnel or the public at risk, should be avoided.

### **F. Equipment alterations**

Alterations to parts of a piece of equipment or structure that could affect the essential safety of the equipment should only be carried out after consultation with the manufacturer or a competent person.



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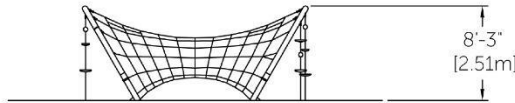
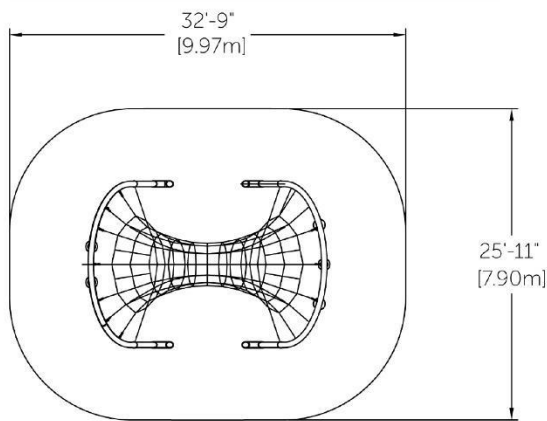
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## CLIMBITRAIL SERIES

SPIDERNEST  
AN1300



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### Specifications

Age group: 2-5 & 5-12 years

Fall height: 8'-3

Capacity: 35

Maximum required space US (ASTM) & CANADA (CAN/CSA) :  
32'-9" x 25'-11" (9,97m x 7,90m)

### Materials

Post: Galvanized and powder coated steel

Cable: 20 mm Braided UV-resistant nylon over seven (7) galvanized steel cables

Net accessories: HDPE plastic

Mechanical assembly: Seamless 2" diameter aluminum crimped cross joint castings

All painted part are powder coated with a UV-resistant polyester

### Anchor type

Post: Concrete bases

Net tips: Turnbuckles mounted to plates anchored in concrete bases

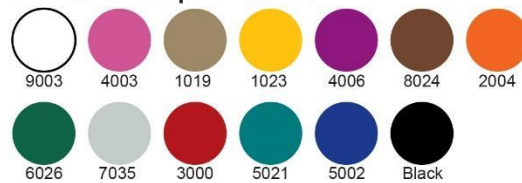
### Play value

An opportunity to enhance general playful freedom of movement, enhance stability, coordination and global motricity skills. Those kinds of play equipment create high sensory stimulation by the feeling of the bounce.

### Net accessories colors



### Standard RAL paint colors

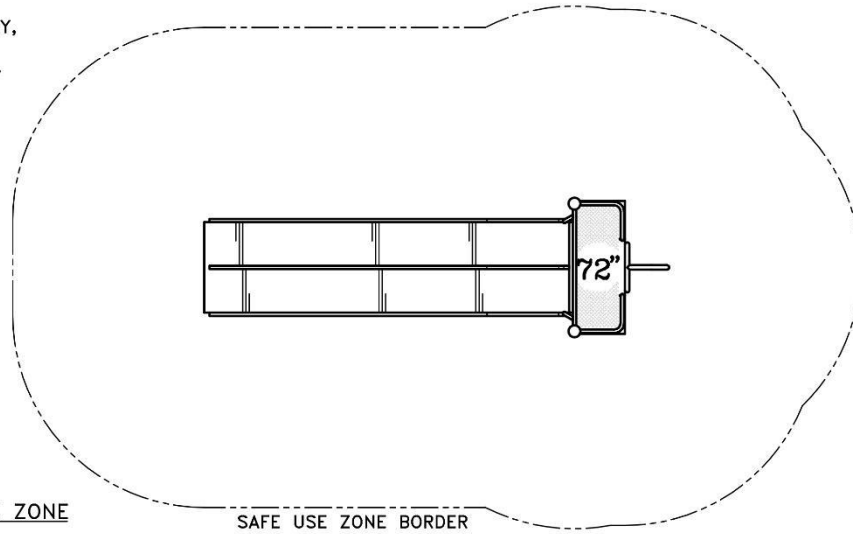


### Rope colors



APPROPRIATE FOR CHILDREN 5 TO 12 YEARS OF AGE

## 1944-6-25-PL FEATURES:

PLATFORM WITH VERTICAL  
SAFETY CLIMBER.WIDE WAVE CHUTE WITH  
CENTER RAIL  
(STAINLESS STEEL BEDWAY,  
6" RAILS) WITH  
SLIDE CHUTE ENCLOSURE.

PLAN VIEW WITH USE ZONE

SCALE: 1/4"=1'-0"

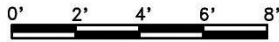
SAFE USE ZONE BORDER

## EQUIPMENT ONLY:

15' x 5' (4.6m x 1.6m)

## MINIMUM SAFE USE ZONE:

27' x 17' (8.3m x 5.2m)



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Scale	Drawn by: AT	07-26-12
NOTED	CK'd by: CL	07-26-12



## COLUMBIA CASCADE COMPANY

Makers of TimberForm®, PipeLine®,  
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CycLoops® and CycLoops® Products.

1300 S.W. Sixth Avenue, Suite 310 Telephone 503/223-1157  
Portland, Oregon 97201-3464 Facsimile 503/223-4530  
U.S.A.

WWW.TIMBERFORM.COM

## Title:

SEPARATES

MODEL NO. 1944-6-25-PL

WIDE WAVE CHUTE WITH CENTER RAIL,  
STAINLESS STEEL WITH 6" (15 cm) RAILS,  
VERTICAL SAFETY CLIMBER

Drawing No.  
E-1944-6-25-PL

Sheet  
1 of 1







# OUTDOOR BOTTLE FILLERS

## GY Series

### MODEL GYQ84

PEDESTAL MOUNTED BOTTLE FILLER  
WITH BI-LEVEL DRINKING FOUNTAIN

#### STANDARD FEATURES

- Adult ADA compliant
- Pushbutton and hands free sensor operated bottle filler
- Battery pack 6-AA
- Laminar flow water supply to bottle filler
- Resistant to sunlight, heat, moisture and wear
- 18 Gage, 304 stainless steel drinking Fountain bowls
- 12 Gage, heavy duty stainless steel construction with corrosion and scratch resistant finish
- Stainless steel, anti-rotation non-squirt bubbler
- 100 mesh inlet strainer
- Lead and cyst filter (Not available with FRU option)
- Access cover, heavy duty stainless steel, Vandal resistant

#### SUGGESTED SPECIFICATIONS

Pedestal mounted bottle filler with bi-level drinking fountain shall be Murdock model GYQ84. Construction shall be 12 gage, all stainless steel with 18 gage stainless steel fountain bowls. Pedestal shall have four mounting holes. Access covers shall be secured with vandal-resistant stainless steel screws. Bottle filler shall be activated by a 9 volt sensor or a pushbutton as standard. Unit shall contain a 100 mesh inlet strainer, lead and cyst filter, 6-AA battery pack and laminar flow spout. Self-closing pushbuttons, needing less than 5 pounds force, shall activate internally mounted valves with adjustable stream regulators. Bubblers shall be stainless steel with non-squirt feature and operate on water pressure range of 20-105 psig. Fountain is certified to ANSI A117.1, Public Law 111-380 (NO-LEAD), CHSC 116875 and NSF/ANSI 61, Section 9. Fixture meets ADA and ADA Standing Person, requirements when mounted appropriately.



Member of  
U.S. Green  
Building  
Council



Recyclable  
Product



Water  
Conserving  
Product

Please visit [www.murdockmfg.com](http://www.murdockmfg.com)  
for most current specifications.



Model GYQ85-PF Shown

#### MODEL:

(Must Specify)

- |                                |                             |
|--------------------------------|-----------------------------|
| <input type="checkbox"/> GYQ84 | Satin Stainless Finish      |
| <input type="checkbox"/> GYQ85 | Green Powder-Coated (Shown) |
| <input type="checkbox"/> GYQ86 | Red Powder-Coated           |
| <input type="checkbox"/> GYQ87 | Blue Powder-Coated          |

#### OPTIONAL ACCESSORIES

(additional costs may be incurred)

- |                                |  |
|--------------------------------|--|
| <input type="checkbox"/> -CV   | Cartridge valve on fountains<br>(Not available with freeze-resistant valve)          |
| <input type="checkbox"/> -FRU3 | Underground freeze-resistant, 3 valves <sup>1</sup><br>(Less filter and sensor)      |
| <input type="checkbox"/> -FRU4 | Underground freeze-resistant, 4 valves <sup>1</sup><br>(Less filter and sensor)      |
| <input type="checkbox"/> -IAP  | In-ground anchor plate   |
| <input type="checkbox"/> -LOGO | Customer specified logo  |
| <input type="checkbox"/> -MO   | Bottle filler operated by pushbutton only<br>(Standard with freeze-resistant valves) |
| <input type="checkbox"/> -PF   | Pet fountain <sup>1</sup>  |

Option Notes:

<sup>1</sup>See separate option sheet

Complies  
with the  
following  
standards:



MURDOCK MFG. • 15125 Proctor Avenue • City of Industry, CA 91746 USA  
Phone 800-453-7465 or 626-333-2543 • Fax 626-855-4860 • [www.murdockmfg.com](http://www.murdockmfg.com)

Member of  
MORRIS GROUP  
INTERNATIONAL

GYQ84

09/06/16

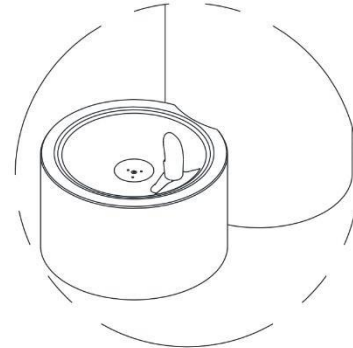
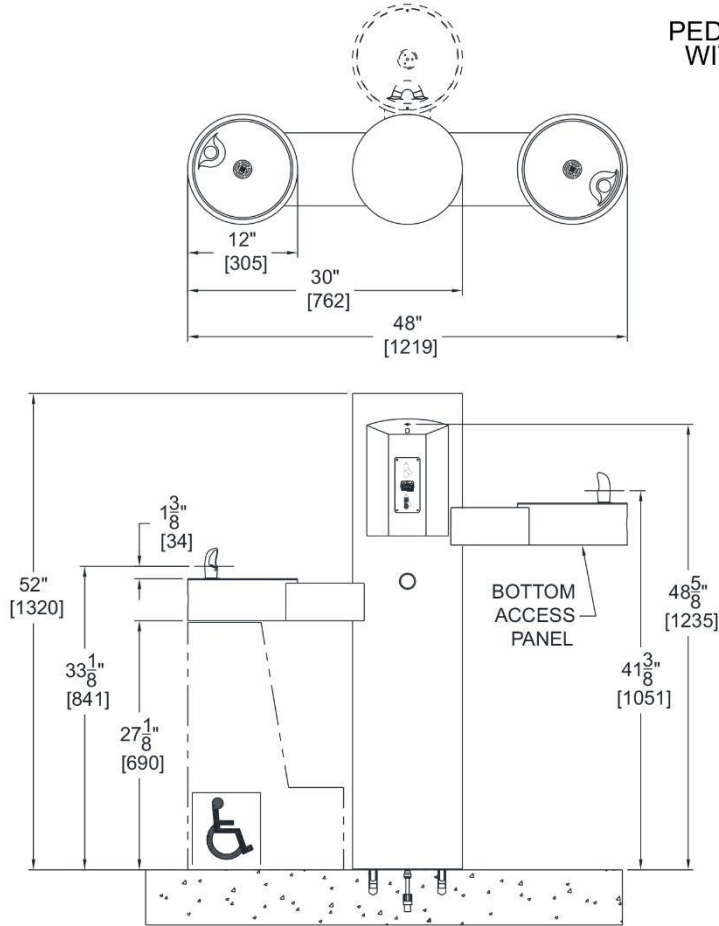




# OUTDOOR BOTTLE FILLERS

## GY Series

**MODEL GYQ84**  
PEDESTAL MOUNTED BOTTLE FILLER  
WITH BI-LEVEL DRINKING FOUNTAIN



**OPTIONAL -PF  
PET FOUNTAIN  
DETAIL**

\* Valve specifications:  
Minimum/Maximum Pressure  
30 to 100 psi.

Murdock Mfg.™ warrants that its products are free from defects in material or workmanship under normal use and service for a period of one year from date of shipment. Murdock's liability under this warranty shall be discharged solely by replacement or repair of defective material, provided Murdock™ is notified in writing within one year from date of shipment, F.O.B. Industry, California.

SELECTION SUMMARY & APPROVAL FOR MANUFACTURING	Model Number & Options _____	Quantity _____	All dimensions are subject to manufactures tolerance of plus or minus 1/8" nominal and subject to change without notice. Murdock assumes no responsibility for use of void or superseded data. Dimensions may change with the addition of optional accessories. Murdock Mfg.™, Member of Morris Group International™. Please visit <a href="http://www.murdockmfg.com">www.murdockmfg.com</a> for most current specifications.
	Company _____		
	Contact _____	Title _____	
	Signature (Approval for Manufacturing) _____		
	Date _____		

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09/06/16



## CONTEMPORARY DRINKING FOUNTAINS

### INSTALLATION/MAINTENANCE INSTRUCTIONS

#### **PRIOR TO INSTALLATION:**

1. Read all installation instructions carefully, before proceeding.
2. Carefully remove fixture from packaging, preventing scratching or damage.
3. Unit is provided with six AA alkaline batteries.
4. Provide mounting surface, sufficient to support the fixture and loads on the fixture.
5. Provide rough-ins as shown on the roughing-in and dimensional drawing, including water supply, drain pipe and gravel drain well. (See rough-in details)
6. Completely flush water supply lines of all foreign debris, before connecting to the fixture.

#### **INSTALLATION: (see drainage & mounting roughing-in)**

1. Locate the unit over rough-ins on mounting pad, mark mounting holes in base flange.
2. Tilt the unit down on its side, next to the mounting location. Install ½" mounting anchors (by others). Optional -IAP (in-ground anchor plate) which is cast into the concrete, is available.
3. Make up 1-1/4" OD drain tube into the open ended DWV drain tube (by others). Connect the ½" male NPT fitting to a potable water supply. Then tilt the unit into place, making sure that the tubing is not pinched or kinked. Secure the base flange to the mounting pad.
4. Connect the battery pack to matching battery wire terminals. When connected the unit is active.
5. Test for leaks and proper operation, and then install the access panel.

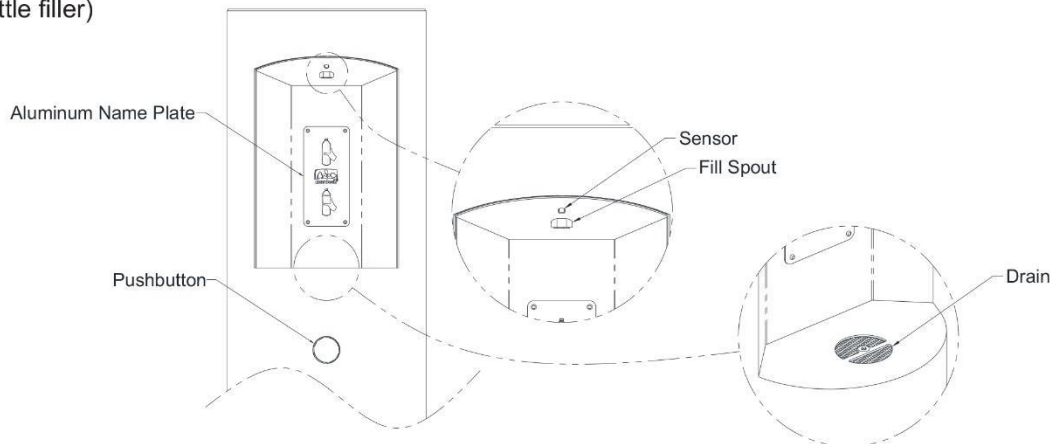
#### **START UP:**

Air within the bottle filler system or the structure supply piping will cause an irregular spout outlet stream until purged out by incoming water. Press and hold pushbutton until steady water stream is achieved.

#### **OPERATION INSTRUCTIONS:**

**Hand operation:** Hold container to be filled just below the filler tube in the center of the unit, then depress pushbutton. When the container is almost filled, release the pushbutton.

**Sensor Operation:** Hold container to be filled just below the sensor in the center of the filler spout and then move the container upward and water flow will start automatically. When the container is almost filled, lower the container below the sensor until the water stops flowing. (see label on the bottle filler)



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SINCE 1853

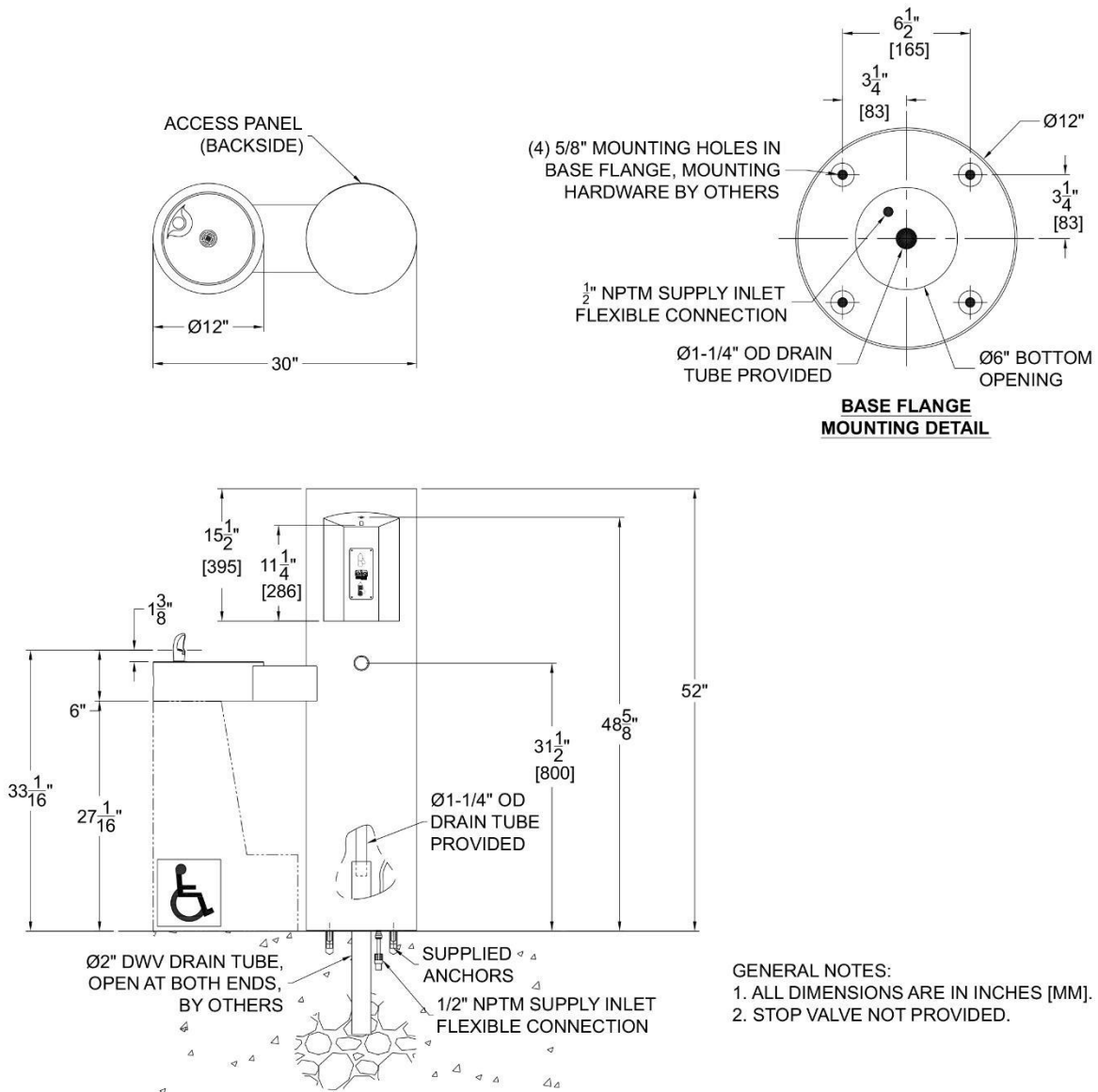


# CONTEMPORARY DRINKING FOUNTAINS

## INSTALLATION/MAINTENANCE INSTRUCTIONS

### GYM74

#### Rough-In & Installation Information



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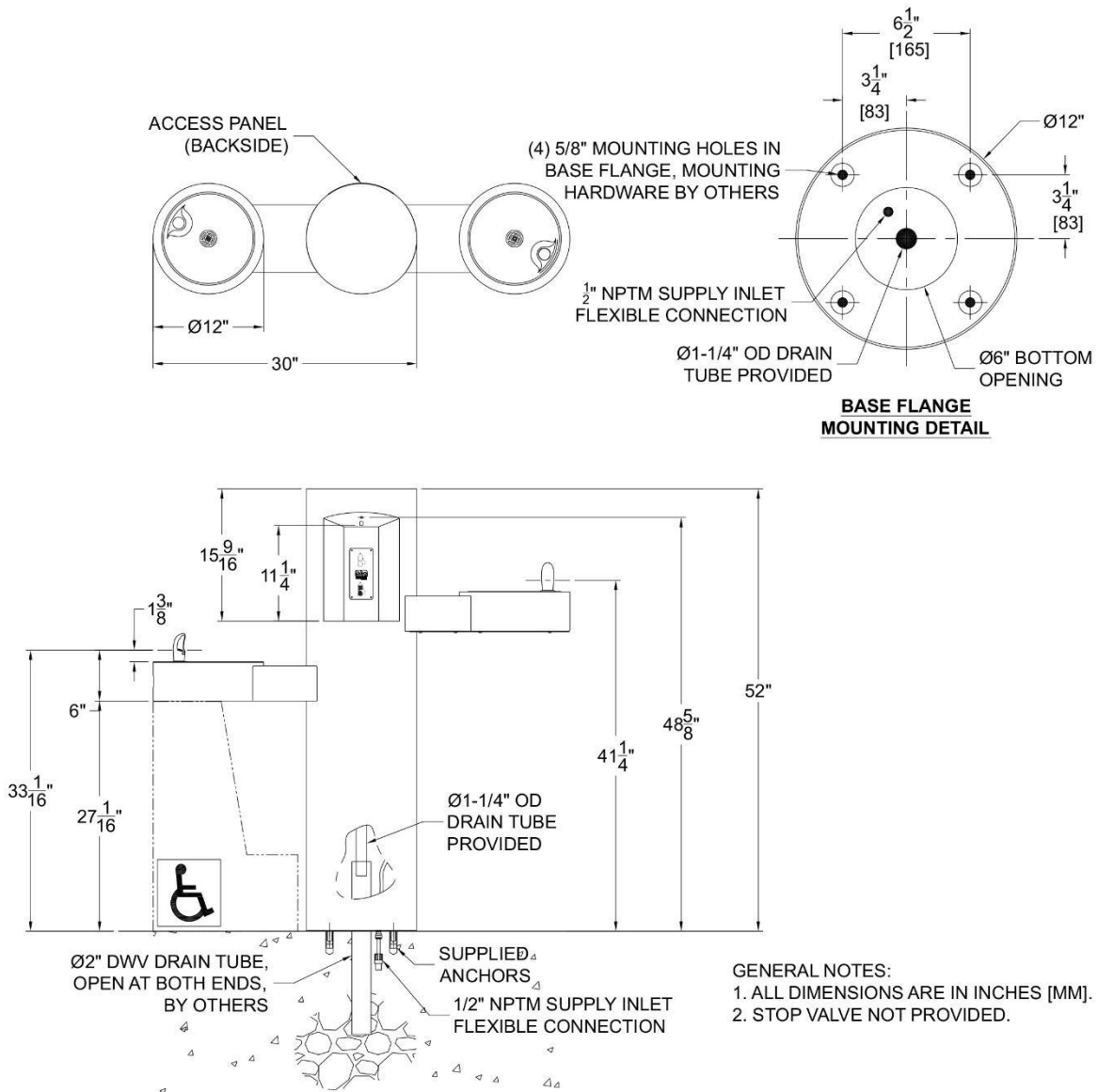


# CONTEMPORARY DRINKING FOUNTAINS

## INSTALLATION/MAINTENANCE INSTRUCTIONS

### GYQ84

#### Rough-In & Installation Information



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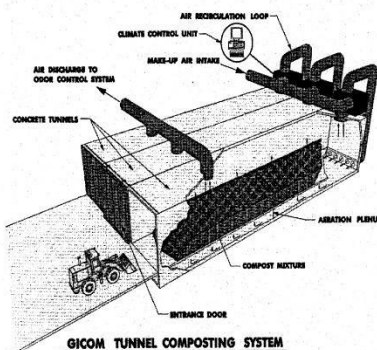
# Hawk Ridge Compost

Unity, Maine



## PRODUCT INFORMATION:

Hawk Ridge Compost is produced at New England's largest compost facility in Unity, ME. The Hawk Ridge Compost Facility uses advanced composting technology (Gicom Tunnel) which produces compost with consistent quality, high organic content, microbial life and valuable slow-release nutrients. With over 1,000,000 cubic yards sold to garden centers, nursery owners, golf courses and athletic field managers, landscapers, and contractors, Hawk Ridge Compost is the leader in the field.



## COMPOST INFORMATION:

- Compost Technology:** In-vessel Tunnel System using Gicom B.V. technology.
- Compost Feed Stocks:** Sawdust, woodchips, compost & municipal biosolids.
- Classifications:** US EPA Class A, exceptional quality compost. Approved for use in ME, NH, MA, VT and CT.
- Services/Support:** On site technical assistance regarding blending ratios, application methods and seeding recommendations. Additional analyses & specifications available.

## USE RECOMMENDATIONS:

- Topsoil Production:** Mix 10-30% Compost uniformly by volume.
- Sand Based Root Zone:** Mix 10-20% Compost with coarse sand by volume.
- Turf Topdressing:** Apply approximately 1/3". Brush/drag Compost into turf. Aerate turf prior to application if possible.
- Planting Beds/Gardens:** Add 10%-30% compost to vegetable, flower and planting gardens. Till compost into top 6" of soil.
- Landscape Mulch:** Apply an even layer approximately 2" deep.

## BEST PRACTICES:

Proper soil and subsoil drainage should be assured prior to determining compost, fertilizer and lime application rates. Compost application rates and soil amendment requirements are influenced by plant selection, soil/media quality, site characteristics, compost attributes and other factors. Have your soil and soil/compost blend tested by a reputable laboratory and review your test results with a trained agricultural/soil professional.

## PRODUCT ANALYSES:

pH	.7.6
Total Kjeldahl Nitrogen	2.2%
Organic N	1.4%
Total Phosphorus	0.7%
Total Potassium	0.3%
C:N ratio	20:1
Organic Matter	80.0%
Density	./+/- 1000lbs/cy
Conductivity	.4.5 mmhos/cm
Particle size	screened <3/8"

Data based on average or representative analyses. This product is not a commercial fertilizer, and any nutrient

"I use earthlife™ compost for clients from Rockland to Kittery. My company prefers Casella Organics products for their excellent results on lawns and flowerbeds. My clients demand beautiful landscapes, earthlife™ products provide the best results."

— Todd Marco  
Gnome Landscaping  
Falmouth, ME

## NATIONAL RECOGNITION:

- 2017 Clean Water Award  
US Composting Council
- 2009 Environmental Management  
System Certification
- 2004 U.S. Composter of Year  
US Composting Council
- 2001 EPA National Biosolids  
Exemplary Management Award
- 2000 Maine Governor's Award for  
Environmental Excellence

Casella Organics, 110 Main Street, Suite 1308, Saco, ME 04072 800-933-6474

Hermon, ME  
800-287-9947

Unity, ME  
800-491-3071

Concord, NH  
603-228-6482

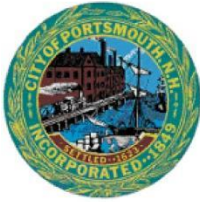
Clifton Park, NY  
518-383-0137

Chateaugay, NY  
518-497-6496



Revised: 3/31/18

[casellaorganics.com/products](http://casellaorganics.com/products)



CITY OF PORTSMOUTH  
DEPARTMENT OF PUBLIC WORKS  
680 PEVERLY HILL RD, PORTSMOUTH NH  
427-1530

**3. Service and Construction Specifications or Rules and Regulations  
(Article 1: Water Ordinance)**

Excavation requirements:

Water Service size of 1" or 1 ½" will be tapped and excavated by Public Works. Services which are 2" and greater will be excavated by contractor and Public Works will provide only the tap.

Service pipe of 4" and greater will consist of Ductile Iron Pipe, service pipe of 2" and less will consist of Copper, or when approved Plastic Pipe.

When relocating a service the abandonment of original service will be performed at the main and by the contractor/owner.

For backfill, there must be 6" of sand for bedding and 1' over.

Covering used must be 6 inch minus and city road specifications for gravels. In addition, fill must be compacted in 1 foot lifts.

When approved for a Plastic Pipe Service, a trace wire and marking tape must be installed.

**4. Service Installation and Inspection**

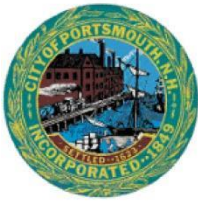
Jason Beevers – Water Foreman, 680 Peverly Hill Rd. (DPW) 603-427-1530

When requesting for inspection, pipe, bedding, connections, and tracer wire when applicable must be visible.

Water Service diameter up to 2" and over 100 feet will be required to perform bacteria and pressure test. In addition, any service pipe over 2" will required bacteria and pressure test.

If inspection is not completed or materials are not exposed during inspection, the contractor will be required to excavate ditch for proper inspection.

A construction supervisor must be present at time of inspection.



CITY OF PORTSMOUTH  
DEPARTMENT OF PUBLIC WORKS  
680 PEVERLY HILL RD, PORTSMOUTH NH  
427-1530

## 5. Meter Installation

Jim Siegel – Meter/Backflow Foreman, 680 Peverly Hill Rd. (DPW) 603-427-1530

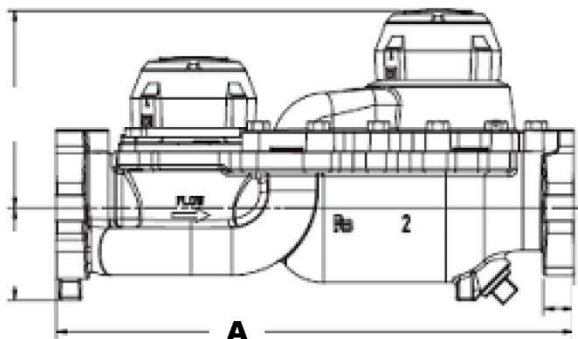
Piping must be already plumbed and ready to accept meter and connection spuds/flanges before scheduling meter installation and account must be established with water billing office (610-7248 or 610-7237). City will supply the meter and connection spuds/flanges (the city does not use meter horns) which the city will bill the owner on first water bill. Meter setting distances are below, and plumber may obtain spuds/flanges prior to meter installation at Department of Public Works.

### METER INFORMATION

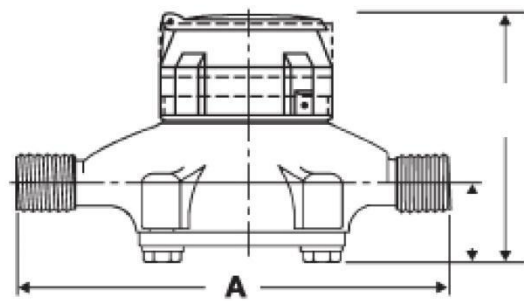
Meter Size – Setting Distance (See (A) in drawing below)

5/8"-----7 1/2"  
3/4"-----9"  
1"-----10 3/4"

1.5"-----13"  
2"-----15 1/4" (Badger)  
3"-----17" (Badger)



LARGE METER SETTING



SMALL METER SETTING



CITY OF PORTSMOUTH  
DEPARTMENT OF PUBLIC WORKS  
680 PEVERLY HILL RD, PORTSMOUTH NH  
427-1530

## METER CONNECTIONS

5/8" x 3/4" and 1"



1-1/2" and 2"



3" and 4"



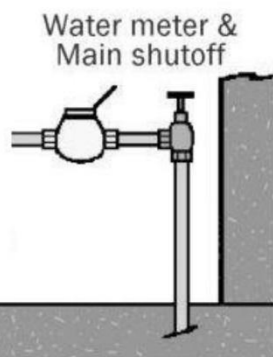
## METER READINESS



NOT READY FOR METER



READY FOR METER



COMPLETED METER INSTALLATION



## APPENDICES

Appendix A – Compliance with Laws and Regulations

Appendix B – Federal Labor Standards Provisions

Appendix C – Applicable Davis-Bacon Wage Rate Decision

## APPENDIX A:

### CITY OF PORTSMOUTH COMMUNITY DEVELOPMENT DEPARTMENT

#### Compliance by Grantee and Any Contractors and Subcontractors with Laws and Regulations

CONTRACTOR and all subcontractors shall comply with the following federal and state laws and all applicable standards, rules, orders, or regulations issued pursuant thereto:

1. The Copeland "Anti-Kickback" Act, as amended (118 USC 874) as supplemented in Department of Labor regulations (41 CFR Chapter 60).
2. Nondiscrimination, Title VI of the Civil Rights Act of 1974 (PL 88- 352), as amended, (42 USC 2000d) the Fair Housing Act of 1968 (PL 90-284), Executive Orders 11063 and 12259, and the requirements imposed by the Regulations of the Department of Housing and Urban Development (24 CFR 107 and 24 CFR 570.496) issued pursuant to that Title.
3. Labor Standards. Contract Work Hours and Safety Standards Act (40 USC 327-333).
4. The Flood Disaster Protection Act of 1973 (PL 93-234), as amended, regulations issued pursuant to that act, and Executive Order 11985.
5. Architectural Barriers Act (PL 90-480), 42 USC 4151, as amended, and the regulations issued or to be issued thereunder, including uniform accessibility standards (24 CFR 40) for public buildings with 15 or more residential units. RSA 275-C:10 and the New Hampshire Architectural Barrier Free Design Code (Han 100, et. seq.) also apply.
6. Rehabilitation Act of 1973, 29 USC 794, Sections 503 and 504, Executive Order 11914 and U.S. Department of Labor regulations issued pursuant thereto.
7. The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (PL 91-646), as amended, 15 CFR Part 916 including amendments thereto and regulations thereunder.
8. The National Environmental Policy Act of 1969 (PL 90-190); the National Historic Preservation Act of 1966 (80 Stat 915, 116 USC 470); and Executive Order No. 11593 of May 31, 1971, as specified in 24 CFR 58.
9. The Clean Air Act, as Amended, 42 USC 1857 et seq., the Federal Water Pollution Control Act, as amended, 33 USC 1251 et seq. and the regulations of the Environmental Protection Agency with respect thereto, at 40 CFR Part 15, as amended from time to time.
10. RSA 354 and rules of the New Hampshire Human Rights Commission (HUM 100, et. seq.) on discrimination in employment, membership, accommodations, and housing.
11. The Age Discrimination Act of 1975 as amended (42 USC 6101, et. seq.) and implementing regulations.
12. The lead paint requirements (24 CFR 35) of The Lead-Based Paint Poisoning Prevention Act (42 USC 4821, et. seq.).

13. The NH State Energy Code (RSA 155-D).
14. The NH State Life Safety Code (RSA 155:1) and rules of the NH State Fire Marshall.
15. Citizen Participation Requirements. The 1987 amendments to the Housing and Community Development Act of 1974, stated in Section 508.
16. Affirmative Action Requirements.
17. Section 3 of the Housing and Urban Development Act of 1968 (12 USC 1701u) as amended by the Housing and Community Development Act of 1992 (42 USC 5301).
18. In addition to other provisions required by the Federal agency or non-Federal entity, all contracts made by the non-Federal entity under the Federal award must contain provisions covering the following, as applicable. **[APPENDIX II TO PART 200—CONTRACT PROVISIONS FOR NON-FEDERAL ENTITY CONTRACTS UNDER FEDERAL AWARDS]**

(A) Contracts for more than the simplified acquisition threshold currently set at \$150,000, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.

(B) All contracts in excess of \$10,000 must address termination for cause and for convenience by the non-Federal entity including the manner by which it will be effected and the basis for settlement.

(C) Equal Employment Opportunity. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of “federally assisted construction contract” in 41 CFR Part 60-1.3 must include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, “Equal Employment Opportunity” (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity,” and implementing regulations at 41 CFR part 60, “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor.”

(D) Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of \$2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, “Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction”) (see Attachment B). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination (see Attachment C, Wage Rate Decision). The non-Federal entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance with the Copeland “Anti-Kickback” Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, “Contractors and

Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States”). The Act provides that each contractor or CONTRACTOR must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.

(E) Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, all contracts awarded by the non-Federal entity in excess of \$100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

(F) Rights to Inventions Made Under a Contract or Agreement. If the Federal award meets the definition of “funding agreement” under 37 CFR §401.2 (a) and the recipient or CONTRACTOR wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that “funding agreement,” the recipient or CONTRACTOR must comply with the requirements of 37 CFR Part 401, “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements,” and any implementing regulations issued by the awarding agency.

(G) Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended—Contracts and subgrants of amounts in excess of \$150,000 must contain a provision that requires the non-Federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

(H) Debarment and Suspension (Executive Orders 12549 and 12689)—A contract award (see 2 CFR 180.220) must not be made to parties listed on the government wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), “Debarment and Suspension.” SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

(I) Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)—Contractors that apply or bid for an award exceeding \$100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a

member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.

(J) See §200.322 Procurement of recovered materials.

[78 FR 78608, Dec. 26, 2013, as amended at 79 FR 75888, Dec. 19, 2014]

**APPENDIX B:**  
**Federal Labor Standards Provisions**

See next page.

## Federal Labor Standards Provisions

## U.S. Department of Housing and Urban Development Office of Labor Relations

### Applicability

The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

**A. 1. (i) Minimum Wages.** All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible, place where it can be easily seen by the workers.

(ii) (a) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(b) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)

(c) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(d) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii)(b) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part

of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

**2. Withholding.** HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work, all or part of the wages required by the contract, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the contractor, disburse such amounts withheld for and on account of the contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

**3. (i) Payrolls and basic records.** Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section I(b)(2)(B) of the Davis-bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section I(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been

communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017.)

**(ii) (a)** The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i) except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this subparagraph for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to HUD or its designee. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149.)

**(b)** Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

**(1)** That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5 (a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;



(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph A.3.(ii)(b).

(d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under subparagraph A.3.(i) available for inspection, copying, or transcription by authorized representatives of HUD or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### **4. Apprentices and Trainees.**

(i) **Apprentices.** Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who

is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) **Trainees.** Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by

the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) **Equal employment opportunity.** The utilization of apprentices, trainees and journeymen under 29 CFR Part 5 shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract

**6. Subcontracts.** The contractor or subcontractor will insert in any subcontracts the clauses contained in subparagraphs 1 through 11 in this paragraph A and such other clauses as HUD or its designee may by appropriate instructions require, and a copy of the applicable prevailing wage decision, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this paragraph.

**7. Contract termination; debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act Requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.

**10. (i) Certification of Eligibility.** By entering into this contract the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be

awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1 01 0, Title 18, U.S.C., "Federal Housing Administration transactions", provides in part: "Whoever, for the purpose of . . . influencing in any way the action of such Administration..... makes, utters or publishes any statement knowing the same to be false..... shall be fined not more than \$5,000 or imprisoned not more than two years, or both."

**11. Complaints, Proceedings, or Testimony by Employees.** No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

**B. Contract Work Hours and Safety Standards Act.** The provisions of this paragraph B are applicable where the amount of the prime contract exceeds \$100,000. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

**(1) Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

**(2) Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (1) of this paragraph, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in subparagraph (1) of this paragraph.

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**(3) Withholding for unpaid wages and liquidated damages.** HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contract, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act which is held by the same prime contractor such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (2) of this paragraph.

**(4) Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

**C. Health and Safety.** The provisions of this paragraph C are applicable where the amount of the prime contract exceeds \$100,000.

**(1)** No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

**(2)** The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, (Public Law 91-54, 83 Stat 96). 40 USC 3701 et seq.

**(3)** The contractor shall include the provisions of this paragraph in every subcontract so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontractor as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

## APPENDIX C:

### Applicable Davis-Bacon Wage Rate Decision

General Decision Number: NH190025 01/25/2019 NH25

Superseded General Decision Number: NH20180045

State: New Hampshire

Construction Type: Heavy

County: Rockingham County in New Hampshire.

#### HEAVY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/04/2019
1	01/25/2019

\* ELEC0490-008 01/01/2019

	Rates	Fringes
ELECTRICIAN.....	\$ 29.45	20.03

IRON0007-039 09/16/2018

	Rates	Fringes
IRONWORKER (Reinforcing and Structural).....	\$ 25.71	22.12

PLUM0131-005 06/01/2018

	Rates	Fringes
PIPEFITTER.....	\$ 32.97	22.73

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SUNH2015-011 06/16/2017

	Rates	Fringes
CARPENTER, Includes Form Work....	\$ 28.17	8.09
CEMENT MASON/CONCRETE FINISHER...	\$ 25.49	18.11
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor.....	\$ 23.70	1.54
LABORER: Common or General.....	\$ 18.61	4.49
LABORER: Pipelayer.....	\$ 30.35	17.03
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 28.51	10.16
OPERATOR: Bulldozer.....	\$ 21.70	4.09
OPERATOR: Crane.....	\$ 29.91	6.60
OPERATOR: Drill.....	\$ 28.78	15.26
OPERATOR: Loader.....	\$ 30.49	19.06
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 27.10	5.69
OPERATOR: Roller.....	\$ 23.02	4.52
PAINTER (Brush and Roller).....	\$ 33.55	19.15
TRAFFIC CONTROL: Flagger.....	\$ 17.24	1.54
TRUCK DRIVER: Dump Truck.....	\$ 19.02	5.73

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

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

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

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

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

#### Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

#### Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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WAGE DETERMINATION APPEALS PROCESS

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

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

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

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator  
(See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

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

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

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

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

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION