



CITY OF PROVIDENCE, RHODE ISLAND

**Department: Parks**

**RFP Title: Cunliff Lake Boardwalk at Roger Williams Park**

**Opening Date: 05/05/2025**

**Addendum #: 3**

**Issue Date: 04/28/2025**

The purpose of this addendum is:

Answers to questions within the RFP



WENDY NILSSON  
Superintendent of Parks

BRETT P. SMILEY  
Mayor

### **Addendum # 3**

#### **CUNLIFF LAKE BOARDWALK AT ROGER WILLIAMS PARK**

**APRIL 28, 2025**

**Total Pages Including Cover (22 Pages)**

***Acknowledge Addenda on Bid Form***

**\*\* BID DUE DATE HAS BEEN EXTENDED UNTIL MONDAY, MAY 5, 2025 AT 2:15PM \*\***

#### **Attachments:**

1. Addendum Cover Sheet (3 pages)
2. Updated Specification 31 62 23 – Composite Piles (15 pages)
3. Freshwater Wetlands Permit (4 pages)

#### **Questions/Clarifications:**

- 1.) **Q:** Specification 316223 Section 3.3/B states all obstructions encountered during pile installation are the responsibility of the contractor. If encountered, the size and depth of obstructions may result in costly and invasive means to remove and clear for pile installation. As no information on possible obstructions or limitations on removal is provided, would the owner allow for a separate obstruction removal item?  
**A:** Pile Obstructions shall be accounted for in the Allowance Line Item on the Bid Form.
- 2.) **Q:** Will an updated bid sheet be provided to reflect the added payment items referenced in Spec 316223 section 1.10/H?  
**A:** This article has been removed and references the Bid Form.
- 3.) **Q:** Spec 316223 Section 1.2/A references using fixed leads with vibratory hammer for pile installation. Will industry standard practice of using vibratory hammer with no leads and falsework be permitted in lieu of fixed leads?  
**A:** Yes, industry standard practice of vibratory hammer and falsework is permitted. The Specification 31 62 23 has been updated and provided

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- 4.) **Q:** Spec 316223 Part 3 Section 3.2/b references “Piles shall be driven to final driving resistance with a hydraulic hammer”. Additionally, Section 1.2/A references final pile lengths based on drive depths of 15-30ft. Is the intent for the piles to be driven to a specified tip elevation or design capacity? Are piles to be vibrated and driven with hydraulic hammer or vibrated only?  
**A:** See the amended Specification 31 62 23 for updated estimated pile lengths. Piles shall be driven to a specified tip elevation. FRP Piles are to be vibrated only.
- 5.) **Q:** Specifications reference a test pile program to confirm adequate Tip EL’s to achieve design loading. Please confirm test pile program will be utilized to determine Plan Tip EL’s and pile lengths used for base bid. Also, please confirm upon completion of test pile program, the specified pile tip elevation will be the only pile acceptance criteria.  
**A:** Test pile program will be used to confirm final design tip elevations. Additionally, for production piles, the pile tip elevation will be the criteria for determining acceptable pile installation.
- 6.) **Q:** In consideration of above questions #4/#5, would an extension of bid deadline be allowed as additional information will need to be obtained depending on the answers to the above questions?  
**A:** The bid due date remains Monday May 5, 2025 at 2:15 PM.
- 7.) **Q:** Please confirm coating system for FRP piles is intended to be the pile manufacturer recommended coating system and separate coating specifications will not be included in bid documents.  
**A:** The coating system for the FRP piles will be per the manufacturer’s recommended coating system. A separate coating specification will not be included in the bid documents.
- 8.) **Q:** Spec 316223 Section 1.5/D references mill certificate submittals for all FRP piles. Please provide list of intended testing and certification required for FRP piles as the manufacturer has indicated these may result in added costs and are not typical submittals for FRP piles.  
**A:** A mill certificate is not required for FRP piles. A product data sheet will be required upon delivery of the pile material.
- 9.) **Q:** Please confirm if a certified letter from FRP piles manufacturer is sufficient for FRP pile certification.  
**A:** Yes, also see response to Question 8.
- 10.) **Q:** Spec 316223 Section 1.5/A references all submittals to be stamped by registered RI PE. Please confirm, that this requirement only applies to specific plans such as pick plans, testing program, etc.. and not for standard submittals such as data sheets, site plans, etc.



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**A:** Submittals to be stamped by a registered RI PE are limited to pick plans, testing program, etc. and not for standard product data sheets or site plans.

11.) **Q:** Please confirm road may be closed extended periods to allow for crane setup during both test pile program and production pile installation.

**A:** Yes temporary road closures will be allowed for crane setup and material deliveries, but all closures will need to be reviewed and approved by Providence Parks and may be limited to work hours only.

12.) **Q:** Drawing C3.0 says Sheet C5.1 but there is no Sheet C5.1 in the bid set. Can the Engineer please clarify?

**A:** Addendum 2 drawings no longer reference the detail on Sheet C5.1; there is no Sheet C5.1 in Addendum 2 drawings set.

13.) **Q:** The specifications do not call out a preferred vendor. After checking the NRMCA website the closest Certified installer is in Maryland. Cape Cod Ready Mix also has Perk-Crete a pervious concrete but will not deliver to Providence, RI. Does the Engineer have a recommendation for a Pervious Concrete Vendor in the Rhode Island/Massachusetts area?

**A:** Local concrete vendors can provide the porous concrete required based on a proper mix design for porous concrete. The contractor should provide a sample pour prior to acceptance.



## SECTION 31 62 23 - COMPOSITE PILES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.
- B. Examine all Drawings and all other Sections of the Specifications for requirements therein affecting the work of this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

#### 1.2 DESCRIPTION OF WORK

##### A. General

1. The work covered by this Section, without limiting the generality thereof, consists of furnishing all labor, equipment, and materials, and performing all operations in connection with the furnishing and installing at the locations and to the lines and grades shown on the Drawings, including installation in the sequence required by this specification:
2. Composite pipe piles driven to ~~15~~—30 feet below the top of pile caps (final pile length is location dependent). The composite piles have been designed to have an allowable vertical compressive capacity of 24 kips applied at the top of pile.
3. Prior to production pile installation, a static load test shall be performed on a ~~test~~production pile (~~sacrificial~~) to determine verify the pile can support the anticipated loads. A verification load test shall occur on one (1) pile ~~on site~~.
4. A vibratory hammer shall be utilized to continuously drive the pile, using ~~false work~~xed leads.
5. The Contractor shall submit for approval the proposed methods and equipment for installing production piles.
6. Pile splices shall not be allowed.
7. The Contractor may elect to perform near surface pre-excavation and/or probing or spudding through the entire fill thickness at pile locations.
8. The Contractor shall manage any soil, fill, drilling fluids or muds in accordance with Section
9. Cutting-off of pile stick-ups to achieve the design cutoff elevation, following installation of piles to the bearing stratum and to the approved driving criteria, and removal from the site.



10. Provide and maintain survey control for layout of design pile locations, pile heave measurement, preparation of as-built sketches, and related survey control work.
11. Perform and sequence work and maintain equipment in good condition to minimize noise and vibration caused by pile installation activities.

B. Related Sections

1. Section 03 20 00 – Concrete Reinforcing
2. Section 03 30 00 – Cast-in-Place Concrete

1.3 DEFINITIONS AND REFERENCE STANDARDS

- A. Owner: City of Providence Parks Department.
- B. Engineer: The Engineer is Pare Corporation, also referred to as the Designer.
- C. Contractor: The Contractor is the person or organization identified in the Agreement as being responsible for the work under this Section. The term Contractor shall also refer to an authorized representative of the Contractor.
- D. ASTM: Specifications of the American Society for Testing and Materials.
- E. AWS: Standard Code for Welding in Building Construction, of the American Welding Society.
- F. AISC: Specification of the American Institute of Steel Construction.
- G. Code: Rhode Island State Building Code.

1.4 QUALITY ASSURANCE

- A. Comply with all rules, regulations, laws and ordinances of the Rhode Island Department of Public Safety, City of Providence, State, Federal, and all other authorities having jurisdiction over the project site. All labor, materials, equipment and services necessary to make the work comply with such requirements shall be provided by the Contractor without additional cost to the Owner.
- B. Field Monitoring and Testing
  1. Full-time monitoring of pile driving operations will be provided by the Owner. No piles shall be driven except in the presence of an authorized representative of the Engineer.
  2. ~~Certification of quality of pile materials to be used in the work shall be furnished, in a form acceptable to the Engineer, at the time of delivery of materials to the site.~~ Pile



materials shall also be subject to on-site observation for conformance with specifications.

3. Approvals given by the Engineer or by testing agencies shall not relieve the Contractor of his responsibility for performing the work in accordance with the Contract Documents.

## 1.5 SUBMITTALS

### A. General:

1. The Contractor shall conform to all submittal requirements of the Contract including submitting the information specified herein to the Engineer for review. All submittals shall be stamped by a Professional Engineer registered in the state of Rhode Island.
2. The Contractor shall adhere to the Submittal Schedule described in the Contract General Conditions and herein. The Contractor shall make every effort for timely submissions, leaving adequate time for the Owner's Representative to review, evaluate and respond to the Contractor. The Contractor is responsible for scheduling specified submittals and re-submittals so as to prevent delays in the Work.
3. The Contractor shall submit a driving plan and schedule for installation of the piles.
4. Unless otherwise noted, the Contractor shall forward submittals to the Owner's Representative a minimum of two weeks prior to any planned Work related to the Contractor's submittals. No Work shall be started until the necessary review and approvals have been given.

### B. Shop Drawings:

1. Shop drawings showing sizes, tip or stinger details, pick up points and other items pertinent to pile manufacturing, design and handling. Drawings shall be stamped by a Registered Professional Engineer.
2. A scaled drawing indicating design pile locations relative to boardwalk column lines, with each pile labeled with a sequential designation proposed by the Contractor, scale 1 in. = 20 ft.
3. Shop drawings showing proposed static pile load test setup including details of all equipment and apparatus to be used for the static load test.

### C. Pile Driving and Static Load Test Equipment:

1. Manufacturer's literature, including technical and performance literature for pile driving hammer, cushions, and other equipment for piles.
2. Details of equipment and procedures for pre-auguring, pre-excavation or spudding.
3. If a static pile load test is required –
  - a. The static load test pressure gauge and hydraulic jack shall be calibrated within 30 days prior to the load test as a unit by an approved testing agency. A certificate



of the calibration record shall be submitted to the Owner's Representative at least five days prior to the set-up of a load test.

- b. Calibration certificates shall be supplied for the dial gauges (or other measuring devices).

D. Pile Design:

~~1. Pearson Pilings, 177 Riverside Avenue, Somerset, MA 02725 or approved equal composite pile manufacturer/supplier.~~

- ~~1.~~
2. The manufacturer will provide product data sheets for the FRP piles that includes mechanical properties derived through laboratory and field testing. ~~With each delivery of composite piling, mill certificates containing results of material tests conducted by a certified laboratory. No piles will be accepted unless accompanied with delivery by mill certificates.~~

E. Estimated Pile Lengths:

1. A tabular summary of anticipated pile lengths at each column location or other point of structure support.
2. Pile designation plan showing piles numbered sequentially (i.e., 1,2,3).

F. As-Driven Pile Location Data:

1. Submit sketch and tabular documentation of actual pile location in relation to the design location within one working day after each individual pile or pile cluster is completed.
2. Within seven days after the completion of all pile driving, submit to the Owner a final as-driven pile location drawing (1 in. = 20 ft), certified by a Registered Land Surveyor or Registered Professional Engineer.
3. All drawings and sketches shall include the following:
  - a. Column lines, north arrow and graphical scale.
  - b. Each pile identified by a separate number, designated by the Contractor and submitted prior to pile driving.
  - c. Elevation of each top of pile prior to and after cutting, to nearest one-tenth (0.1) foot.
  - d. Deviation in inches, to the nearest one-fourth (0.25) inch, from plan design location at cutoff elevation.

## 1.6 JOB CONDITIONS

A. Site and Subsurface Conditions





1. Subsurface information representing surficial geology can be found in Appendix C of the most recent Specifications. Prior to submitting his bid, the Contractor shall review and understand the information. The information is made available to the Contractor for information on factual data only and shall not be interpreted as a warranty of subsurface conditions whether interpreted from written text, boring logs, or other data.
2. The boring information is considered to represent the conditions at the locations of the test borings and at the time the test borings were made. Variations from the conditions disclosed by the borings should be anticipated by the Contractor in planning and estimating the work.
3. The Contractor shall protect adjacent property, utilities, tunnels, buildings and structures, and completed work from damage associated with the pile driving operation. Damage due to pile driving shall be repaired by the Contractor at his own expense.

#### 1.7 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. The Contractor shall deliver piles at times and in sequence to assure continuity of pile driving.
- B. Piles shall be handled, transported, stacked and protected to prevent damage.
- C. Lifting points shall be clearly marked on the piles by the manufacturer, and all handling and storage shall be undertaken with consideration for required support.
- D. Piles shall be picked up into fixed leads at the top of the boom and to the crane at the bottom. No swinging leads are to be permitted.
- E. Piles shall be clearly marked with the length of the pile prior to delivery.

#### 1.8 LINES AND GRADES

- A. The Contractor shall stake the pile locations and establish all elevations required. The Contractor shall be responsible for the maintenance and protection of the control point and benchmark, and all pile location stakes.
- B. The Contractor shall employ a licensed Registered Land Surveyor or a Registered Civil Engineer, familiar with pile installation, who shall establish lines and levels. The Contractor shall be responsible for the correct location of piles, as well as keeping up-to-date records of the amount of uplift of individual piles, and establishing actual pile locations. Locations of the centers of as-driven piles shall be shown on a drawing in relation to the design location and submitted to the Engineer within 2 days after the individual pile or pile group is completed. Drawings shall include the following:



1. Column lines and north arrow.
  2. Each pile identified by a separate number.
  3. Elevation referenced to North American Vertical Datum of 1988 (NAVD 88) of each top of pile prior to cutting, to nearest 0.1 ft.
  4. Deviation in inches, to the nearest ¼ in., from plan location at cutoff elevation.
- C. Within 2 weeks after the completion of all pile driving, the Contractor shall provide for the Engineer a plan, certified by said Surveyor or Engineer, showing the as-driven location of all piles.

## PART 2 - PRODUCTS

### 2.1 GENERAL

- A. Pile types and minimum dimensions shall be sufficient for static design capacity indicated on the Drawings and in accordance with the requirements herein and the Code. Whereas the allowable pile load capacity would equal the static design capacity.
- B. Pile materials shall be new and of uniform quality. Manufactured or assembled pile materials shall be of sufficient strength and rigidity to withstand all handling and driving stresses.
- C. Piles shall be furnished in sufficient lengths to meet specified driving and all other requirements.

### 2.2 COMPOSITE PILES

- A. Fiber reinforced polymer (FRP) composite piles shall be manufactured by the vacuum infusion molding process (VARTM).
  1. The tolerance of the outside diameter shall be plus or minus 3/8”.
  2. The exterior surface shall be Quantum EMC Polyurethane topcoat or equal, a hydrolytically stable, ultraviolet light resistant paint system.
  3. Materials:
    - a. Crimp fabric – glass fibers shall be e-glass (electrical grade) with filament diameters between 18 and 26 microns. The glass fabric shall have a minimum dry weight of 123 oz. per square yard per ply. All layers in each ply shall be needled together with through-the-thickness glass fibers (z-axis) thus comprising a three-dimensional fiber architecture. Each ply shall consist of a minimum 50% axial glass fibers.
    - b. Non-crimp fabric – The NCF fabric consists of one or more layers of long fibers, held in place by a secondary non-structural head. Filament diameters range from



17 to 25 microns. Each ply shall have a minimum areal weight of eighty-one point two five ounces per square yard (81.25 oz/CY).

- B. Mechanical Properties – shall be characteristic values in accordance with ASTM D7290 and be established by full scale flexural testing per ASTM D6109.

12” O.D. x 0.375” WT			
Property	Test Method	Value	Tolerance
Bending Stiffness (EI) (psi)	ASTM 6109	1.06 x 10 <sup>9</sup>	±10%
Characteristic Bending Moment (ft-kips) (assuming a factory of safety = 2)	ASTM 6109	78	minimum

- C. Dimensions & Tolerances

Design Dimensional Tolerances		
Measurement	Value	Tolerance
Outside Diameter (in.)	12.0	±3/8
Wall Thickness(in.)	0.375	±0.0625
Length (in.)	Per Contract Plans	±2.0
Weight (lbs/ft)	107	±5%

- D. Composite pile sections shall be used as shown on the plans.
- E. Deformations, defects, camber, sweep of piles placed in the leads of pile driving rigs shall be no more than allowed by ASTM A50.



- F. Piles shall be furnished in sufficient lengths to meet specified driving requirements.
- G. Once the piles have been driven to their required penetration depth corresponding to a predetermined ultimate capacity, sand shall be dumped into the pile up to a elevation corresponding to 5 ft below top of pile. The top 5 ft of the pile will be filled with concrete so pile caps can be fastened to the top of pile.

### PART 3 - EXECUTION

#### 3.1 SEQUENCE OF OPERATIONS AND EQUIPMENT REQUIREMENTS

- A. The Contractor shall provide at least one fully equipped pile-driving rig in full-time operation at the site during the work, and shall mobilize additional equipment, if necessary, to complete the work on schedule.
- B. The Contractor's attention is initially directed to the requirements of the static load test program. No production piles, other than the test piles, will be driven until the testing is completed and evaluated with satisfactory results.
- C. The Contractor shall coordinate his pile driving operations with other work on the project.

#### 3.2 EQUIPMENT

- A. Piles may initially be installed with a vibratory hammer to the bearing stratum. The proposed pile installation equipment and methods shall be subject to the approval of the Engineer and approval shall be secured before the start of installation.
- B. Piles shall be driven to final driving resistance with a hydraulic hammer able to deliver a variable amount of energy to the top of the pile. When the determination of the final driving resistance is being made, the hammer shall be operated at its rated speed and capacity.
- C. Hammers used to drive permanent piles shall be of the same type and have the same rated energy as the hammer used to drive test piles for the pile load test program.
- D. The use of followers will not be permitted.

#### 3.3 INSTALLATION

- A. Coatings
  - 1. Application of pile coatings shall follow manufacturer recommendations.
  - 2. The coating shall be completely cured before driving operations.



3. Sagging and fish eyeing of the coating will be grounds for rejection by the Engineer. The applicator shall take all precautions to apply an even, defect free coating.
4. Once the coating has been applied, the Contractor shall not drag the piles on the ground during handling.
5. If during storage, hauling, handling, or driving, the coating is damaged or removed from the pilings in excess of 1 square foot or greater than 5 linear feet, the Contractor shall reapply the coating according to manufacturers' recommendations.

**B. Obstruction Removal**

1. It shall be the Contractor's responsibility to overcome obstructions.
2. Where obstructions make it impossible to install certain piles to the required depth, the Contractor shall remove or clear the obstruction by spudding or other technique selected by the Contractor and at their own expense. Obstructions are the responsibility of the Contractor.
3. Piles abandoned because of obstructions encountered shall be pulled out and the hole filled with sand.

**C. Driving**

1. As part of preparation for driving, each pile shall be marked at 1-ft intervals along the entire pile length. In addition, the footage shall be marked and designated at 5-ft intervals, starting from the tip of the pile.
2. All piles shall be driven at the locations and orientations shown on the Drawings. Pile location and orientation shall be checked during driving and appropriate measures taken, as necessary, to maintain the correct pile position.
3. Each pile shall be driven to bearing in compression.
4. Immediately after a pile is driven, the Contractor shall establish a reference point and its elevation on the pile for the purpose of checking uplift of the pile tip.
5. After all piles within the radius of uplift have been driven, the Contractor shall determine the elevation of the reference points on each of the piles in the group. If uplift of 0.04 ft or more has occurred, the pile shall be redriven to its original elevation, and deeper if necessary. After redriving each pile, the Contractor shall re-establish the elevation of the reference point. Redriving shall be repeated as often as necessary until the measured uplift on any pile is less than 0.04 ft.
6. The radius of uplift is defined as the maximum distance between piles such that pile driving causes uplift of 0.04 ft or more in the affected pile. Survey instruments used to establish the reference elevations shall be carefully checked and adjusted as necessary to insure accurate readings. Uplift measurements shall be submitted to the Engineer.

**D. Cutting Off Piles**

1. Pile tops shall be cut off square within 1 in. of the elevations shown on the drawings. The pile cutoffs shall become the property of the Contractor and shall be removed from the site.



### 3.4 TOLERANCES AND CRITERIA FOR ACCEPTANCE

- A. A maximum lateral deviation from the correct location at cutoff elevation permitted will be 3 in., as measured at the cutoff elevation. A maximum deviation from design cutoff elevation equal to 1 in. will be permitted.
- B. The plumbness of a driven pile, as measured on the projection of the pile above ground, shall not deviate by greater than 5 percent from the design alignment.
- C. Piles that are damaged below cutoff elevation during driving will be rejected. Upon comparing pile performance during driving with that of other driven piles, and based on their knowledge of subsurface conditions, the Engineer determines that a pile has been unacceptably damaged, they may reject the pile.
- D. Piles indicating sudden or peculiar decrease in penetration resistance during driving will be assumed to be broken and will be rejected unless the Engineer's review of available data indicates that sudden decrease in driving resistance is due to natural, subsurface conditions and continued acceptable driving behavior is observed.
- E. Piles that are rejected because of damage, mislocation or misalignment, or failure to meet the driving criteria, shall be cut off below the limits of the structure and abandoned, and additional piles shall be driven as directed by the Engineer.
- F. When otherwise acceptable, installed piles exceed the specified tolerances, the Contractor shall provide an accurate survey to the Engineer, as specified. The Engineer will then analytically determine the total loads on individual piles, based on this survey. If the load on any pile exceeds 110 percent of the specified load capacity, corrections shall be made in accordance with a design provided by the Engineer.
- G. The installation of replacement piles and other corrective measures shall in all cases be in accordance with designs provided by the Engineer.

### 3.5 STATIC PILE LOAD TESTING

- A. General
  - 1. A compression load test shall be conducted in accordance with the Rhode Island State Building Code.
  - 2. One pile shall be successfully load tested before driving any production piles.
  - 3. The Contractor shall provide all labor, materials and equipment required to set up the load test, and shall provide qualified personnel during the entire test, to operate the hydraulic jack and all equipment necessary to vary load increments on the test pile. The Geotechnical Engineer will provide personnel and special instrumentation required to monitor the pile performance.



4. The test pile shall be installed by the specified methods and equipment specified for production piles and shall be load tested to at least ~~200~~30% of the ultimate compressive design capacity.
5. The load test will be conducted on a pile selected by the Geotechnical Engineer.
6. Load testing shall be completed and accepted before remaining piles are installed. The Contractor should anticipate a period of at least 7 days between the completion of the successful load test and receipt of notice to proceed with production pile installation.
7. Load testing shall conform to the requirements set forth in this Specification, the Code, and ASTM D1143 - Standard Test Method for Piles under Static Axial Compressive Load.

B. Pile instrumentation

1. The Contractor shall furnish the instrumentation to monitor load and settlement data. The Geotechnical Engineer will install the instrumentation and observe and record load and settlement data and will provide personnel for this purpose. The Contractor shall cooperate with the Engineer during set-up and monitoring of the load test.

C. Test Procedure

1. The Contractor is solely responsible for conducting the test(s) in accordance with these specifications.
2. The load test shall begin no earlier than 10 working days after test pile installation.
3. Load shall be applied to the test pile by means of a hydraulic jack which reacts against a system of hold-down piles, or against a loaded box or test platform, which is supported by cribbing or temporary piles. The cribbing or pile support shall not be closer than 10 ft to the test pile. The load box or platform shall be centered on the test pile and loaded with approved material.
4. The hydraulic jack shall be of an approved make with a capacity of at least 1000-tons and a minimum travel distance of 6 in.
5. The top of the test pile shall be level and capped with a ½-in. thick plate equal to the area of the pile and fully welded to the web and flanges in such a manner as to produce a plane horizontal bearing surface. A steel billet shall be set on top of the pile to distribute the test load over the entire cross-section area of the test pile.
6. The hydraulic jack shall be interposed between the steel billet and the center of the underside of the reaction beam. The Contractor shall provide a total of 19 in. of clearance between the top of the ram and the underside of the reaction beam (or billet) for the placement of a load cell and "ball and socket" plate. A steel billet of suitable dimensions shall be centered on the load cell to distribute the load to the girder, or reaction beam. The connections of the girder to the load box and to the hydraulic jack shall be tight when the test load is applied.
7. As necessary to permit measurements, Contractor shall provide a load transfer assembly for the test. Assembly shall have capacity to transfer the maximum (twice design) test load from jack to top of pile. Load transfer assembly shall have a minimum of 16-in. square bearing plates top and bottom. The assembly shall be accessible to



- permit micrometer measurements to be made by hand on telltale rods inserted in the pile, as required.
8. The Contractor will furnish and install micrometer dial indicators, each having a minimum range of 2 in. and graduated to 0.001-in. divisions. They shall be spaced equally around the pile and at the telltale locations, and provisions shall be made for free vertical movement should it become necessary to reset the micrometer dials.
  9. Micrometer dials will be mounted by the Engineer to one or more steel reference beams provided by the Contractor. The beam(s) shall be rigid and supported by helical piles driven at least 10 ft below the bottom of any organic soils, and to such depths as may be required by the Engineer, at a distance of at least 10 ft from the center of the test pile and at least 6 ft from cribbing or temporary pile supports. The reference beams shall be fixed at one end and shall be free to move horizontally at the other end to allow for expansion and contraction of the reference beam without vertical deflection at points where dials are mounted. Wood or other materials subject to variations in moisture content shall not be used in reference beams, crossbeams, shims, or for any other means of dial support.
  10. The Engineer will also establish reference points on the pile and on each end, or at the center, of the reference beam supporting the micrometer dials. Elevations will be taken on these reference points by the Engineer using a level and rod, and a reliable benchmark installed on the site by the Owner.
  11. In addition to micrometer dials and level readings, settlement of the test pile shall be determined by the Engineer by means of a taut piano wire drawn across the face of a mirror-mounted graduated scale. The scale shall be 6 in. in length, machine divided to 1/50 (0.02) in. and mounted to a new mirror 3 in. by 6 in. with metal and glass bonding adhesive or plastic electric tape. The mirror shall be mounted directly upon the test pile where feasible, or upon the hydraulic jack, or ram by the Engineer, and oriented such that the face is parallel with the reference wire and support cross beams. Space shall be provided such that the scale can be read on a horizontal line of sight. The piano wire shall be mounted between the ends of the micrometer dial support beam, fixed at one end and threaded over a smooth pulley at the other end with about a 5-pound weight to maintain uniform tension. The wire shall be level and within 3/4 in. of the mirror.
  12. The Contractor shall protect the entire measuring apparatus against rain, wind, direct sunlight, frost and any other disturbances that may affect the reliability of the settlement observations. The Contractor shall provide suitable heaters, not emitting offensive exhausts, and suitable enclosures to maintain the temperature around the test apparatus at a minimum of 40 degrees Fahrenheit, and shall provide temporary electric lighting as necessary and required by the Engineer during the conduct of the test. Loading and unloading of the test pile shall not be performed except in the presence of the Engineer.

#### D. Load Test Acceptance Criteria

1. Pile acceptance criteria shall be per the latest edition of the Rhode Island State Building Code.





2. Test piles that are approved for the design load are acceptable as production piles if all other acceptance criteria are met.



## PART 4 - MEASUREMENT AND PAYMENT

### 4.1 MEASUREMENT

- A. Piles will be measured for payment on the basis of length along the axis of the pile in place below the design cutoff elevation.

### 4.2 BASIS OF PAYMENT

- A. Work included under this contract shall include the total price for installation of the estimated linear feet of piles. The work shall include obstruction removal, furnishing and driving the piles, splicing, and all work incidental thereto, and mobilization and demobilization, which shall include job setup, moving equipment including pile driving rigs on and off the project, establishing and dismantling the Contractor's field administration forces and equipment, and all other work incidental thereto.
- B. Final payment shall be based upon the actual total aggregate footage of piles driven and accepted in accordance with this section, from pile tip to pile cut-off shown on Structural Drawings. If the total aggregate footage is over or under the base quantity, the additional footage shall be paid to the Contractor or the deducted footage shall be credited to the Owner on the basis of the unit prices quoted in the Bid Form. The "Add" unit price shall not be more than 20 percent greater than the unit price determined by dividing the base bid by the base footage. The "Deduct" unit price shall be at least 80 percent of the unit price determined by dividing the base bid by the base footage.
- C. The total aggregate footage of foundation piles for payment shall be the sum of the lengths of piles below design cutoff grade actually driven, and accepted, whether or not the number of piles is more, equal to, or less than is shown on the Contract Drawings.
- D. Piles rejected in accordance with the provisions of these Specifications will not be paid for. In such cases, the Contractor will be paid at the contract unit price per foot for one replacement pile installed and accepted, according to the provisions of these Specifications. If more than one replacement pile is required to compensate for a rejected pile, the Contractor will be paid at the contract unit price per foot for only the longer of the replacement piles. Additional piles required to compensate for production piles or replacement piles driven out of design location will be installed at no additional cost to the Owner.
- E. Whenever misalignment or rejection of a pile or piles necessitates structural redesign, the cost of such redesign shall be deducted from sums otherwise due to the Contractor under the contract. If the redesigned pile cap requires greater quantities of concrete and reinforcing steel, as compared with the quantities required for the pile cap for as originally designed, the additional cost for pile cap concrete, reinforcing steel and formwork shall also be deducted from the contract price.



- F. No payment will be made for pile splices and pile buildups. Pile cutoffs less than or equal to 5 ft per pile will be paid at the contract unit price per foot.
- G. Payment for the load tests and additional tests, should they be required, shall be made as a unit price per test. The pile load test unit price shall include constructing and supporting the test load or reaction system, driving and removing temporary piles and supports, furnishing and operating jacks and gauges and related equipment, tools, personnel, and incidentals necessary for the proper execution of the pile load test as specified. If an additional load test is necessary because of an unacceptable load test made to confirm a final pile driving resistance less than that specified, then the cost of the additional load test shall be paid by the Contractor.
- H. Unit prices

Item	Unit Price Basis
Additional pile footage installed greater than base footage	Linear Foot
Deduct for length of pile installed less than base footage	Linear Foot
Pile Cutoff,	Linear Foot
Compression Pile Load Test on one pile (minimum <del>48 kips</del> 150 tons)	Per Test

END OF SECTION



**RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**  
**OFFICE OF WATER RESOURCES**  
235 Promenade Street  
Providence, Rhode Island 02908

April 17, 2025

City of Providence Parks Department  
c/o Brian Byrnes, Deputy Superintendent of Parks  
1000 Elmwood Avenue  
Providence, RI 02907

### **Freshwater Wetlands Permit**

Re: Application No. 25-0015 for the property and project located:

Approximately 30 feet east of Frederick C. Green Memorial Boulevard and approximately 1,250 feet southeast of its intersection with Temple Avenue, near Utility Pole No. 99, Assessor's Plat 90, Lot 157, Providence, RI.

Dear Mr. Byrnes:

Kindly be advised that the Department of Environmental Management's ("DEM") Freshwater Wetlands Program ("Program") has completed its review of your **Application for a Freshwater Wetlands Permit** as described in Rule 3.11 of the Rules and Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act, 250-RICR-150-15-3 ("Rules"). This review included a site inspection of the above referenced property ("subject property") and an evaluation of the proposed construction of a pedestrian boardwalk over a pond, a new boat ramp, improvements to the existing parking lot, new parking areas, and restoration plantings with minor clearing and grading, landscaping and associated site alterations as illustrated and detailed on site plans submitted with your application. These site plans were received by the DEM on January 16, 2025.

Our observations of the subject property, review of the site plans and evaluation of the proposed project reveals that alterations of jurisdictional areas are proposed. However, pursuant to Rule 3.7.3B of the Rules, this project meets the Variance Criteria for Public and Governmental Bodies, and a **Freshwater Wetlands Permit** may be issued under the following terms and conditions:

#### **Terms and Conditions for Wetlands Application No. 25-0015:**

1. This letter is the DEM's permit for this project under the R.I. Fresh Water Wetlands Act, R.I. Gen. Laws § 2-1-18 et seq.
2. This permit is specifically limited to the project, site alterations and limits of disturbance as detailed on the site plans submitted with your application and received by the DEM on January 16, 2025. A copy of the site plans stamped approved by the DEM is enclosed. Changes or revisions to the project that would alter jurisdictional areas are not authorized without a permit from the DEM.
3. Where the terms and conditions of the permit conflict with the approved site plans, these terms and conditions shall be deemed to supersede the site plans.

4. You must notify this Program in writing of the anticipated start date, and of your contractor's contact information, by submitting the Notice of Start of Construction Form prior to commencement of any permitted site alterations or construction activity. You must also notify this Program in writing upon completion of the project. The Start of Construction Form can be found on the webpage: [dem.ri.gov/stormwaterconstruction](http://dem.ri.gov/stormwaterconstruction).
5. A copy of the stamped approved site plans and a copy of this permit must be kept at the site at all times during site preparation, construction, and final stabilization. Copies of this permit and the stamped approved plans must be made available for review by any DEM or city representative upon request.
6. Within ten (10) days of the receipt of this permit, you must record this permit in the land evidence records of the City of Providence and supply this Program with written documentation obtained from the City showing this permit was recorded.
7. The effective date of this permit is the date this letter was issued. This permit expires five (5) years from the date of this letter unless renewed pursuant to the Rules.
8. Any material utilized in this project must be clean and free of matter that could pollute any jurisdictional area.
9. Prior to commencement of site alterations, you shall erect or post a sign resistant to the weather and at least twelve (12) inches wide and eighteen (18) inches long, which boldly identifies the initials "DEM" and the application number of this permit. This sign must be maintained at the site in a conspicuous location until such time that the project is complete.
10. Temporary erosion and sediment controls detailed or described on the approved site plans shall be properly installed at the site prior to or commensurate with site alterations. Such controls shall be properly maintained, replaced, supplemented, or modified as necessary throughout the life of this project to minimize soil erosion and to prevent sediment from being deposited in any freshwater wetland, buffer, floodplain, or other jurisdictional areas not subject to disturbance under this permit.
11. Upon permanent stabilization of all disturbed soils, temporary erosion and/or sediment controls must be removed.
12. You are obligated to install, utilize, follow, and maintain all best management practices detailed or described on the approved site plans in the construction of the project to minimize or prevent adverse impacts to any adjacent freshwater wetland, buffer or floodplain, or other jurisdictional areas and the functions and values provided by such freshwater wetlands and buffers or floodplain.
13. All plantings of shrubs, trees or other forms of vegetation as shown or detailed on the approved plans, or detailed in this permit, must be installed as soon as possible after completion of final grading; weather and season permitting. You must notify this Program in writing upon completion of the required plantings for a compliance inspection by a Program representative.
14. Mitigation or screen plantings of trees and/or shrubs proposed between the project and any adjacent freshwater wetland areas and buffers except for necessary replacement, must be allowed to develop naturally without being subjected to mowing or manicuring.
15. Any plantings which fail to survive one full growing season shall be replaced. Replacement plantings shall be similarly guaranteed for one full growing season.

16. Any areas where infiltration is proposed that are identified in the soil erosion and sediment control plan to be used for construction activities where compaction or activities that will reduce infiltration capacity can be expected, (staging, fueling, vehicle washout, etc.) shall have their infiltration capacity restored to the design level. This shall be confirmed with infiltration testing in the field.
17. The proposed permeable pavers and pervious pavement shall be maintained as specified in Stormwater Rule 250-RICR-150-10-8.22(H):
  - a) A legally binding and enforceable maintenance agreement shall be executed between the facility owner and the responsible authority.
  - b) Areas where infiltrating permeable pavement practices are proposed shall not serve as a temporary sediment control device during site construction phase.
  - c) Permeable paving surfaces require regular vacuum sweeping or hosing (minimum every three months or as recommended by manufacturer) to keep the surface from clogging. Maintenance frequency needs may be more or less depending on the traffic volume at the site.
  - d) Minimize use of sand and salt in winter months.
  - e) Do not repave or reseal with impermeable materials.
  - f) The SESC Plan shall specify at a minimum:
    1. How sediment will be prevented from entering the pavement area;
    2. A construction sequence;
    3. Drainage management; and
    4. Vegetative stabilization.

Pursuant to the provisions in 250-RICR-150-15-3.8.13 and 250-RICR-150-15-3.14.4(A), as applicable, any properly recorded and valid Freshwater Wetlands Permit is automatically transferred to the new owner upon sale of the property.

You are required to comply with the terms and conditions of this permit and to carry out this project in compliance with the Rules at all times. Failure to do so may result in an enforcement action by this Department and/or subject you to the enforcement provisions of the U.S. Army Corps of Engineer's regulations.

In permitting the proposed alterations, the DEM assumes no responsibility for damages resulting from faulty design or construction.

Kindly be advised that this permit is not equivalent to a verification of the type or extent of freshwater wetlands or jurisdictional areas on site. Should you wish to have the types and extent of freshwater wetlands verified, you may submit the appropriate application in accordance with 250-RICR-150-15-3.9.3.

This permit does not remove your obligation to obtain any local, state, or federal approvals or permits required by ordinance or law and does not relieve you from any duties owed to adjacent landowners with specific reference to any changes in drainage.

If you have not already done so, or in order to check on the status of their review, please contact the U.S. Army Corps of Engineers to determine federal permit requirements on your project. Write the Corps' New England District, Regulatory Branch, 696 Virginia Road, Concord, MA 01742-2751; website: <https://www.nae.usace.army.mil/Missions/Regulatory/or> email at [cenac-r-ri@usace.army.mil](mailto:cenac-r-ri@usace.army.mil). Please note that the Department of the Army authorization must be obtained before any work is initiated in areas subject to Corps jurisdiction.

Please contact Jessica Lord of this office (telephone: 401-537-4249) should you have any questions regarding this letter.

Sincerely,



Martin D. Wencek, Environmental Scientist IV  
Office of Water Resources  
Freshwater Wetlands Program  
MDW/JAL/jal

Enclosure: Approved site plans

cc: Elizabeth Waterhouse, U.S. Army Corps of Engineers, New England District  
Todd Turcotte, PE, Vice President, Pare Corporation  
Seaver Anderson, Senior Environmental Scientist, Pare Corporation