

REQUEST FOR PROPOSALS
STEEL PLATFORM TRUCK SCALE
MARKET ST. MARINE TERMINAL
PORTSMOUTH NH

The Pease Development Authority – Division of Ports and Harbors (“PDA-DPH”) invites proposals for a “Steel Platform Truck Scale” at the Market St. Marine Terminal located at 555 Market St. in Portsmouth, New Hampshire.

Proposals will be received at the office of PDA-DPH at 555 Market Street, Portsmouth, New Hampshire until **10:00 AM local time, April 17, 2024**, either by mail, email, or in person. The mailing and office address is: Pease Development Authority – Division of Ports and Harbors, 555 Market Street, Portsmouth, NH 03801. Proposals shall be emailed to Ms. Brenda Therrien at b.therrien@peasedev.org

Before preparing the proposals, contractors shall carefully examine the Engineering Specifications for the Truck Scale. Proposal documents may be examined on or after March 28, 2024 by visiting www.peasedev.org/business/bids-opportunities/ or contacting Ms. Brenda Therrien via email b.therrien@peasedev.org or (603) 766-9221.

No contractor may withdraw his/her proposal within sixty (60) days following the opening. The PDA-DPH reserves the right to reject any and all proposals, waive any informality, and to accept any proposal that it may deem in its sole discretion to be in its best interest.

Engineering Specifications on following pages

Engineering Specifications – Steel Platform Truck Scale

Contractor shall furnish and install a B-TEK Centurion-DT Steel Deck Truck Scale or approved equal.

The following set of specifications will describe a fully electronic, low profile, flat-top, steel deck truck scale system, fully assembled and ready for installation upon arrival at the job site.

SECTION 1.0 – TRUCK SCALE WEIGHBRIDGE DESIGN

The scale platforms, load cells and weight indicator shall be designed, assembled, and supplied by one manufacturer located in the United States of America. The scale shall be a galvanized B-TEK Centurion-DT Model: CT-7211-DT or equivalent and shall meet the following minimum standards.

1.0 – General Provisions

- 1.1. The scale shall be NTEP Certified and meet the requirements set forth by the NIST Handbook 44 for Class IIII devices. A current copy of the Certificate of Conformance (COC) shall be submitted with the bid.
- 1.2. The scale shall be a full electronic design. Mechanical lever systems are not acceptable.
- 1.3. The weighbridge shall be a flat-top style, WF-Beam bridge type design with bottom of weighbridge open to ambient air circulation. Tall outside beams that extend above the surface of the deck are not acceptable.
- 1.4. The weighbridge shall be suitable for installation on an above-grade pier, floating slab, or pit style foundation and must provide full width section cover plates for top access to load cells.
- 1.5. The weighbridge shall include full width removable end and middle section cover plates on each module to allow top access to all critical cleanout areas.
- 1.6. The weighbridge shall incorporate a bumper style self-checking system. Checking systems that use the load cell body or any part of the load cell assembly for limiting weighbridge motion is not acceptable.
- 1.7. The scale shall have a full-scale capacity rating of 135 Tons (270,000 lb.) with a displayed resolution of 200,000 x 20 lb. in accordance with the NIST, Class IIII device requirement of 10,000 divisions.
- 1.8. The weighbridge modules shall be designed with a minimum concentrated load capacity (CLC) and dual tandem axle (DTA) rating of 50 tons as defined by NIST. When a 50 ton CLC/DTA load is applied at mid-span on a module, the maximum bending stress in the steel shall not exceed 20,000 PSI and weighbridge deflection shall not cause the scale to exceed the allowable accuracy tolerance as specified by NIST in Handbook 44.

- 1.9. The weighbridge shall have a minimum calculated “r” factor of 2.94
- 1.10. The weighbridge shall be designed to have a span deflection ratio that is not less than 1:1,100 when legal highway loading is applied at mid-span of module.
- 1.11. The weighbridge shall consist of three (3) factory- welded platforms, providing an unobstructed weighing surface of 72' (*actual*) long by 11' (*actual*) wide.
- 1.12. The weighbridge shall have a 16” minimum elevation profile and provide a minimum underneath clearance of 5.5” between foundation floor and bottom of weighbridge (*or sufficient to meet compliance with State and Local Weights and Measures*)
- 1.13. The weighbridge shall be constructed utilizing ASTM-A36 structural steel WF-Beam, sized, and arranged for proper strength and able to withstand the stress and loads which result when vehicles drive onto and off the scale. Weighbridges constructed with bent flat steel plate used as a structural steel member is not acceptable.
- 1.14. The weighbridge shall be welded in accordance with the requirements of AWS D1.1 by welders that are internally certified and adhere to strict quality standards as outlined in the B-TEK Quality Manual that complies with the requirements of ISO-9001:2000.
- 1.15. No field assembly or welding of individual weighbridges shall be necessary or allowed.
- 1.16. The weighbridge modules shall include heavy mounting base plates for the load cells.
- 1.17. The weighbridge modules shall be cleaned prior to the application of any coating or paint to remove oil, mill scale, rust, dirt, and other contaminants.
- 1.18. The weighbridge assembly shall be steel shot blasted to meet standard SSPC-SP6 requirements for commercial blast cleaning of unpainted or painted steel surfaces.
- 1.19. The weighbridge shall be protected by a two-component, high-solids, epoxy primer applied to a dry film thickness of 2-3 mils, followed by a two-component, polyurethane top-coat applied to a dry film thickness of 2-3 mils.
- 1.20. Once cured, the painted weighbridge shall undergo a dry film thickness testing to insure proper paint coverage in all areas.
- 1.21. Additional field painting other than touchup painting of damaged surfaces shall not be required.
- 1.22. Load cell base plates shall be flush mounted to the concrete piers and anchored using expansion wedge anchor bolts. A minimum of ¾” x 7” anchor bolts are required.
- 1.23. The weighbridge shall not require the setting of grout plates for leveling. Grout plates or embedded items in the foundation concrete are not allowed.

- 1.24. The weighbridge shall have a maximum deck thickness of 10-1/2".
- 1.25. The weighbridge shall be a WF-Beam bridge design with a minimum of 3/8" thick checkered steel deck plate that is supported with a minimum of (8) longitudinal 10" WF-Beams. Weighbridge designs using primary understructure components made of bent plates or channels or tubing are not acceptable.
- 1.26. Each WF-Beam in the weighbridge shall be stitch-welded to the deck plate above. Continuous welding of weighbridge structure that creates sealed cavities or pockets is not acceptable.
- 1.27. The weighbridge shall be designed to accommodate over 2,000,000 trucks with a DTA of 60,000 lbs. without degradation of the weighbridge or compromising the structural integrity.
- 1.28. Structural steel elements of 72' x 11' weighbridges shall have a combined minimum weight of 28,000 lb. not including sight rail or other options. Weighbridge BOM may be requested to confirm actual build weight.
- 1.29. The weighbridge shall be available with optional bolt-on safety guiderails (*Guide rails are optional for surface installations*)
 - 1.29.1. The guiderails shall utilize a minimum of 3.5" diameter SCH 40 pipe.
 - 1.29.2. The guiderails shall be painted yellow for increased driver visibility.
 - 1.29.3. The guide rail assemblies shall bolt to brackets that are welded to the outside beams of the weighbridge and a minimum of 3 bolts shall be used to attach each rail assembly. Guide rails that are clamped, wedged, or welded to the weighbridge shall not be permitted.
- 1.30. The weighbridge structure shall be warranted for a minimum of 5-Years.
- 1.31. The scale shall be a B-TEK Scales Model: CT-7211-DT or equivalent.

SECTION 2.0 – LOAD CELLS AND JUNCTION BOX

Load cells shall be B-TEK Scales Model: CPD-M Digital or equivalent. CPD-M Digital cells utilize (8) strain gages to prevent problems with side loading, end-loading, and torque loading. Many competitive shear beam type load cells are not well suited to handle dynamic loading conditions frequently experienced on most truck scale applications. These types of sensors were designed to be loaded precisely vertical and do not handle side load forces efficiently. Shear beam style load cells are not acceptable.

2.0 – General Provisions

- 2.1. Load cells shall be of the Digital (RS-485 output) type and have a minimum capacity of 77,000 lb. each with an overload safety factor of 150%. Traditional analog (low level mV output) load cells are not acceptable.
- 2.2. Load cells shall have a Digital RS-485 output that is not susceptible to electrical or radio frequency noise / interference. Load cells shall have an operating temperature range of at least -30C to +70C.
- 2.3. Load cells shall store their individual calibration data such that in the case of the weight indicator being replaced, the data can be uploaded into the weight indicator. This feature allows for the scale to not need recalibration after weight indicator replacement.
- 2.4. Load cells shall have a hermetically sealed design to meet NEMA 6P / IP68 / IP69K standards for moisture ingress and water submersion protection.
- 2.5. The load cells shall have a diagnostic system that allows individual load cell outputs to be visible from the scale weight indicator.
- 2.6. Load cells shall be easily serviceable / removable by jacking the weighbridge approximately 1". The load cells shall not be bolted to the stand.
- 2.7. Load cell mounting parts shall consist of hardened, stainless alloy components that allow a free-floating platform. Load cell assemblies that require links / loops or other type of suspension system will not be allowed.
- 2.8. Junction boxes shall be constructed of stainless steel with a NEMA 4X rating and include a removable cover with gasket that is secured with screws and include a single directional membrane vent.
- 2.9. Load cell cables shall be removable from the cell body for ease of replacement. The connector will be rated IP69K and the attached cable will have both a braided metal sheath as well as an addition clear poly coating for moisture protection.
- 2.10. Surge voltage and lightning protection will be provided as standard for protection of load cells and junction box.
- 2.11. Load cells shall have a minimum 5-year warranty against defects in materials and workmanship and failure resulting from lightning or surge voltages. The warranty shall cover all costs associated with replacement cell, travel, mileage, and on-site labor.
- 2.12. The load cells shall be B-TEK Model: CPD-M or equivalent.