Cardinal Scale Manufacturing Co.

RSCA SERIES PIT-TYPE TRUCK/TRACK COMBO SCALE

RSCA RAIL SCALE SPECIFICATIONS

270 Ton Capacity – 10’ Wide X 72’ Long, Electronic, Modular

GENERAL PROVISIONS:

Furnish and install one steel platform / concrete deck railroad track scale and associated electronic controls.

The scale shall be a Cardinal Scale model 7280-RSCA-200.

The scale shall have a profile not to exceed 60 inches, which is measured from the top of the scale to the top of the foundation slab or pier at the load cell bearing points.

The scale shall consist of (3) modules that comprise a single deck when assembled.

The scale shall have a minimum of (2) manholes.

The scale shall be able to weigh both rail trains and road vehicles.

The scale shall have a gross weighing capacity of 270 tons and shall have a section capacity of 180 tons for rail trains / concentrated load capacity (CLC) of 40 tons for vehicles.

The scale shall be designed to accept vehicles that generate up to 80,000 pounds per tandem axle.

The scale shall be calibrated to a multi-range configuration of 200,000 pounds by 20 pounds in the first range, then to 500,000 pounds by 50 pound increments in the second range.

The scale shall be designed to accommodate 115lb rails and have an E-80 Cooper AREMA Rating.
The load cells shall be constructed of stainless steel.

The scale shall be NTEP certified and shall meet the requirements as set forth by the National Institute of Standards and Technology (NTEP) Handbook 44 current edition for class IIIL devices. The scale manufacturer shall provide an NTEP Certificate of Conformance attesting to conformance with these standards. Provisional certification will not be accepted.

The scale shall be designed to comply with the requirements of the AAR Rail Scale Handbook.
The design and manufacture of the scale weighbridge, load cells, digital instrumentation and associated accessories shall be of one manufacturer to maximize compatibility and availability of components.
The manufacturer shall provide with the bid proposal a listing of major spare parts and their prices including, but not limited to, replacement load cells, weight indicator, circuit boards and associated accessory parts.

SCALE PIT REQUIREMENTS:

The pit shall meet all local requirements and the minimum specifications as stated herein.

The minimum soil bearing capacity shall be 4,000 psf. The buyer shall be responsible for determining whether or not the soil condition is adequate.

The pit shall extend 12” past the frost line at the load cell piers.

The pit shall be constructed of concrete with a minimum strength of 4,000 psi at a 28-day cure.

The pit shall be reinforced in all load-bearing areas. The reinforcing steel shall be 60 KSI yield strength and conform to ASTM A615 grade 60 minimum.

The pit shall contain provisions for drainage of water consisting of (1) minimum floor drain and, if local conditions warrant, a sump pump.

The pit shall be provided with a source of 115 VAC power and shall be equipped with a minimum of four light fixtures appropriate for damp environments.

The pit shall be designed to include two approaches, one at each end of the scale, in accordance with local regulations and guidelines of the National Institute of Standards and Technology Handbook 44, current edition.

WEIGHBRIDGE SPECIFICATIONS:

The weighbridge shall be a modular design comprised of a steel framework with a poured-in-place concrete deck.

Each weighbridge module shall be constructed of W36 I-beams spanning the full length.

SURFACE PREPARATION AND FINISH:

The structural steel shall be shot blasted to an SSPC-SP10 condition to remove rust and mill scale, then protected with a baked-on, UV-protected, heavy-duty polyester anticorrosion industrial tan powder paint for the highest quality and durable finish.

LOAD CELL SPECIFICATIONS:

All load cells shall be of compression strain gauge design and shall have a minimum capacity of 200,000 pounds with a 150% of capacity overload rating.

Load cells shall be certified by NTEP and shall meet the specifications as set forth by the National Institute of Standards and Technology Handbook 44 for Class IIIL, multiple cells, 10,000 divisions. The manufacturer shall provide a NTEP Certificate of Conformance attesting to compliance with these requirements.

The load cell shall be constructed from stainless steel and shall be environmentally sealed to an IP69K rating.

The load cell shall be manufactured by the scale manufacturer and shall be a Cardinal Scale model 200K-SCA.

GROUNDING SYSTEM:

The grounding system shall employ a single-point ground in accordance with local regulations. The grounding system shall conform to the manufacturer’s recommendations.

WEIGHT INDICATOR:

The weight indicator shall comply with the appropriate specifications for a Class IIIL 10,000 division weight indicator as specified by the National Institute of Standards and Technology Handbook44 and shall have an NTEP Certificate of Conformance attesting to that compliance.

The weight indicator shall be housed in a stainless steel enclosure and shall include an LCD display visible in all levels of light including total darkness.

The weight indicator shall be manufactured by the scale manufacturer and shall be a Cardinal Scale 225 series Navigator weight indicator or equivalent.

WARRANTY REQUIREMENTS:

The scale manufacturer shall warrant the scale assembly including the deck and components below the deck for a period of five years; the digital weight indicator, printer and peripheral devices shall be covered for a period of one year.

The manufacturer or its local representative shall present a program of regular maintenance and calibration service. Inspection in said maintenance program shall occur a minimum of once every six months and shall comply with the guidelines set forth by the scale manufacturer, local regulations, and the current edition of the National Institute of Standards and Technology Handbook 44.