SECTION 11160 – LOADING DOCK EQUIPMENT
PLTC (HYDRAULIC DOCK LIFT)

1. SCOPE

1.1 **GENERAL SCOPE** This appendix establishes the minimum performance, design, fabrication, installation and test requirements for a hydraulic dock lift.

2. SUBMITTALS AND RELATED WORK

2.1 The general provision of the contract, including General Requirements, applies to the work specified in this section.

2.2 Product Data: Submit 6 copies of manufacture specifications and installation instructions for each type of hydraulic dock lift required. Furnish copy of installation instructions to the installer.

2.3 Maintenance Data: Submit manufacturer's owners manual, maintenance and service data; includes address of nearest authorized service representative.

2.4 Shop drawings: Submit shop drawings detailing fabrication and installation of hydraulic dock lift. Includes plans, elevations and large-scale details showing layout and types of equipment required. Show anchorage's and accessory items.

2.5 Related Work
- 2.5.1 Concrete (for pits): See section for Concrete Work.
- 2.5.2 Electrical Wiring: See section for Electrical Wiring.

3. PRODUCTS

3.1 Hydraulic dock lifts, as distributed by Autoquip Corporation, is cited for type, quality, function, operation, capacity, size and construction required. Provide complete with controls, safety devices and accessories.

4. MANUFACTURER

4.1 General specification covers a PLT hydraulic dock lift as designed and manufactured by Autoquip Corporation.

5. REQUIREMENTS

5.1 **SYSTEM DESCRIPTION** The extent of the hydraulic dock lift is as shown on the drawings and/or as specified herein.

5.2 CHARACTERISTICS

5.2.1 Performance Characteristics

5.2.1.1 **Capacity:** The dock lift shall have a minimum lifting capacity of _____ pounds.

5.2.1.2 **Axle Loads:** The dock lift shall have a minimum axle load capacity of _____pounds over the bridge end, a minimum axle load capacity of _____pounds over the end opposite the bridge and a minimum axle load capacity of _____pounds over the sides and a minimum _____pound roll over capacity in the lowered position.

5.2.1.3 **Vertical Travel:** The dock lift shall have a minimum vertical travel of ___inches.

5.2.1.4 **Lowered Height:** The dock lift shall have a maximum lowered height of __inches.

5.2.1.5 **Raised Height:** The dock lift shall have a maximum raised height of ___inches.

5.2.1.6 **Up Speed:** The dock lift shall have a minimum raising speed of __ feet per minute.

5.2.1.7 **Down Speed:** The dock lift shall have a minimum down speed of __ feet per minute.

5.2.2 Physical Characteristics

5.2.2.1 **Deflection:** The dock lift shall have a maximum deflection of 1 inch when a static load of one half of the rated lifting capacity is uniformly distributed over one half of the platform width or length, in the fully raised position when measured between the platform to base-frame.

5.2.2.2 **Lift Platform:** The dock lift minimum size platform shall be ___inches wide x ___inches long. The platform deck will be constructed of 4-way steel plate. The deck plate shall be a minimum thickness of ¼". The platform shall have a solid beveled toe guard on sides and ends of platform. Toe guard must be 8 inches in length and slope inward at 30 degrees per ANSI Standard MH29.1. Platform must have a minimum of 5 pipe legs extending to the pit floor to support platform in lowered position.

5.2.2.3 **Base-frame:** The dock lift shall have an angle iron base-frame predrilled for permanent installation.

5.2.2.4 **Scissors Mechanism:** The scissors mechanism shall be a single pantograph. Legs shall be made of solid steel. No substitutes. Leg thickness must be a minimum of 1". All legs both inner and outer must have a reinforcement bar welded to the side of the leg. All axle points must have lubricated bearings. All runner strips shall be made of solid steel bar, vertically standing. All pivot shafts, rollers and trunnion shafts shall be constructed of high strength alloy steels, to a minimum of 150,000 PSI yield, turned, ground, polished and hard chromed. Rollers shall be equipped with sealed, teflon coated anti-friction DU lubricated for life bearings. No substitutes. The inner leg members shall have an integral structural rectangular tube between the legs to assure proper torsional stability.

5.2.2.5 **Throw over Bridge:** The dock lift shall be equipped with a ___inch x ___inch steel throw over bridge on one end. Bridge plate thickness shall be 5/16". The bridge plate shall be hinged to fold 20 degrees in the downward position from horizontal and 110 degrees in the upward direction from horizontal with lifting and holding chains. The hinge shall be of the piano type, running continuously through the complete length of the bridge plate.

5.2.2.6 **Handrails:** The dock lift shall have handrails on two sides with snap chains across open ends. Handrails shall be 48 inches high with a mid-rail and 4 inch kick plate. Handrails will be removable.

5.2.2.7. **Cylinders:** Cylinders or pistons shall be of the displacement/direct thrust type. The dock lift shall have a minimum of two, four inch bore cylinders. Cylinders will incorporate a velocity fuse to prevent uncontrolled descent in the event of a hydraulic pressure line failure.

5.2.2.8. **Power Unit**: Power unit shall be electric hydraulic located remote from the lift. Cartridge hydraulic valving is required. Hydraulic valve blocks containing the hydraulic components are not acceptable. Polyethylene reservoir is required. No substitutes. Power unit will incorporate an overload protection preventing the lift from raising if loaded to more than 115% of rated capacity. A relief valve shall open when

the system pressure exceeds 100% of maximum design pressure. All hosing shall be SAE-100R2 double wire braided. Power unit must operate with standard type motor oil. Hydraulic oils are not acceptable.

5.2.3 Electrical Requirements

5.2.3.1 **Motors:** Motor horsepower shall be a minimum of 5 horsepower and sized for full rated live load. All motors shall be super torque intermittent.

5.2.3.2 **Controls:** Controls shall consist of one hand held Nema 4 constant pressure "up/down" pushbutton station mounted on 20 feet of coiled cord. Magnetic motor starter and control transformer shall be mounted in a NEMA 1 enclosure and pre-wired to the power unit. All controls shall be 24 volt. Controls must be UL labeled and approved.

5.2.3.3 **Power Source:** Distribution panels and circuit breakers shall be furnished and installed by the purchaser. The purchaser shall furnish and install all necessary wiring and equipment for power distribution to the system.

6. QUALITY ASSURANCE PROVISIONS

6.1. **HYDRAULIC DOCK LIFT STANDARD**: Comply with applicable requirements of OSHA, ANSI Standard MH29.1 and the National Electric Code (NEC).

6.2 **INSPECTIONS:** The system shall be inspected to verify that it meets all requirements of sections 1, 2, 3, 4, and 5 of this appendix and the cover purchase order. These inspections shall be completed as part of the system checkout test. Testing and inspection will be performed by the manufacturer or approved manufacturer's representative.