SECTION 11 13 19.23

STATIONARY LOADING DOCK LIFTS

PART 1 – GENERAL

1.1 PURPOSE

A. This guideline is intended to provide useful information to the Professional Service Provider (PSP) to establish a basis of design. PSP is to apply the principles of this section such that the University of Texas at Arlington (UTA) may achieve a level of quality and consistency in the design and construction of their facilities. Deviations from these guidelines must be approved by UTA and may require justification through Life Cycle Cost (LCC) analysis and submitted to UTA for approval.

1.2 **LESSONS LEARNED AND DESIGN CONSIDERATIONS**

A. X

1.3 SUMMARY

A. Related Documents: Provisions established within General and Supplementary Conditions of the Contract, Division 01 – General Requirements and Drawings are collectively applicable to this Section.

B. Related Sections:

1. Section 03 30 00 – Cast-In-Place Concrete: Concrete pit.
2. Section 05 50 00 – Metal Fabrications: [Perimeter guard rails and inserts.] [Dock slab and door protection edge angles.
3. Division 26 – Electrical: Connections to dock equipment.

1.4 SYSTEM DESCRIPTION

A. This Section describes the requirements for providing a dock scissors lift as shown on the Drawing and specified, to include:

1. Hydraulic Dock Scissor Lift

B. Concrete work for dock lift(s) as specified in Part 3.

C. Comply with ANSI MHI (Material Handling Institute) 29.1.

1.5 SUBMITTALS

A. General: Submit in accordance with Division 01.

B. Product Data: Submit product data for dock equipment.

C. Shop Drawings: Submit drawings indicating fabrication and erection of dock equipment including plans, elevations and large-scale details.

D. Maintenance Data: Submit manufacturer’s maintenance and service data, including, address and telephone number of nearest authorized service representative.

E. Operating Manuals: Furnish operating and maintenance manuals and advise Owner on use and maintenance of equipment.

1.6 QUALITY ASSURANCE

A. Dock Lift Standard: Comply with applicable requirements of ANSI, MH29.1, and (“Safety Standard for Industrial Scissors Lifts”) for construction and operation of dock lift (s).

B. Provide manufacturers standard 2 (two) year parts, 1 (one) year labor warranty.

C. Single Source Responsibility: Provide dock lift(s) as complete units produced by a single manufacturer, including necessary accessories and fittings.

1.7 WARRANTY

A. Special Warranty: Prepare and submit in accordance with Division 01.

1. Manufacturer's standard one-year parts and labor warranty.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Dock Lifts (scissors Lifts):
   a. Rite Hite
   b. Kelley

2.2 DOCK LIFTS (SCISSORS LIFTS)

A. General: Provide manufacturer's standard hydraulic dock lift of capacity, size, and construction indicated, consisting of a nonslip steel platform with beveled toe guards on all four sides, steel scissor legs, and hydraulic operating system, complete with controls, safety devices, and accessories required.

B. Type: Provide stationary single-scissor-type hydraulic dock lift designed for permanent, recessed installation in a preformed concrete pit at location indicated.

C. Rated Capacity: Provide lifting capacity of not less than____lb with__lb axle load at ends and__lb axle loads at sides.

D. Vertical Travel: Provide maximum vertical travel of 60 inches from a lowered height of inches for a raised height of ____ inches.

E. Travel Speed: Nominal raising speed of 15 fpm.

F. Construction: Fabricate lift from structural steel shapes rigidly welded and reinforced for maximum strength, safety, and stability. Design assembly to withstand deformation during both operating and stored phases of service. Provide mounting brackets and removable lifting eyes for ease of installation.

1. Platform: Fabricate platform from heavy steel plate with beveled toe guards on all four sides to comply with requirements of MH29.1. Provide matching, hinged, throw-over bridges where indicated and removable handrails.
   a. Platform Surface: Nonskid, safety-tread deck plate.
   b. Platform Size: [_] inches wide by [_] inches long
2. Hinged Bridge: Provide hinged, throw-over bridge, heavy-duty, piano-type hinge welded to toe guard at end of platform. Provide bridge complete with heavy-duty lifting chains. Chamfer edge of bridge to minimize obstructing wheels of material-handling vehicles.
   a. Bridge Material: Nonskid, safety-tread steel plate.
   b. Bridge Size: 18" long by 72" wide.
   c. Ergonomic Spring assisted Bridge
3. Scissor Mechanism: Fabricate leg members from heavy, steel formed tube members to provide maximum strength and rigidity.
4. Cylinders: Equip lift with not less than two heavy-duty, high-pressure, hydraulic, ram-style cylinders. Rams shall be direct-displacement plunger type with positive internal stops as standard by manufacturer. Cylinder rods shall be chrome plated and polished to prevent rusting.
5. Bearings: Provide pivot points with self-lubricating, lifetime self-lubricating bushings for minimum maintenance.
   a. Operation: Provide manufacturer's standard, self-contained, electric, hydraulic power unit for raising and lowering lift, controlled from a remotely located push-button station.
      1). Electrical Requirements: Coordinate wiring requirements and current characteristics with building electrical system.
      2). Power Unit: Provide manufacturer's standard, self-contained, remotely located power unit of size, type, and operation needed for capacity of lift indicated. Power unit shall consist of a TEFC motor, high-pressure gear pump, valve manifold and oil reservoir.
         a). Manifold shall contain a relief valve; check valve, pressure-compensated flow-control valve and solenoid valve.
         b). Speed control: Provide manufacturer's standard pressure compensated flow control to maintain rated speed when the lift is loaded or unloaded.
         c). Free-fall protection: Provide a hydraulic velocity fuse at each cylinder to prevent the lift platform from free falling in the event of a severed hydraulic hose or broken hydraulic fitting.
         d). Oil sight gauge in the reservoir to determine oil level.
         e). Manual lowering valve located on power pack in case of power loss.
      3). Remote located Control Station: Provide a weatherproof, multi-button control station of the constant-pressure type with NEMA 4x rated up and down push buttons. Controller shall consist of a magnetic motor starter with three pole-adjustable overloads and 115-VAC control transformer with a fused secondary prewired to terminal strips and enclosed in a NEMA, Type

12 box.

a). Upper-Travel-Limit Switch: Equip unit with manufacturer's standard, adjustable, upper-travel-limit switch.

6. Safety Devices: Provide manufacturer's standard and original safety devices as follows:
   a. Removable Handrails: Provide removable handrails on two sides of platform with a single, removable chain across each end. Handrails shall be 42" high with a mid-rail and 4"-high kick plate at bottom. Mount rail sockets flush with platform surface.
   b. Maintenance Leg: Provide manufacturer's standard safety maintenance leg.
   c. Toe Protection: Provide manufacturer's standard toe protection along entire unprotected side(s) of lift.

7. Finish and Color: Manufacturer's standard paint applied to factory-assembled and tested dock lifts before shipping. Provide toe guards with yellow and black stripes to comply with ANSIZ535.1, and paint remainder of surfaces in manufacturer's standard color.

PART 3 - EXECUTION

3.1 DOCK-LIFT INSTALLATION

A. Coordinate forming recessed pit for dock lifts to ensure that depth is adequate to accommodate lift in proper relation to loading platform.
B. Angle iron shall be provided around the pit opening.
C. Attach dock lift securely, according to manufacturer's written instructions.

3.2 ADJUST AND CLEAN

A. Make necessary adjustments for safe, efficient operation of loading dock equipment.
B. After installation, restore marred abraded surfaces to the original condition.

END OF SECTION