

## SECTION 055964 - GALVANIZED STEEL ANIMAL CAGING & KEEPER GATES

### PART 1 - GENERAL

#### 1.1 WORK INCLUDED

- A. Fabrication and installation of all animal caging and keeper gates. All work of this Specification Section shall be fabricated of galvanized steel tubing system, unless specifically noted otherwise. Items fabricated and installed under this Section includes, but is not necessarily limited to:
1. Wire Mesh Caging Panels.
  2. Plastic Caging Panels.
  3. Shop Fabricated Galvanized and Welded Ferrous Metal Framing for Animal Caging.
  4. Keeper Access Gates.
  5. Benches.
  6. Misc. Shop Fabricated Galvanized Ferrous Metal Items Required for a Complete and Proper Installation.
  7. Finish Hardware and Schedule.
  8. Animal Management Requirements of Construction.

#### 1.2 PRE-QUALIFIED ANIMAL CAGING AND KEEPER GATE FABRICATORS AND INSTALLERS

- A. Only Subcontractors whose experience and workmanship that have been previously reviewed and pre-qualified by the Architect for the Work of this Section. Qualifications for companies include a minimum of five (5) years of experience in metal work of this type, plus a minimum of three (3) similar projects involving the containment of animals. Companies requesting consideration shall submit written and photographic proof of previously performed projects.
- B. Subject to compliance with the requirements of these Specifications, pre-qualified fabricators and installers for galvanized steel Caging fabrication and installation include but are not limited to the following:
1. A thru Z Consulting and Distributing, Inc.  
8620 E. Old Vail Road, Suite 100  
Tucson, AZ 85747  
Phone: (520) 434-8281
  2. Thermeq Co.  
1070 Disher Drive  
Waterville, Ohio 43566  
Phone: (419) 878-4400
  3. Corners Limited  
841 Gibson Street  
Kalamazoo, MI 49001  
Phone: 1(800) 456-6780

#### 1.3 FIELD MEASUREMENTS

- A. Prior to the submission of shop drawings, the Caging Contractor shall verify that all field measurements are as indicated on Caging Drawings (CG) and Schedules and notify the Architect in writing of any major discrepancies. No fabrication shall proceed until all inconsistencies are corrected.

#### 1.4 SUBMITTALS

- A. Pre-detailing Conference: Contractor shall schedule and hold a prefabrication meeting at the site to coordinate specification and shop drawing issues prior to the first shop drawing submittal. Attendees shall include the Owner, Architect, contractor's project manager, the detailer, the fabricator, and the erector.
- B. Submit Shop Drawings, Product Data, and Samples to the requirements relevant to Division 01 Section "Submittal Procedures".
- C. Shop Drawings:
  - 1. Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories.
  - 2. Include erection drawings, elevations, and details where applicable. Indicate welded connections using standard AWS welding symbols. Indicate net weld lengths.
- D. Product Data: Provide product data on sprockets, ball-screw assemblies, and other pertinent items.
- E. Samples: Submit one 12" x 12" sample of each mesh type and size specified, showing typical termination conditions, typical welded connections, and other pertinent construction components. See CG drawings.

### PART 2 - PRODUCTS

#### 2.1 MESH PANELS ASSEMBLIES

- A. Welded Wire Mesh Panel Assemblies: All mesh panel assemblies shall be fabricated from steel components, comprised of the materials indicated on the Drawings. Mesh panels shall be installed where indicated, as animal caging, keeper gates, and elsewhere as indicated.
  - 1. All Mesh Panel Assemblies shall be galvanized after fabrication, to a minimum of G-90 coating designation (ASTM A-653).
    - a. All Mesh Panel Assemblies shall be free from warp after galvanizing.
    - b. Remove sharp drips left on mesh after galvanizing
- B. Steel Sections: ASTM A36, galvanized.
- C. Steel Tubing: Galvanized steel in shapes and sizes indicated on the Drawings conforming with ASTM A501.
- D. Cords and Wires: Stainless Steel. For Guillotine Doors

- E. Fasteners, Bolts, Nuts, and Washers: ASTM A325; all bolts, machine screws and fasteners shall be either torx or hex socket round head and flat head as indicated on the drawings except where specifically noted otherwise.
- F. Welding Materials: AWS D1.1; type required for materials being welded.
- G. Touch up Primer for Galvanized Surfaces: ZRC or approved equal to match color of galvanized panels for all field welded surfaces. Cold galvanizing is intended for limited touch-up only and will be acceptable only for those areas necessary for field welds.
- H. Exposed Mechanical Fastenings: Flush countersunk torx or hex socket machine screws and bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
- I. Anchor Bolts: Hilti countersunk flathead hex socket "kwik-Bolts" for installation in monolithic concrete and chemical expansion hit-anchors for concrete block walls in sizes indicated on the Drawings, unless specifically noted otherwise.
- J. Galvanized steel assemblies shall be free from burrs. Grind smooth all assemblies prior to galvanization.

## 2.2 SOLID PLASTIC PANELS

- A. High-density polyethylene sheet.
  - 1. Manufacturer: King Plastic Corporation, King Starboard ST.
  - 2. Thickness: As illustrated on Drawings.
  - 3. Color: As selected by Architect from manufacturer's full range.

## 2.3 GATE HARDWARE AND KEYING

- A. Refer to caging schedules and details on Caging Drawings.
- B. Substitutions: All substitutions for the hardware of this Section must be reviewed and approved by the Architect and Owner prior to Bid acceptance.
- C. Hinges:
  - 1. Where hinges are specified for training wall and keeper gates, they shall be greasable barrel hinges or box hinges sized for weight of door assembly.
  - 2. Unless scheduled otherwise, furnish one pair of hinges for doors up to 60" high. Furnish one additional hinge for every 30" additional of fraction thereof. Exterior doors or gates shall be furnished with hinges of non-ferrous metal. Where hardware sets are marked "non-ferrous" furnish non-ferrous metal hinges. All exterior doors, which open at reverse bevel, shall be furnished with NRP hinges.
- D. Padlocks: Padlocks will be provided by Owner.
- E. Door Pulls: See Drawings.
- F. Slide Bolts & Staples: See Drawings.

- G. Cane Bolts: See Drawings.
- H. Spring Bolts: See Drawings.
- I. Padlocks Tabs: As indicated on Drawings.

## 2.4 FABRICATION

- A. Verify dimensions on site prior to shop fabrication.
- B. Fabricate items with joints tightly fitted and secured. Make exposed joints butt tight, flush, and hairline.
- C. Continuously seal joined members by continuous welds.
- D. Fit and shop assemble in largest practical sections, for delivery to site.
- E. Grind exposed welds flush and smooth with adjacent finished surface. Ease exposed edges to small uniform radius.
- F. Exposed Mechanical Fastenings: Flush countersunk torx or hex socket machine screws and bolts; stainless steel finish; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
- G. Anchor Bolts: Hilti countersunk flathead hex socket "Kwik-Bolts", stainless steel finish, for installation in monolithic concrete and chemical expansion hit-anchors for concrete block walls in sizes indicated on the Drawings, unless specifically noted otherwise

## 2.5 SHOP – APPLIED PROTECTIVE COATING:

- A. Shop-apply a thin layer of surface oil as a protective coating of all galvanized products prior to shipment to Project site.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Verify that field conditions are acceptable and are ready to receive work. Do not install until any unsatisfactory conditions are corrected. Beginning Work constitutes contractor's acceptance of conditions as satisfactory.
- B. Obtain Architect approval prior to site cutting or making adjustments not scheduled.
- C. Clean and strip site primed steel items to bare metal where site welding is scheduled.
- D. Make provision for erection loads with temporary bracing. Keep work in alignment.
- E. Supply items required to be cast into concrete or embedded in masonry with setting templates, to appropriate trades.

### 3.2 COORDINATION

- A. Coordinate all material requirements with other pertinent specification Sections relevant to the Work of this Section.

### 3.3 PREPARATION OF STEEL ASSEMBLIES

- A. Verify dimensions on site prior to shop fabrication.
- B. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
- C. Fabricate items with joints tightly fitted and secured. Make exposed joints butt tight, flush, and hairline. All oversized holes required for fabrication shall be welded & plugged. No holes, cavities, or other voids will be acceptable, unless specifically designed into the caging system.
- D. Continuously seal joined members by continuous welds.
- E. Fit and shop assemble in largest practical sections, for delivery to site.
- F. Grind exposed welds flush and smooth with adjacent finished surface. Ease exposed edges to small uniform radius of 1/8". Radius all corners to 1/4".
- G. Galvanized items to minimum 2.0 oz./sq. ft zinc coating in accordance with ASTM A123.
- H. Do not prime surfaces in direct contact bond with concrete or where field welding is required. Prime paint items scheduled with one coat.

### 3.4 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects.
- B. Perform field welding in accordance with ASW D1.1.
- C. After installation, touch-up field welds, scratched or damaged surfaces with specified touch-up primer.
- D. Remove all sharp edges, burrs, corners and slivers that, in the opinion of the Architect, and/or Owner could injure animals or keepers.
- E. Apply specified sealant to all gaps in any of the following areas:
  - 1. Between adjacent construction.
  - 2. Where specifically detailed.
  - 3. Where required to comply with the Animal Management Requirements of Construction procedures listed elsewhere in this Specification Section

### 3.5 WELDING REQUIREMENTS

- A. All exposed welds shall be ground smooth and galvanized.

- B. Remove all sharp edges, burrs, corners, and slivers, which in the opinion of the Architect and/or Owner, could injure animals or keepers.

### 3.6 ANIMAL MANAGEMENT AND REQUIREMENTS OF CONSTRUCTION

- A. The following work items shall be installed and/or performed as part of the Base Work of this Section, whether or not specifically detailed or noted on the Drawings:
  - 1. Exposed threaded bolts/studs shall be cut back to a maximum 1/8" projection wherever they occur within animal spaces. Bolt threads to remain operational after cutting.
  - 2. All gaps larger than 1" clear between installed items and new construction, shall have a continuous section of 12ga galvanized steel plate welded to post to reduce gaps to 1" or less. This does not apply to any larger gaps specifically detailed (as indicated on the Drawings) into the work of this section.
  - 3. Guard plates fabricated from 12ga galvanized steel shall be installed wherever exposed cables on the keeper side occur within 12" from the face of any gap in the construction. These guard plates shall be welded to the construction and extend minimum of 4" beyond the cables in any direction.
  - 4. Cover plates to be fabricated from 12ga galvanized steel and be installed wherever exposed cables, plumbing lines, and electrical lines occur within animal holding rooms, or within animal reach through and/or over caging. Cover plates to be field bolted 1/4-inch dia. bolts at 24" o.c..
  - 5. In order to minimize vermin infestation, all gaps occurring in any adjoining construction shall be caulked and sealed tight.

END OF SECTION 055964