SECTION 03200
CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.1 SUMMARY:
   
   A. Section Includes:
      
      1. Reinforcing steel bars, welded steel wire fabric, fabricated steel bar or rod mats for cast-in-place concrete.
      
      2. Support chairs, bolsters, bar supports, and spacers, for supporting reinforcement.

   B. Related Sections:
      
      1. Section 02380 – Caissons.
      
      2. Section 02520 - Portland Cement Concrete Paving.
      
      3. Section 03100 - Concrete Formwork.
      
      4. Section 03300 - Cast-in-Place Concrete: Concrete placement.
      
      5. Section 03450 - Architectural Precast Concrete.
      
      6. Section 04200 - Unit Masonry: Reinforcement for masonry.

1.2 REFERENCES:

   A. ACI 301 - Specifications for Structural Concrete for Buildings.
   
   B. ACI 315 - Details and Detailing of Concrete Reinforcement.
   
   C. ASTM A82 - Cold Drawn Steel Wire for Concrete Reinforcement.
   
   D. ASTM A185 - Welded Steel Wire Fabric for Concrete Reinforcement.
   
   E. ASTM A615 - Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
   
   F. ASTM A706 - Low-Alloy Steel Deformed Bars for Concrete Reinforcement.
   
   G. AWS D1.4 - Structural Welding Code Reinforcing Steel.
H. CRSI - Manual of Practice

I. CRSI 63 - Recommended Practice for Placing Reinforcing Bars.

J. CRSI 65 - Recommended Practice for Placing Bar Supports, Specifications and Nomenclature.

1.3 QUALITY ASSURANCE:

A. Perform concrete reinforcement work in accordance with CRSI Manual of Standard Practice, and Documents 63 and 65.

B. Conform to ACI 301.

C. Submit mill test certificates of supplied concrete reinforcing, indicating physical and chemical analysis.

1.4 SUBMITTALS:

A. LEED MRc4: Recycled Content
   Provide a statement from the manufacturer stating the recycled content percentage, by weight and whether the recycled content is post-consumer or post-industrial.

B. (LEED MRc5: Regional Materials)
   Provide a statement from the manufacturer stating that materials provided are manufactured within a 500 mile radius of the project and indicate the location.

PART 2 - PRODUCTS

2.1 MATERIALS:

A. Reinforcing Steel: ASTM A615 plus (S1) and ASTM A706 for bars where welding is required, Grade 60 if not otherwise specified. Finish: Plain. Epoxy coated rebars will be considered at the design engineer’s recommendation.

   LEED MRc4: Recycled Content
   Material shall contain recycled content when feasible.


C. Stirrup Steel: ASTM A82.

2.2 ACCESSORY MATERIALS:
A. Tie Wire: Minimum 16 gage annealed type. Acceptable patented system.

B. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for strength and support of reinforcement during installation and placement of concrete.

C. Chairs, Bolsters, Bar Supports, Spacers Adjacent to Architectural Concrete Surfaces: Plastic coated or plastic tipped type; size and shape as required.

2.3 FABRICATION:

A. Fabricate in accordance with ACI 315, providing concrete cover specified in Section 03300.

B. Weld reinforcing bars in accordance with AWS D1.4.

PART 3 - EXECUTION

3.1 FIELD QUALITY CONTROL:

A. Notify Architect 24 hours prior to placement of concrete.

END OF SECTION 03200