1. Section 055000   
   Metal Fabrications
   1. PART 1  GENERAL
      1. REFERENCE STANDARDS
         1. ASTM A276/A276M - Standard Specification for Stainless Steel Bars and Shapes; 2024.
         2. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.
         3. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2022.
         4. ASTM A283/A283M - Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates; 2018.
         5. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength; 2021.
         6. ASTM A501/A501M - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing; 2021.
         7. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2023.
         8. ASTM B210/B210M - Standard Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes; 2019a.
         9. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021a.
         10. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2021.
         11. ASTM F3125/F3125M - Standard Specification for High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi and 150 ksi Minimum Tensile Strength, and Metric Dimensions 830 MPa and 1040 MPa Minimum Tensile Strength; 2023.
         12. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2020, with Errata (2023).
         13. SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer; 2004.
      2. SUBMITTALS
         1. See Section 013000 - Administrative Requirements, for submittal procedures.
         2. Shop Drawings:  Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories.  Include erection drawings, elevations, and details where applicable.
      3. QUALITY ASSURANCE
         1. Design \_\_\_\_\_\_\_\_\_ under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in Colorado.
   2. PART 2  PRODUCTS
      1. MATERIALS - STEEL
         1. Steel Sections:  ASTM A36/A36M.
         2. Steel Tubing:  ASTM A501/A501M hot-formed structural tubing.
         3. Plates:  ASTM A283/A283M.
         4. Pipe:  ASTM A53/A53M, Grade B Schedule 40, black finish.
         5. Stainless Steel, General:  ASTM A666, Type 304.
         6. Stainless Steel Bars, Shapes and Moldings:  ASTM A276/A276M, Type 304.
         7. Bolts, Nuts, and Washers:  ASTM A307, Grade A, plain.
         8. Bolts, Nuts, and Washers:  ASTM F3125/F3125M, Type 1, plain.
         9. Welding Materials:  AWS D1.1/D1.1M; type required for materials being welded.
         10. Shop and Touch-Up Primer:  SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.
      2. MATERIALS - ALUMINUM
         1. Extruded Aluminum:  ASTM B221 (ASTM B221M), 6063 alloy, T6 temper.
         2. Sheet Aluminum:  ASTM B209/B209M, 5052 alloy, H32 or H22 temper.
         3. Aluminum-Alloy Drawn Seamless Tubes:  ASTM B210/B210M, 6063 alloy, T6 temper.
         4. Bolts, Nuts, and Washers:  Stainless steel.
      3. FABRICATION
         1. Fit and shop assemble items in largest practical sections, for delivery to site.
         2. Fabricate items with joints tightly fitted and secured.
         3. Grind exposed joints flush and smooth with adjacent finish surface.  Make exposed joints butt tight, flush, and hairline.  Ease exposed edges to small uniform radius.
         4. Furnish components required for anchorage of fabrications.  Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.
      4. FABRICATED ITEMS
         1. Guard Rails:  As detailed; prime paint finish.
      5. FINISHES - STEEL
         1. Prime paint steel items.
         2. Prime Painting:  One coat.
   3. PART 3  EXECUTION
      1. INSTALLATION
         1. Install items plumb and level, accurately fitted, free from distortion or defects.
         2. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
         3. Obtain approval prior to site cutting or making adjustments not scheduled.
2. END OF SECTION