SECTION 03300 – CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

1.01 SUBMITTALS

A. Shop Drawings: Indicate reinforcement sizes, spacing, and quantities, bending, and cutting schedules, supporting and spacing devices.

B. Product Data: Submit laboratory test reports for concrete materials and mix design tests.

1.02 QUALITY ASSURANCE

A. Construct and erect concrete formwork in accordance with ACI 318 and ACI 347.

B. Perform concrete reinforcing work in accordance with ACI 301 and Aci 318.

C. Perform cast-in-place concrete work in accordance with ACI 301, ACI 304R and ACI 318.

PART 2 – PRODUCTS

2.01 FORM MATERIALS AND ACCESSORIES

A. Plywood PS-1, B-B, Class I, exterior grade or better, mill oiled and edges sealed.

B. Lumber: Southern Pine species; construction grade.

C. Form Ties: Snap-off type of adjustable length.

D. Form Release Agent: Colorless mineral oil which will not stain concrete.

E. Formed Construction Joints for Slab-on-Grade: Galvanized steel, tongue and groove type profile.

F. Slab Edge Joint Filler: Premolded asphaltic board, 1/2 inch thick.

G. Vapor Retarder: 6 mil thick clear polyethylene film, type recommended for below grade application.

2.02 REINFORCEMENT MATERIALS

A. Reinforcing Steel: ASTM A615, 60 ksi yield grade; deformed billet steel bars.

B. Welded Steel Wire Fabric: ASTM A185 plain type.

C. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for support of reinforcing steel.

2.03 CONCRETE MATERIALS

A. Cement: ASTM C150, normal type I, Portland type.

B. Fine and Coarse Aggregate: ASTM C33.

G. Water: Clean and not detrimental to concrete.

B. Air Entrainment Admixture: ASTM C260.

E. Non-shrink Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents.

2.04 CONCRETE MIX

A. Mix and deliver concrete in accordance with ASTM C94.

B. Provide concrete of the following strength:
1. Compressive strength: 3000 psi at 28 days (walls and footings).
4000 psi at 28 days (floor slabs).
2. Minimum water/cement ratio: 0.45.
3. Slump: 3 to 5 inches.

C. Select admixture proportions for normal weight concrete in accordance with ACI 318.

D. Add air entraining agent to concrete mix for concrete work exposed to exterior.

PART 3 – EXECUTION

3.01 FORMWORK ERECTION

A. Erect formwork, shoring and bracing to achieve design requirements.

B. Provide bracing to ensure stability of formwork.

C. Apply form release agent to formwork in accordance with manufacturer's instructions, prior to placing for accessories and reinforcement.

3.02 INSERTS, EMBEDDED COMPONENTS, AND OPENINGS

A. Provide formed openings where required for work to be embedded in and passing through concrete members.

B. Coordinate work of other sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts.

G. Install concrete accessories straight, level and plumb.

D. Place formed construction joint device in floor slab pattern pouring sequence.

E. Place joint filler at perimeter of floor slab, penetrations, and isolation joints.

3.03 REINFORCEMENT PLACEMENT

A. Comply with ACI 301.

B. Support and secure reinforcement against displacement.

C. Ensure reinforcing is clean, free of loose scale, dirt, or other foreign matter.

D. Install wire fabric in maximum possible lengths, and offset and lap in both directions. Splice laps with tie wire.

3.04 PLACING CONCRETE

A. Place concrete in accordance with ACI 304R.

B. Place concrete for floor slabs in accordance with ACI 302.1R.

C. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent. Apply bonding agent in accordance with manufacturer's instructions.

D. Install vapor retarder under interior slabs on grade. Lap joints minimum 6 inches and seal watertight. Repair damaged vapor retarder with vapor material.

E. Separate slabs-on-grade from vertical surfaces with 1/2 inch thick joint filler, extended from bottom of slab to within 1/4 inch of finished slab surface.

F. Place concrete continuously between predetermined expansion, control, and construction joints.

G. Place floor slabs in checkerboard or saw cut pattern indicated.

H. Saw cut joints within 24 hours after placing. Use 3/16 inch blade, cut into 1/4 inch depth of slab thickness.

3.05 FORM REMOVAL

A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads.

B. Remove formwork progressively and in accordance with code requirements.

3.06 FLOOR FINISHING

A. Finish concrete floor surfaces in accordance with ACI 301 and ACI 302.1R.

B. Uniformly spread, screed and float concrete.

C. Steel trowel surfaces which will receive carpeting, resilient flooring, seamless flooring, or which will be left exposed.

D. Maintain surface flatness, with a maximum variation of 1/4 inch in 10 feet.

3.07 CURING

A. Apply sealer on floor surfaces in accordance with manufacturer's instructions.

B. Immediately after placement, protect concrete from premature drying.

C. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

3.08 FIELD QUALITY CONTROL

A. Three (3) Concrete Test Cylinders: Taken for every 100 or less cubic yards of concrete placed.

B. One (1) Additional Test Cylinder: Taken during cold weather concrete placement and cured on job site under same conditions as concrete it represents.

C. One (1) Slump Test: Taken for each set of test cylinders.

SECTION 04100 – MORTAR AND MASONRY GROUT

PART 1 – GENERAL

1.01 QUALITY ASSURANCE

A. Comply with provisions of ACI 530/ASCE 5/TMS 402 and ACI 530.1/ASCE 6/TMS 602.

1.02 DELIVERY, STORAGE, AND HANDLING

A. Maintain packaged materials clean, dry, and protected against dampness, freezing, and foreign matter.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Portland Cement: ASTM C150, Type I.

B. Hydrated Lime: ASTM C207, Type M or S.

C. Mortar Aggregate: ASTM C144.

D. Grout Aggregate: ASTM C404.

E. Water: Clean and potable.

F. Bonding Agent: Epoxy type.

2.02 MORTAR MIXES

A. Mortar for Unit Masonry: ASTM C270, Type S.

2.03 MORTAR MIXING

A. Thoroughly mix mortar ingredients in accordance with ASTM C270 and in quantities needed for immediate use.

B. Maintain sand uniformly damp immediately before the mixing process.

C. Add mortar color and admixtures in accordance with manufacturer's instructions. Provide uniformity of mix and coloration.

D. If water is lost by evaporation, re-temper only within two hours of mixing.

E. Use mortar within two hours after mixing at temperatures of 80 degrees F or less-and-one-half hours at temperatures under 80 degrees F.

2.04 GROUT MIXES

A. Bond Beams, Lintels, and Reinforced Masonry: 3000 psi strength at 28 days; 8-10 inches slump; mix in accordance with ASTM C476.
1. Fine grout for spaces with smallest horizontal dimension of 2 inches or less.
2. Coarse grout for spaces with smallest horizontal dimension greater than 2 inches.

2.05 GROUT MIXING

A. Mix grout in accordance with ASTM C94.

B. Thoroughly mix grout ingredients in quantities needed for immediate use in accordance with ASTM C476 for fine and coarse grout.

C. Add admixtures in accordance with manufacturer's instructions.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Apply bonding agent to existing concrete surfaces.

B. Work grout into masonry cores and cavities to eliminate voids.

C. Do not install grout in lifts greater than 16 inches without consolidating grout by rodding.

G. Do not displace reinforcement while placing grout.

E. Remove excess mortar from grout spaces.

SECTION 04220 – CONCRETE MASONRY UNITS

PART 1 – GENERAL

1.01 QUALITY ASSURANCE

A. Comply with provisions of ACI 530/ASCE 5/TMS 402 and ACI 530.1/ASCE 6/TMS 602.

1.02 DELIVERY, STORAGE, AND HANDLING

A. Deliver masonry materials to project in undamaged condition.

B. Store and handle materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion, or other causes.

G. Store cementitious materials off the ground, under cover, and in a dry condition.

D. Store masonry accessories, including metal items, to prevent deterioration by corrosion and accumulation of dirt.

PART 2 – PRODUCTS

2.01 CONCRETE MASONRY UNITS

A. Hollow and Solid Load-Bearing Concrete Masonry Units: ASTM C90, grade N, type I, normal weight; minimum net area compressive strength 1500 psi.

B. Size and Shape: Manufacturer's standard units with nominal face dimensions of 16 inches long by 8 inches high, 15-5/8 inches by 7-5/8 inches actual dimensions.

C. Provide special shapes where required for lintels, jambs, corners, sash, control joints, headers, bonding and other special conditions.

2.02 REINFORCEMENT AND ANCHORAGE

A. Single Wythe Joint Reinforcement: Truss type, cold drawn steel wire conforming to ASTM A82; 9 gauge side rods and cross ties.

B. Reinforcing Steel: ASTM A615, 60 ksi yield grade, deformed billet bars.

C. Anchor Bolts and Studs: ASTM A307, grade A.

PART 3 – EXECUTION

3.01 EXAMINATION AND PREPARATION

A. Verify that field conditions are acceptable and are ready to receive work.

B. Coordinate placement of anchors and reinforcement.

3.02 COURSING

A. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.

B. Concrete Masonry Units:
1. Bond: Running.
2. Coursing: One unit and one mortar joint to equal 8 inches.
3. Mortar Joints: Concave.

3.03 PLACING AND BONDING

A. Install masonry units level and plumb and in uniform coursing.

B. Fill head and bed joints with mortar for the full thickness of the face shell.

G. Adjust masonry units into final position while mortar is soft and plastic.

D. Remove and clean displaced units and set in fresh mortar.

E. Isolate top joint of masonry partitions from horizontal structural framing with compressible joint filler.

3.04 REINFORCEMENT AND ANCHORAGE

A. Install horizontal joint reinforcement 16 inches o.c. Place joint reinforcement continuous in first and second joint below top of walls.

B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.

G. Install horizontal joint reinforcement at 16 inches o.c. vertically. Use prefabricated corners and tees at intersecting walls. Lap side rods 6 inches minimum at splices.

D. Install vertical reinforcement in accordance with ACI 301 and ACI 318. Provide clearances between reinforcement and masonry surface of not less than 1/4 inch for fine grout and 1/2 inch for coarse grout.

E. Verify that anchors, seats, plates, reinforcement and other embedded items are accurately placed and positioned securely.

SECTION 05120 – STRUCTURAL STEEL

PART 1 – GENERAL

1.01 SUBMITTALS

A. Shop Drawings: Indicate sizes, spacing and locations of structural members, details of bolted and welded connections.

1.03 QUALITY ASSURANCE

A. Fabricate structural steel members in accordance with AISC "ASD Manual of Steel Construction".

B. Quality welding processes and welding operators in accordance with American Welding Society, AWS D1.1.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Structural Steel Members: ASTM A36.

B. Structural Tubing: ASTM A500, Grade B.

C. Bolts, Nuts and Washers: ASTM A325.

D. Anchor Bolts: ASTM A307.

E. Welding Materials: AWS D1.1.

F. Grout: Non-shrink type, non-metallic aggregate, capable of developing a minimum compressive strength of 5000 psi at 28 days.

G. Shop and Touch-up Primer: SSPC 15, Type 1, red oxide.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Erect structural steel in accordance with AISC "Code of Standard Practice for Steel Buildings and Bridges".

B. Provide temporary bracing to maintain framing in alignment until completion of erection and installation of permanent bridging and bracing.

C. Field weld components indicated on drawings.

D. Do not field cut or alter structural members without approval of the Structural Engineer.

E. After erection, prime welds, abrasions, and surfaces not shop primed.

F. Tighten anchor bolts after supported members have been positioned and plumbed. Clean concrete bearing surfaces.

G. Grout solidly between column plates and bearing surfaces, complying with manufacturer's instructions for non-shrink grout.

SECTION 05210 – STEEL JOISTS

PART 1 – GENERAL

1.01 SUBMITTALS

A. Shop Drawings: Indicate configuration, sizes, spacing, locations of joists, bridging and connections.

1.03 QUALITY ASSURANCE

A. Perform work in accordance with SJI Standard Specifications and SJI Technical Digest No. 5.

B. Quality welding processes and welding operators in accordance with American Welding Society, AWS D1.1.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Open Web Joist Members: SJI Type K.

B. Anchor Bolts, Nuts and Washers: ASTM A325.

C. Shop and Touch-up Primer: SSPC-Paint 16, Type I – Red Oxide.

D. Supplementary Framing: ASTM A36.

E. Welding Materials: AWS D1.1.

2.02 FABRICATION

A. Provide top and bottom chord extensions as indicated.

B. Provide horizontal or diagonal type bridging for joists complying with SJI specifications.

G. Apply one shop coat of steel prime paint to joists and accessories.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Place and secure steel joists in accordance with SJI specifications.

B. Provide temporary bracing to maintain framing in alignment until completion of erection and installation of permanent bridging and bracing.

C. After joist alignment, field weld joist seat to steel bearing surfaces.

D. Position and field weld joist chord extensions and wall attachments as detailed.

E. Install supplementary framing for roof openings greater than 18 inches.

F. Do not permit erection of decking until joists are braced and secured or until completion of erection and installation of permanent bridging and bracing.

G. Do not field cut or alter joists without approval of joist manufacturer.

H. After erection, prime welds, abrasions, and surfaces not shop primed.

SECTION 05310 – STEEL DECK

PART 1 – GENERAL

1.01 SUBMITTALS

A. Product data: Submit manufacturer's specifications, section properties, load tables, diaphragm shear tables, dimensions, finishes, fire resistance ratings, and SJI/SD test data.

B. Shop drawings: Submit panel placement drawings showing profiles, material thicknesses, finishes, layout, anchorage, shoring requirements, and openings as dimensioned on the structural drawings.

1.02 QUALITY ASSURANCE

A. Manufacturer: Company regularly engaged in the production of deckfill rib profiles for a period of ten years.

B. Fabrication: Fabricate composite floor deck panels by the continuous roll-forming process to assure quality and uniformity of profile.

C. Installer: Company specializing in products similar in material, design, and extent to that specified for this project, and whose work has resulted in construction with a record of successful in-service performance for a period of at least 5 years.

D. Cast in place concrete: Shoring and reshoring in accordance with the applicable section of the ACI 318 Building Code Requirements for Reinforced Concrete, Minimum compressive strength 4000 psi. Do not use admixing containing chloride salts. Closely monitor all concrete constituents including but not limited to aggregates, sand, and water to ensure that chlorides do not exceed the limits prescribed in ACI 318.

E. Section properties: Computed in accordance with the American Iron and Steel Institute (AISI) Cold Formed Steel Design Manual.

F. Welding: Comply with applicable provisions of the American Welding Society (AWS) D1.3 Structural Welding Code-Sheet Steel.

1.03 DELIVERY, STORAGE, AND HANDLING

A. Protect composite floor deck panels from damage during delivery, storage, and handling.

B. Elevate composite floor deck panels above the ground, sloped to provide drainage, and if required, protected form weather with a ventilated covering.

1.04 COORDINATION

A. Coordinate concrete type, strength, slump, shoring, and reinforcing to achieve composite slab performance and U.L. fire ratings.

B. Coordinate field cleaning and finishes to achieve proper adhesion to the composite floor deck panels.

SECTION 05312 – COMPOSITE STEEL DECK (CONT.)

PART 2 – PRODUCTS

2.01 MANUFACTURER

A. Provide products manufactured by EPIC Metals Corporation, Rankin, Pennsylvania.

B. Indicate the composite floor deck panels, design thickness, section properties, and composite slab capacities on the structural drawings.

2.02 MATERIALS

A. Composite Floor Deck panels: Cold-formed from steel coils conforming to ASTM A653, Structural Quality, Grade 40 with a minimum yield strength of 40 ksi.

B. Apply hot-dip protective coating of zinc to steel coils conforming to ASTM A924, Class G60 or G90 as defined in ASTM A653.

G. Provide minimum undercoated thickness of material not less than 95% of the design thickness.

2.03 FABRICATION

A. Form composite floor deck panels by the continuous roll forming process.

1. Composite floor deck panels: Continuous dovetail-shaped ribs spaced at 8 inches on center and formed to the following nominal dimensions: 2 inches depth, 1-1/8 inches minimum rib width at top, and 7/8 inch maximum opening at bottom.

2. Alternate ribs with integral embossed locking legs to enhance shear bond.

3. Provide composite floor deck panels with full depth positive registering sidelaps formed by welds or screws.

PART 3 – EXECUTION

3.01 GENERAL

A. Install the Composite Floor Deck System in strict accordance with the manufacturer's instructions approved erection drawings, and all applicable safety regulations.

3.02 EXAMINATION

A. Inspect the supporting frame or other related work and accepted by the erector of the Composite Floor Deck System before starting of installation.

B. Install temporary shoring as required by the manufacturer.

3.03 PREPARATION

A. Position bundles of material on the supporting frame in such a manner that overloading of any of the individual framing members does not occur. Do not place composite floor deck panels on concrete supports until supports have adequately cured or properly designed formwork is in place.

3.04 INSTALLATION

A. Install the composite floor deck panels and related accessories in accordance with manufacturer's approved erection drawings, SDI Publication No. 30, SDI Manual of Construction with Steel Deck, and all federal and state safety regulations.

B. Position composite floor deck panels on the supporting frame and adjust to final position with adequate bearing at ends on the supporting frame. Maintain a minimum bearing of 1-1/2 inches.

G. Cut the panels to suit jobsite conditions performed in a neat and professional manner. Cut only those openings indicated on the structural drawings. Cut and reinforce openings as approved by the structural engineer.

D. Fasten the composite floor deck panels to all supporting members with fasteners as specified at 8 inches on center or as indicated on the erection drawings. Fasten to formwork and masonry supports as required for safety.

E. Fasten the sides of the panels located at the perimeter of the building to supporting members at a maximum spacing of 24 inches on center or less as indicated on the manufacturer's erection drawings.

F. Do not apply construction loads to the panels until after the panels are permanently fastened to supporting members and sidelaps have been attained. Do not exceed the load-carrying capacity of the panels.

SECTION 05400 – COLD FORMED METAL FRAMING

PART 1 – GENERAL

1.01 SUBMITTALS

A. Product Data: Provide manufacturer's product literature, data sheets and installation recommendations for specified products.

B. Shop Drawings: Indicate stud layout, component details, framed openings, bearing, anchorage, welds, type and location of fasteners, and items required of related work.

1.02 QUALITY ASSURANCE

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

B. Installer: Company specializing in performing the work of this section with minimum three years documented experience.

C. Welding Standards: Comply with procedures according to AWS D1.1, "Structural Welding Code – Steel", and AWS D1.3, "Structural Welding Code – Sheet Steel".

D. Comply with AISI "Specification for the Design of Cold-Formed Steel Structural Members" for calculating structural properties of cold-formed metal framing.

1.03 DELIVERY, STORAGE AND HANDLING

A. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

B. Store materials protected from exposure to harmful weather conditions at temperature and humidity conditions per the recommendations of ASTM C955.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

A. Manufacturers: 1. Dale Industries, Inc.
2. Dietrich Industries, Inc.
3. Clark Steel Framing Industries

2.02 MATERIALS

A. Sheet Steel: ASTM A653, structural steel, zinc coated, of grade and coating as follows:
1. Grade 33: Minimum yield strength 33 ksi (18 and 20 gauge).
2. Grade 50: Minimum yield strength 50 ksi (12, 14 and 16 gauge).
3. Coating: G60.

2.03 WALL FRAMING

A. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, complying with ASTM C955.

B. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, punched, with straight flanges, complying with ASTM C955.

G. Framing Connectors: Factory-made formed steel sheet, ASTM A653, Grade 50, with G90 hot-dipped galvanized coating and factory punched holes.

2.04 ANCHORS AND FASTENERS

A. Steel Shapes and Clips: ASTM A36, zinc coated by hot-dip process.

B. Anchor Bolts: ASTM A36, threaded carbon steel bolts, hex-headed, and carbon steel nuts, hardened steel washers, zinc coated by hot-dip process.

C. Powder Actuated Fasteners: Provide size and type as indicated on the structural drawings. Install into concrete or steel according to manufacturer's instructions.

D. Screw Fasteners: Corrosion resistant, self-drilling, self-tapping steel screws.

2.05 FABRICATION .

A. Framing components may be pre-assembled into panels prior to erecting.

B. Fabricate panels and accessories plumb and square, with connections securely fastened so as to prevent racking or distortion.

C. Cut all framing components squarely for attachment to perpendicular members.

D. Install load bearing studs with full bearing against inside track web (1/8 inch max. gap) prior to stud and track attachment. Splices in load bearing studs are not permitted.

E. Fasten components using self-tapping screws or welding.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Install components according to manufacturer's instructions, and ASTM C1007 requirements.

B. Install load bearing studs full length in one piece. Splicing of studs is not permitted.

C. Install horizontal bridging in stud system, spaced 48 inches on center. Fasten at each stud intersection.

D. Provide braced wall framing where indicated on the structural drawings.

E. Touch-up field welds and damaged surfaces with primer.

SECTION 05420 – PRE-ENGINEERED COLD-FORMED STEEL TRUSSES

PART 1 – GENERAL

1.01 SUBMITTALS

A. Product Data: Submit manufacturer's product data and installation instructions for each type of cold-formed steel framing and accessory required.

B. Shop Drawings: Show member type, location, spacing, size and gauge, methods of attachment to supporting members, and erection details; indicate supplemental bracing, strapping, splices, bridging, accessories and details required for proper installation.

1. Include detailed roof truss layouts.

2. Provide drawings sealed and signed by a qualified registered Professional Engineer, verifying truss ability to meet local code and design requirements. Include the following:

a. Description of design criteria.

b. Engineering analysis depicting member stresses and truss deflection.

c. Truss member sizes and gauges and connections at truss joints.

d. Truss support reactions.

e. Top chord, bottom chord and web bracing requirements.

1.02 QUALITY ASSURANCE

A. Fabricator Qualifications: Cold-formed steel truss fabricator with experience designing and fabricating cold-formed steel truss systems equal in material, design and extent to the systems required for this project.

B. Installer Qualifications: Experienced installer approved by truss system fabricator.

C. Welding Standards: Comply with applicable provisions of AWS D1.1 and AWS D1.3.

1.03 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer's unopened containers of bundles, fully identified by name, brand, type and grade. Exercise care to avoid damage during unloading, storing and erection.

B. Store trusses on blocking, pallet platforms or other supports off the ground and in an upright position sufficiently braced to avoid damage from excessive bending.

C. Protect trusses and accessories from corrosion, deformation, damage and deterioration when stored at job site. Keep trusses free of dirt and other foreign matter.

B. During construction, adequately distribute all loads applied to trusses so as not to exceed the carrying capacity of any one joist, truss or other component.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

A. Manufacturers: 1. Eagle Metal Framing, LLC
2. Alpine Engineered Products, Inc.
3. Nuconstruct Commercial Corporation

2.02 MATERIALS

A. Truss Components: Pre-engineered cold-formed steel trusses.

1. Provide manufacturer's standard steel truss members, bracing, bridging, blocking, reinforcements, fasteners and accessories with each type of steel framing required, as recommended by the manufacturer for the application indicated and as to provide a complete light gauge cold-formed steel truss system.

2. ASTM A 653 structural steel sheet with minimum yield strength of 40,000 psi.

3. Provide sizes, shapes and gauges indicated.

4. Design Uncoated-Steel Thickness: 20 gauge, 0.0350 inch; 18 gauge, 0.0480 inch; 16 gauge, 0.0570 inch; 14 gauge, 0.0730 inch.

5. Finish: Hot-dipped galvanized coating, minimum G90.

B. Bracing, Bridging and Blocking Members: Fabricate components of ASTM A 653, type B, steel sheet with a minimum yield strength of 33,000 psi.

1. Finish: Hot-dipped galvanized coating, minimum G90.

2. Bridging: Combination of flat steel sheet straps of width and thickness indicated and joist track solid blocking of width and thickness indicated; flat straps fastened to bottom chord of trusses and solid blocking secured to joist webs.

C. Fasteners: Manufacturer recommended self-drilling, self-tapping screws with corrosion-resistant plated finish of sufficient size and number of ensure the strength of the connection.

1. Welding: Comply with AWS D1.1 and AWS D1.3, as applicable, for welding base metals.

2. Other fasteners as approved by truss design engineer.

2.03 FABRICATION

A. Trusses: Factory fabricate plumb, square, true to line, and with connections securely fastened, according to manufacturer's recommendations and the requirements of this specification.

1. Fabricate truss assemblies in jig templates.

2. Cut truss members by sawing, shearing or plasma cutting.

3. Fasten members by welding or screw fastening, or other methods as standard with fabricator. Wire tying of framing members is not permitted.

4. Comply with AWS requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.

5. Locate mechanical fasteners and install according to cold-formed members by not less than 3 exposed screw threads.

B. Fabrication Tolerances: Fabricate trusses to following tolerances:

1. Variation From Plumb, Level and Truss: 1/8 inch in 10 feet.

2. Spacing of individual trusses: Not more than plus or minus 1/8 inch from plan; cumulative error not to exceed minimum fastening requirements of sheathing or other finishing materials.

3. Squareness: 1/8 inch out-of-square, maximum.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Verify that bearing surfaces and substrates are ready to receive steel trusses.

B. Verify that bearing surfaces are within the following tolerances:

1. Variation from Level or Specified Plane: Maximum 1/8 inch in 10 feet.

2. Variation from Specified Position: Maximum 1/4 inch.

G. Install trusses in accordance with Truss Fabricator's shop drawings. Use correct fasteners.

D. Place components at spacing indicated on the shop drawings.

E. Install all construction (temporary installation) bracing in compliance with Truss Fabricators guidelines before application of any loads.

F. Install all permanent bracing in compliance with Truss Building Designers guidelines before application of any loads.

G. Provide bracing that holds trusses straight and plumb and in safe condition until decking and permanent truss bracing have been fastened to form a structurally sound framing system.

H. All sub-contractors shall employ proper construction procedures to insure adequate distribution of temporary construction loads so that the carrying capacity of any single truss or group of trusses is not exceeded.

I. Do not alter, cut or remove any truss members or components, unless approved in advance in writing by the Truss Designer.

J. Repair or replace damaged chords, webs, or complete trusses as directed in writing by the Truss Designer.

K. On steel framed walls, align truss bottom chord with load-bearing studs, or continuously reinforce wall top track to transfer roof loads to structure.

L. Anchor trusses securely at all bearing points with fasteners and/or accessories per the Truss Fabricator's recommendations and guidelines, as indicated in the shop drawings.

M. Provide proper lifting equipment, suited to the sizes and types of trusses required for this project. Provide industry accepted spreader devices to lift the trusses into place without stress or damage to the truss components.

N. Install trusses to a maximum allowable tolerance variation from plumb, level, and true to line of 1/8 inch in 10 feet. Space individual trusses no more than plus or minus 1/8 inch from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finish materials.

GEORGIA REGISTERED PROFESSIONAL No. 12760 WILLIAM LAWING

ARCHITECTURAL DESIGN WORKSHOP P.C.
814 COVERED BRIDGE WAY, FAIRBURN, GA. 30213
TEL 770 306 7484

CLIENT: Kasandas Properties

PROJECT: New Comfort Suites Hotel
Busbee Road, at Chastain Road, Kennesaw, Ga. 30144

No.	Description	Date

Structural Specifications

Project Number: 6002
Date: 3/5/07
Drawn By: RPK
Checked By: WHL
Scale: NONE

S10