SECTION 09.22.16

NON-LOAD BEARING WALL FRAMING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Non-load bearing metal studs for wall assemblies.

B. Area Separation and shaft wall framing products.

1.2 RELATED SECTIONS

A. Section 05400 - Cold-Formed Metal Framing.

B. Section 09205 - Furring and Lathing: Lath and furring for interior plaster applications.

C. Section 09210 - Gypsum Plaster: Interior plaster applications.

D. Section 09250 - Gypsum Board: Gypsum interior sheathing.

E. Section 09260 - Gypsum Board Assemblies: Shaft Walls and Area Separation Walls.

1.3 REFERENCES

A. AISI - Standard for Cold-Formed Steel Framing General Provisions.

B. AISI - North American Specification (NASPEC) for the Design of Cold-Formed Steel Structural Members - 2001.

C. AISI/COS 2001 - Standard for Cold-Formed Steel Framing - Prescriptive Method for One and Two Story Family Dwelling.

D. ASTM A 653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process.

E. ASTM A 780 - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.

F. ASTM A 1003 - Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members.

G. ASTM C 645 - Standard Specification for Nonstructural Steel Framing Members - 2006.

H. ASTM C 754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.

I. ASTM C 1513 - Standard Specification for Steel Tapping Screws for Cold-Formed Steel

Framing Connections.

J. ASTM E 84 - Standard Method for Surface Burning Characteristics of Building Materials.

K. ASTM E 90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.

L. ASTM E 119 - Standard Test Methods for Fire Tests of Building Construction and Materials.

M. ASTM E 413 - Classification for Rating Sound Insulation.

N. GA-600 - Fire Resistance Design Manual.

1.4 DESIGN REQUIREMENTS

A. Design steel in accordance with American Iron and Steel Institute Publication "Specification for the Design of Cold-Formed Steel Structural Members", except as otherwise shown or specified.

B. Design loads: As indicated on the Architectural Drawings. 5 PSF minimum design lateral load is required for interior walls by the building code.

C. Design framing systems to withstand design loads without deflections greater than the following:
   1. Interior Non-Load Bearing Walls: Lateral deflection of: L/120.
   2. Interior Non-Load Bearing Walls: Lateral deflection of: L/180.
   3. Interior Non-Load Bearing Walls: Lateral deflection of: L/240.
   4. Interior Non-Load Bearing Walls: Lateral deflection of: L/360.

D. Design framing system to accommodate deflection of primary building structure and construction tolerances.

E. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provides materials and construction identical to those tested in assembly indicated according to ASTM E119 by an independent testing laboratory. Products used in the assembly shall carry a classification label from the testing laboratory.

F. Sound Transmission Characteristics [STC]: For gypsum assemblies [wall/ceilings] with STC rated requirements, provide materials and construction methods that are identical to the requirements of either ASTM E 90, for laboratory tests, or ASTM E 336, for field tests. Testing or inspection agencies must be qualified independent organizations.

1.5 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Submit manufacturer's product literature and data sheets for specified products.

C. Manufacturer's certification of product compliance with codes and standards.

1.6 QUALITY ASSURANCE

A. Contractor shall provide effective, full time quality control over all fabrication and erection complying with the pertinent codes and regulations of government agencies having jurisdiction.

B. Conduct pre-installation meeting to verify project requirements, substrate conditions, and manufacturer's installation instructions.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Notify manufacturer of damaged materials received prior to installing.

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

C. Store materials protected from exposure to rain, snow or other harmful weather conditions, at temperature and humidity conditions per the recommendations of ASTM C754 section 8.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: CRACO Mfg., Inc. located at: 1122 Johnson Rd; York, SC 29745; Toll Free Tel: 803-684-5544; Fax: 803-684-2091; Email: technical@cracometals.com; Website: www.cracometals.com

2.2 MATERIALS

A. Steel: Galvanized Steel meeting or exceeding the requirements of ASTM A 1003.
   1. Coating: Galvanized G40 (Z120) coating minimum or equivalent, complying with ASTM C 645.
   2. Coating: Galvanized G60 (Z180) coating minimum or equivalent, complying with ASTM C 645.

2.3 COMPONENTS

A. Nonstructural Studs: Cold-Formed galvanized steel C-studs.
Material: Galvanized steel meeting or exceeding the requirements of ASTM A754 for conditions indicated below:
   1. Flange Length: 1-1/4 inch (32mm) 125 flange.
   2. Web Depth: 1-5/8 inch (41 mm) 162 depth.
   3. Web Depth: 2-1/2 inch (64 mm) 250 depth.
   4. Web Depth: 3-5/8 inch (92 mm) 362 depth.
   5. Web Depth: 4 inch (102 mm) 400 depth.
   6. Web Depth: 6 inch (152.4 mm) 600 depth.
   7. Web Depth: As indicated on drawings.
   8. Available Steel thickness in mils: 15, 18, 19, 27, 30, 33.

B. Nonstructural Track: Cold-Formed galvanized steel runner tracks
   1. Flange Length: 1-1/4 inch (32 mm) T125 flange.
   2. Web Depth: 1-5/8 inch (41 mm) 162 depth.
   3. Web Depth: 2-1/2 inch (64 mm) 250 depth
   4. Web Depth: 3-5/8 inch (92 mm) 362 depth.
   5. Web Depth: 4 inch (102 mm) 400 depth.
   6. Web Depth: 6 inch (152.4 mm) 600 depth.
   7. Web: Track web to match stud web size.
   8. Available Steel thickness in mils: 15, 18, 19, 27, 30, 33.

C. Deflection Track: Cold-Formed Deep Leg Runner Slip Track.
   1. Leg Length: 2 inch (51 mm) T200 flange.
   2. Leg Length: 2-1/2 inch (63 mm) T250 flange.
   3. Leg Length: 3 inch (76mm) T300 flange.

4. Leg Length: 3-1/2 inch (89 mm) T350 flange.
5. Leg Length: As required by design.
6. Available Steel thickness in mils: 15, 18, 19, 27, 30, 33, 43, 54, 68, 97.
7. Minimum Material Thickness: As required by design.
8. Minimum Yield Strength: 33ksi (227 MPa) (for 33mils through 118mils).
9. Minimum Yield Strength: 50ksi (345 MPa) (optional for 54mils and up).
10. Minimum Yield Strength: As required by design.

D. Deflection Track Alternate: **CRACO Slotted Slip Track**
1. Size: Web Widths of 2 ½", 3-5/8", 4", 6" & 8".
2. Available Steel thickness in mils: 15, 18, 19, 27, 30, 33, 43, 54, 68, 97.
3. Leg Length: 2 ½ inch
4. Size: As required by design.
5. UL listed assembly.

E. U-Channel (CRC Cold Rolled Channel):
1. Size: 150U50-54 1-1/2 inch (38mm) 54 mils (16ga.).
2. Size: 075U50-54 3/4 inch (19.1mm) 54 mils (16ga.).
3. Attach CRC to Steel Studs with BridgeSmart Connector Clips.
4. Size: As required by design.

F. Furring Channel: Furring existing walls and suspended ceiling applications.
1. Size: 087F125-15 7/8 inch (22mm) Furring Channel 15 mils (25ga-eq).
2. Size: 087F125-18 7/8 inch (22mm) Furring Channel 18 mils (25ga).
3. Size: 087F125-23 7/8 inch (22mm) Furring Channel 23 mils (20ga-eq).
4. Size: 087F125-30 7/8 inch (22mm) Furring Channel 30 mils (20ga).
5. Size: 087F125-33 7/8 inch (22mm) Furring Channel 33 mils (20ga).
6. Size: 087F125-43 7/8 inch (22mm) Furring Channel 43 mils (18ga).
7. Size: 150F125-15 1-1/2 inch (38mm) Furring Channel 15 mils (25ga-eq).
8. Size: 150F125-18 1-1/2 inch (38mm) Furring Channel 18 mils (25ga).
9. Size: 150F125-23 1-1/2 inch (38mm) Furring Channel 23 mils (20ga-eq).
10. Size: 150F125-30 1-1/2 inch (38mm) Furring Channel 30 mils (20ga).
11. Size: 150F125-33 1-1/2 inch (38mm) Furring Channel 33 mils (20ga).
12. Size: 150F125-43 1-1/2 inch (38mm) Furring Channel 43 mils (18ga).
13. Size: 150F125-54 1-1/2 inch (38mm) Furring Channel 54 mils (16ga).
14. Size: As required by design.

G. Resilient Channel: Cold-Formed Resilient Channel System to decrease sound transmissions.
1. Size: One Leg 1/2 inch Resilient Channel.
2. Size: Two Leg 1/2 inch Resilient Channel.

H. Framing Accessories: Accessories required in this project.
1. Flat Strapping for Backing Strip.
2. Flat Strapping and bridging for lateral bracing.
3. L-Angles.

I. Fasteners: Self-drilling, self-tapping screws; complying with ASTM C 1513 - Standard Specification for Steel Tapping Screws for Cold-Formed Steel Framing Connections.

J. Touch-Up Paint: Complying with ASTM A 780 - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.

PART 3 EXECUTION

3.1 INSPECTION

A. Inspect supporting substrates and structures for compliance of proper conditions for installation and performance of the cold-formed structural framing.

3.2 PREPARATION

A. Prepare attachment surfaces so that they are plumb, level, and in proper alignment for accepting the cold-formed structural framing.

3.3 FABRICATION

A. Prior to fabrication of framing, submit product submittal sheets to the architect or engineer to obtain approval.

B. Framing components may be preassembled into panels prior to erecting. Prefabricate panels so they are square, with components attached in a manner which prevents racking and minimizes distortion during lifting and transport.

C. Cut all framing components square for attachment to perpendicular members or as required for an angular fit against abutting members.

D. Plumb, align and securely attach studs to flanges of both upper and lower runners, except that in the case of interior, non-load bearing walls where studs need not be attached to upper or lower runners.

E. Splices in members other than top and bottom runner track are not permitted.

F. Provide temporary bracing where required, until erection is complete.

3.4 INSTALLATION - NON-AXIAL LOAD-BEARING CURTAIN WALLS

A. Runners shall be securely anchored to the supporting structure as shown on the drawings.

B. Jack studs or cripples shall be installed below window sills, above window and door heads, and elsewhere to furnish supports.

C. Lateral bracing shall be provided by use of gypsum board and gypsum sheathing or by horizontal straps or cold-rolled channels. Bracing shall conform to Section D3 of the AISI North American Specification (NAS).

D. Provisions for structure vertical movement shall be provided where indicated on the drawings prepared by the engineer of record.

E. Handling and lifting of prefabricated panels shall be done in a manner so as not to cause distortion in any member.

3.5 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before substantial completion of final installation.

END OF SECTION