Project:

Additions and Renovations to
Elmore County Technical Center for the
Elmore County Board of Education
Wetumpka, Alabama

MCKEE PROJECT NO. 19.118
ALABAMA DEPARTMENT OF CONSTRUCTION MANAGEMENT NO. 2019515

The following changes and/or substitutions to the plans and specifications are hereby made a part of same and are incorporated in full force as part of the contract.

Bidders shall acknowledge receipt of this Addendum in writing on his Proposal Form.

A4.1 GENERAL MODIFICATIONS:

A. NONE

A4.2 SPECIFICATION MODIFICATIONS:

A. Refer to Section 09510, Acoustical Ceilings, herein.

A4.3 DRAWING MODIFICATIONS:

A. NONE

A4.4 CLARIFICATIONS & RESPONSES:

A. NONE

END OF ADDENDUM
SECTION 09510 - ACOUSTICAL CEILINGS

PART 1 – GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections apply to work of this section.

SUMMARY:

Extent of acoustical ceilings specified in this section include the following:

1. Acoustical lay-in panel ceilings in an exposed suspended metal grid system.

SUBMITTALS:

Product Data: Submit manufacturer's technical data for each type of acoustical ceiling unit and suspension system required.

1. Full size sample of each acoustical panel type, pattern and color.
2. Set of 12" long samples of exposed runners and moldings for each color and system type required.

Certificates: Submit certificates from manufacturers of acoustical ceiling units and suspension systems attesting that their products comply with specification requirements.

QUALITY ASSURANCE:

Fire Performance Characteristics: Provide acoustical ceiling components that are identical to those tested for the following fire performance characteristics, according to ASTM test method indicated, by UL or other testing and inspecting agency acceptable to authorities having jurisdiction. Identify acoustical ceiling components with appropriate marking of applicable testing and inspecting agency.

1. Surface Burning Characteristics: As follows, tested per ASTM E 84.
2. Flame Spread: 25 or less.
3. Smoke Developed: 50 or less.

Fire Resistance Ratings: As indicated by reference to design designation in UL "Fire Resistance Directory" for floor, roof or beam assemblies in which acoustical ceilings function as a fire protective membrane; tested per ASTM E 119. Provide protection materials for lighting fixtures and air ducts to comply with requirements indicated for rated assembly.

Coordination of Work: Coordinate layout and installation of acoustical ceiling units and suspension system components with other work supported by, or penetrating through, ceilings, including light fixtures, HVAC equipment, fire-suppression system components (if any), and partition system (if any).

Single-Source Responsibility: Provide acoustical panel units and grid components by a single manufacturer.

DELIVERY, STORAGE AND HANDLING:

Deliver acoustical ceiling units to project site in original, unopened packages and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination or other causes.

Before installing acoustical ceiling units, permit them to reach room temperature and a stabilized moisture content.
Handle acoustical ceiling units carefully to avoid chipping edges or damaging units in any way.

PROJECT CONDITIONS:

Space Enclosures: Do not install interior acoustical ceilings until space is enclosed and weatherproof, wet-work in space is completed and nominally dry, work above ceilings is complete and ambient conditions of temperature and humidity will be continuously maintained at values near those indicated for final occupancy.

PART 2 – PRODUCTS

MANUFACTURERS:

The following manufacturers' products have been used to establish minimum standards for materials, workmanship and function:

1. USG Interiors, LLC. (Basis of Design) | www.usg.com | Ph: 1.800.950.3839
2. Certainteed Corporation | www.certainteed.com | Ph: 1.800.233.8990

Equal products of other manufacturers may be used in the work provide such products have been approved, by the Architect, not less than Ten (10) days prior to scheduled bid opening.

GENERAL ACOUSTICAL CEILING TILE UNITS

Standard for Acoustical Ceiling Tile Units: Provide manufacturer's standard units of configuration indicated which are prepared for mounting method designated and which comply with FS SS-S-118 requirements, including those indicated by reference to type, form, pattern, grade (NRC or NIC’ as applicable), light reflectance coefficient (LR), edge detail, and joint detail (if any).

1. Mounting Method for Measuring NRC: No. 7 (mechanically mounted on special metal support), FS SS-S-118; or Type E-400 mounting as per ASTM E 795.

Sound Attenuation Performance: Provide acoustical ceiling units with ratings for ceiling sound transmission class (STC) of range indicated as determined according to AMA 1-II “Ceiling Sound Transmission Test by Two-Room Method” with ceilings continuous at partitions and supported by a metal suspension system of type appropriate for ceiling unit of configuration indicated (concealed for tile, exposed for panels).

Colors, Textures and Patterns: Provide products to match appearance characteristics indicated or, if not otherwise indicated, as selected by Architect from manufacturer's standard colors, surface textures, and patterns available for acoustical ceiling units and exposed metal suspension system members of quality designated.

ACOUSTICAL TILES

A. Acoustical Panel Type: Vinyl Covered Ceiling Panels

1. USG “Sheetrock Brand Clean Room Lay-In Gypsum Panels”.
2. Classification: Provide ceiling panels complying with ASTM E 1264 for type, form and pattern as follows:
   a. Type XX, mineral based with membrane faced overlay. Vinyl face, back and sides covered gypsum ceiling panels.
   b. Form: Not Applicable
   c. Pattern: Smooth
4. LR: Not less than 0.77
5. NRC: Not less than: N/A
6. CAC: Not less than 35
7. Edge / Joint Detail:
   a. Square (Typical if not indicated on drawings).
   b. SLT Beveled Reveal (Only if indicated on drawings).
8. Panel Thickness: 1/2 inch (12.7 mm).
9. Modular Size: 24 by 24 inches (610 by 610 mm).
10. Recycled Content: 80%.
12. Clean room performance: Acceptable in applications up to Class 100 Clean rooms.
13. ClimaPlus™ 30 year limited system warranty. Contains a broad spectrum antimicrobial additive on the face and back of the panel that provides resistance against the growth of mold and mildew. Includes sag resistance performance.
14. Suspension Grid/Width: USG Donn ZXLA; 15/16”.

B. Acoustical Panel Type: Lay-In Acoustical Ceiling Panels

1. USG “Radar” Acoustical Panels
2. Classification: Provide ceiling panels complying with ASTM E 1264 for type, form and pattern as follows:
   a. Type III, mineral base with painted finish
   b. Form: 2, water felted.
   c. Pattern: Perforated, small holes and light texture.
4. LR: Not less than 0.84
5. NRC: Not less than 0.45
6. CAC: Not less than 33
7. Edge / Joint Detail:
   a. SQ Square (Typical if not indicated on drawings).
   b. SLT Beveled Reveal (Only if indicated on drawings).
8. Panel Thickness: 5/8 inch (15.8mm).
9. Modular Size: 24 by 24 inches (600 by 600 mm).
10. Recycled Content: Up to 59%.
11. Panel Features:
   a. Biobased product that is USDA certified.
   b. Abuse Resistant, high durability and can be cleaned easily with a soft brush & vacuumed.
12. ClimaPlus™ 30 year limited system warranty. Contains a broad spectrum antimicrobial additive on the face and back of the panel that provides resistance against the growth of mold and mildew. Includes sag resistance performance.
13. Suspension Grid/Width: USG Donn DX; 15/16” (24mm).

GENERAL METAL SUSPENSION SYSTEMS

Standard for Metal Suspension Systems: Provide metal suspension systems of type, structural classification and finish indicated which comply with applicable STM C 635 requirements.

Finishes and Colors: Provide manufacturer's standard factory applied finish for type of system indicated. For exposed suspension members and accessories with painted finish, provide color indicated or, if not otherwise indicated, as selected by Architect from manufacturer's full range of standard colors.
1. White.

Attachment Devices: Size for 5 times design load indicated in ASTM C 635, Table 1, Direct Hung.

Hanger Wire: Galvanized carbon steel wire, ASTM A 641, soft temper, prestretched, Class 1 coating, sized so that stress at 3- times hanger design load (ASTM C 635, Table 1, Direct Hung), will be less than yield stress of wire, but provide not less than 12 gage.
Edge Mouldings and Trim: Formed steel section; exposed surfaces prefinished to match suspension system components.

1. Provide shadow molding for edges equal to MS174; 9/16” thick exposed flange; 3/8” x 3/8” reveal; 7/8” vertical flange.
2. At penetrations of ceiling install manufacturer’s standard molding which fits with type of edge detail and suspension system indicated.
3. For circular penetrations of ceiling, provide edge moldings fabricated to diameter required to fit penetration exactly.

Hold-Down/Impact Clips: Where indicated provide manufacturer’s standard impact clip system design to absorb impact forces against lay-in panels. Install hold down clips at all ceiling panels within 10’-0” of and exterior door.

METAL SUSPENSION SYSTEMS

A. USG Donn Brand ZXLA 15/16” Acoustical Suspension System

1. Double-web design; Intermediate Duty as defined by ASTM C635. Bottom face with 15/16” (24mm) exposed flange with pre-painted aluminum cap; cross tee holes and hanger wire holes at 6 in oc; integral reversible splices, commercial quality pretreated and painted, exposed surfaces prefinished in manufacturer’s enhanced corrosion resistant polyester paint finish. Cross tees; roll-formed into double-web design with rectangular bulb; 15/16 (24mm) in exposed flange with pre-painted aluminum cap; Stainless Steel clips clenched to the web Main tees and cross tees shall be positively locked yet shall be removable without the use of tools.
3. Tee Profile: 15/16” (24mm) wide.
4. Color: White

B. USG Donn Brand DX/DXL 15/16” Acoustical Suspension System

1. Narrow Face, Capped, Double Web, Cold Rolled Steel Suspension System: Main and Cross Tees as defined by ASTM C635, commercial quality pretreated and painted hot-dipped galvanized cold-rolled steel, exposed surfaces prefinished in manufacturer’s standard corrosion resistant enamel paint finish
3. Tee Profile: Narrow Face 15/16” (22mm) wide.
4. Color: White

SEALANT

Acoustical Sealant: Resilient, non-staining, non-shrinking, non-hardening, non-skinning, non-drying, non-sag sealant intended for interior sealing of concealed construction joints.

Manufacturers: The following manufacturers’ products have been used to establish minimum standards for materials, workmanship and function:

1. BA-98; Pecora Corp.
2. Tremco Acoustical Sealant; Tremco
3. Equal products of other manufacturers may be used in the work provided such products have been approved by the Architect, not less than Ten (10) days prior to schedule bid opening.
PART 3 – EXECUTION

PREPARATION:

Coordination: Furnish layouts for inserts, clips, or other supports required to be installed by other trades for support of acoustical ceilings.

1. Furnish concrete inserts and similar devices to other trades for installation well in advance of time needed for coordination of other work.

Measure each ceiling area and establish layout of acoustical units to balance border widths at opposite edges of each ceiling. Coordinate ceiling layout with lighting layout. Avoid use of less-than-half width units at borders, and comply with reflected ceiling plans.

INSTALLATION:

General: Install materials in accordance with manufacturer's printed instructions, and to comply with governing regulations, fire-resistance rating requirements as indicated, and CISCA standards applicable to work.

Arrange acoustical units and orient directionally-patterned units (if any) in manner shown by reflected ceiling plans.

Install suspension systems to comply with ASTM C 636, with hangers supported only from building structural members.

1. Locate hangers within 6" inches from each end and spaced 4'-0" along each carrying channel or direct-hung runner, unless otherwise indicated, leveling to tolerance of 1/8" in 12'-0".

2. Locate hangers on all 4 corners of the ceiling grid where a projector is installed

Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eye-screws, or other devices which are secure and appropriate for substrate, and which will not deteriorate or fail with age or elevated temperature.

Install hangers plumb and free from contact with insulation or other objects within ceiling plenum which are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal force by bracing, counter-splaying or other equally effective means.

Install edge moldings of type indicated at perimeter of acoustical ceiling area and at locations where necessary to conceal edges of acoustical units.

Sealant Bed: Apply continuous ribbon of acoustical sealant, concealed on back of vertical leg before installing moldings.

Screw-attached moldings to substrate at intervals not over 16" o.c. and not more than 3" from ends, leveling with ceiling suspension system to tolerance of 1/8" in 12'-0". Miter corners accurately and connect securely.

Install acoustical panels in coordination with suspension system with edges concealed by support of suspension members. Scribe and cut panels to fit accurately at borders and at penetrations.

Install hold-down clips on panels, within 10'-0" of exterior door openings, where panels are other than horizontal, and in areas where required by governing regulations or for fire-resistance ratings; space as recommended by panel manufacturer, unless otherwise indicated or required.
EXTRA STOCK:

Deliver stock of maintenance materials to Owner. Furnish maintenance materials from same manufactured lot as materials installed and enclosed in protective packaging with appropriate identifying labels.

1. Ceiling Tile: Furnish not less than one box for each type, color, pattern and size installed.

END OF SECTION