

TO

PLANS AND SPECIFICATIONS

FOR CONSTRUCTION OF

KITCHEN/CAFETERIA RENOVATIONS TO

SOUTH GWINNETT HIGH SCHOOL

FOR

GWINNETT COUNTY BOARD OF EDUCATION
GWINNETT COUNTY, GA

DATED: JANUARY 7, 2020

SHL-D01-20

CUNNINGHAM FOREHAND MATTHEWS & MOORE, ARCHITECTS, INC.
2011 MANCHESTER STREET, N. E.
ATLANTA, GEORGIA 30324
(404) 873-2152

The following items shall take precedence over the plans and specifications (Project Manual) for the above named project and shall become a part of the Contract Documents.

Where any items called for in the specifications or indicated on the drawings are supplemented hereby, the original shall remain in effect.

Where any original item is amended, voided, or superseded hereby, the provisions of such item not specifically amended voided, or superseded shall remain in effect.

The following items shall be incorporated in the Plans and Project Manual.

A. PROJECT MANUAL:ITEM NO. 1: SECTION 087100, FINISH HARDWARE:

At PART 3 - EXECUTION, at HARDWARE SCHEDULE:, add the following:

HW SET: 01

DOOR #(S):

101

EACH TO HAVE:

| | | | | |
|------|------------------|-----------------------|-----|-----|
| 1 EA | CONTINOUS HINGE | 224HD | 689 | IVE |
| 1 EA | SGL CYL DEADBOLT | 485 | 626 | SAR |
| 1 EA | PUSH PLATE | 8200 4" X 16" | 630 | IVE |
| 1 EA | PULL PLATE | 8303 8" 4" X 16" | 630 | IVE |
| 1EA | SURFACE CLOSER | 1451 EDA TBWMS | 689 | LCN |
| 1 EA | MOP PLATE | 8400 8" X 1" LDW B-CS | 630 | IVE |
| 1 EA | KICK PLATE | 8400 8" X 2" LDW B-CS | 630 | IVE |
| 1 EA | WALL STOP | WS406/407 CVX | 630 | IVE |

3 EA SILENCER SR64 GRY IVE
 CONFIRM CYLINDER TYPE; PROVIDE CORE IF REQUIRED.

HW SET: 02

DOOR #(S):
 102

EACH TO HAVE:

| | | | | |
|------|----------------|-----------------------|-----|-----|
| 3 EA | HW HINGE | 5BB1HW 4.5 X 4.5 | 653 | IVE |
| 1 EA | CLASSROOM LOCK | 8237 | 626 | SAR |
| 1 EA | SURFACE CLOSER | 1451 REG TBWMS | 689 | LCN |
| 1 EA | OH STOP | 90S | 630 | GLY |
| 1 EA | MOP PLATE | 8400 8" X 1" LDW B-CS | 630 | IVE |
| 1 EA | KICK PLATE | 8400 8" X 2" LDW B-CS | 630 | IVE |
| 3 EA | SILENCER | SR64 | GRY | IVE |

CONFIRM CYLINDER TYPE; PROVIDE CORE IF REQUIRED.
 MATCH EXISTING LEVER DESIGN.

HW SET: 03

DOOR #(S):
 103

EACH TO HAVE:

| | | | | |
|------|------------------|-----------------------|-----|-----|
| 1 EA | CONTINOUS HINGE | 224HD | 689 | IVE |
| 1 EA | SGL CYL DEADBOLT | 485 | 626 | SAR |
| 1 EA | PUSH PLATE | 8200 4" X 16" | 630 | IVE |
| 1 EA | PULL PLATE | 8303 8" 4" X 16" | 630 | IVE |
| 1 EA | SURFACE CLOSER | 1451 REG TBWMS | 689 | LCN |
| 1 EA | MOP PLATE | 8400 8" X 1" LDW B-CS | 630 | IVE |
| 1 EA | KICK PLATE | 8400 8" X 2" LDW B-CS | 630 | IVE |
| 1 EA | WALL STOP | WS406/407 CVX | 630 | IVE |
| 3 EA | SILENCER | SR64 | GRY | IVE |

ITEM NO. 2: Add new SECTION 161000, ELECTRICAL:

B. DRAWINGS:

None this Addendum.

C. PRODUCT AND/OR MANUFACTURER APPROVAL:

None this Addendum.

End of Addendum No. 1

SECTION 161000 - ELECTRICAL

PART 1 - GENERAL

1.1 CODES

- A. Work covered by this section of the specifications shall conform to NFPA 70, the National Electrical Code, 2017 Edition with No Georgia State Amendments.

1.2 STANDARDS FOR MATERIALS

- A. All material shall be new and shall be listed by the Underwriters' Laboratories, Inc., as conforming to its standards in every case where such a standard has been established for the particular type of material in question or except as otherwise specified or implied herein.

1.3 SUBMITTALS

- A. Where equipment is specified herein or on drawings, by manufacturer's names or numbers, this shall denote minimum requirements as to quality, type, capacity, function, and performance. All equipment must have the Engineer's approval before ordering.
- B. Submittals shall be submitted in electronic *.pdf format. File name shall include the job name, specification section and date of the submittal. Submittals containing multiple items must include a table of contents with hyperlinks to the cover page for each item. The cover page for each piece of equipment shall itemize equipment features to show compliance with or deviation from the requirements contained in the specifications and drawings. If the supporting product data is more than ten (10) pages long, include hyperlinks on the item's cover page to the supporting information.

1.4 OPERATION AND MAINTENANCE INSTRUCTIONS

- A. The Contractor shall furnish not less than three (3) copies of operating and maintenance instructions for all equipment he has furnished and installed.
- B. Manuals shall be in durable 3 ring binders with the job name, General Contractors and sub-contractors names, addresses, contact information, and general description of the contents on the front cover and side spline.
- C. Product data shall be grouped into logical groups and divided with tab type dividers. An index shall be provided. The index and dividers shall be numbered for quick reference. See Specification section 01700 for additional requirements.

1.5 TESTING

- A. Before any work is started, the Contractor shall test all existing electrical systems to which work is to be done, i.e., the Master Television System, Communications/Program System and Fire Alarm System to confirm that they are in good working order. Any defects shall be reported to the Gwinnett County Board of Education Maintenance Department before the Contractor begins any work. If no defects are reported, the systems shall be assumed to be in good working order.
- B. At the completion of the work, a thorough test shall be made in the presence of the Engineer or his representative, with all equipment, machinery, and appliances in operation and free from defects.
- C. The Contractor shall uncover all concealed areas and remove all panelboard covers during the inspection if requested.

1.6 ELECTRICAL SYSTEM CHARACTERISTICS

- A. Electrical system characteristics shall be as indicated on the drawings.

PART 2 - PRODUCTS

2.1 FIXTURE OUTLETS, CONDUIT JUNCTION BOXES

- A. Furnish and install all outlet boxes and junction boxes, as indicated on the drawings or as required. The approximate locations of the outlets are shown on the plans. The right is reserved to change the exact location of any switch, ceiling outlet, or other outlet in any area before it is permanently installed. Contractor shall specifically verify all door swings and install all lighting switches on the latch side of the door. Boxes for fixtures and devices shall be securely attached to the building structure, using wood screws for wood construction, expansion bolts for concrete, and bolts or galvanized clamps for steel construction. Boxes set in concrete or masonry shall be secured in place with cement mortar.
- B. Ceiling outlet boxes shall be code gauge galvanized steel and shall be 4" octagon boxes, 1-1/2" deep minimum, larger where required.
- C. Switch and receptacle outlet boxes concealed in walls shall be standard utility or gang boxes except that outlet boxes installed in tile or exposed masonry walls shall be square corner boxes. Sectional switch boxes shall not be used. Outlet boxes installed in concrete or concealed masonry shall be provided with 1" deep plaster cover. The box shall be positioned so that concrete or mortar shall fill around the plaster cover and the device plate can be installed flush with the finished surface. Single switches shall be installed in utility boxes without plaster covers.

- D. Switch and receptacle boxes exposed on walls shall be cast iron type with threaded hubs and sheet steel covers.
- E. Pull boxes shall be installed in conduits as needed so that pulls do not exceed 180 feet in length or 360° of bends.
- F. Locate all boxes so that covers are accessible and removable. Boxes shall be equipped with cover plates of the correct type and size for the box. All unused knockouts shall be plugged.

2.2 CONDUITS

- A. All wiring shall be installed in conduit unless otherwise specified herein. All conduit shall be U.L. listed.
- B. All conduit installed inside the building and above grade shall be galvanized steel electrical metallic tubing except where rigid or intermediate steel conduit is shown on the drawings or required by code or by other paragraphs in the specifications.
- C. No above grade conduit shall be installed in floor slabs above grade. Conduit shall be installed below the floor slab in the ceiling cavity of the floor below, or above the ceiling of the floor shown.
- D. All conduit installed exposed below 6'0" in a mechanical room, kitchen or in an area subject to damage shall be rigid or intermediate steel conduit with threaded connections.
- E. A green ground wire of the size required by Table 250-95 in the National Electrical Code shall be installed in every PVC conduit used for current carrying conductors.
- F. Conduits shall be supported on not more than 8'0" centers when concealed and 5'0" centers when exposed. Conduits shall be supported by means of approved galvanized iron clamps or hangers, attached to masonry with inserts and bolts or lead expansion shields or to structural members by means of approved galvanized iron clamps or hangers. Where installed exposed, conduits shall be parallel with, or at right angles to walls or ceilings.
- G. Except where terminating in a threaded hub fitting, all conduits shall terminate in outlet boxes, junction boxes, pull boxes, cabinets, etc., with one locknut installed outside the box and one locknut and a bushing inside the box. The locknuts shall be tight to make both a mechanical and electrical connection. Bushings for all rigid conduit shall be insulating end bushing, and shall be grounding type where required.
- H. EMT coupling and box connectors shall be steel compression type with insulated throat, U.L. listed raintight and concrete tight. Connectors shall be as manufactured by Appleton, Efcor, O.Z., Raco, Steel City, or T&B.
- I. A polyolefin fish wire shall be pulled into each empty conduit.

2.3 FLEXIBLE CONDUIT

- A. Furnish and install flexible metal conduit connections to all motors and to all equipment subjected to vibration. Minimum size shall be 1/2". Length shall be approximately 15" minimum and shall not exceed 6'0" maximum.
- B. Nominal size 3/8" flexible metal conduit in lengths not exceeding 6'0" may be used for connecting individual lighting fixtures.
- C. Provide "Sealtight" conduit and Appleton, Ideal or T&B liquid-tight fittings at all flexible connections subject to weather or located in mechanical rooms or kitchen area.
- D. Install a green ground conductor in each piece of flexible conduit. The conductor shall be of the size required by the National Electrical Code.

2.4 CONDUCTORS FOR CONDUIT SYSTEMS

- A. Furnish and install all wire, cable and conductors required for the electrical installation. All conductors shall be copper except that the Contractor may substitute 8000 series aluminum conductors of the same ampacity for the service entrance conductors. Where this requires larger wire sizes, the conduit sizes shall also be increased as required by the code. All sizes shall be AWG. All conductors #10 and smaller shall be solid. Minimum size for power and lighting circuits shall be #12. Minimum size for low voltage (24 volts) control circuits shall be #18. Minimum size for 120 volt control circuits shall be #14. Minimum insulation rating on all conductors shall be 600 volts. Insulation shall be as follows, except as otherwise noted on the drawings:

| | |
|-------------------------|------------------------|
| Main Service Conductors | Type THHN/THWN or XHHN |
| Feeders | Type THHN/THWN |
| Branch Circuits | Type THHN/THWN |

- B. Branch circuit conductors shall be color coded as follows:
 - 1. 208Y/120 Volt System: Phase A - black, Phase B - red, Phase C - blue, Neutral - white, Ground - green, Isolated ground - green with yellow stripe.
 - 2. 480Y/277 volt system: Phase A - brown, Phase B - Orange, Phase C - yellow, Neutral - gray, Ground - green, Isolated ground - green with yellow stripe.
- C. Lubricants shall be used on all feeder cables and as otherwise required to facilitate the pulling of wires. Lubricants shall be specifically identified on the label as being wire or cable pulling lubricants.
- D. Corrosion inhibitors shall be used on all aluminum conductors.

2.5 TYPE MC CABLE

- A. Type MC cable may be used in place of EMT only for the following applications where the wiring is concealed inside the building, above a ceiling or concealed inside a wall:
1. Vertical drops from overhead junction boxes down to light fixtures.
 2. Vertical drops from overhead junction boxes down to receptacles in walls and horizontally through stud walls.
 3. Vertical drops from overhead junction boxes down to motors or other equipment.
 4. As a substitute for flexible conduit in concealed spaces or exposed at mechanical equipment in dry locations.

2.6 WIRING CONNECTORS

- A. Splices, joints and taps in outlet boxes, pull boxes, or wiring troughs shall be made with wire nut electrical spring connectors for conductors #8 and smaller. Joints or taps in conductors larger than #8 shall be made with alloy set screw connectors or compression type connectors, each with 600 volt insulating covers.

2.7 SUPPORTS

- A. Provide and install supports for all equipment and materials installed under these specifications. Supports shall be steel angle or channel or B-Line, Kindorf or Unistruct channel and fittings as approved. Minimum size rods shall be 3/8".

2.8 EXISTING PANELBOARDS

- A. Where indicated on the drawings, existing panelboards shall be reused. Rearrange existing circuit breakers and install new circuit breakers as required by the drawings. New branch circuit breakers shall be manufactured by the original panelboard manufacturer and shall have the same short circuit rating as the existing breakers.
- B. Branch circuit breakers or switches shall be arranged in the panelboards as scheduled on the drawings and branch circuit conductors shall be connected to panelboards by branch circuit number as scheduled. A typewritten directory of circuit numbers indicating new breakers and changes to existing breakers shall be installed under clear plastic inside each panelboard door. Directories shall indicate the type of load served and the room number of the rooms served by the circuit. Spares shall be noted on directories in pencil.

2.9 FIXTURES

- A. Furnish and install all fixtures as indicated on the drawings and scheduled. Fixtures shall be equipped with all hanging and mounting accessories required for complete installation. All fixtures recessed in plastered ceilings shall be provided with plaster frames.

- B. All fixtures recessed in acoustical tile ceilings shall be provided with the proper mounting flanges for installation in the type ceiling specified and shall be securely fastened to the ceiling framing member by U.L. listed clips.
- C. Install a minimum of two safety chains on each four foot section of lay-in type light fixture. Chains shall be #12 steel jack chain with a working load limit of 29 pounds. Chains shall be installed on opposite corner of fixture, shall connect to steel bar joist above and shall have enough slack that fixture is not supported by chain. Chains shall be furnished for all lay-in type fixtures.
- D. All ballasts for fluorescent fixtures shall be electronic, parallel wired, energy saving type. Ballast shall be U.L. listed, Class P and CBM certified. Sound levels shall not exceed Class A ambient noise levels. Ballast shall meet FCC rules and regulations, Part 18, Class A. Power factor shall be 90% or above. Ballast case temperature shall not exceed 25°C rise over 40°C ambient. Ballast shall maintain constant light output through ±25% input voltage variations. Input current total harmonic distortion shall not exceed 20%. Ballasts shall be as manufactured by Advance, Motorola, MagneTek, Universal or Valmont.

2.10 LAMPS

- A. Furnish and install all fluorescent and metal halide lamps as indicated on the drawings and scheduled. Lamps shall be voltage, size and type as indicated on the drawings or required. Lamps shall be as manufactured by General Electric, Phillips or Sylvania.

2.11 WIRING DEVICES AND RECEPTACLES

- A. Furnish and install all wiring devices and receptacles except as noted otherwise. Devices shall be as scheduled on the drawings, and shall be as manufactured by Arrow-Hart, Hubbell, Leviton or Pass & Seymour.

2.12 OUTLET AND DEVICE PLATES

- A. Furnish and install outlet and device plates on all junction boxes. Plates for concealed outlets shall be 0.032" satin finish stainless steel. Plates for exposed outlets shall be sheet steel suitable for outlet use. Finish on screws shall match finish on plate or cover. Furnish jumbo plates for all devices. Furnish blank covers on all unused outlets.

2.13 LABELING

- A. Junction box covers concealed above ceilings or exposed in mechanical or electrical rooms shall be labeled using black indelible marker to indicate which circuits are contained in the box. Do not label device plates in finished areas.

2.14 GROUNDING

- A. All wiring systems including conduit, panelboards, safety switches, lighting fixtures and wiring devices shall be grounded in accordance with Article 250 of the National Electrical Code.
- B. The neutral conductor shall be grounded at the supply side of the service disconnecting device by connecting the grounding conductor indicated on the drawings to the neutral inside the service disconnect device enclosure.
- C. All splices in grounding conductors shall be made with T&B compression connectors. All connections to equipment and boxes shall be made with T&B two bolt hole compression lugs. Connections to water pipes or ground rods shall be made with T&B heavy duty ground clamps. Approved equal devices by Burndy, Dossert, or Ideal are acceptable.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Tightening of switchgear components shall be performed with a calibrated torque tool as required by NEC Section 110.14 (D).

End of Section 161000