BURRIS/WAGNON ARCHITECTS, P.A.
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3 Aug 2020

ADDENDUM NO. 3

Re: **GS# 505-030**
Fire Station Dormitory
State Fire Academy
Pearl, Mississippi

Bid Date: Thursday, August 6, 2020 (2:00 P.M.)

NOTICE TO ALL DOCUMENT HOLDERS:

The following additions, changes, and clarifications to the Specifications for the subject project are to be included as part of the Contract Documents, and thus amend the Scope of Work:

SPECIFICATIONS

Item No. 1: **Refer to Specification Index, Section 14240,** and change title from "Electric Traction Passenger Elevators" to "Hydraulic Elevators", pages 1-16.

Item No. 2: **Refer to Specifications, Section 06200,** and make the following changes:
A. At 2.06, change plywood top from quarter-sliced to plan sliced Grade 1 clear white maple.
B. At 2.10, subparagraph 1., change rod lengths to suit wardrobe widths, providing flange sets for each rod, and delete shelf brackets specified. Finish shall be satin stainless steel.

Item No. 3: **Refer to Specifications, Section 07900, Heading 2.01, paragraph "D.", subparagraph "1."** and make the following changes:
A. "1. Dow Corning STS (Silicone Transition System)" (at 90-degree corner flashing seals required at curtainwall continuous seals, as shown at "25.5/4.2", use Dow Corning "123 Silicone Seal", manufactured L-shaped sections with pre-manufactured corners, size as required by conditions, flashing section into curtainwall as detailed)".

Item No. 4: **Refer to Specifications, Section 08410, Heading 2.01, paragraph "G.",** and change "#451-HP-037" to "#451-VG-037".

Item No. 5: **Refer to Specifications, Section 08520, 2.02/C./2.,** and change the following:
A. At sub-subparagraph "a.", clarify that overall window depth is 4.75" (including co-extruded integral trim); and clarify that face perimeter dimension is 1.25".
B. Delete sub-subparagraphs "c." and "d.".

Item No. 6: **Refer to Specifications, Section 14210,** and replace in its entirety with the new Section 14240, "Hydraulic Elevators", attached hereto as Exhibit "A".

Item No. 7: **Refer to Specifications, Section 12494, Heading 2.02/A.,** and make the following

changes to the second paragraph:

"**Shade Type 2:** Manually operated, roll-up fabric interior window shades including mounting and operating hardware at exterior windows in the following rooms: at Base Bid, Rooms 115-121, 124-130, 208-215, 218-225 and Offices: 234-242. At Add Alternate No. 1, add (6) six shades at Dorm Rooms 145, 146, 245-248, and add two (2) shades at Fitness Room 144, to the Base Bid quantity.

DRAWINGS

Item No. 1: **Refer to Sheet 1.0,** Site Plan, and note that site utilities are shown for reference only. Refer to sheet MS1.0 for routing of site utilities.

Item No. 2: **Refer to Sheets 2.2** (drawing "3", Partial First Floor Plan – Part "B") **and 2.3** (detail "27") and extend the Building "B" equipment pad slab north edge 2'-2" to the north (metal fence to extend out with slab), per attached Exhibit "B".

Item No. 3: **Refer to Sheet 2.2,** drawings "1" and "2", Partial Floor Plans for Alternate #1, and clarify that all partitions in Alt. #1 shall be concrete masonry unit construction, to match Base Bid partition types, as shown in Base Bid plan sheets 2.0 and 2.1.

Item No. 4: **Refer to Sheet 3.0,** Finish Schedule, and add rooms "145A", "146A", "245A", "246A", "247A", and "248A", (all Toilets). Finishes in these rooms shall be equal to those of room "124A Toilet".

Item No. 5: **Refer to Drawings** and change the following related to elevator pit depth:

A. At "6/9.7", change elevator pit depth from 5'-0" to +/- 4'-0" (to comply with elevator manufacturer's recommendations).
B. At "1,2/S4.2", change elevator pit depth to +/- 4'-0" (to comply with elevator manufacturer's recommendations).
C. At "1/1.2", Foundation/Crawlspace Plan, Building "B", area of elevator: change grade elevations 317.16 and 317.66 to 318.16 and 318.66, respectively. At Crawlspace Drainage Structure Schedule, change top elevation of CSCB#7 from 317.16 to 318.16.

Item No. 6: **Refer to Sheet 10.0** and clarify the following:

A. At details 9, 10, 11, 12, 14, 15, 15.5/10.0, core material is MDF rather than the plywood noted.
B. At detail 5D/10.0, Wardrobe Elevation, clarify that white oak hardwood (specified at 06200/2.03) nosing shall occur at wardrobe top, at intermediate shelf (above drawers), and at center and side vertical nosings.

Item No. 7: **Refer to Sheet S0.1,** FOUNDATION Note #4, and clarify that all carton void forms are to be removed from below elevated grade beams, after concrete has attained sufficient strength, or alternatively, as allowed by this note, grade beams may be formed, with all formwork being removed after concrete has attained sufficient strength.

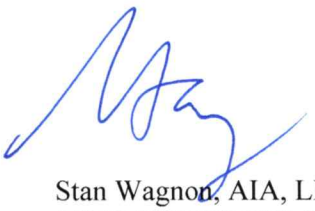
Item No. 8: **Refer to Sheet S4.1,** detail "9" Piling Elevation, and delete note "ELEV. = VARIES FROM 275.0' to 285.0' (APPROXIMATE)" at bottom of vertical dimension strings at right side. Piling length shall be bid per the "Bid Length" indicated.

MECHANICAL: See attached (15 pp.).

ELECTRICAL: See attached (1 page).

No other items in this addendum.

Sincerely,



Stan Wagnon, AIA, LEED AP
BURRIS/WAGNON ARCHITECTS, P.A.

End of Addendum No. 3

SECTION 14240 – HYDRAULIC ELEVATORS

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes: Machine room-less hydraulic passenger elevator as shown and specified. Elevator work includes:
   1. Standard pre-engineered hydraulic passenger elevator.
   2. Elevator car enclosure, hoistway entrances and signal equipment.
   3. Operation and control systems.
   4. Jack.
   5. Accessibility provisions for physically disabled persons.
   6. Equipment, machines, controls, systems and devices as required for safely operating the specified elevators at their rated speed and capacity.
   7. Materials and accessories as required to complete the elevator installation.

B. Related Sections:
   1. Division 2 – Earthwork; Excavation of elevator pit.
   2. Division 3 Concrete:
      a. Cast-in-place Concrete: Elevator pit.
      b. Installing inserts, sleeves and anchors in concrete.
   3. Division 4 Masonry - Installing inserts, sleeves and anchors in masonry.
   4. Division 5 Metals:
      a. Providing hoist beams, pit ladders, steel framing, auxiliary support steel and grating (for sump pump pit).
      b. Providing steel angle sill supports and grouting hoistway entrance sills and frames.
   5. Division 9 Finishes - Providing elevator car finish flooring and field painting unfinished and shop primed ferrous materials.
   6. Division 16 Sections:
      a. Providing electrical service to elevators, including fused disconnect switches where permitted. (note: fused disconnect switch to be provided as part of elevator manufacture product, see section 2.11 Miscellaneous elevator components for further details.)
      b. Emergency power supply, transfer switch and auxiliary contacts.
      c. Heat and smoke sensing devices.
      d. Convenience outlets and illumination in hoistway and pit.
   7. Division 22 Plumbing:
      a. Sump pit and oil interceptor.
   8. Division 23 Heating, Ventilation and Air Conditioning:
      a. Heating and ventilating hoistways.

C. Work Not Included: General contractor shall provide the following in accordance with the requirements of the Model Building Code and ANSI A17.1 Code. For specific rules, refer to ANSI A17.1, Part 3 for hydraulic elevators. State or local requirements must be used if more stringent. The cost of this work is not included in the Thyssenkrupp Elevator's proposal, since it is a part of the building construction.

1. Elevator hoist beam to be provided at top of elevator shaft. Beam must be able to accommodate proper loads and clearances for elevator installation and operation.
2. Supply in ample time for installation by other trades, inserts, anchors, bearing plates, brackets, supports and bracing including all setting templates and diagrams for placement.
3. Hoistway walls require a minimum two hours of fire rating. Hoistway should be clear and plumb with variations not to exceed 1/2'' at any point.
4. Elevator hoistways shall have barricades, as required.
5. Install bevel guards at 75° on all recesses, projections or setbacks over 2'' (4'' for A17.1 2000 areas) except for loading or unloading.
6. Provide rail bracket supports at pit, each floor and roof. For guide rail bracket supports, provide divider beams between hoistway at each floor and roof.
7. Pit floor shall be level and free of debris. Reinforce dry pit to sustain normal vertical forces from rails and buffers.
8. All wire and conduit should run remote from the hoistways.
9. When heat, smoke or combustion sensing devices are required, connect to elevator control cabinet terminals. Contacts on the sensors should be sided for 12-volt D.C.
10. Install and furnish finished flooring in elevator cab.
11. Finished floors and entrance walls are not to be constructed until after sills and door frames are in place. Consult elevator contractor for rough opening size. The general contractor shall supply the drywall framing so that the wall fire resistance rating is maintained, when drywall construction is used.
12. Where sheet rock or drywall construction is used for front walls, it shall be of sufficient strength to maintain the doors in true lateral alignment. Drywall contractor to coordinate with elevator contractor.
13. Before erection of rough walls and doors; erect hoistway sills, headers, and frames. After rough walls are finished; erect fascias and toe guards. Set sill level and slightly above finished floor at landings.
14. To maintain legal fire rating (masonry construction), door frames are to be anchored to walls and properly grouted in place.
15. The elevator wall shall interface with the hoistway entrance assembly and be in strict compliance with the elevator contractor's requirements.
16. General Contractor shall fill and grout around entrances, as required.

17. All walls and sill supports must be plumb where openings occur.
18. Locate a light fixture (200 lx / 19 fc) and convenience outlet in pit with switch located adjacent to the access door.
19. Provide telephone line, light fixture (200 lx / 19 fc), and convenience outlet in the hoistway at the landing where the elevator controller is located. Typically, this will be at the landing above the 1st floor. Final location must be coordinated with elevator contractor.
20. A light switch and fused disconnect switch for each elevator should be located where practical, per the National Electric Code (NFPA 70).
21. As indicated by elevator contractor, provide a light outlet for each elevator, in center of hoistway.
22. For signal systems and power operated door: provide ground and branch wiring circuits.
23. For car light and fan: provide a feeder and branch wiring circuits to elevator control cabinet.
24. Controller landing wall thickness must be a minimum of 8 1/2 inches thick. This is due to the controller being mounted on the second floor landing in the door frame on the return side of the door. These requirements must be coordinated between the general contractor and the elevator contractor.
25. Cutting, patching and recesses to accommodate hall button boxes, signal fixtures, etc.

1.02 SUBMITTALS

A. Product data: When requested, the elevator contractor shall provide standard cab, entrance and signal fixture data to describe product for approval.

B. Shop drawings:
   1. Show equipment arrangement in the corridor, pit, and hoistway and/or optional control room. Provide plans, elevations, sections and details of assembly, erection, anchorage, and equipment location.
   2. Indicate elevator system capacities, sizes, performances, safety features, finishes and other pertinent information.
   3. Show floors served, travel distances, maximum loads imposed on the building structure at points of support and all similar considerations of the elevator work.
   4. Indicate electrical power requirements and branch circuit protection device recommendations.

C. Powder Coat paint selection: Submit manufacturer’s standard selection charts for exposed finishes and materials.

D. Plastic laminate selection: Submit manufacturer’s standard selection charts for exposed finishes and materials.

E. Metal Finishes: Upon request, standard metal samples provided.

F. Operation and maintenance data. Include the following:
   1. Owner's manuals and wiring diagrams.
   2. Parts list, with recommended parts inventory.

1.03 QUALITY ASSURANCE

A. Manufacturer Qualifications: An approved manufacturer with minimum 15 years of experience in manufacturing, installing, and servicing elevators of the type required for the project.
   1. The manufacturer of machines, controllers, signal fixtures, door operators cabs, entrances, and all other major parts of elevator operating equipment.
      a. The major parts of the elevator equipment shall be manufactured by the installing company, and not be an assembled system.
   2. The manufacturer shall have a documented, on-going quality assurance program.
   3. ISO-9001:2000 Manufacturer Certified
   4. ISO-14001:2004 Environmental Management System Certified
   5. LEED Gold certified elevator manufacturing facility.

B. Installer Qualifications: The manufacturer or an authorized agent of the manufacturer with not less than 15 years of satisfactory experience installing elevators equal in character and performance to the project elevators.

C. Regulatory Requirements:
   1. ASME A17.1 Safety Code for Elevators and Escalators, latest edition or as required by the local building code.
   2. Building Code: National.
   3. NFPA 70 National Electrical Code.
   4. NFPA 80 Fire Doors and Windows.
   5. Americans with Disabilities Act - Accessibility Guidelines (ADAAG)
   6. Section 407 in ICC A117.1, when required by local authorities
   7. California Department of Public Health Standard Method V1.1-2010, CA Section 01350

D. Fire-rated entrance assemblies: Opening protective assemblies including frames, hardware, and operation shall comply with ASTM E2074 and NFPA Standard 80. Provide entrance assembly units bearing Class B or 1 1/2 hour label by a Nationally Recognized Testing Laboratory.

E. Inspection and testing:

1. Elevator Installer shall obtain and pay for all required inspections, tests, permits and fees for elevator installation.
2. Arrange for inspections and make required tests.
3. Deliver to the Owner upon completion and acceptance of elevator work.

1.04 DELIVERY, STORAGE AND HANDLING

A. Manufacturing shall deliver elevator materials, components and equipment and the contractor is responsible to provide secure and safe storage on job site.

1.05 PROJECT CONDITIONS

A. Temporary Use: Elevators shall not be used for temporary service or for any other purpose during the construction period before Substantial Completion and acceptance by the purchaser unless agreed upon by Elevator Contractor and General Contractor with signed temporary agreement.

1.06 WARRANTY

A. Warranty: Submit elevator manufacturer's standard written warranty agreeing to repair, restore or replace defects in elevator work materials and workmanship not due to ordinary wear and tear or improper use or care for 12 months after final acceptance.

1.07 MAINTENANCE

A. Furnish maintenance and call back service for a period of 12 months for each elevator after completion of installation or acceptance thereof by beneficial use, whichever is earlier, during normal working hours excluding callbacks.
   1. Service shall consist of periodic examination of the equipment, adjustment, lubrication, cleaning, supplies and parts to keep the elevators in proper operation. Maintenance work, including emergency call back repair service, shall be performed by trained employees of the elevator contractor during regular working hours.
   2. Submit parts catalog and show evidence of local parts inventory with complete list of recommended spare parts. Parts shall be produced by manufacturer of original equipment.
   3. Manufacturer shall have a service office and full time service personnel within a 100 mile radius of the project site.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Manufacturer: Design based around Thyssenkrupp Elevator's Endura Machine Room-Less Hydraulic Elevator.

2.02 MATERIALS, GENERAL

A. All Elevator Cab materials including frame, buttons, lighting, wall and ceiling assembly, laminates and carpet shall have an EPD and an HPD, and shall meet the California Department of Public Health Standard Method V1.1-2010, CA Section 01350 as mentioned in 1.03.9 of this specification.

B. Colors, patterns, and finishes: As selected by the Architect from manufacturer's full range of standard colors, patterns, and finishes.

C. Steel:
   1. Shapes and bars: Carbon.
   2. Sheet: Cold-rolled steel sheet, commercial quality, Class 1, matte finish.
   3. Finish: Factory-applied baked enamel for structural parts, powder coat for architectural parts. Color selection must be based on elevator manufacture's standard selections.

D. Plastic laminate: Decorative high-pressure type, complying with NEMA LD3, Type GP-50 General Purpose Grade, nominal 0.050" thickness. Laminate selection must be based on elevator manufacture's standard selections.

E. Flooring by others.

2.03 HOISTWAY EQUIPMENT

A. Platform: Fabricated frame of formed or structural steel shapes, gusseted and rigidly welded with a wood sub-floor. Underside of the platform shall be fireproofed. The car platform shall be designed and fabricated to support one-piece loads weighing up to 25% of the rated capacity.

B. Sling: Steel stiles bolted or welded to a steel crosshead and bolstered with bracing members to remove strain from the car enclosure.

C. Guide Rails: Steel, omega shaped, fastened to the building structure with steel brackets.

D. Guides: Slide guides shall be mounted on top and bottom of the car.

E. Buffers: Provide substantial buffers in the elevator pit. Mount buffers on continuous channels fastened to the elevator guide rail or securely anchored to the pit floor. Provide extensions if required by project conditions.

F. Jack: A jack unit shall be of sufficient size to lift the gross load the height specified. Factory test jack to ensure adequate strength and freedom from leakage. Brittle material, such as gray cast iron, is prohibited in the jack construction. Provide the following jack type: Twin post holeless. Two jacks piped together, mounted one on each side of the car with a polished steel hydraulic plunger housed in a sealed steel casing having sufficient clearance space to allow for alignment during installation. Each plunger shall have a high pressure sealing system which will not allow for seal movement or displacement during the course of operation. Each Jack Assembly shall have a check valve built into the assembly to allow for automatically re-syncing the two plunger sections by moving the jack to its fully contracted position. The jack shall be designed to be mounted on the pit floor or in a recess in the pit floor. Each jack section shall have a bleeder valve to discharge any air trapped in the section..

G. Automatic Self-Leveling: Provide each elevator car with a self-leveling feature to automatically bring the car to the floor landings and correct for over travel or under travel. Self-leveling shall, within its zone, be automatic and independent of the operating device. The car shall be maintained approximately level with the landing irrespective of its load.

H. Wiring, Piping, and Oil: Provide all necessary hoistway wiring in accordance with the National Electrical Code. All necessary code compliant pipe and fittings shall be provided to connect the power unit to the jack unit. theoiltype

I. Pit moisture/water sensor located approximately 1 foot above the pit floor to be provided. Once activated, elevator will perform “flooded pit operation”, which will run the car up to the designated floor, cycle the doors and shut down and trip the circuit breaker shunt to remove 3 phase power from all equipment, including pit equipment.

J. Motorized oil line shut-off valve shall be provided that can be remotely operated from the controller landing service panel. Also a means for manual operation at the valve in the pit is required.

K. Pit Ladder: Where pit access is by means of the lowest hoistway entrance, a vertical ladder of Hot-dipped galvanized steel components extending 42” min. (48” for minimum for A17-12000 Areas) shall be provided at the same height, above sill of access door or handgrips. This ladder shall be in compliance with A17.1 for width and runs spacing. The pit ladder is to be provided by the elevator manufacturer unless coordinated otherwise with the General Contractor.

L. Elevator contractor shall be responsible for any other miscellaneous metal components in hoistway, in addition to those being installed by

others described at 1.01/C, to assure a complete and functioning elevator system.

2.04 POWER UNIT

A. Power Unit (Oil Pumping and Control Mechanism): A self-contained unit located in the elevator pit consisting of the following items:
   1. NEMA 4/Sealed Oil reservoir with tank cover including vapor removing tank breather
   2. An oil hydraulic pump.
   3. An electric motor.
   4. Electronic oil control valve with the following components built into single housing; high pressure relief valve, check valve, automatic unloading up start valve, lowering and leveling valve, and electro-magnetic controlling solenoids.

B. Pump: Positive displacement type pump specifically manufactured for oil-hydraulic elevator service. Pump shall be designed for steady discharge with minimum pulsation to give smooth and quiet operation. Output of pump shall not vary more than 10 percent between no load and full load on the elevator car.

C. Motor: Standard manufacture motor specifically designed for oil-hydraulic elevator service. Duty rating – motors shall be capable of 80 starts per hour with a 30% motor run time during each start.

D. Oil Control Unit: The following components shall be built into a single housing. Welded manifolds with separate valves to accomplish each function are not acceptable. Adjustments shall be accessible and be made without removing the assembly from the oil line.
   1. Relief valve shall be adjustable and be capable of bypassing the total oil flow without increasing back pressure more than 10 percent above that required to barely open the valve.
   2. Up start and stop valve shall be adjustable and designed to bypass oil flow during start and stop of motor pump assembly. Valve shall close slowly, gradually diverting oil to or from the jack unit, ensuring smooth up starts and up stops.
   3. Check valve shall be designed to close quietly without permitting any perceptible reverse flow.
   4. Lowering valve and leveling valve shall be adjustable for down start speed, lowering speed, leveling speed and stopping speed to ensure smooth "down" starts and stops. The leveling valve shall be designed to level the car to the floor in the direction the car is traveling after slowdown is initiated.
   5. Provided with constant speed regulation in both up and down direction. Feature to compensate for load changes, oil temperature, and viscosity changes.
   6. Solid State Starting: Provide an electronic starter featuring adjustable starting currents.

7. A secondary hydraulic power source (powered by 110VAC single phase) must be provided. This is required to be able to raise (reposition) the elevator in the event of a system component failure (i.e. pump motor, starter, etc.)
8. Oil Type: Provide a zinc free, inherently biodegradable lubricant formulated with premium base stocks to provide outstanding protection for demanding hydraulic systems, especially those operating in environmentally sensitive areas.

2.05 HOISTWAY ENTRANCES

A. Doors and Frames: Provide complete hollow metal type hoistway entrances at each hoistway opening bolted\knock down construction.
   1. Manufacturer's standard entrance design consisting of hangers, doors, hanger supports, hanger covers, fascia plates (where required), sight guards, and necessary hardware.
   2. Main landing door & frame finish: Stainless steel panels, no. 4 brushed finish.
   3. Typical door & frame finish: Stainless steel panels, No. 4 brushed finish.

B. Integrated Control System: the elevator controller to be mounted to hoistway entrance above 1st landing. The entrance at this level, shall be designed to accommodate the control system and provide a means of access to critical electrical components and troubleshooting features. See section 2.09 Control System for additional requirements.

C. At the controller landing, the hoistway entrance frame shall have space to accommodate and provide a lockable means of access (group 2 security) to a 3-phase circuit breaker. See section 2.11 Miscellaneous Elevator Components for further details

D. Interlocks: Equip each hoistway entrance with an approved type interlock tested as required by code. Provide door restriction devices as required by code.

E. Door Hanger and Tracks: Provide sheave type two-point suspension hangers and tracks for each hoistway horizontal sliding door.
   1. Sheaves: Polyurethane tires with ball bearings properly sealed to retain grease.
   2. Hangers: Provide an adjustable device beneath the track to limit the up-thrust of the doors during operation.
   3. Tracks: Drawn steel shapes, smooth surface and shaped to conform to the hanger sheaves.

F. Hoistway Sills: Extruded metal, with groove(s) in top surface. Provide mill finish on aluminum.

2.06 PASSENGER ELEVATOR CAR ENCLOSURE

A. Car Enclosure:
   1. Walls: Cab type a steel shell design, reinforced cold-rolled steel with an applied panel design. The applied panels design, shall be arranged vertically on wood core panels covered on both sides with high pressure plastic laminate.
   2. Reveals and frieze: Factory applied powder coat
   3. Canopy: Cold-rolled steel with hinged exit.
   4. Ceiling: Suspended type, LED lighting with translucent diffuser mounted in a metal frame. Framework shall be finished with a stainless steel, no. 4 brushed finish.
   5. Cab Fronts, Return, Transom, Soffit and Strike: Provide panels faced with No. 4 brushed stainless steel
   6. Doors: Horizontal sliding car doors reinforced with steel for panel rigidity. Hang doors on sheave type hangers with polyurethane tires that roll on a polished steel track and are guided at the bottom by non-metallic sliding guides.
      a. Door Finish: Stainless steel panels: No. 4 brushed finish.
      b. Cab Sills: Extruded aluminum, mill finish.
   7. Handrail: Provide 1.5'' diameter cylindrical metal on side and rear walls on front opening cars and side walls only on front and rear opening cars. Handrails shall have a stainless steel, No. 4 brushed finish.
   8. Ventilation: Manufacturer’s standard exhaust fan, mounted on the car top.
   9. Protection pads and buttons: Provide one set of vinyl protection pads with metal grommets for the project. Provide pad buttons on cab front(s) and walls.

B. Car Top Inspection: Provide a car top inspection station with an “Auto-Inspection” switch, an "emergency stop" switch, and constant pressure "up and down" direction and safety buttons to make the normal operating devices inoperative. The station shall give the inspector complete control of the elevator. The car top inspection station shall be mounted in the door operator assembly.

2.07 DOOR OPERATION

A. Door Operation: Provide a direct or alternating current motor driven heavy duty operator designed to operate the car and hoistway doors simultaneously. The door control system shall be digital closed loop and the closed loop circuit shall give constant feedback on the position and velocity of the elevator door. The motor torque shall be constantly adjusted to maintain the correct door speed based on its position and load. All adjustments and setup shall be through the computer based service tool. Door movements shall follow a field programmable speed pattern with smooth acceleration and deceleration at the ends of travel. The mechanical door operating mechanism shall be arranged for manual operation in event of power failure. Doors shall automatically open when the car arrives at the landing and automatically close after an adjustable time interval or when the car

is dispatched to another landing. AC controlled units with oil checks, or other deviations are not acceptable.

1. No Un-Necessary Door Operation: The car door shall open only if the car is stopping for a car or hall call, answering a car or hall call at the present position or selected as a dispatch car.
2. Door Open Time Saver: If a car is stopping in response to a car call assignment only (no coincident hall call), the current door hold open time is changed to a shorter field programmable time when the electronic door protection device is activated.
3. Double Door Operation: When a car stops at a landing with concurrent up and down hall calls, no car calls, and no other hall call assignments, the car door opens to answer the hall call in the direction of the car's current travel. If an onward car call is not registered before the door closes to within 6 inches of fully closed, the travel shall reverse and the door shall reopen to answer the other call.
4. Nudging Operation: The doors shall remain open as long as the electronic detector senses the presence of a passenger or object in the door opening. If door closing is prevented for a field programmable time, a buzzer shall sound. When the obstruction is removed, the door shall begin to close at reduced speed. If the infra-red door protection system detects a person or object while closing on nudging, the doors shall stop and resume closing only after the obstruction has been removed.
5. Door Reversal: If the doors are closing and the infra-red beam(s) is interrupted, the doors shall reverse and reopen. After the obstruction is cleared, the doors shall begin to close.
6. Door Open Watchdog: If the doors are opening, but do not fully open after a field adjustable time, the doors shall recycle closed then attempt to open six times to try and correct the fault.
7. Door Close Watchdog: If the doors are closing, but do not fully close after a field adjustable time, the doors shall recycle open then attempt to close six times to try and correct the fault.
8. Door Close Assist: When the doors have failed to fully close and are in the recycle mode, the door drive motor shall have increased torque applied to possibly overcome mechanical resistance or differential air pressure and allow the door to close.

B. Door Protection Device: Provide a door protection system using microprocessor controlled infra-red light beams. The beams shall project across the car opening detecting the presence of a passenger or object. If door movement is obstructed, the doors shall immediately reopen.

2.08 CAR OPERATING STATION

A. Car Operating Station, General: The main car control in each car shall contain the devices required for specific operation mounted in an

integral swing return panel requiring no applied faceplate. Wrap return shall have a No. 4 brushed stainless steel finish. The main car operating panel shall be mounted in the return and comply with handicap requirements. Pushbuttons that illuminate using long lasting LED's shall be included for each floor served, and emergency buttons and switches shall be provided per code. Switches for car light and accessories shall be provided.

B. Emergency Communications System: Integral phone system provided.

C. Auxiliary Operating Panel: Not Required

D. Column Mounted Car Riding Lantern: A car riding lantern shall be installed in the elevator cab and located in the entrance. The lantern, when illuminated, will indicate the intended direction of travel. The lantern will illuminate and a signal will sound when the car arrives at a floor where it will stop. The lantern shall remain illuminated until the door(s) begin to close.

E. Special Equipment: Not Applicable

2.09 CONTROL SYSTEMS

A. Controller: Shall be integrated in a hoistway entrance jamb. Should be microprocessor based, software oriented and protected from environmental extremes and excessive vibrations in a NEMA 1 enclosure. Control of the elevator shall be automatic in operation by means of push buttons in the car numbered to correspond to floors served, for registering car stops, and by "up-down" push buttons at each intermediate landing and "call" push buttons at terminal landings.

B. Service Panel – to be located outside the hoistway in the controller entrance jamb and shall provide the following functionality/features:
   1. Access to main control board and CPU
   2. Main controller diagnostics
   3. Main controller fuses
   4. Universal Interface Tool (UIT)
   5. Remote valve adjustment
   6. Electronic motor starter adjustment and diagnostics
   7. Operation of pit motorized shut-off valve with LED feedback to the state of the valve in the pit
   8. Operation of auxiliary pump/motor (secondary hydraulic power source)
   9. Operation of electrical assisted manual lowering
   10. Provide male plug to supply 110VAC into the controller
   11. Run/Stop button

C. Automatic Light and Fan shut down: The control system shall evaluate the system activity and automatically turn off the cab lighting and

ventilation fan during periods of inactivity. The settings shall be field programmable.

D. Emergency Power Operation: (Battery Lowering 10-DOC) When the loss of normal power is detected, a battery lowering feature is to be activated. The elevator will lower to a predetermined level and open the doors. After passengers have exited the car, the doors will close and the car will shut-down. When normal power becomes available, the elevator will automatically resume operation. The battery lowering feature is included in the elevator contract and does not utilize a building-supplied standby power source.

E. Special Operation: Not Applicable

2.10 HALL STATIONS

A. Hall Stations, General: Buttons shall illuminate to indicate call has been registered at that floor for the indicated direction.
   1. Provide one pushbutton riser with faceplates having a No. 4 brushed stainless-steel finish.
      a. Phase 1 firefighter's service key switch, with instructions, shall be incorporated into the hall station at the designated level.

B. Floor Identification Pads: Provide door jamb pads at each floor. Jamb pads shall comply with Americans with Disabilities Act (ADA) requirements.

C. Hall Position Indicator: Not Applicable

D. Hall lanterns: Not Applicable

E. Special Equipment: Not Applicable

2.11 MISCELLANEOUS ELEVATOR COMPONENTS

A. Oil Hydraulic Silencer: Install multiple oil hydraulic silencers (muffler device) at the power unit location. The silencers shall contain pulsation absorbing material inserted in a blowout proof housing.

B. Lockable three phase circuit breaker with auxiliary contact with shunt trip capability to be provided. Circuit breaker to be located behind locked panel (Group 2 security access) at controller landing entrance jamb and should be sized according to the National Electrical Code.

C. Lockable single phase 110V circuit breaker for cab light and fan to be provided. Circuit breaker to be located behind locked panel (Group 2 security access) at controller landing entrance jamb should be sized according to the National Electrical Code.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Before starting elevator installation, inspect hoistway, hoistway openings, pits and/or control room, as constructed, verify all critical dimensions, and examine supporting structures and all other conditions under which elevator work is to be installed. Do not proceed with elevator installation until unsatisfactory conditions have been corrected in a manner acceptable to the installer.

B. Installation constitutes acceptance of existing conditions and responsibility for satisfactory performance.

3.02 INSTALLATION

A. Install elevator systems components and coordinate installation of hoistway wall construction.
   1. Work shall be performed by competent elevator installation personnel in accordance with ASME A17.1, manufacturer's installation instructions and approved shop drawings.
   2. Comply with the National Electrical Code for electrical work required during installation.

B. Perform work with competent, skilled workmen under the direct control and supervision of the elevator manufacturer's experienced foreman.

C. Supply in ample time for installation by other trades, inserts, anchors, bearing plates, brackets, supports, and bracing including all setting templates and diagrams for placement.

D. Welded construction: Provide welded connections for installation of elevator work where bolted connections are not required for subsequent removal or for normal operation, adjustment, inspection, maintenance, and replacement of worn parts. Comply with AWS standards for workmanship and for qualification of welding operators.

E. Coordination: Coordinate elevator work with the work of other trades, for proper time and sequence to avoid construction delays. Use benchmarks, lines, and levels designated by the Contractor, to ensure dimensional coordination of the work.

F. Install machinery, guides, controls, car and all equipment and accessories to provide a quiet, smoothly operating installation, free from side sway, oscillation or vibration.

G. Alignment: Coordinate installation of hoistway entrances with installation of elevator guide rails for accurate alignment of entrances with cars. Where possible, delay final adjustment of sills

and doors until car is operable in shaft. Reduce clearances to minimum safe, workable dimensions at each landing.

H. Erect hoistway sills, headers, and frames before erection of rough walls and doors; erect fascia and toe guards after rough walls finished. Set sill units accurately aligned and slightly above finish floor at landings.

I. Lubricate operating parts of system, where recommended by manufacturer.

3.03 FIELD QUALITY CONTROL

A. Acceptance testing: Upon completion of the elevator installation and before permitting use of elevator, perform acceptance tests as required and recommended by Code and governing regulations or agencies. Perform other tests, if any, as required by governing regulations or agencies.

B. Advise Owner, Contractor, Architect, and governing authorities in advance of dates and times tests are to be performed on the elevator.

3.04 ADJUSTING

A. Make necessary adjustments of operating devices and equipment to ensure elevator operates smoothly and accurately.

3.05 CLEANING

A. Before final acceptance, remove protection from finished surfaces and clean and polish surfaces in accordance with manufacturer's recommendations for type of material and finish provided. Stainless steel shall be cleaned with soap and water and dried with a non-abrasive surface; it shall not be cleaned with bleach-based cleansers.

B. At completion of elevator work, remove tools, equipment, and surplus materials from site. Clean equipment rooms and hoistway. Remove trash and debris.
   1. Use environmentally preferable and low VOC emitting cleaners for each application type. Cleaners that contain solvents, pine and/or citrus oils are not permitted.

3.06 PROTECTION

A. At time of Substantial Completion of elevator work, or portion thereof, provide suitable protective coverings, barriers, devices, signs, or other such methods or procedures to protect elevator work from damage or deterioration. Maintain protective measures throughout remainder of construction period.

3.07 DEMONSTRATION

A. Instruct Owner's personnel in proper use, operations, and daily maintenance of elevators. Review emergency provisions, including emergency access and procedures to be followed at time of failure in operation and other building emergencies. Train Owner's personnel in normal procedures to be followed in checking for sources of operational failures or malfunctions.

B. Make a final check of each elevator operation, with Owner's personnel present, immediately before date of substantial completion. Determine that control systems and operating devices are functioning properly.

3.08 ELEVATOR SCHEDULE

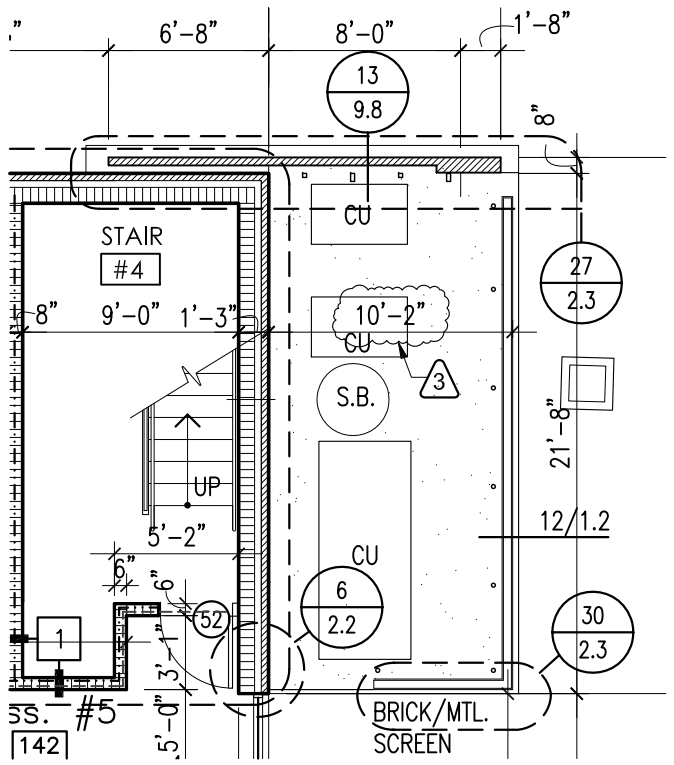
A. Elevator Qty. 1
   1. Elevator Model: Endura MRL Above-Ground (1-Stage)
   2. Elevator Type: Hydraulic Machine Room-Less, Passenger
   3. Rated Capacity: 2100 lbs.
   4. Rated Speed: 110 ft./min.
   5. Operation System: TAC32H
   6. Travel: 12'-0''
   7. Landings: 2 total
   8. Openings:
      a. Front: 2
      b. Rear: 0
   9. Clear Car Inside: 5' - 8'' wide x 4' - 3" deep
   10. Cab Height: 8'-0'' standard
   11. Hoistway Entrance Size: 3' - 0" wide x 7'-0'' high
   12. Door Type: Single Speed
   13. Power Characteristics: 480 volts, 3 Phase, 60 Hz.
   14. Seismic Requirements: Zone 1
   15. Hoistway Dimensions: 7' - 4" wide x 5' - 9" deep
   16. Pit Depth: 4' - 0"
   17. Button & Fixture Style: Traditional Signal Fixtures
   18. Special Operations: None

END OF SECTION

EXHIBIT "B"

SHEET 1 OF 1

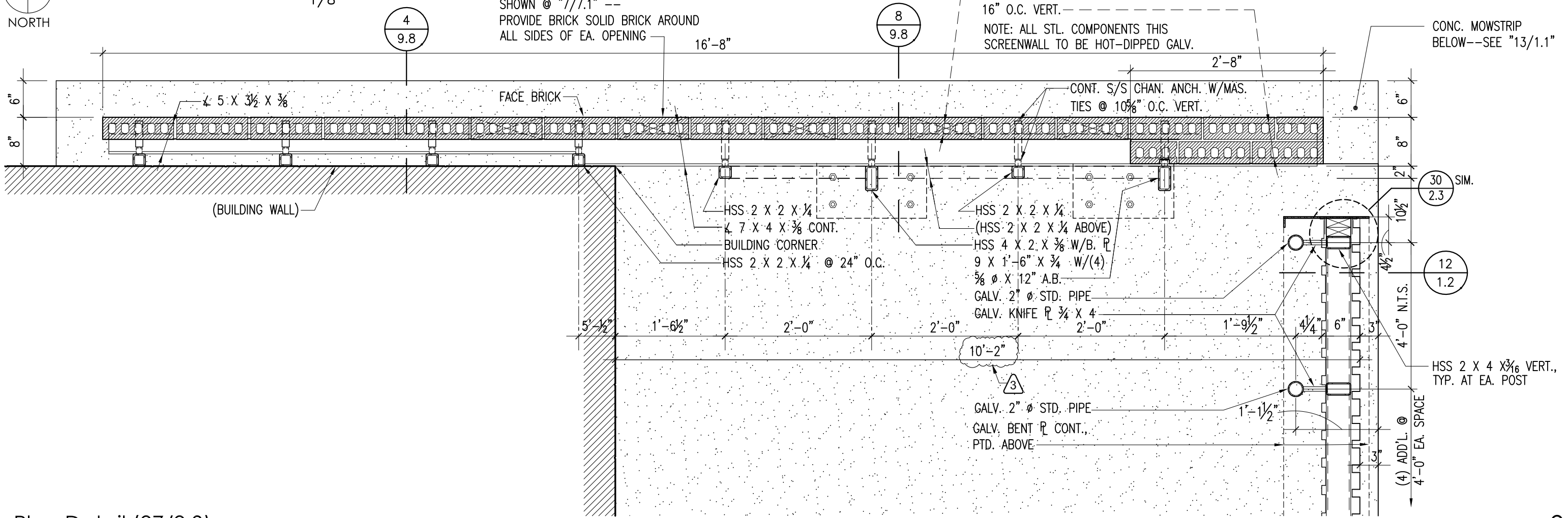
(FROM DRAWING SHTS. 2.2 & 2.3)



Plan (3/2.2) 1

1/8"

NORTH



Plan Detail (27/2.3) 2

3/4"

revised 03 Aug 2020 -- Addendum #3

15 April 2020

fire station dormitory

state fire academy

pearl, mississippi

GS# 505-030

BURRIS/WAGNON ARCHITECTS, P.A.

500L EAST WOODROW WILSON AVENUE JACKSON MS 39216 PH 6019697543 FAX 6019699374

August 3, 2020

ADDENDUM NO. 3

PROJECT: GS# 505-030
Fire Station Dormitory
State Fire Academy
Pearl, Mississippi

FROM: Edmonds Engineering, Inc.
1900 Lakeland Drive, Suite 1
Jackson, Mississippi 39216

The following additions, changes, clarifications and/or substitutions to the Project Drawings as indicated are hereby made a part of the Contract Documents. Acknowledge receipt of this Addendum by inserting its number and date in the Proposal Form where indicated.

Item No. 1: Specifications, Section 15110.2.1.A.1, replace with the following:
1) Soil, Waste and Vent Piping: Service weight cast iron with neoprene gaskets or Schedule 40 PVC (solid wall) below floor slab. Above the slab to be no hub cast iron or Schedule 40 PVC (solid wall) with solvent weld joints. Any piping within ceiling return plenums to be cast iron.

Item No. 2: Specifications, Section 15500: Replace section with the attached Section 15500, Fire Protection System – Wet Pipe.

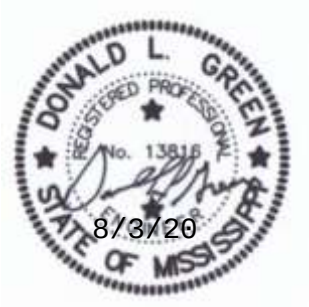
Item No. 3: Specifications: Add the attached Section 15510, Fire Protection System – Dry Pipe.

Item No. 4: Specifications, Section 15500 and Section 15510, **Clarification**:
1) The Dorm and Truck Bay Building is to have a wet pipe system.
2) The Office and Classroom Building is to have a dry pipe system with dry pendant heads.
3) The dry pipe system requires an air compressor mounted on wall in Fire Riser 132. Size to be 120 v, single phase, ½ HP.

Item No. 5: Specifications, Section 15110, Part 2, 2.1.A.7, replace with the following:
7) Storm Water Piping: Schedule 40 PVC with solvent welded joints below grade and no hub cast iron in all areas located within return air ceiling plenum. All exposed piping in Truck Bay to be no hub cast iron.

Item No. 6: Drawings, Sheet M1.1A, MP1.1A, MP1.2A, and P1.1A: Replace with the attached Sheets M1.1AR1, MP1.1AR1, MP1.2AR1, and P1.1AR1 correcting the indoor heat pump tags on the dorm alternat sheets.

END OF ADDENDUM NO. 3



SECTION 15500 - FIRE PROTECTION SYSTEM – WET PIPE (DORM/TRUCK BAY BUILDING)

PART 1 - GENERAL

1.1 SCOPE

A. Provide all material, equipment and labor, etc., required to complete installation specified herein and/or shown or scheduled on Plans.

B. The Contractor shall install a complete wet pipe sprinkler system including heads, alarm valve, retard chamber, flow switches, O.S. & Y. valves and other appurtenances as shown on plans or as specified for all areas.

C. The system shall include all piping, valves, fittings, alarms, and heads required for the type of construction and as required by Owner's insurance and local fire authority requirements.

D. Standard Products: Equipment furnished under this Specification is essentially the standard product of the manufacturer. Where two or more units of same class of equipment are required, these units shall be products of a single manufacturer; however, the component parts of the system need not be the products of the same manufacturer.

1.2 SUBMITTALS

A. Manufacturer's literature for:

1. Fire Department Connections

2. Sprinkler Head

3. O.S.& Y. Valve(s)

4. Flow Switch(es)

5. Alarm Valve

6. Water Motor Alarm Valve

B. Submit complete hydraulic calculations, sprinkler, stand-pipe connection and piping layout for approval. Identify all sprinkler head types. Provide drawing to scale on 24 inch and 36 inch sheet, number of copies per Section 15010. Obtain Mississippi State Rating Bureau and State Fire Marshall and National Board Underwriters approval and submit with other data. Coordinate with Architect/Engineer concerning acceptable spaces for drops prior to shop drawing submittal. Contact Architect/Engineer for clarification as required.

Submit two (2) sets of manufacturer’s equipment data sheets, hydraulic calculations, and all related documents through the contracting officer to Division of Safety and Risk Management (AHJ) for review and approval (25 BIAM, Supplement 18, 1.5 A(6)).

1.3 APPLICABLE STANDARDS

A. All equipment used must meet the requirements of the National Board of Fire Underwriters for the service intended.

B. The Contractor shall conform to standards prescribed by NFPA-13 regulations or ordinances having jurisdiction and be approved by the Owner's insurance company. Any changes that may be necessary to conform to such regulations or ordinances shall be made by the Contractor without extra costs to the Owner.

1.4 GENERAL REQUIREMENTS

A. The entire work must be executed in a neat, substantial, and workman-like manner, according to the true intent and meaning of the plans and specifications, which are intended to include everything dependent upon them and required for the completion of the work with materials best adapted to the purpose.

B. The interior sprinkler systems shall be designed for Ordinary Hazard occupancy for Truck Bay. The interior sprinkler systems shall be designed for Light Hazard occupancy for the Dorm portion of the Building. Verify local pressure with local fire marshal and submit with hydraulic calculations.

C. The hydraulic calculations shall provide for a minimum 10% safety factor.

PART 2 - PRODUCTS

2.1 EQUIPMENT

A. Unless otherwise shown, specified, or approved by the Architect/Engineer, use materials and equipment in the installation of the sprinkler system listed as approved by the Underwriter`s Laboratories Inc. List of Inspected Fire Protection Equipment and Materials, or approved by any other appropriate nationally known and recognized testing laboratory for use in sprinkler systems, and of the latest design of the manufacturer.

B. Fire Department Connection: Use Siamese-type on exterior installation and furnish hose ends threaded with American National Fire-Hose-Coupling Threads, or with the proper threads for use with the local Fire Department hose. Thread pipe ends for 4-inch pipe as required. The completed installations shall include a check valve, ball drip, and metal escutcheon plate marked "auto spkr", 2-way 4" x 2-1/2" type. Provide 2-1/2 inch fire department connection hose valves, Potter-Roemer Figure 4085-D and 4115-D for top and all other floors, respectively. Provide matching polished chrome cap and chain.

C. Sprinkler Heads: Unless otherwise specified or shown, provide and install sprinkler heads of regular automatic pop-down, recessed type concealed, for ordinary degree temperature rating except that temperature ratings of sprinkler heads installed in the vicinity of heating equipment shall be as required for such locations by National Board of Fire Underwriters' Pamphlet No. 13, where, in the opinion of the Owner's insurance company, special occupancies indicate the need for high-temperature rating for such heads by actual tests at the site. Provide 285^{o}F temperature heads in mechanical and electrical areas as indicated. Utilize brass type heads in mechanical and electrical rooms and other core spaces without ceiling. Sidewall sprinklers shall be listed for “Ordinary Hazard” occupancy classification (NFPA 13, 5-4.2).

D. Piping: Schedule 40 black steel piping, size as allowed by NFPA 13. All piping for Sanctuary wet pipe system and the entire dry pipe system shall be Schedule 40 galvanized.

E. Pipe Hangers: Use types indicated as acceptable in National Board of Fire Underwriters' Pamphlet No. 13.

F. Sprinkler Contractor shall provide the following for connection to fire alarm by Electrical Contractor:

1. All valve supervisory switches control.
2. Sprinkler riser flow switch.

G. Sprinkler Contractor shall provide and install locking access key box in a location as directed by Owner. Key to main front door entrance and egress corridor at location of fire alarm panel shall be located in box such that Fire Department personnel can access fire alarm panel. Access key box shall be obtained and coordinated with local Fire Department authority. Cost and coordination by Sprinkler Contractor.

H. Provide a fire cabinet to hold replacement space sprinkler heads (never less than six) and six replacement heads for each system.

2.2 WATER CONNECTION

A. Connect to piping outside building as shown on plans. Underground lines shall be Class 51 ductile iron with mechanical joints.

B. Run all underground lines and install thrust-blocks as required to constrain all bends or connections.

C. This contractor to conduct fire main flow test to ensure adequate pressure at main.

2.3 PIPE AND FITTINGS ABOVE GROUND

A. Installation: Install pipe, fittings, and hangers where shown on drawings in accordance with NFPA Pamphlet No. 13. If Victaulic fittings are used, provide flush seal gaskets on dry pipe system.

B. Cutting Structural Members: Cutting of structural members for the passage of sprinkler piping or for pipe-hanger fastenings will not be permitted unless approved by Architect/Engineer.

C. Holes through Walls, Floors, and Ceilings: Where sprinkler pipes pass through walls, floors, and ceilings, the holes shall be large enough to accommodate pipe expansion. Provide chrome plated escutcheon at each hole to ensure the effectiveness of the floor or wall as a fire stop. Provide fireproof material around pipes to maintain fire integrity. Expansion and Contraction: Provide sleeves at floor penetrations to permit free movement resulting from expansion and contraction.

D. Reducers: Make reductions in pipe sizes with one-piece reducing fittings. Bushings not acceptable, except that when one-piece reducing fittings of proper size are not obtainable, single bushings of the face type will be permitted up to 5 percent of total number of reducing fittings in the system. Where face bushings are used, install with outer face flush with the face of fitting opening being reduced.

E. Couplings: Couplings not to be used except where length of pipe between fittings exceeds 20 feet.

F. Flanges Fittings: Use flanged fittings in the control valve and drain assembly at base of risers of multiple-story sprinkler systems at each floor-system connection. Where part of a

sprinkler system is on the opposite side of a wall or partition, a flanged connection may be used.

G. Unions and Companion Flanges: Use ground-joint malleable iron unions in looper sprinkler systems where pipe is 2 inches in diameter or smaller. Where loops larger than 6 inches are used, install companion flanges.

2.4 DRAINS

A. Install main drains on main risers and auxiliary drains at low points in the system. Install inspector's test drains on each sprinkler system as near the outer end of system as possible where a 1-1/4 inch branch line pipe is available. Five or fewer heads will not require a drain valve but may be drained through a plugged fitting. Drain valves to be of the angle type. Install in accordance with NFPA Pamphlet No. 13. Pipe drain valves to a safe place of discharge; discharge to be visible either by open end drain pipe or sight drain fitting.

2.5 TAMPER SWITCHES

A. Provide tamper switches at all locations as indicated and required by Owner's insurance company and Fire Department Authorities. Sprinkler Contractor shall furnish and install switches with wiring by Electrical Contractor. Provide O.S. & Y valves with supervisory switch at each floor distribution main.

2.6 WATER FLOW INDICATOR SWITCHES

A. Provide water flow indicator switches at all locations as indicated and as required by Owner's insurance company and Fire Department Authorities. Sprinkler Contractor shall furnish and install switches with wiring by Electrical Contractor.

2.7 FIRE ALARM

A. Provide water motor gong on exterior wall in a location as shown on Plans or as directed by Architect/Engineer.

B. The Electrical Contractor shall provide all wiring and interlocks as required for connection to the building fire alarm system. See Division 16000 for further requirements.

PART 3 - EXECUTION

3.1 TESTS

A. Upon completion and prior to the acceptance of the installation, subject the system to the tests required by Fire Department Authorities and the Owner's insurance company and NFPA Pamphlet No. 13, Paragraphs 110 and 111, and furnish the Owner with a certificate as acceptable by same. Wet system shall be subjected to 2 hour 200 PSI hydrostatic test with no leakage. If any leaks are detected, they will be repaired and the system will be retested.

3.2 INSTALLATION INSTRUCTIONS

A. All main and distribution piping routed above ceiling shall be routed in joist space. Offset below solid beam and truss ceiling member as required and return to joist space

3.3 GUARANTEE

A. The automatic sprinkler systems to be furnished under this section of the specifications shall be guaranteed for a period of one year from the date of final acceptance by Owner against defective materials, designs, and workmanship. Upon receipt of notice from the Owner of failure of any part of the guaranteed equipment during the guaranty period, the affected part of parts shall be replaced promptly with new parts by and at the expense of the Contractor.

END OF SECTION

SECTION 15510 - FIRE PROTECTION SYSTEM – DRY PIPE (CLASSROOM/OFFICE BUILDING)

PART 1 - GENERAL

1.1 SCOPE

A. Provide all material, equipment and labor, etc., required to complete installation specified herein and/or shown or scheduled on Plans.

B. The Contractor shall install a complete dry pipe sprinkler system including heads, flow switches, O.S. & Y. valves and other appurtenances as shown on plans or as specified.

C. The system shall include all piping, valves, fittings, alarms, and heads required for the type of construction and as required by Owner's insurance and local fire authority requirements.

D. Standard Products: Equipment furnished under this Specification is essentially the standard product of the manufacturer. Where two or more units of same class of equipment are required, these units shall be products of a single manufacturer; however, the component parts of the system need not be the products of the same manufacturer.

1.2 SUBMITTALS

A. Manufacturer's literature for:

1. Fire Department Connections

2. Sprinkler Head (Dry)

3. O.S.& Y. Valve(s)

4. Flow Switch(es)

5. Alarm Valve

6. Dry Pipe Valve

B. Submit complete hydraulic calculations, sprinkler, stand-pipe connection and piping layout to FMCC_PPI Technical Support for approval. Identify all sprinkler head types. Provide drawing to scale on 24 inch and 36 inch sheet, number of copies per Section 15010. Obtain Mississippi State Rating Bureau and State Fire Marshal and National Board Underwriters approval and submit with other data. Coordinate with Architect/Engineer concerning acceptable spaces for drops prior to shop drawing submittal. Contact Architect/Engineer for clarification as required.

C. Shop drawings for sprinkler system and fire alarm/mass notification systems shall be submitted for approval by the AHJ.

1.3 APPLICABLE STANDARDS

A. All equipment used must meet the requirements of the National Board of Fire Underwriters for the service intended.

B. The Contractor shall conform to standards prescribed by NFPA-13 regulations or ordinances having jurisdiction and be approved by the Owner's insurance company. Any changes that may be necessary to conform to such regulations or ordinances shall be made by the Contractor without extra costs to the Owner.

1.4 GENERAL REQUIREMENTS

A. The entire work must be executed in a neat, substantial, and workman-like manner, according to the true intent and meaning of the plans and specifications, which are intended to include everything dependent upon them and required for the completion of the work with materials best adapted to the purpose.

B. The interior sprinkler systems shall be designed for Light Hazard occupancy. Verify local pressure with local fire marshal and submit with hydraulic calculations.

C. The sprinkler system shall be dry pipe throughout the entire building.

PART 2 - PRODUCTS

2.1 EQUIPMENT

A. Unless otherwise shown, specified, or approved by the Architect/Engineer, use materials and equipment in the installation of the sprinkler system listed as approved by the Underwriter`s Laboratories Inc. List of Inspected Fire Protection Equipment and Materials, or approved by any other appropriate nationally known and recognized testing laboratory for use in sprinkler systems, and of the latest design of the manufacturer.

B. Fire Department Connection: Use Siamese-type on exterior installation and furnish hose ends threaded with American National Fire-Hose-Coupling Threads, or with the proper threads for use with the local Fire Department hose. Thread pipe ends for 4-inch pipe as required. The completed installations shall include a check valve, ball drip, and metal escutcheon plate marked "auto spkr", 2-way 4" x 2-1/2" type. Provide 2-1/2 inch fire department connection hose valves, Potter-Roemer Figure 4085-D and 4115-D for top and all other floors, respectively. Provide matching polished chrome cap and chain.

C. Sprinkler Heads: Unless otherwise specified or shown, provide and install sprinkler heads of regular automatic closed-type, or new spray-type heads, for ordinary degree temperature rating except that temperature ratings of sprinkler heads installed in the vicinity of heating equipment shall be as required for such locations by National Board of Fire Underwriters' Pamphlet No. 13, where, in the opinion of the Owner's insurance company, special occupancies indicate the need for high-temperature rating for such heads by actual tests at the site. Provide 285^{o}F temperature heads in mechanical and electrical areas as indicated. Utilize brass type heads in mechanical and electrical rooms and other core spaces without ceiling. Submit information on sprinkler heads proposed for all areas. All sprinkler heads I n ceiling are to be fully recessed pop down style heads.

D. Piping: Galvanized or black steel piping, size and schedule as allowed by NFPA 13.

E. Pipe Hangers: Use types indicated as acceptable in National Board of Fire Underwriters' Pamphlet No. 13.

F. Fire Protection Monitoring Panel: Provided and installed by Electrical Contractor. Panel shall include the following:

1. Interlock with each individual floor O.S.&Y valve supervisory switch.
2. Interlock with individual floor flow switches to indicate positive flow indication.
3. Each signal shall be cleared permanently marked for reference on panel cover. All interlocked wiring by Electrical Contractor. All wiring mounted in conduit as per Division 16.

G. Sprinkler Contractor shall provide and install locking access key box in a location as directed by Owner. Key to main front door entrance and egress corridor at location of fire alarm panel shall be located in box such that Fire Department personnel can access fire alarm panel. Access key box shall be obtained and coordinated with local Fire Department authority. Cost and coordination by Sprinkler Contractor.

H. Provide a fire cabinet to hold replacement space sprinkler heads (never less than six) and six replacement heads.

2.2 WATER CONNECTION

A. Connect to piping outside building as shown on plans.

B. Run all underground lines and install thrust-blocks as required to constrain all bends or connections. Piping under the building slab is to be ductile iron with ductile iron fittings. Protect piping as required by NFPA 13.

2.3 PIPE AND FITTINGS ABOVE GROUND

A. Installation: Install pipe, fittings, and hangers where shown on drawings in accordance with NFPA Pamphlet No. 13.

B. Cutting Structural Members: Cutting of structural members for the passage of sprinkler piping or for pipe-hanger fastenings will not be permitted unless approved by Architect/Engineer.

C. Holes through Walls, Floors, and Ceilings: Where sprinkler pipes pass through walls, floors, and ceilings, the holes shall be large enough to accommodate pipe expansion. Provide chrome plated escutcheon at each hole to ensure the effectiveness of the floor or wall as a fire stop. Provide fireproof material around pipes to maintain fire integrity. Expansion and Contraction: Provide sleeves at floor penetrations to permit free movement resulting from expansion and contraction.

D. Reducers: Make reductions in pipe sizes with one-piece reducing fittings. Bushings not acceptable, except that when one-piece reducing fittings of proper size are not obtainable, single bushings of the face type will be permitted up to 5 percent of total number of reducing fittings in the system. Where face bushings are used, install with outer face flush with the face of fitting opening being reduced.

E. Couplings: Couplings not to be used except where length of pipe between fittings exceeds 20 feet.

F. Flanges Fittings: Use flanged fittings in the control valve and drain assembly at base of risers of multiple-story sprinkler systems at each floor-system connection. Where part of a sprinkler system is on the opposite side of a wall or partition, a flanged connection may be used.

G. Unions and Companion Flanges: Use ground-joint malleable iron unions in looper sprinkler systems where pipe is 2 inches in diameter or smaller. Where loops larger than 6 inches are used, install companion flanges.

2.4 SPRINKLER HEADS

A. Place sprinkler heads upright, with the deflectors parallel to ceiling or roof slope. Clearances between the deflectors and the ceilings, roof decking, or roof joists to be in accordance with NFPA Pamphlet No. 13, unless otherwise shown on drawings. All drops shall be installed after verifying and locating sprinkler heads in finished areas of this contract to coordinate with lights, air distribution devices, ductwork, fan coil units, etc., and ceiling height as indicated on architectural contract drawings. Ceiling mounted sprinkler heads are to be fully recessed pop down type heads. Head in areas with ceiling tile are to be located in the center of a tile.

2.5 DRAINS

A. Install main drains on main risers and auxiliary drains at low points in the system. Install inspector's test drains on each sprinkler system as near the outer end of system as possible where a 1-1/4 inch branch line pipe is available. Five or fewer heads will not require a drain valve but may be drained through a plugged fitting. Drain valves to be of the angle type. Install in accordance with NFPA Pamphlet No. 13. Pipe drain valves to a safe place of discharge; discharge to be visible either by open end drain pipe or sight drain fitting.

2.6 TAMPER SWITCHES

A. Provide tamper switches at all locations as indicated and required by Owner's insurance company and Fire Department Authorities. Sprinkler Contractor shall furnish and install switches with wiring by Electrical Contractor. Provide O.S.&Y valves with supervisory switch at each floor distribution main.

2.7 WATER FLOW INDICATOR SWITCHES

A. Provide water flow indicator switches at all locations as indicated and as required by Owner's insurance company and Fire Department Authorities. Sprinkler Contractor shall furnish and install switches with wiring by Electrical Contractor.

2.8 FIRE ALARM

A. Provide water motor gong on exterior wall in a location as shown on Plans or as directed by Architect/Engineer.

B. The Electrical Contractor shall provide all wiring and interlocks as required for connection to the building fire alarm system. See Division 16000 for further requirements.

PART 3 - EXECUTION

3.1 TESTS

A. Upon completion and prior to the acceptance of the installation, subject the system to the tests required by Fire Department Authorities and the Owner's insurance company and

NFPA Pamphlet No. 13, Paragraphs 110 and 111, and furnish the Owner with a certificate as acceptable by same.

3.2 INSTALLATION INSTRUCTIONS

A. Install pipe and fittings in accordance with reference standards, manufacturers recommendations and recognized industry practices.

B. All main and distribution piping routed above ceiling shall be routed in joist space. Offset below solid beam and truss ceiling member as required and return to joist space.

C. Sprinkler head shall be installed in the center of tile where lay-in ceiling is located. Sprinkler heads shall be located in the center of hallways and spaced evenly in rooms.

D. Sprinkler branch connection shall be side or top connection taps only. No bottom taps.

E. Install all piping parallel to building walls and ceilings and at heights which do not obstruct any portion of a window, doorway, stairway or passageway.

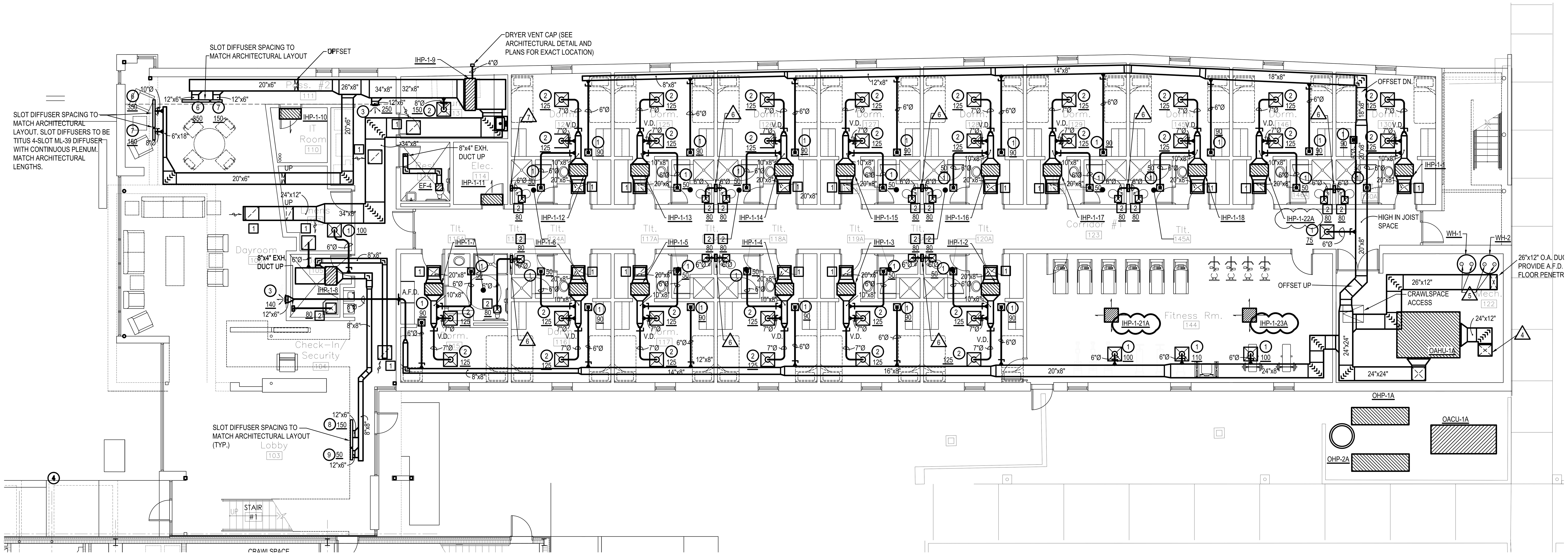
F. Where interferences develop in the field, offset or reroute piping as required to avoid such interferences.

G. Coordinate locations of fire protection piping with piping, ductwork, conduit and equipment of other trades to allow sufficient clearances. In all cases, consult drawings for exact location of pipe spaces, ceiling heights, ceiling grid layout, light fixtures and grilles before installing piping.

3.3 GUARANTEE

A. The automatic sprinkler systems to be furnished under this section of the specifications shall be guaranteed for a period of one year from the date of final acceptance by Owner against defective materials, designs, and workmanship. Upon receipt of notice from the Owner of failure of any part of the guaranteed equipment during the guaranty period, the affected part of parts shall be replaced promptly with new parts by and at the expense of the Contractor.

END OF SECTION



PARTIAL FIRST FLOOR PLAN - PART "A" - H.V.A.C.

SCALE: 1/8" = 1'-0"

ALTERNATE #1

NOTES:

1. PROVIDE 24"x20" DOOR GRILLE FOR MAKE UP AIR.
2. PROVIDE VENTILATION THERMOSTAT AND CARBON MONOXIDE SENSOR FOR ROOF MOUNTED SHOP EXHAUST FANS EF-1 AND EF-2. INTERLOCK MOTORIZED DAMPERS ON INTAKE LOUVERS WITH VENTILATION THERMOSTAT.
3. PROVIDE 12"x12" EXHAUST DISCHARGE LOUVER EQUAL TO RUSKIN ELF375DX WITH KYNAR FINISH. COLOR BY ARCHITECT.
4. 20"x24" OUTSIDE AIR DUCT FROM FLOOR ABOVE. PROVIDE A.F.D. AT FLOOR PENETRATION.
5. 3" INTAKE; 3" EXHAUST FLUE FOR WATER HEATERS (WH-1, WH-2)
6. 12"x4" EXHAUST DUCT UP, PROVIDE A.F.D. AT FLOOR PENETRATION.
7. 8"x4" EXHAUST DUCT UP, PROVIDE A.F.D. AT FLOOR PENETRATION.

REVISED BY ADDENDUM #3 08/03/2020

DONALD L. GREEN REGISTERED PROFESSIONAL ENGINEER No. 13816 STATE OF MISSISSIPPI

4 / 15 / 2020

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Project Number : JAN19015

15 April 2020

fire station dormitory
state fire academy
pearl, mississippi

GS# 505-030

BURRIS/WAGNON ARCHITECTS, P.A.
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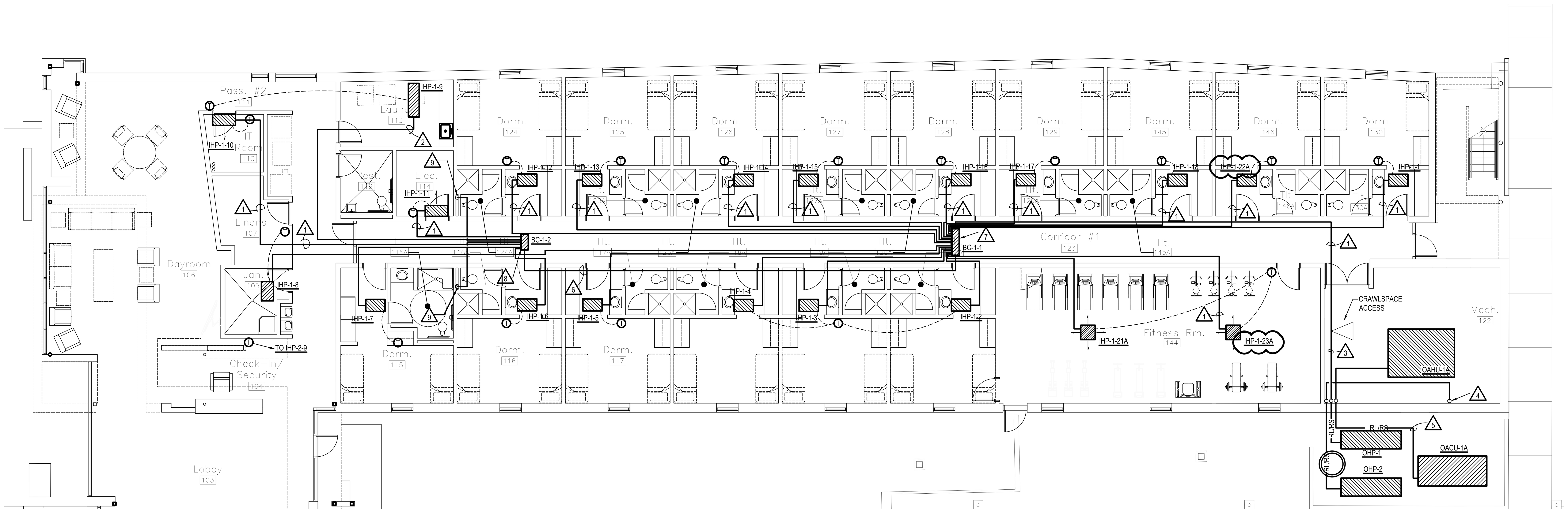
M1.1AR1



PARTIAL FIRST FLOOR PLAN - PART "A" - H.V.A.C. PIPING

SCALE: 1/8" = 1'-0"

ALTERNATE #1

NOTES:

1. 1/4" LIQUID; 1/2" SUCTION REFRIGERANT PIPING.
2. 3/8" LIQUID; 5/8" SUCTION REFRIGERANT PIPING.
3. 7/8" LIQUID; 1 1/8" SUCTION REFRIGERANT PIPING.
4. 7/8" LIQUID; 1 1/8" SUCTION REFRIGERANT PIPING UP TO FLOOR ABOVE.
5. REFRIGERANT PIPING ROUTED INDOORS THROUGH WALL SLEEVE. SIZE PER MANUFACTURER'S RECOMMENDATIONS.
6. 3/8" LIQUID; 3/4" LP SUCTION; 5/8" HP SUCTION REFRIGERANT PIPING TO SUB-BRANCH CONTROLLER
7. PROVIDE MAIN BRANCH CONTROLLER EQUAL TO MITSUBISHI CMB-P1016NU-GA. 208v., 1ph. 1.65 M.C.A.; 15 M.O.P.
8. PROVIDE SUB BRANCH CONTROLLER EQUAL TO MITSUBISHI CMB-P108NU-GB. 208v., 1ph. 0.6 M.C.A.; 15 M.O.P.
9. 3/8" LIQUID; 5/8" SUCTION REFRIGERANT PIPING DOWN TO CRAWLSPACE.

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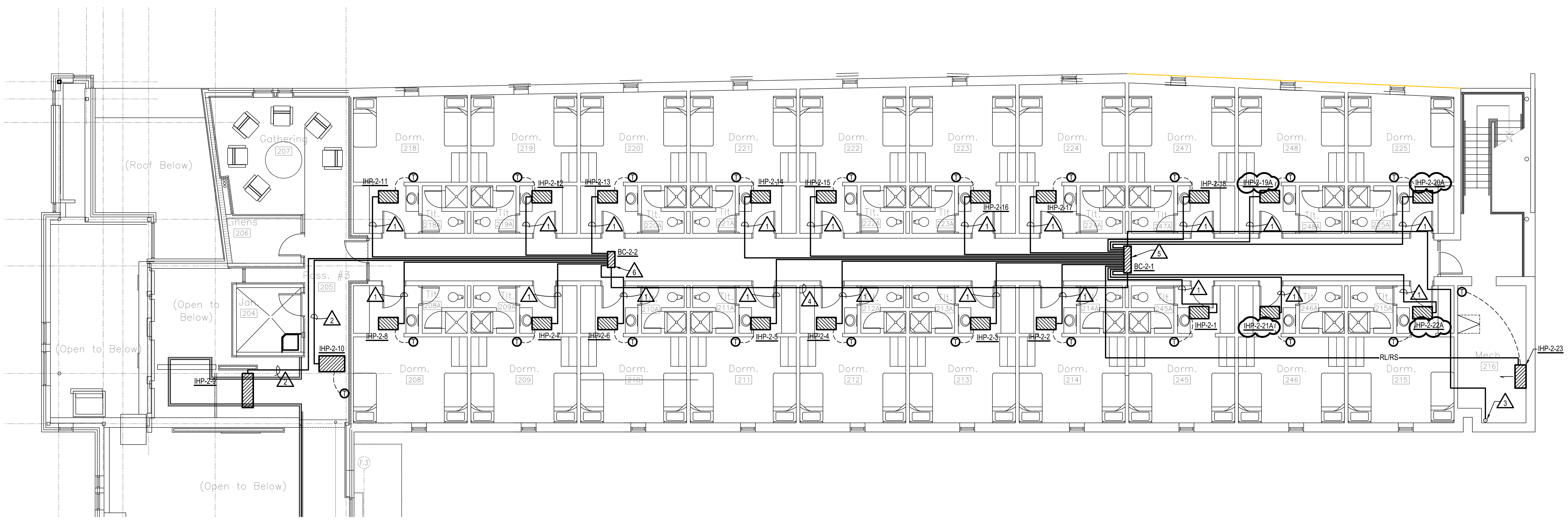
MP1.1AR1



PARTIAL SECOND FLOOR PLAN - PART "A" - H.V.A.C. PIPING

SCALE: 1/8" = 1'-0"

ALTERNATE #1

NOTES:

1. 1/4" LIQUID; 1/2" SUCTION REFRIGERANT PIPING.
2. 3/8" LIQUID; 5/8" SUCTION REFRIGERANT PIPING.
3. 7/8" LIQUID; 1 1/8" SUCTION REFRIGERANT PIPING FROM BELOW.
4. 1/2" LIQUID; 3/4" LP SUCTION; 1 1/8" HP SUCTION REFRIGERANT PIPING TO SUB-BRANCH CONTROLLER.
5. PROVIDE MAIN BRANCH CONTROLLER EQUAL TO MITSUBISHI CMB-P1016NU-GA. 208v., 1ph. 1.65 M.C.A.; 15 M.O.P.
6. PROVIDE SUB BRANCH CONTROLLER EQUAL TO MITSUBISHI CMB-P108NU-GB. 208v., 1ph. 0.6 M.C.A.; 15 M.O.P.

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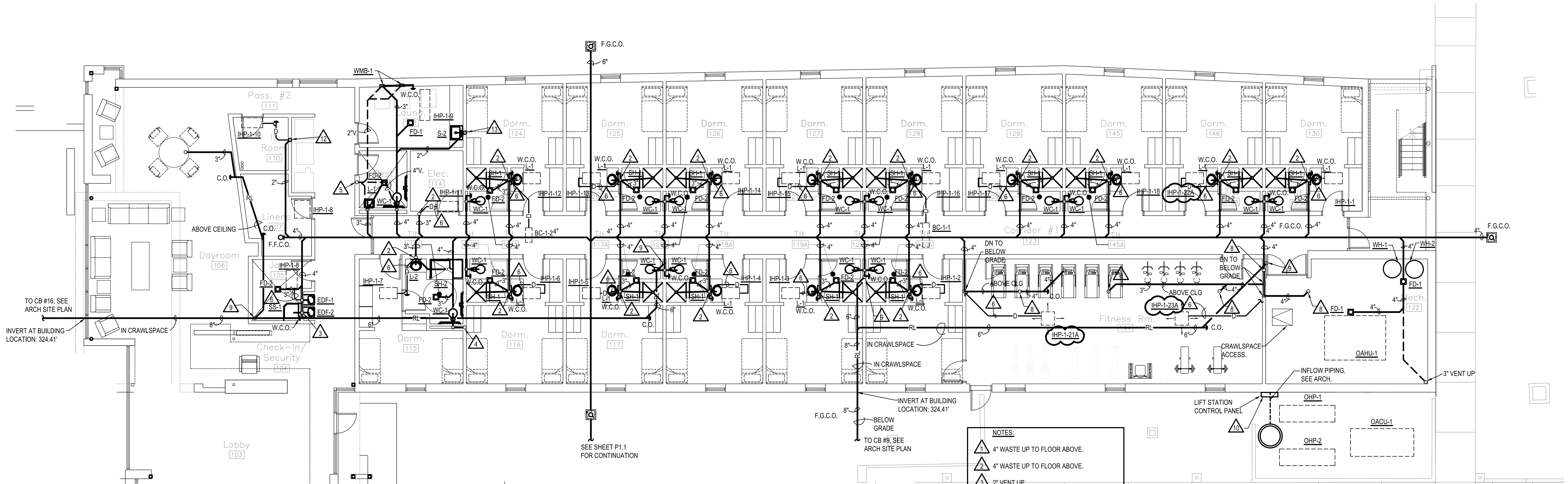
MP1.2AR1



NOTES:

1. 4" WASTE UP TO FLOOR ABOVE.
2. 4" WASTE UP TO FLOOR ABOVE.
3. 2" VENT UP.
4. 3" VENT UP.
5. 4" VENT UP.
6. CONNECT 1" CONDENSATE DRAIN LINE FROM IHP TO NEARBY WASTE/VENT STACK. INSULATE FROM POINT OF ORIGIN TO CONNECTION AT VENT STACK.
7. PROVIDE OIL INTERCEPTOR EQUAL TO ZURN PROCEPTOR OML300. SEE DETAIL.
8. 8" CAST IRON RAIN LEADER FROM ABOVE, TO BELOW GRADE. PROVIDE STANDOFF AND SUPPORT BRACKETS @ 4'-0" O.C. SEE ARCHITECTURAL DETAIL 2 / 9.1
9. 6" RAIN LEADER FROM ABOVE, TO CRAWLSPACE.
10. NEW CRAWLSPACE AREA DRAINAGE LIFT STATION EQUAL TO FRANKLIN ELECTRIC FPS ENGINEERED PRODUCTS 36"x120", DUAL SEAL, MODEL #515726 480v., 3 PHASE GRINDER SYSTEM COMPLETE. INCLUDES SS GUIDE RAILS, HEAVY DUTY ALUMINUM HATCH LID, 8" INLET HUB, DUPLEX CONTROL PANEL WITH VISUAL AND AUDIBLE ALARM, AND 4 FLOAT SYSTEM. DUPLEX PUMPS EQUAL TO FRANKLIN ELECTRIC MODEL IGPDS-M463-30, 2hp, 208v, 3 PHASE, 20 GPM, 20' HD. PROVIDE DUPLEX DUAL SEAL GRINDER PUMP CONTROL PANEL WITH ALARMS MODEL 515323 WITH GALVANIZED MOUNTING STAND. PROVIDE 36" DIAMETER x 10' DEEP FIBERGLASS BASIN WITH HEAVY DUTY ALUMINUM HATCH LID. SEE DETAIL FOR ANTI-FLOTATION PAD.
11. OFFSET THROUGH SLAB AND UP TO GET INTO WALL.
12. 2" TRAPPED HUB DRAIN IN WALL TO RECEIVE COLD CONDENSATE FROM IHP.
13. 2" STUDOR VENT.

PARTIAL FIRST FLOOR PLAN - PART "A" - NON-PRESSURE

SCALE: 1/8" = 1'-0"

ALTERNATE #1

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P1.1AR1

Electrical Addendum Items
GS# 505-030
State Fire Academy
Fire Station Dormitory

A. 1. Drawing E-11, First Floor Plan- Building “B” - Power
   a. Fire Riser 132, provide 120 volt connection to dry pipe sprinkler compressor located adjacent to fire riser. Connect to spare 20A1P breaker in Panel “L1C”. Branch circuit to be 2 - #12, 1 - #12G, ½” c.

2. Drawing E-17, Power Riser Diagram
   a. Change Note #3 to omit “Service Entrance Rated”
   b. Change Note #5 to be “ Service Rated Manual Transfer Switch, 600A3P, 480 volt with solid Neutral, wall mounted.”
   c. Relocate the Service Ground to be at the MTS instead of the ATS.

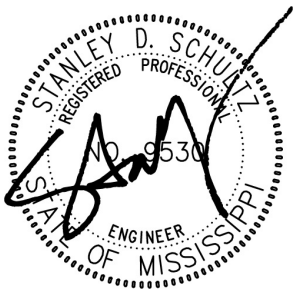
3. Modify Drawing E-17, Automatic Transfer Switch Detail
   a. Relocate the Service Ground from the ATS to the MTS.

4. Drawing E- 19
   a. Circuit Schedule for Base Bid Panel MDP to be 35 Kaic.
   b. Circuit Schedule for Alternate No. 1 Panel MDP to be 35 Kaic.

B. 1. Specification 16230

   a. 16230 - 9.2 omit the last phrase “and shall be UL rated for service entrance”
   b. 16230 - 11.1 Change the Model No to be 300 DQDAC

2. Specification 16610
   a. General; The classroom building shall have a voice fire alarm system. The dorm shall be a non-voice fire alarm system.
   b. General; All patient rooms shall have a stand alone 520Hz notification device and a system smoke detector. The system detector shall be programmed per the specifications and not initiate a general alarm. Exception: Room 115 shall also include a strobe for the room and toilet.
   c. Section 16610-12.1 and 16610-12.2 shall be omitted.



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