ADDENDUM NO. 02

PROJECT:	WAYNE COUNTY COURTHOUSE MECHANICAL RENOVATION PROJECT DLZ Project Number 1663-1191-90
TO:	All Bidders and others to whom Plans and Specifications for the above referenced Project have been issued.
OWNER:	Wayne County Board of Commissioners 401 East Main Street County Administrative Building Richmond, Indiana 47374
ARCHITECT:	DLZ INDIANA, LLC 157 East Maryland Street. Indianapolis, Indiana 46204
DATE:	January 10, 2019

CERTIFIED BY:

The items included in this Addendum are to become a part of the original Drawings and Project Manual dated December 6, 2018 as if included herein. Only these items are to be altered. The remainder of the original Drawings and Project Manual remain valid in their entirety.

PROJECT MANUAL

ITEM NO. 1. SECTION 012100 – ALLOWANCES

a. Add this section to the project manual.

ITEM NO. 2. SECTION 230900 – INSTRUMENTATION AND CONTROL FOR HVAC

a. Part 2.1.A: Add "5. Schneider Electric Building Controls by Precision Controls/Havel."

b. Part 2.1. Add:

"C. ASHRAE 135 Protocol:

1. ASHRAE 135 communication protocol shall be sole and native protocol used throughout the entire DDC system.

2. DDC system shall not require use of gateways to integrate HVAC equipment and other building systems and equipment not required to use ASHRAE 135 communication protocol.

3. If used, gateways shall connect to DDC system using ASHRAE 135 communication protocol and Project object properties and read/write services indicated by interoperability schedule.

4. Operator workstations, controllers and other network devices shall be tested and listed by BACnet Testing Laboratories."

c. Part 2.6.D.1: Add "i. Trane."

d. Part 2.10.A: Add "4. Trane."

ITEM NO. 3. SECTION 230923.19 – REFRIGERANT DETECTION AND ALARM

a. Add this section to the Project Manual.

ITEM NO. 4. SECTION 236500 – COOLING TOWERS

a. Part 2.1.A: Add "4. Reysma."

1. The Reysma model HFC-1012110-F shall be considered an equivalent. Contractor responsible for confirming installation at location indicated on drawings based on any differences in equipment dimensions.

ITEM NO. 5. SECTION 262923 – VARIABLE FREQUENCY MOTOR CONTROLLERS

a. Part 2.1.A. Add the following:
"2. Eaton.

3. ABB.

4. Danfoss Inc.; Danfoss Drive Div.

5. Eaton Electrical Inc.; Cutler-Hammer Business Unit

6. Johnson Controls.

7. Siemens Energy & Automation, Inc.

8. Square D; a brand of Schneider Electric.

9. Trane.

10. Toshiba International Corporation."

DRAWINGS

ITEM NO. 6. DRAWINGS M200, M201, M202, M203, M204

a. Add "GENERAL NOTE L: CONTRACTOR SHALL REMOVE AND REINSTALL THE EXISTING ACOUSTICAL CEILING TILE AND GRID AS REQUIRED TO PERFORM WORK INDICATED. CONTRACTOR SHALL NOTIFY THE ARCHITECT / ENGINEER OF ANY EXISTING TILE OR GRID THAT IS DAMAGED AND NOT ABLE TO BE REINSTALLED."

ITEM NO. 7. DRAWING M001 - MECHANICAL GENERAL NOTES AND SCHEDULES

a. CLOSED CIRCUIT COOLER SCHEDULE: Add "4, 5, 6" to the 'REMARKS' column for CT-1.

b. CLOSED CIRCUIT COOLER SCHEDULE: Add "6. Provide sloped metal shield above closed circuit cooler control panel for protection from falling ice."

c. WATER SOURCE HEAT PUMP SCHEDULE: Remove remark '4' from the 'REMARKS' column for the following units:

a. HP-2.
b. HP-7.
c. HP-8.
d. HP-18.
e. HP-19.
f. HP-20.
g. HP-22.
h. HP-34.
i. HP-39.
j. HP-41.
k. HP-43.
l. HP-45.
m. HP-52.
n. HP-53.
o. HP-57.
p. HP-60.
q. HP-61.
r. HP-63.
s. HP-67.
t. HP-75.
u. HP-76.
v. HP-77.
w. HP-119.

ITEM NO. 8. DRAWING M200 - MECHANICAL BASEMENT – MECHANICAL PLAN

a. Pump P-2: Delete Demolition Note #8 for the pump. Pump shall be existing to remain.

b. Pump P-2: Delete Plan Key Note #8. Pump shall be existing to remain.

c. Demolition Note #8: Add the following verbiage to the note: "Removed pump shall be returned to Owner for salvaging."

d. Provide a new Refrigerant Monitor System adjacent to CH-1A. System shall monitor R410A refrigerant.

CLARIFICATIONS

1. Who will be responsible for moving items stored in the attic that is located near mechanical equipment?
   Answer: The Owner will move items as required. Contractor shall coordinate with the Owner with 48 hours notice.

2. Will the gas, water, and electric meters require to be monitored by the Building Automation System?

Answer: The gas, water and electric meters are not required to be monitored.

3. Will the new Courthouse Building Automation system require interface with a County BAS system?
   Answer: This is not required for the project.

4. Will floating point or modulation control valves be required for fin tube and cabinet heaters?
   Answer: Floating point control valves are acceptable for this equipment. All other control valves shall be modulating.

5. Are the controls for the water source heat pumps to be manufacturer provided DDC card or have the controls contractor field mount their controls?
   Answer: All controls, with the exception of the cooling tower and chiller, shall be provided by the DDC Controls Manufacturer.

6. Can the existing wiring and conduit be reused for the new DDC controls?
   Answer: All wiring shall be new. The existing conduit can be reused.

ATTACHMENTS:

01	Pre-Bid Meeting Attendance Sign-in
02	012100 ALLOWANCES
03	230923.19 REFRIGERANT DETECTION AND ALARM

END OF ADDENDUM NO. 02

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES

INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

Client: Wayne County
Project: Courthouse Mechanical Renovation – Prebid Meeting
Location: Wayne County Courthouse

Date: December 27, 2018
Time: 9 am

MEETING ATTENDANCE

Name	Initials	Organization	Email	Phone Number
Henry W. Stellema	HWS	DLZ	hwstellema@DLZ.com	317 771 7582
DAN STAMPER	DS	CARROLL ELECTRIC	DAN@CARROLL-ELECTRIC.NET	765-962-6568
JASEN ORR	JO	THOR CONSTRUCTION Co.	jasen@thor-construction.net	765-960-6005
Adam Duke	AGD	Bader Mechanical	agduke1@gmail.com	765-977-5709
BRAD CULLY	WBC	CULLY MECH ELECT.	bCULLY@YAHOO.COM	769 969-5957
PAUL Wilson	PEW	Wallace Heating + Air	Office5@Wallaceheating1.com	765-977-8270
Bob WILLIAMS	BW	BADER MECHANICAL	WILLIAMSbob1945@AOL.com	765-962-9440
DeJay Baker	DB	Bader Mech	bakerdejay@gmail.com	765-993-3932
Steve Higinbothan	SH	Wayne Co.	steveh@co.wayne.in.us	765-973-9297
Dale				

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements governing allowances.

1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

B. Types of allowances include the following:

1. Lump-sum allowances.

C. Related Requirements:

1. Section 014000 "Quality Requirements" for procedures governing the use of allowances for testing and inspecting.

1.3 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.

B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

1.4 ACTION SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

1.5 INFORMATIONAL SUBMITTALS

A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.

C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.6 COORDINATION

A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.7 LUMP-SUM ALLOWANCES

A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include taxes, freight,and delivery to Project site.

B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.

C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.

1. If requested by Architect, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

1.8 ADJUSTMENT OF ALLOWANCES

A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.

1. Include installation costs in purchase amount only where indicated as part of the allowance.
2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.

3. Submit substantiation of a change in scope of work, if any, claimed in Change Orders related to unit-cost allowances.
4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.

B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.

1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.
2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

A. Allowance No. 1: Lump-Sum Allowance: Include the sum of $10,000 for the purchase and installation of new acoustical ceiling tile and grid to match existing. This allowance shall be used for existing tile and grid that was damaged during the work. Contractor shall identify damaged tile and grid and notify Architect / Engineer of amount to be replaced in each room.

1. This allowance includes material cost, receiving, handling, and installation, and Contractor overhead and profit.

END OF SECTION 012100

SECTION 230923.19 - REFRIGERANT DETECTION AND ALARM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes refrigerant monitors, notification appliances, and SCBA.

1.3 DEFINITIONS

A. CMOS: Complementary metal-oxide semiconductor.

B. LCD: Liquid-crystal display.

C. LED: Light-emitting diode.

D. MOS: Metal-oxide semiconductor.

E. NDIR: Non-dispersive infrared.

F. PIR: Photoacoustic infrared.

G. SCBA: Self-contained breathing apparatus.

1.4 ACTION SUBMITTALS

A. Product Data:

1. For each type of refrigerant monitor, include refrigerant sensing range in ppm, temperature and humidity range, alarm outputs, display range, furnished specialties, installation requirements, and electric power requirement.
2. For SCBA, include mounting details, service requirements, and compliance with authorized Federal agency.

B. Shop Drawings:

1. Air-Sampling Tubing: Size, routing, and termination including elevation above finished floor.
2. Wiring Diagrams: Power, signal, and control wiring.

1.5 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Include machinery-room layout showing location of monitoring devices and air-sampling tubing with filter/inlet locations in relation to refrigerant equipment.

B. Product Certificates: For monitoring devices and SCBA, signed by product manufacturer.

C. Field quality-control test reports.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For refrigerant monitoring equipment and SCBA to include in emergency, operation, and maintenance manuals.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. One calibration kit including clean air calibration gas bottle for zero calibration and specific refrigerant calibration gas for span calibration, minimum 58-L capacity, pressure regulator, and tubing.

1.8 COORDINATION

A. Coordinate refrigerant detection and alarm system with refrigerant contained in refrigeration equipment for compatibility.

PART 2 - PRODUCTS

2.1 PIR REFRIGERANT MONITOR

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Chillgard Refrigerant Monitors.
2. Genesis International.
3. Haloguard Monitors.

B. Description: Sensor shall be factory tested, calibrated, and certified to continuously measure and display the specific gas concentration and shall be capable of indicating, alarming, shutting down fuel-fired equipment, and automatically activating ventilation system.

C. ASHRAE: Monitoring system shall comply with ASHRAE 15.

D. Performance:

1. Refrigerant to Be Monitored: Match refrigerant provided to chillers.
2. Range: 0 to 1000 ppm.
3. Sensitivity:

    a. Minimum Detectability: 1 ppm.
    b. Accuracy: 0 to 50 ppm; plus or minus 1 ppm. 51 to 1000 ppm; plus or minus 10 percent of reading.
    c. Repeatability: Plus or minus 1 percent of full scale.
    d. Response: Maximum 10 seconds per sample.
    e. Detection Level Set Points:

        1) Detection Level 1: 1 ppm.
        2) Detection Level 2: 10 ppm.
        3) Detection Level 3: 50 ppm.

4. Operating Temperature: 32 to 104 deg F.
5. Relative Humidity: 20 to 95 percent, noncondensing over the operating temperature range. Compensate sensor for relative humidity.

E. Input/Output Features:

1. Maximum Power Input: 120-V ac, 60 Hz, 75 W.
2. Number of Air-Sampling Points: Four.
3. Air-Sampling Point Inlet Filter: 0.10-micron filter element for each sampling point.
4. Air-Sampling Point Analog Output: 0- to 10-V dc into 2k ohms, or 4- to 20-mA into 1k ohms matched to sensor output.
5. Alarm Relays: Minimum 4 relays at a minimum of 5-A resistive load each.
6. Alarm Set Points: Displayed and adjustable through keypad on front of meter.
7. Alarm Silence Switch: Mount in the front panel of the monitor to stop audible and visual notification appliances, but alarm LED remains illuminated.
8. Alarm Manual Reset: Momentary-contact push button in the front panel of the monitor stops audible and visual notification appliances, extinguishes alarm LED, and returns monitor to detection mode at current detection levels.
9. Display: Alphanumeric LCD, LED indicating lights for each detection level; acknowledge switch and test switch mounted on front panel; alarm status LEDs and service fault/trouble LEDs.
10. Audible Output: Minimum 75 dB at 10 feet.
11. Visible Output: Strobe light.
12. Sensor Analog Output: 0- to 10-V dc into 2k ohms, or 4- to 20-mA into 1k ohms.
13. Serial Output: RS-232 or RS-485[compatible with HVAC controls].
14. Enclosure: NEMA 250, Type 1, with locking quarter-turn latch and key.

2.2 MONITOR ALARM SEQUENCE

A. Detection Level 1: Notify HVAC control workstation of detection in the refrigeration equipment room on a rise or fall of refrigerant concentration to this level. Start ventilation system at low speed to allow occupancy by maintenance technicians to identify leaks. Cycle blue strobe lights.

B. Detection Level 2: Notify the HVAC control workstation of the detection in the refrigeration equipment room on a rise or fall of refrigerant concentration to this level. Run ventilation system at high speed on a rise in concentration to this level, and change to low speed on a reduction in concentration below this level. Operate the ventilation system at high speed for a minimum of five minutes. Cycle amber strobe lights.

C. Detection Level 3: Notify the HVAC control workstation of the detection in the refrigeration equipment room on a rise or fall of refrigerant concentration to this level. Sound alarm horns and cycle red strobe lights inside and outside refrigeration equipment room. Terminate operation of any combustion-process equipment located in the refrigeration equipment room. Provide manual reset for this detection level.

D. Sensor Fault/Trouble: Notify HVAC control workstation of fault/trouble detection in monitor.

2.3 NOTIFICATION APPLIANCES

A. Horns: Comply with UL 464; electric-vibrating-polarized type, listed by a qualified testing agency with provision for housing the operating mechanism behind a grille. Horns shall produce a sound-pressure level of 90 dBA, measured 10 feet from the horn.

B. Visible Alarm Devices: Comply with UL 1971; three color xenon strobe lights, with clear or nominal white polycarbonate lens mounted on an aluminum faceplate. The words "REFRIGERANT DETECTION" printed in minimum 1/2-inch-high letters on the lens. Rated light output is 75 candela.

2.4 AIR-SAMPLING TUBING

A. Polyethylene Tubing: ASTM D 2737, flame-retardant, nonmetallic tubing rated for ambient temperature range of 10 to 150 deg F.

2.5 SCBA

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. MSA Instrument Division.
2. Scott Health & Safety.
3. Survivair.

B. Description: Open-circuit, pressure-demand, compressed-air SCBA; includes completely assembled, portable, self-contained devices designed for application in hazardous breathing environment. Tested and certified by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration according to 42 CFR 84, Subpart H.

C. Face Piece: Silicon, EPDM, or nitrile rubber, one-size-fits-all with double-sealing edge, stainless-steel speaking diaphragm and lens retainer, five adjustable straps to hold face piece to head (two straps on each side and one on top), exhalation valve in mask, close-fitting nose piece to ensure no CO_2 buildup, and perspiration drain to avoid skin irritation and prevent lens fogging.

D. Backplate: Ergonomically designed of glass fiber, aluminum, or thermoset plastic.

E. Harness and Carrier Assembly: Large triangular back pad, with backplate and adjustable waist and shoulders straps. Modular design, detachable components, easy to clean and maintain. Shoulder straps are padded with flame-resistant material, reinforced with stainless-steel cable, and attached with T-nuts, washers, and screws.

F. Air Cylinder, Regulator, and Pressure Gages: [30] [45] [60]-minute, low-pressure 2216-psig, carbon-fiber composite, fiberglass composite, or all- aluminum cylinders fitted with quick-fill assembly for refilling and air transfer. Two-stage regulator, and gage with end of service time whistle signal.

G. Wall-Mounted Case: Watertight, high visibility orange or yellow, corrosion-resistant, tough, lockable plastic case.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with ASHRAE 15.

B. Install air-sampling inlets, or diffusion type monitors in pits, tunnels, or trenches in machinery room that are accessible to personnel.

C. Floor mount diffusion-type monitor, sensor/transmitters, or air-sampling inlets on slotted channel frame 12 to 18 inches above the floor in a location near the refrigerant source or between the refrigerant source and the ventilation duct inlet.

D. Wall mount air-sampling multiple-point monitors with top of unit 60 inches above finished floor.

E. Run air-sampling tubing from monitor to air-sampling point, in size as required by monitor manufacturer. Install tubing with maximum unsupported length of 36 inches, for tubing exposed to view. Terminate air-sampling tubing at sampling point with filter recommended by monitor manufacturer.

F. Install air-sampling tubing with sufficient slack and flexible connections to allow for vibration of tubing and movement of equipment.

G. Purge air-sampling tubing with dry, oil-free compressed air before connecting to monitor.

H. Number-code or color-code air-sampling tubing for future identification and service of air-sampling multiple-point monitors.

I. Extend air-sampling tubing from exhaust part of multiple-point monitors to outside.

J. Extend air-sampling tubing from outdoors to outdoor inlet connection of NDIR monitors. Terminate air-sampling tubing at outdoor inlet location with filter recommended by monitor manufacturer.

K. Install warning signs, labels, and nameplates to identify detection devices and SCBA according to Section 230553 "Identification for HVAC Piping and Equipment."

L. Place warning signs inside and outside each door to the refrigeration equipment room. Sample wording: "AUDIBLE AND VISUAL ALARM SOUNDING INDICATES REFRIGERANT DETECTION - ENTRY REQUIRES SCBA."

M. Audible Alarm-Indicating Devices: Install at each entry door to refrigeration equipment room, and position not less than 6 inches below the ceiling. Install horns on flush-mounted back boxes with the device-operating mechanism concealed behind a grille.

N. Visible Alarm-Indicating Devices: Install adjacent to each alarm horn at each entry door to refrigeration equipment room, and position at least 6 inches below the ceiling.

O. Mount primary SCBA on wall outside interior door to refrigeration equipment room. Provide two (2) units in Corridor (1.WH.103) outside of door to Main Mech Room (1.MEP.123).

3.2 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections and prepare test reports.

B. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections. Report results in writing.

C. Perform tests and inspections and prepare test reports.

1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.

D. Tests and Inspections:

1. Inspect field-assembled components, equipment installation, and electrical connections for compliance with requirements.
2. Test and adjust controls and safeties.
3. Test Reports: Prepare a written report to record the following:

    a. Test procedures used.
    b. Test results that comply with requirements.
    c. Test results that do not comply with requirements and corrective action taken to achieve compliance with requirements.

E. Repair or replace malfunctioning units and retest as specified above.

3.3 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain refrigerant detection devices and SCBA equipment. Refer to requirements in Section 017900 "Demonstration and Training."

B. SCBA Training: Provide an instructional video that details operating procedures of equipment.

END OF SECTION 230923.19