balancing. All testing and balancing shall be done under both cooling and heating modes of operation.

## **GENERAL ELECTRICAL NOTES:**

8.) ALL TRADES SHALL COORDINATE ON PLACEMENT OF NEW EQUIPMENT.

- 1.) ALL CONDUIT PENETRATIONS THROUGH FIRE RATED WALLS OR SHAFTS SHALL BE SEALED IN ACCORDANCE WITH
- 2.) CONTRACTOR SHALL COORDINATE LOCATION OF ALL FIXTURES AND CEILING MOUNTED DEVICES WITH THE ARCHITECTURAL CEILING PLAN, SECTIONS, ELEVATIONS, AND DETAILS. CONTRACTOR SHALL ALSO COORDINATE LOCATION OF RECEPTACLES AND OTHER WALL MOUNTED DEVICES WITH THE ARCHITECTURAL WALL FINISHES AND ELEVATIONS.
- 3.) THE ELECTRICAL WIRING CONNECTION AND PROTECTION REQUIREMENTS FOR OWNER FURNISHED EQUIPMENT SHALL BE VERIFIED IN THE FIELD WITH THE OWNER'S EQUIPMENT SUPPLIER AND WITH THE NAMEPLATE DATA. THE CONTRACTOR SHALL
- 4.) ALL BRANCH CIRCUITS AND FEEDERS SHALL CONTAIN INSULATED GROUNDING CONDUCTOR IN ACCORDANCE WITH SPECIFICATION SECTION 260526 GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS.
- 5.) UTILIZATION OF THE PHRASE "PROVIDED BY" WITHIN THE CONTEXT OF THESE DOCUMENTS SHALL EXPLICITLY REPRESENT

FURNISH THE PROPER CONNECTIONS AND CIRCUITS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.

- "FURNISHED AND INSTALLED BY". 6.) THE ROUTING OF ALL SURFACE MOUNTED/EXPOSED CONDUIT IN FINISHED AREAS (OR WHERE NOTED ON THE DRAWINGS)
- SHALL BE COORDINATED WITH, AND SHALL BE APPROVED BY THE ARCHITECT PRIÒR TO INSTALLATION. 7.) THE DISCONNECTING MEANS FOR ALL MOTORS AND EQUIPMENT SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION AND SHALL HAVE PROPER WORKING SPACE AS DEFINED IN NEC ARTICLE 100 AND 110.
- 9.) CONNECT ALL EMERGENCY EGRESS/EXIT LIGHTING/EXIT SIGNS AHEAD OF LOCAL SWITCHING PER STATE AND LOCAL CODES.
- SINGLE-PHASE CIRCUITS MAY BE COMBINED IN ONE CONDUIT WITH A COMMON NEUTRAL, AS INDICATED ON DRAWINGS, PROVIDED EACH CIRCUIT IS ON AN OPPOSITE PHASE.
- 11.) THE CONTRACTOR SHALL REMOVE SUCH EXISTING WORK AS CALLED FOR IN THE DRAWINGS, OR AS REQUIRED TO CLEAR THE AREAS FOR NEW CONSTRUCTION.
- 12.) BRANCH CIRCUITS SHARING A NEUTRAL CONDUCTOR SHALL BE SERVED BY A MULTI-POLE BREAKER OR HANDLE TIE THAT WILL SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE POINT THE BRANCH ORIGINATES PER NEC

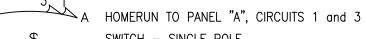
10.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANELBOARDS. THREE

- 13.) ALL CONDUITS THAT CROSS EXPANSION JOINTS SHALL HAVE EXPANSION SEISMIC COUPLINGS.
- 14.) ALL LOW VOLTAGE AND SYSTEM CABLING LOCATED ABOVE CEILINGS SHALL BE PROPERLY RATED FOR THE APPLICATION. WITHOUT EXCEPTION, ALL CABLING SHALL BE HUNG FROM BRIDAL TYPE RINGS OR PLACED IN CABLE TRAY BY THE E.C. IN EXPOSED CEILING AREAS, ALL CABLING SHALL BE RUN IN CONDUIT TO THE NEAREST ACCESSIBLE CEILING LOCATION.
- 15.) REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION OF MECHANICAL EQUIPMENT AND MEANS OF DISCONNECT/CONTROL AND LOCATE IN ACCORDANCE WITH N.E.C.
- 16.) 120V.-20A. HOMERUNS SHALL BE #12AWG UNDER 100', #10AWG 100'-200' #8AWG 200'-300', UNLESS OTHERWISE
- 17.) WIRE SIZES SHALL BE BASED ON THE 60°C. AMPACITIES FOR WIRE SIZES #14 THROUGH #1AWG, AND 75°C. AMPACITIES FOR WIRE SIZES #1/0 AWG AND LARGER.
- 18.) ALL ABANDONED ELECTRICAL CONDUITS OR OPENINGS MADE BY REMOVAL OF EXISTING ELECTRICAL COMPONENTS SHALL BE FIRE STOPPED WITH APPROVED U.L. RATED MINERAL WOOL AND/OR FIRE CAULK. U.L. APPROVED FIRE STOP METHOD/MATERIAL SHALL MATCH THE EXISTING AND/OR NEW RATED ASSEMBLY.

## **ELECTRICAL DEMOLITION NOTES**

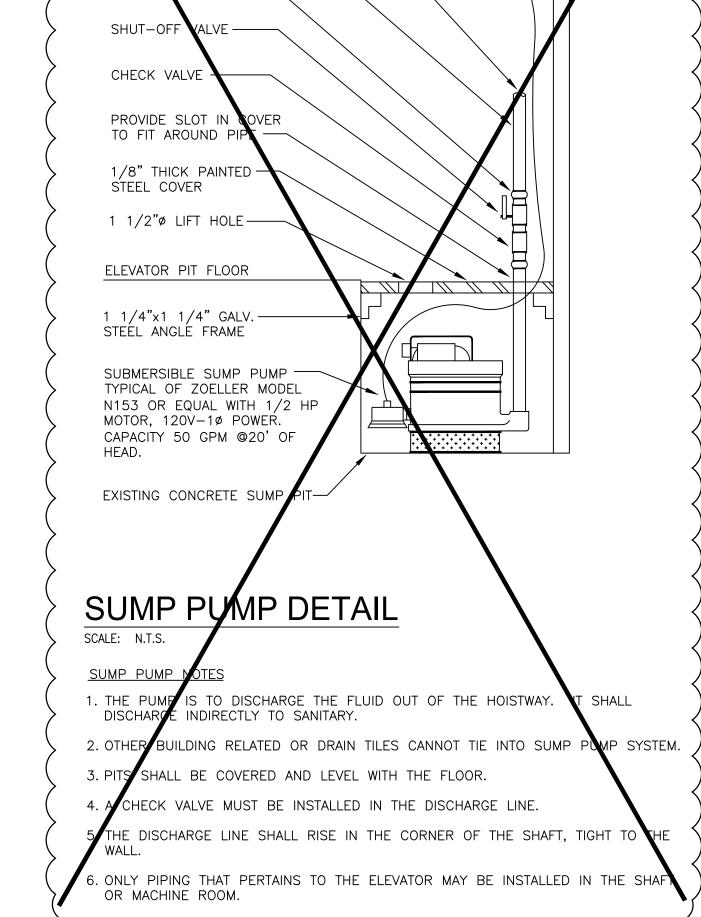
- 1. PRIOR TO ANY EXECUTION OF WORK, THE CONTRACTOR SHALL MEET WITH THE OWNER, ARCHITECT AND ENGINEER AND DISCUSS SCOPE OF DEMOLITION WORK.
- PRIOR TO ANY ISOLATION OF SYSTEMS, SHUTDOWNS OR DEMOLITION THE CONTRACTOR SHALL PROVIDE NECESSARY INVESTIGATION AND NOTIFY THE FACILITIES ENGINEERING/MAINTENANCE PERSONNEL OF WORK TO
- BE PERFORMED SO AS TO AVOID ANY DETRIMENTAL SHUTDOWN OF SYSTEMS TO ADJACENT SPACES. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SAFETY BY DISCONNECTING, CUTTING AND MAKING
- SAFE ALL DEMOLITION WORK.
- 4. CONTRACTOR SHALL NOTIFY OWNER, ARCHITECT AND ENGINEER OF ANY SITUATIONS THAT MODIFY OR INCREASE THE SCOPE OF WORK FROM THAT DESCRIBED IN THE DOCUMENTS.
- 5. CONTRACTOR SHALL INCLUDE IN THE BASE CONTRACT ALL PREMIUM TIME REQUIRED FOR SHUTDOWNS.
- 6. THE FLOOR PLANS HAVE BEEN DEVELOPED UTILIZING EXISTING DOCUMENTS AND READILY OBSERVABLE SITE CONDITIONS. THE FLOOR PLANS MAY NOT SHOW EVERY EXISTING RECEPTACLE, LUMINAIRE, SWITCH, CONDUIT, ETC. FIELD VERIFICATION OF ALL EXISTING DEVICES WILL BE REQUIRED TO BE MADE BY THE CONTRACTOR. EXISTING DEVICES WHICH ARE LOCATED ON EXISTING WALLS WHICH ARE TO BE DEMOLISHED OR IN THE PATH OF A NEW WALL SHALL BE REMOVED AND/OR RELOCATED AS REQUIRED. THE CONTRACTOR SHALL CONTACT THE ARCHITECT OR ENGINEER IF UNANTICIPATED FIELD CONDITIONS ARE ENCOUNTERED DURING CONSTRUCTION. NOTE THAT ELECTRICAL OR ELECTRONIC CIRCUIT TRACERS WERE NOT USED TO VERIFY THESE PLANS. CONTRACTOR SHALL FIELD VERIFY ALL SYSTEMS PRIOR TO COMMENCEMENT OF WORK.
- MAINTAIN AND RESTORE, IF INTERRUPTED BY DEMOLITION OR IN THE PATH OF NEW CONSTRUCTION, ALL CIRCUITS, CONDUITS AND FEEDERS PASSING THROUGH AND SERVING OUTSIDE OF DEMOLITION AREA.
- INVENTORY MAJOR ELECTRICAL ITEMS THAT ARE BEING REMOVED AND PROVIDE A LIST TO THE OWNER FOR THEIR SELECTION OF ITEMS TO BE RETAINED. ALL ITEMS NOT RETAINED BY THE OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.
- 9. EXISTING CONDUITS STUBBED THROUGH FLOOR SERVING ITEMS BEING REMOVED AND NOT REQUIRED FOR REUSE SHALL BE CUT OFF FLUSH WITH FLOOR.
- 10. ALL WIRING (BRANCH CIRCUIT, FEEDER, FIRE ALARM, ETC) THAT IS TO BE DEMOLISHED SHALL BE REMOVED COMPLETELY BACK TO SOURCE INCLUDING ALL CONDUIT, SUPPORTS, CONDUCTORS, ETC. DO NOT ABANDON ANY MATERIALS ABOVE CEILINGS OR IN WALLS. THE ASSOCIATED CIRCUIT BREAKERS SHALL BE TURNED OFF AND MARKED AS SPARE IF NOT REUSED FOR THE NEW CONSTRUCTION. UPDATE PANELBOARD DIRECTORIES AS REQUIRED,
- 11. CONTRACTOR SHALL INCLUDE IN THEIR BID PRICE THE FIELD TRACING OF ALL FEEDERS AND BRANCH CIRCUITS ASSOCIATED WITH THE RENOVATION AREA TO VERIFY DEMOLITION AND REMOVAL OF SAME. AT A MINIMUM, THE CONTRACTOR SHALL UTILIZE ELECTRONIC CIRCUIT TRACERS TO AID IN THE TRACING OF CIRCUITS. THE CONTRACTOR SHALL DOCUMENT ALL FINDINGS, NOTING CONFLICTS AND DISCREPANCIES WITH CONSTRUCTION DOCUMENTS. FINDINGS SHALL BE SUBMITTED AS A SHOP DRAWING TO THE ENGINEER FOR
- 12. MAINTAIN AND RESTORE IF INTERRUPTED BY REMOVALS OR IN THE PATH OF NEW CONSTRUCTION ALL CIRCUITS AND FEEDERS PASSING THROUGH AND SERVING UNDISTURBED AREAS SHOWN OR NOT SHOWN.
- 13. IN ANY AREA REQUIRING THE PERFORMANCE OR ANY TRADES WORK, THIS CONTRACTOR SHALL CAREFULLY REMOVE AND RESTORE ANY OR ALL ELECTRICAL ITEMS IN ACCORDANCE WITH THE PLANS AND/OR AS DIRECTED AFTER COMPLETION OF OTHER TRADES WORK IN THAT AREA.

## ELECTRICAL SYMBOL LEGEND



- SWITCH SINGLE POLE
- - DUPLEX RECEPTACLE MOUNTED AT 18" A.F.F. VERIFY EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
  - DUPLEX RECEPTACLE G.F.C.I. TYPE
- EXIT SIGN CEILING MOUNTED
- EXIT SIGN WALL MOUNTED, LOCATE SO THAT SIGN IS VISIBLE THROUGH BEAM AND SOFFIT DROPS, PROVIDE PENDANT MOUNTING HARDWARE IF REQUIRED
- CIRCUIT BREAKER PANELBOARD
- TELEPHONE/CATV TERMINAL BACKBOARD, 3/4"D. FLAME RETARDANT PLYWOOD.
- SINGLE OR THREE PHASE MOTOR SEE DRAWINGS FOR DESCRIPTION UNFUSED DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH JUNCTION BOX - SIZE AND MOUNTING HEIGHT/LOCATION AS
- FIRE ALARM PULL STATION AT 48" A.F.F.
- FIRE ALARM SYSTEM SMOKE DETECTOR WALL OR CEILING MOUNTED U.O.N.
- FIRE ALARM SMOKE DETECTOR FOR ELEVATOR RECALL CEILING MOUNTED — U.O.N.
- UNLESS OTHERWISE NOTED
- E.C. ELECTRICAL CONTRACTOR
- MECHANICAL CONTRACTOR

- ABOVE FINISHED FLOOR
- TELEPHONE TERMINAL BACKBOARD
- FIRE ALARM CONTROL PANEL/COMMAND CENTER
- FIRE ALARM REMOTE ANNUNCIATOR
- EXISTING DEVICE TO REMAIN. PROTECT AND MAINTAIN EXISTING WIRING



BASEMENT

WATERPROOF ELECTRICAL BOX -

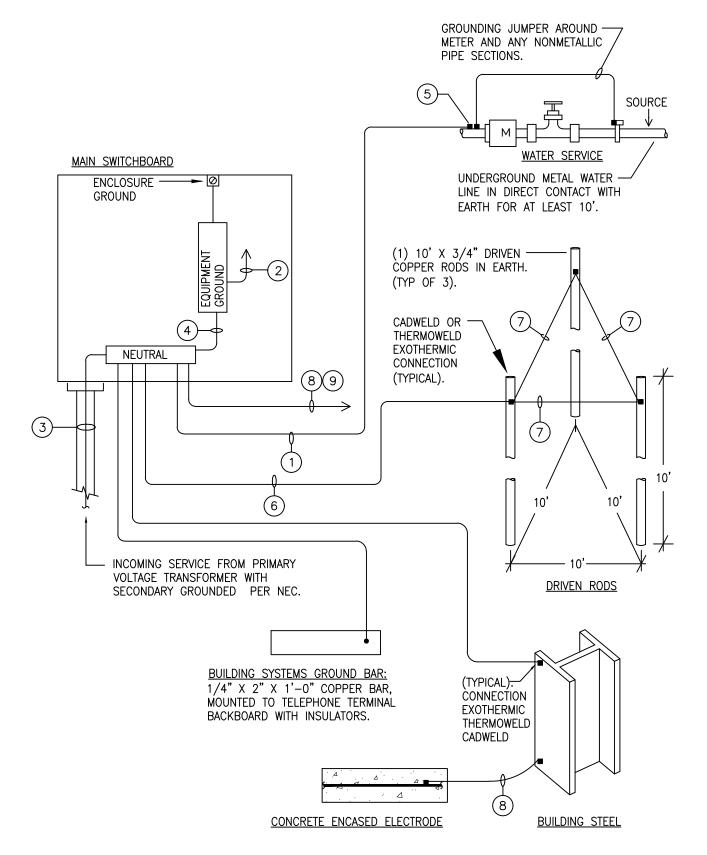
) HOLD CLOSE TO  $-\!-\!$ 

ATOR WALL

UNION (TYP.) -

E PLANS FOR CONTINUATION -

AND COVER



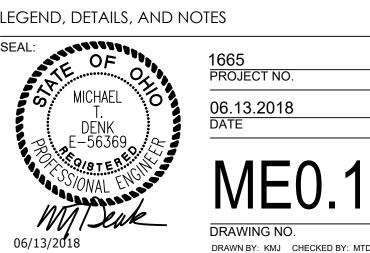
## SERVICE GROUNDING ELECTRODE WIRING DIAGRAM

GROUNDING DIAGRAM NOTES

SCALE: NONE

(1) THE GROUNDING ELECTRODE CONDUCTORS SHALL BE SIZED PER TABLE 250.66 OF THE NEC. THE

- CONDUCTOR SHALL BE CONNECTED TO AN APPROVED GROUNDING ELECTRODE (2) GROUND CONDUCTORS TO OTHER POINTS AND EQUIPMENT, AS REQUIRED BY NEC ARTICLE 250.
- (3) SERVICE ENTRANCE PHASE CONDUCTORS WITH GROUNDED (NEUTRAL) CONDUCTOR.
- (4) MAIN BONDING JUMPER SHALL BE SIZED PER TABLE 250.66 OF THE NEC.
- (5) INTERIOR METAL WATER PIPING CONNECTIONS SHALL BE MADE WITHIN 5' OF BUILDING ENTRANCE PER NEC 250.52(A)(1)
- (6) GROUND ROD ELECTRODE PROVIDE #4/O AWG COPPER GROUNDING ELECTRODE CONDUCTOR, PER NEC 250.66(A).
- (7) BONDING CONDUCTOR SHALL BE SIZED PER TABLE 250.66 OF THE NEC.
- (8) METAL WATER PIPING AND STRUCTURAL STEEL NOT INTENTIONALLY GROUNDED SHALL BE BONDED PER NEC 250.104 AND NEC TABLE 250.66.
- (9) OTHER METAL PIPING (GAS, ETC.) SHALL BE BONDED PER NEC 250.104 AND NEC TABLE 250.122.



SCHOOL DISTRICT

06.13.2018 | BID/PERMIT

08.02.2018 | ADDENDUM #1

ISSUE DATE

SHEET NAME:

PROJECT NO. 06.13.2018

BENJAMIN FRANKLIN

PreK-8 SCHOOL

**ELEVATOR** 

INFRASTRUCTURE

1905 Spring Road

Cleveland, Ohio 44109

PROJECT STATUS

**REVISION SCHEDULE**