ELECTRICAL GENERAL NOTES

A. WORK SHALL COMPLY WITH LOCAL, STATE AND NATIONAL ELECTRIC CODES AND THE AMERICANS WITH DISABILITIES ACT.

B. THE PANEL SCHEDULES ARE PROVIDED FOR ASSISTANCE ONLY IN UNDERSTANDING THE LOADING ON THE VARIOUS CIRCUITS AND THE CIRCUIT DESIGNATIONS DESIRED FOR THE PANEL DIRECTORIES. THE PANEL SCHEDULES MUST BE BALANCED UPON COMPLETION OF THE PROJECT TO COMPLY WITH CODE. IN ADDITION, THE PANEL SCHEDULES DO NOT IDENTIFY THE TYPES OF CIRCUIT BREAKERS TO BE USED (SUCH AS GFCI, HACR, SHUNT TRIP UNITS, ETC.) NOR DO THE SCHEDULES IDENTIFY CIRCUIT BREAKERS REQUIRED. (SUCH AS C/B'S FEEDING SURGE PROTECTION UNITS). REFER TO THE REST OF THE DRAWINGS AND THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND DETAILED INFORMATION.

C. COORDINATE EQUIPMENT ELECTRICAL REQUIREMENTS (VOLTAGES, PHASE, LOAD, ETC.) TO AVOID CONFLICTS.

D. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR ADDITIONAL ELECTRICAL INFORMATION AND REQUIREMENTS. IN ALL CASES DEVICE MOUNTING HEIGHTS AND LOCATIONS SHALL CONFORM TO THE LATEST AMERICANS WITH DISABILITIES FEDERAL STANDARDS.

E. EXCAVATION NECESSARY FOR COMPLETION OF WORK SHALL BE PROVIDED. COORDINATE WITH ONE ANOTHER TO SHARE TRENCHES WHEREVER POSSIBLE.

F. REFER TO THE PLANS FOR ADDITIONAL ELECTRICAL WORK AND REQUIREMENTS. FURNISH, INSTALL AND LOCATE DISCONNECT SWITCHES AT EQUIPMENT/MOTOR LOCATION, AS REQUIRED, AND IN ACCORDANCE WITH CODE. IF THE WORK OF OTHER TRADES CAUSES A LOSS OF CONTINUITY OF THE EXISTING ELECTRICAL DISTRIBUTION, GROUNDING SYSTEM OR CIRCUITRY, IT SHALL BE RECONNECTED OR REPAIRED AT NO ADDITIONAL COST.

G. FIELD VERIFY IF EXISTING ASBESTOS WILL BE ENCOUNTERED PRIOR TO STARTING ANY WORK. IF ASBESTOS IS PRESENT, THE OWNER WILL PROVIDE FOR THE REMOVAL OF ANY MATERIAL CONTAINING ASBESTOS. SEE SPECIFICATIONS FOR FURTHER REQUIREMENTS

H. COORDINATE PHASING OF WORK AND PROVIDE TEMPORARY POWER AND SERVICES AS REQUIRED FOR THE IMPLEMENTATION OF WORK WHILE MAINTAINING SERVICES TO PORTIONS OF BUILDING TO REMAIN OCCUPIED.

I. SCHEDULE WORK TO AVOID DOWNTIME AND INCONVENIENCE TO OWNER. OWNER'S EXISTING FACILITY SHALL REMAIN IN OPERATION AT ALL TIMES, INCLUDING F/A AND OTHER SPECIAL SYSTEMS, ELECTRICAL POWER DISTRIBUTION, ETC. REQUIRED SHUTDOWN OF EXISTING FACILITY UTILITIES SHALL BE SCHEDULED WITH OWNER'S OPERATING PERSONNEL.

J. LAYOUT IS DIAGRAMMATIC AND INSTALL DEVICES, CONDUIT AND EQUIPMENT TO MEET ACTUAL FIELD CONDITIONS. REVIEW PROJECT SPECIFICATIONS BEFORE STARTING WORK AND SUBMIT COMPLETE SHOP DRAWINGS AS PER SPECIFICATIONS.

K. VISIT SITE PRIOR TO BID TO DETERMINE AND VERIFY EXISTING INTERIOR AND EXTERIOR ELECTRICAL SYSTEMS TO VERIFY QUANTITIES AND LOCATIONS OF EXISTING SYSTEMS TO DETERMINE FULL EXTENT OF WORK. INCLUDE THE NECESSARY MODIFICATIONS TO THE EXISTING CONDITIONS (INCLUDING CEILINGS, WALLS, FLOORS, PIPES, CONDUIT, ROOF WORK, ETC.) AS REQUIRED, TO ALLOW FOR PROPER INSTALLATION OF WORK. ADJUST INSTALLATIONS TO MEET FIELD CONDITIONS AS REQUIRED FOR A COMPLETE AND PROPER INSTALLATION. NO EXTRAS WILL BE ALLOWED AFTER BIDDING FOR ANY REWORK OF EXISTING FIELD CONDITIONS TO RESOLVE CONFLICTS OR NOT FULLY UNDERSTANDING THE SCOPE OF THE WORK REQUIRED. EXISTING EQUIPMENT, CONDUIT, PIPING, ETC. SHALL BE REMOVED AS NOTED ON DRAWINGS AND AS REQUIRED TO MEET NEW SCOPE OF WORK.

L. HIDDEN CONDITIONS IDENTIFIED THROUGH THE COURSE OF CONSTRUCTION SHALL BE IMMEDIATELY BROUGHT TO ATTENTION IN WRITTEN FORM FOR REVIEW AND DIRECTION. FAILURE TO DO SO SHALL REQUIRE THE CHANGES AND COSTS TO CORRECT SAID HIDDEN CONDITION TO BE COMPLETED AT NO COST. EXISTING EQUIPMENT NOT IDENTIFIED SHALL BE BROUGHT TO ATTENTION FOR REVIEW AS TO WHETHER THE EQUIPMENT SHALL REMAIN AND BE RECONNECTED TO THE NEW SERVICES, BE RELOCATED, BE ABANDONED, ETC.

M. REMOVE AND REINSTALL EXISTING CEILINGS NOT BEING REPLACED (INCLUDING LIGHTS, MOTION SENSORS, FIRE ALARM DEVICES AND ANY OTHER ELECTRICAL DEVICES AS REQUIRED.) WHERE NECESSARY TO PERFORM WORK. THIS ALSO INCLUDES EXISTING CEILINGS OF PLASTER, DRYWALL, ETC. COORDINATE WORK IN CEILING SPACE SO AS TO MINIMIZE THE AMOUNT OF CEILINGS WHICH MUST BE REMOVED AND REINSTALLED. REVIEW THE ENTIRE SET OF CONTRACT DOCUMENTS IN ORDER TO FULLY UNDERSTAND AND INCLUDE CEILING WORK NECESSARY FOR WORK ON THE PROJECT. WHEN THE WORK IS COMPLETED IN THE SPACE, REINSTALL OR PATCH EXISTING CEILINGS, REINSTALL DEVICES AND EQUIPMENT AND REPAIR DAMAGE AS REQUIRED TO COMPLETELY MATCH EXISTING CONDITIONS. REPAIR OR REPLACE ANY DAMAGE CAUSED TO EXISTING CEILING AREAS.

N. REMOVE EXISTING CONSTRUCTION AS REQUIRED AT EXISTING WALLS, FLOORS, PIPE CHASES, SURFACES, FINISHES, ETC. WHICH ARE AFFECTED. REPAIR EXISTING SURFACES AFFECTED, TO MATCH EXISTING SURFACE OF EQUAL OR BETTER QUALITY TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.

O. COORDINATE NEW INSTALLATIONS WITH EXISTING SYSTEMS. RELOCATE EXISTING LIGHTING, CONDUIT, EQUIPMENT, ETC., AS NECESSARY FOR NEW INSTALLATIONS.

P. PROVIDE NEW PANEL DIRECTORIES IN EXISTING MODIFIED PANELBOARDS AND NEW PANELBOARDS TO CORRECTLY IDENTIFY EXISTING AND NEW LOADS. FINAL DIRECTORIES SHALL BE TYPE WRITTEN.

Q. EXISTING LIGHTING FIXTURES, ELECTRICAL DEVICES, CONDUIT, ETC., SHALL BE REMOVED AS NOTED ON DRAWINGS AND AS REQUIRED TO MEET NEW SCOPE OF WORK. EXISTING ELECTRICAL EQUIPMENT SHALL REMAIN PROPERTY OF THE OWNER AND SHALL BE PROPERLY STORED ON SITE, OR DESIGNATED TO BE ABANDONED AND REMOVED FROM SITE AS DIRECTED BY OWNER.

R. PERFORM CUTTING AND PATCHING OF EXISTING FLOOR SLABS AND WALLS AS REQUIRED FOR THE INSTALLATION OF ELECTRICAL SYSTEMS.

S. EXISTING ELECTRICAL DEVICES (RECEPTACLES, SWITCHES, OUTLET BOXES, CONDUIT, ETC.) WITHIN WALLS TO BE REMOVED SHALL BE DISCONNECTED COMPLETELY. REROUTE AND EXTEND EXISTING CIRCUITRY, ELECTRICAL FEEDERS AND GROUNDING SYSTEMS AS REQUIRED TO MAINTAIN CIRCUIT, FEEDER AND GROUNDING SYSTEM INTEGRITY FOR ALL REMAINING DEVICES/EQUIPMENT. VERIFY EXACT CONDITIONS AND REQUIREMENTS IN FIELD.

T. WHERE NEW CIRCUIT BREAKERS, FUSES AND SWITCHES ARE TO BE ADDED TO EXISTING PANELBOARDS, SWITCHBOARDS, ETC., THEY SHALL BE OF THE SAME MANUFACTURER AND DESIGN AS THE EXISTING BREAKERS OR SWITCHES IF NOT OBSOLETE AND SHALL BE OF THE SIZES AS INDICATED. REARRANGE CIRCUIT BREAKERS WITHIN THE EXISTING EQUIPMENT TO ACCOMMODATE THE NEW CIRCUIT BREAKERS OR SWITCHES. BRANCH CIRCUIT NUMBERS ASSIGNED TO EXISTING PANELBOARDS ARE ARBITRARY AND ARE INTENDED TO INDICATE BRANCH CIRCUIT REQUIREMENTS ONLY. ACTUAL PANEL NUMBER ASSIGNMENTS FOR DESIGNATED BRANCH CIRCUITS SHALL BE ADJUSTED TO MEET FIELD CONDITIONS. PROVIDE ADDITIONAL BUS, BUS EXTENSION, BOLTS AND HARDWARE, ENCLOSURE MODIFICATIONS, DIRECTORY MODIFICATIONS, ETC., AS REQUIRED TO ACCOMPLISH THE WORK.

U. VERIFY CEILING STYLES/FRAMES AND TYPES BEFORE ORDERING FIXTURES AND CEILING MOUNTED DEVICES. PROVIDE APPROPRIATE STYLES/FRAMES AS REQUIRED TO MATCH CEILING STYLE AND TYPES.

V. COORDINATE LIGHTING LAYOUTS WITH CEILING REGISTERS, GRILLES, DIFFUSERS, SPRINKLER HEADS AND CEILING GRID (SEE ARCHITECTURAL REFLECTED CEILING PLAN.) VERIFY LOCATION WITH OWNER'S REPRESENTATIVE IN FIELD PRIOR TO INSTALLATION.

W. PROVIDE PLENUM RATED LIGHT FIXTURES IN PLENUM CEILING AREAS WHERE REQUIRED BY LOCAL OR NATIONAL CODES.

X. SOME CEILING SPACES ARE RETURN AIR PLENUMS. EXAMINE PLENUM BEFORE CEILING IS INSTALLED (OR REPLACED) AND SEAL ALL OPENINGS AROUND CONDUIT, CABLE, ETC. PROVIDE PLENUM RATED CABLE (UNLESS IN CONDUIT), DEVICES AND EQUIPMENT PER CODE.

Y. THE MINIMUM DISTANCE BETWEEN SMOKE OR HEAT DETECTORS AND CEILING MOUNTED SUPPLY DIFFUSERS SHALL BE A MINIMUM OF 4 FEET AND WALL MOUNTED DIFUSERS SHALL BE 10 FEET.

Z. WHERE INDICATED ON THE DRAWINGS IN UNFINISHED SPACES, RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO WALL.

AA. NO RACEWAYS SHALL BE INSTALLED WITHIN 6" OF STEAM, HOT WATER PIPES OR SIMILAR HEAT PRODUCING APPLIANCES.

AB. PROVIDE PULL WIRE IN EACH RACEWAY IN WHICH WIRING IS NOT INSTALLED.

AC. COVERS OF JUNCTION OR PULL BOXES SHALL BE ACCESSIBLE AND IDENTIFIED PER SPECIFICATIONS. FIRE ALARM JUNCTION BOXES SHALL BE PAINTED RED. JUNCTION OR PULL BOXES AND THE LIKE SHALL BE INDEPENDENTLY SUPPORTED TO BUILDING STRUCTURE WITH NO WEIGHT BEARING ON RACEWAYS.

AD. WIRE COLOR CODING SHALL BE COORDINATED THROUGHOUT THE ENTIRE PROJECT/BUILDING FOR NEW AND EXISTING SYSTEMS.

AE. IF MORE THAN THREE (3) PHASE (UNGROUNDED) CONDUCTORS ARE RUN IN THE SAME RACEWAY, CONDUCTOR AMPACITY SHALL BE DERATED IN ACCORDANCE WITH NEC ARTICLE 310.

AF. CONDUIT, LIGHTING, EQUIPMENT, ETC. SHALL NOT BE SUPPORTED FROM THE BOTTOM CHORD OF ENGINEERED JOISTS WITHOUT WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER. CONDUITS, ROUTED THROUGH AREAS WITH NO CEILING, SHALL BE ROUTED WITHIN THE WEBBING OF THE JOISTS AND SHALL NOT BE ROUTED BELOW THE BOTTOM CHORD OF THE JOIST.

AG. SMOKE OR HEAT DETECTORS SHALL BE SURFACE MOUNTED TO CEILING, ROOF DECK MATERIALS, ETC. IN LIEU OF MOUNTING TO BOTTOM CHORD OF ENGINEERED JOIST OR ANY OTHER COMPONENTS NOT AN INTEGRAL PART OF THE HORIZONTAL CEILING.

AH. VERIFY EXISTING AND NEW MECHANICAL, ELECTRICAL AND FIRE PROTECTION SERVICES PRIOR TO START OF NEW CONSTRUCTION. COORDINATE AND ADJUST NEW WORK AS REQUIRED TO AVOID CONFLICTS WITH EXISTING SERVICES AND NEW SERVICES PROVIDED.

AI. PROVIDE NECESSARY ROOFING COMPONENTS COMPATIBLE WITH EXISTING ROOFING SYSTEMS TO PROVIDE A WEATHERTIGHT INSTALLATION FOR THE ROOF PENETRATIONS AND ABANDONED HOLES FROM REMOVED ITEMS. PATCH ROOF OPENINGS FOR REMOVED PIPE PENETRATIONS, WITH RIGID ROOF INSULATION AND ROOF DECK MATERIAL FROM BELOW ROOF TO MATCH EXISTING ADJACENT MATERIALS. PROPERLY STRIP ROOFING MEMBRANE, ETC. AS REQUIRED, TO MATCH EXISTING ROOF SYSTEM WITH PROPER AND COMPATIBLE MATERIALS. PROVIDE A COMPLETE AND PROPER WEATHERTIGHT CONDITION.

AJ. ROOF SUPPORTS FOR CONDUITS TO BE EQUIVALENT TO PORTABLE PIPE HANGER, INC. TYPE PP-10, WITH ROLLER GUIDE SUPPORT FOR SINGLE PIPES AND CHANNEL GUIDE SUPPORT FOR MULTIPLE PIPES. SUPPORTS TO HAVE HIGH DENSITY POLYPROPYLENE PLASTIC BASE WITH THREADED RODS FOR ADJUSTABLE HEIGHT ROLLER. SUPPORTS ARE TO SIT ON TOP OF ROOFING MEMBRANE. SUPPORTS ARE TO BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATION AND TO BE COMPATIBLE WITH AND MAINTAIN THE INTEGRITY OF THE EXISTING OR NEW ROOF SYSTEM. WHERE CONDUITS AND WIRING ARE RUN IN EXTERIOR LOCATIONS OR EXPOSED TO SUNLIGHT, CONDUCTORS SHALL BE PROPERLY UPSIZED PER NEC 310.

AK. WIRING DEVICES SHOWN BACK-TO-BACK IN WALLS SHALL BE SEPARATED BY 8" MINIMUM.

AL. UNLESS OTHERWISE NOTED, DEVICE ELEVATIONS REFER TO CENTER LINE OF JUNCTION BOX. VERIFY JUNCTION BOX LOCATIONS WITH FINAL EQUIPMENT LAYOUT PRIOR TO ROUGHING IN SAME.

AM. FURNISH AND INSTALL A GREEN GROUND WIRE IN POWER CONDUITS (NOT LIGHTING). ALL DEVICES, EQUIPMENT, FIXTURES AND THE LIKE, MUST BE GROUNDED. MECHANICAL/ELECTRICAL BONDS OF THE METALLIC RACEWAY SYSTEM SHALL BE MAINTAINED.

AN. PROVIDE CONDUIT AND WIRE AND MAKE FINAL POWER CONNECTIONS AS REQUIRED TO EXHAUST FANS AND MISCELLANEOUS EQUIPMENT FURNISHED WITH MOTORIZED BACKDRAFT DAMPERS. DAMPERS SHALL BE CONNECTED TO EQUIPMENT 120 VOLT POWER CIRCUIT SO AS TO INTERLOCK THE MOTORIZED DAMPER WITH THE EXHAUST FAN. FOR THREE PHASE MOTORS, PROVIDE AN ADDITIONAL 120 VOLT CIRCUIT ROUTED THROUGH AN AUXILIARY CONTACT IN THE MOTOR STARTER.

AO. AT NEW FIRE OR SMOKE/FIRE DAMPER LOCATIONS, WIRE EACH SMOKE/FIRE DAMPER TO NEAREST EMERGENCY PANEL, TO LOCAL ACTIVATION SMOKE DETECTORS ON EITHER SIDE OF THE DAMPER (WITHIN 3'-0") AND ALSO WIRE THE SAME TO THE FIRE ALARM CONTROL PANEL AS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM. REFER TO MECHANICAL AND ARCHITECTURAL DRAWINGS FOR LOCATIONS WHERE DUCTS PASS THROUGH SMOKE OR FIRE BARRIERS.

AP. MODIFY EXISTING FIRE ALARM SYSTEM AS INDICATED ON DRAWINGS AND SPECIFICATIONS AND AS REQUIRED FOR A COMPLETE, CODE COMPLIANT INSTALLATION. PROVIDE ADDITIONAL PARTS, ACCESSORIES AND CARDS AS REQUIRED TO COMPLETE THE WORK. FURNISH AND INSTALL INTERFACE WIRING INTEGRAL TO THE FIRE ALARM SYSTEM AS WELL AS INTERFACE TO NEW ELEVATOR CONTROL PANEL, BUILDING AUTOMATION SYSTEM, ETC. FOR A COMPLETE AND OPERATING INSTALLATION. FIRE ALARM DEVICES SHALL BE CONNECTED TO THE FIRE ALARM POWER SUPPLY AND BATTERIES OF THE SYSTEM AND SHALL NOT BE CONNECTED TO NORMAL POWER. QUESTIONS REGARDING THE REQUIREMENTS OF THE FIRE ALARM SYSTEM OR THE INTENT OF THE CODE SHALL BE DIRECTED TO THE ARCHITECT/ENGINEER FOR REVIEW PRIOR TO BID.

AQ. CONDUIT INSTALLED FOR LOW VOLTAGE SYSTEMS SHALL BE COORDINATED WITH THE LOW VOLTAGE INSTALLER IN FIELD, PRIOR TO ROUGH-IN. SUCH CONDUIT SHALL BE ROUTED TO MINIMIZE CABLE LENGTH AND COMPLY WITH LOW VOLTAGE CABLING DISTANCE LIMITATIONS.

AR. THE FLASH RATES FOR FIRE ALARM STROBES SHALL BE SYNCHRONIZED, COORDINATE ADDITIONAL REQUIREMENTS WITH NFPA 72.

AS. REWORK EXISTING ELECTRICAL FEEDERS, CONDUIT AND LOW VOLTAGE WIRING AS REQUIRED FOR INSTALLATION OF NEW STRUCTURAL COMPONENTS REQUIRED TO SUPPORT NEW ROOF MOUNTED EQUIPMENT. FURNISH AND INSTALL ALL CONDUIT, WIRING AND SPLICE BOXES TO MAINTAIN CONTINUITY.

AT. SINGLE POLE CIRCUITS SHALL HAVE SEPARATE INDEPENDENT NEUTRAL CONDUCTORS (NON-NETWORKED), WHICH (PER CODE) ARE CONSIDERED CURRENT CARRYING CONDUCTORS. THEREFORE, IF MORE THAN THREE (3) CURRENT CARRYING CONDUCTORS ARE RUN IN THE SAME RACEWAY, CONDUCTOR AMPACITY SHALL BE DERATED IN ACCORDANCE WITH NEC ARTICLE 310. AS SUCH, MULTIPLE BRANCH CIRCUIT HOME RUNS SHALL, AT A MINIMUM, UTILIZE #10 AWG CONDUCTORS TO COMPLY WITH REQUIREMENTS HEREIN. COORDINATE REQUIREMENTS IN FIELD WITH SPECIFIC HOME RUN CONFIGURATION AND NEC 2008.

AU. PRIOR TO THE START OF WORK AND THE ORDERING OF EQUIPMENT, CONTRACTOR SHALL CAREFULLY MEASURE AND VERIFY THE VOLTAGE, PHASE AND WIRING CONFIGURATION OF EXISTING PANELS AND EXISTING GEAR THAT ARE PART OF WORK AND SHALL CAREFULLY VERIFY THAT ALL ELECTRICAL CONNECTIONS, GEAR AND EQUIPMENT HAVE BEEN CAREFULLY COORDINATED TO ELIMINATE CONFLICTS. COORDINATE WITH OTHER TRADES AS REQUIRED TO ELIMINATE ELECTRICAL CONFLICTS PRIOR TO START OF WORK.

AV. CAREFULLY VERIFY COLOR TEMPERATURES OF FIXTURES WITH ARCHITECT PRIOR TO ORDERING.

PLUMBING GENERAL NOTES

PART 1 - GENERAL

1.1 FURNISH AND INSTALL ALL LABOR AND MATERIALS NECESSARY TO PROVIDE A COMPLETE INSTALLATION OF ALL PLUMBING AND SYSTEMS INDICATED AND AS MAY BE REQUIRED TO MAKE THE WORK COMPLETE FOR THE PURPOSE INTENDED. LAYOUTS SHOWN ARE DIAGRAMMATIC - INSTALL FIXTURES, AND PIPING TO MEET ACTUAL FIELD CONDITIONS.

1.2 BIDDING REQUIREMENTS: VISIT SITE PRIOR TO BIDDING TO FULLY ACQUAINT HIMSELF WITH ALL FIELD CONDITIONS AND TO DETERMINE FULL EXTENT OF WORK REQUIRED. COORDINATE NEW INSTALLATIONS WITH EXISTING SYSTEMS. ANY ITEMS NOT SPECIFICALLY INDICATED ON DRAWINGS THAT ARE IN CONFLICT WITH CONTRACT WORK SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BID FOR A DECISION. BIDDERS SHALL ACQUAINT THEMSELVES WITH THE WORKING CONDITIONS AND REQUIREMENTS OF THE ENTIRE PROJECT, AS ANY CONTRACT FOR THIS WORK WILL BE BASED UPON FURNISHING ALL LABOR AND MATERIALS REQUIRED TO ENTIRELY COMPLETE WORK READY FOR USE.

1.3 CODES: ALL WORK SHALL COMPLY WITH LOCAL, MUNICIPAL, STATE PLUMBING CODES. ALL MATERIALS SHALL BE IN COMPLIANCE WITH NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.

1.4 OBTAIN AND PAY FOR ALL LICENSES, PERMITS AND INSPECTIONS FOR ALL WORK REQUIRED. ALL CERTIFICATES OF INSPECTION SHALL BE DELIVERED TO THE OWNER.

1.5 SHOP DRAWINGS TO BE SUBMITTED (SIX COPIES) FOR ALL EQUIPMENT, FIXTURES AND PIPING LAYOUTS WITHIN 14 DAYS OF CONTRACT AWARDING FOR REVIEW. ANY MINOR CHANGES IN LOCATION OF EQUIPMENT, PIPING OR FIXTURES FROM THOSE SHOWN ON THE DRAWINGS SHALL BE MADE WITHOUT CHARGE.

1.6 PROVIDE IN A BOUND FORM TWO (2) SETS OF OPERATIONS, MAINTENANCE AND INSTRUCTION MANUALS, INCLUDING INFORMATION ON SPARE PARTS, ETC., FOR ALL FIXTURES. PROVIDE TWO (2) SETS OF ACCURATELY MARKED 'AS BUILT' PRINTS AND ELECTRONIC FILE OF AS-BUILTS.

1.7 WARRANTY ANY DEFECTS TO ALL FIXTURES, MATERIALS AND LABOR FOR A PERIOD OF ONE (1) YEAR AFTER FINAL ACCEPTANCE OF THE BUILDING BY THE ARCHITECT AND ENGINEER. DEFECTIVE FIXTURES AND MATERIALS SHALL BE REPAIRED OR REPLACED AT NO COST TO THE OWNER. GUARANTEE THAT ALL WORKMANSHIP IS OF HIGH QUALITY AND THAT ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT FULFILLS THE REQUIREMENTS OF THE SPECIFICATIONS.

PART 2 - PIPING MATERIALS

2.1 DOMESTIC HOT, COLD AND HOT WATER RECIRC PIPING SHALL BE TYPE 'L' COPPER WITH WROUGHT COPPER FITTINGS SUITABLE FOR SOLDERED JOINTS. SOLDERED JOINT CONNECTION SHALL BE MADE WITH 95/5 SOLDER.

2.2 PROVIDE DIELECTRIC FITTINGS BETWEEN DISSIMILAR PIPING MATERIALS.

2.3 PIPE HANGERS TO BE EQUAL TO CRANE 239F CLEVIS TYPE OR CRANE 101G C.I. RING, ADJUSTABLE SWIVEL HANGERS. ALL SUPPORTS AND HANGERS SHALL BE SO CONSTRUCTED AND ADJUSTED AS TO ALLOW FOR PROPER PITCH AND EXPANSION OF PIPES. ALL INSULATED PIPING RESTING ON PIPE SUPPORT AND ALL WATER PIPING SHALL BE PROVIDED WITH NO. 18 GAUGE GALVANIZED STEEL HINGED REMOVABLE PIPE COVERING PROTECTION SLEEVES WITH A NO. 12 GAUGE REINFORCING PLATE ON THE BOTTOM EQUAL TO THOSE MANUFACTURED BY STEMBRIDGE MANUFACTURING COMPANY. HANGERS AT POINTS OF SUPPORT FOR SUCH PIPING SHALL BE OF AMPLE SIZE TO ENCLOSE THE PIPE COVERING WITHOUT NOTCHING.

2.4 PIPING INSULATION FOR DOMESTIC HOT, COLD AND HOT WATER RECIRC PIPING AND OVERHEAD STORM PIPING SHALL BE 1" THICK JOHNS-MANVILLE FLAME-SAFE GC FIBERGLASS PIPE INSULATION WITH VAPOR BARRIER JACKET.

2.5 ABOVE GROUND (INSIDE BUILDING) STORM DRAINAGE PIPE SHALL BE SERVICE WEIGHT HUB AND SPIGOT CAST IRON PIPING AND FITTINGS (ASTM A74-1987).

1. INTERIOR PIPING INSULATION FOR SYSTEMS WITH OPERATING TEMPERATURES UP TO 650°F SHALL BE 1-1/2" THICK JOHNS MANVILLE MICRO-LOK 650 AP FIBERGLASS INSULATION (OR APPROVED EQUAL). PIPE INSULATION TO BE FURNISHED WITH VAPOR BARRIER JACKET AND SHALL BE INSTALLED WITH CONTINUOUS, UNBROKEN VAPOR SEAL. INSULATION COVER TO BE SEALED WITH ADHESIVE ONLY AND VAPOR SEAL TAPE APPLIED OVER JOINTS.

2. FITTINGS, ROOF SUMPS, AND FLANGES SHALL BE INSULATED WITH JOHNS MANVILLE ZESTON PVC FITTING COVERS AND HI-LO TEMP INSULATION (OR APPROVED EQUAL). TWO (2) LAYERS OF FACTORY PRECUT HI-LO TEMP INSULATION INSERTS SHALL BE APPLIED TO FITTINGS WITH THE FIRST LAYER WRAPPED WITH FIBERGLASS YARN.

PART 3 - PLUMBING FIXTURES AND EQUIPMENT

3.1 FIXTURES TO BE MANUFACTURED BY AND EQUIVALENT TO AS SCHEDULED ON THE DRAWINGS. FIXTURES SHALL BE COMPLETE WITH ALL ACCESSORIES, SUPPLIES, FRAMES, WALL HANGERS, ETC. AND SHALL BE NEW AND FREE FROM FLAWS DEFECTS OR BLEMISHES. ALL FINISHED SURFACES SHALL BE CLEAR, SMOOTH AND BRIGHT AND GUARANTEED NOT TO CRAZE, DISCOLOR OR SCALE. ALL VISIBLE PARTS OF THE TRIMMING OF ALL FIXTURES, INCLUDING FAUCETS, ESCUTCHEONS, SUPPLIES, ETC., SHALL BE HEAVILY CHROME PLATED.

PART 4 - EXECUTION

4.1 REFER TO ARCHITECTURAL ELEVATIONS FOR FINAL MOUNTING HEIGHTS OF ALL PLUMBING FIXTURES ON THIS PROJECT.

4.2 SUPPLY AND INSTALL SHUT-OFF VALVES ON ALL MAIN BRANCHES, AT ALL FIXTURES AND ELSEWHERE AS SHOWN OR AS REQUIRED. ALL VALVES SHALL HAVE MINIMUM 125 PSI PRESSURE RATING AND SHALL BE AS SHOWN OR AS REQUIRED TO SUIT JOB CONDITIONS.

4.3 NO BULL HEADED TEES SHALL BE USED ON WATER PIPING.

4.4 STERILIZE AND TEST WATER AND PIPING SYSTEMS AS PER LOCAL AND STATE REQUIREMENTS.

4.5 THE DISINFECTING AND FLUSHING PROCEDURE SHALL BE REPEATED AS DIRECTED UNTIL A LABORATORY BACTERIOLOGICAL EXAMINATION OF WATER SAMPLES INDICATES THAT THE SYSTEM IS FREE FROM CONTAMINATION AS APPROVED BY THE LOCAL WATER AUTHORITIES AND COPIES OF THEIR REPORT SUBMITTED TO THE ARCHITECT.

PART 5 - WORK IN EXISTING BUILDING

5.1 VISIT SITE PRIOR TO BID AND VERIFY ALL EXISTING PLUMBING SYSTEMS TO VERIFY QUANTITIES AND LOCATIONS OF EXISTING SYSTEMS TO DETERMINE EXTENT OF NEW AND DEMOLITION WORK.

5.2 COORDINATE NEW INSTALLATIONS WITH EXISTING SYSTEMS. NO EXTRAS WILL BE ALLOWED AFTER BIDDING FOR ANY REWORK OF EXISTING FIELD CONDITIONS TO RESOLVE ANY CONFLICTS OR NOT FULLY UNDERSTANDING THE SCOPE OF THE WORK REQUIRED.

5.3 REMOVE ALL EXISTING CEILINGS REQUIRED FOR INSTALLATION OF NEW WORK. CONTRACTOR IS TO REINSTALL CEILING UPON COMPLETION OF WORK - REPLACE ALL DAMAGED CEILING MATERIALS TO MATCH EXISTING.

MECHANICAL GENERAL NOTES

PART 1 - GENERAL

1.1 FURNISH AND INSTALL ALL LABOR AND MATERIALS NECESSARY TO PROVIDE A COMPLETE INSTALLATION OF ALL MECHANICAL SERVICES AND SYSTEMS INDICATED AND AS MAY BE REQUIRED TO MAKE THE WORK COMPLETE FOR THE PURPOSE INTENDED. LAYOUTS SHOWN ARE DIAGRAMMATIC.

1.2 BIDDING REQUIREMENTS: VISIT SITE PRIOR TO BIDDING TO FULLY ACQUAINT HIMSELF WITH ALL FIELD CONDITIONS AND TO DETERMINE FULL EXTENT OF WORK REQUIRED. COORDINATE NEW INSTALLATIONS WITH EXISTING SYSTEMS. ANY ITEMS NOT SPECIFICALLY INDICATED ON DRAWINGS THAT ARE IN CONFLICT WITH CONTRACT WORK SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BID FOR A DECISION. BIDDERS SHALL ACQUAINT THEMSELVES WITH THE WORKING CONDITIONS AND REQUIREMENTS OF THE ENTIRE PROJECT, AS ANY CONTRACT FOR THIS WORK WILL BE BASED UPON FURNISHING ALL LABOR AND MATERIALS REQUIRED TO ENTIRELY COMPLETE WORK READY FOR USE.

1.3 CODES: ALL WORK SHALL COMPLY WITH LOCAL, MUNICIPAL, STATE HVAC CODES. ALL MATERIALS SHALL BE IN COMPLIANCE WITH NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.

1.4 OBTAIN AND PAY FOR ALL LICENSES, PERMITS AND INSPECTIONS FOR ALL WORK REQUIRED. ALL CERTIFICATES OF INSPECTION SHALL BE DELIVERED TO THE OWNER.

1.5 SCHEDULE ALL WORK TO AVOID DOWNTIME AND INCONVENIENCE TO OWNER. OWNER'S EXISTING FACILITY SHALL REMAIN IN OPERATION AT ALL TIMES. ALL REQUIRED SHUTDOWN OF EXISTING UTILITIES SHALL BE SCHEDULED WITH OWNER'S OPERATING PERSONNEL. NOTIFY OWNER'S REPRESENTATIVE 48 HOURS IN ADVANCE PRIOR TO ANY SHUTDOWN OF EXISTING SYSTEMS.

1.6 TEMPORARY SERVICES ARE TO BE PROVIDED TO MAINTAIN OPERATION OF FACILITY DURING THE PHASING OF WORK, INCLUDING TEMPORARY PIPING, ETC.

1.7 WARRANTY ANY DEFECTS TO ALL EQUIPMENT, MATERIALS AND LABOR FOR A PERIOD OF ONE (1) YEAR AFTER FINAL ACCEPTANCE OF THE BUILDING BY THE ARCHITECT AND ENGINEER (FIVE YEARS FOR REFRIGERATION COMPRESSORS - PARTS AND LABOR). DEFECTIVE MATERIALS SHALL BE REPAIRED OR REPLACED AT NO COST TO THE OWNER. GUARANTEE THAT ALL WORKMANSHIP IS OF HIGH QUALITY AND THAT ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT FULFILLS THE REQUIREMENTS OF THE SPECIFICATIONS.

PART 2 - AIR DISTRIBUTION SYSTEMS

2.1 DUCTWORK TO BE GALVANIZED SHEETMETAL FABRICATED ACCORDING TO SMACNA'S DUCT CONSTRUCTION STANDARDS (LATEST EDITION). UTILIZE PITTSBURGH LOCK SEAMS FOR ALL LONGITUDINAL SEAMS (NO EXCEPTIONS). SEAL ALL JOINTS AND SEAMS FOR AN AIRTIGHT INSTALLATION. EXPOSED DUCTWORK AND SHEETMETAL PANS IN FINISHED AREAS ARE TO BE PROVIDED WITH PAINT-GRIP READY FOR PRIMING AND PAINTING. ALL EXPOSED ROUND DUCTWORK TO BE SPIRAL TYPE DUCTWORK AND FITTINGS.

PART 3 - WORK IN EXISTING BUILDINGS

3.1 FIELD VERIFY IF EXISTING ASBESTOS WILL BE ENCOUNTERED PRIOR TO STARTING ANY WORK. IF ASBESTOS IS PRESENT, THE OWNER WILL PROVIDE FOR THE REMOVAL OF ANY MATERIAL CONTAINING ASBESTOS. SEE SPECIFICATIONS FOR FURTHER REQUIREMENTS.

3.2 REMOVE ALL EXISTING CEILINGS REQUIRED FOR INSTALLATION OF NEW WORK. CONTRACTOR IS TO REINSTALL CEILING UPON COMPLETION OF WORK. REPLACE ALL DAMAGED CEILING MATERIALS TO MATCH EXISTING.

3.3 ALL EXISTING EQUIPMENT, DUCTWORK, PIPING, ETC., SHALL BE REMOVED AS NOTED ON DRAWINGS AND AS REQUIRED TO MEET NEW SCOPE OF WORK. ALL EXISTING EQUIPMENT SHALL REMAIN PROPERTY OF THE OWNER AND OWNER SHALL DETERMINE IF CONTRACTOR IS TO STORE EQUIPMENT ON SITE AT OWNER SELECTED LOCATION OR IF CONTRACTOR IS TO ABANDON OR REMOVE EQUIPMENT FROM SITE.

3.4 REMOVED DUCTWORK AND PIPING IS TO BE TERMINATED PROPERLY BACK TO EXISTING MAINS. PATCH AND SEAL EXISTING DUCTWORK AIRTIGHT. CAP PIPING WATERTIGHT. NO DUCTWORK, PIPING, SUPPORTS, HANGERS, OR EQUIPMENT IS TO BE LEFT ABANDONED. VERIFY LOCATION AND ELEVATION OF EXISTING TO BE REMOVED IN FIELD.

3.5 DRAIN AND REFILL EXISTING PIPING SYSTEMS AS REQUIRED FOR INSTALLATION OF NEW WORK. CONTRACTOR TO PROVIDE CHEMICAL TREATMENT FOR WATER PIPING SYSTEM ACCORDING TO OWNER'S REQUIREMENTS AFTER SYSTEM IS FILLED.

3.6 REMOVE EXISTING THERMOSTATS, PNEUMATIC TUBE AND/OR WIRING AND CONTROLS AS REQUIRED FOR THE RENOVATIONS.

PART 4 - EXECUTION

4.1 REGISTERS, GRILLES AND DIFFUSERS: COORDINATE EXACT LOCATION OF ALL CEILING REGISTERS, GRILLES AND DIFFUSERS WITH LIGHTING LAYOUT, ETC. SEE ARCHITECTURAL REFLECTED CEILING PLAN. VERIFY EXACT LOCATION WITH ARCHITECT IN FIELD PRIOR TO INSTALLATION.

TRIA ARCHITECTURE

Milles Engineering Group
9711 VALPARAISO DR #A
MUNSTER, INDIANA 46321
M/E/P ENGINEER: (P) 219.924.8400 (F) 219.924.5032

McMAHON
952 SOUTH STATE ROAD 2
VALPARAISO, INDIANA 46385
CIVIL ENGINEER: (P) 219.462.7743 (F) 219.464.8248

GreenbergFarrow
21 SOUTH EVERGREEN, SUITE 200
ARLINGTON HEIGHTS, IL 60005
STRUCTURAL ENGINEER: (P) 847.788.9200

DUNELAND SCHOOL CORPORATION

2018 ADDITION AT:
BRUMMITT ELEMENTARY SCHOOL
2500 INDIAN BOUNDARY ROAD CHESTERTON, INDIANA 46304

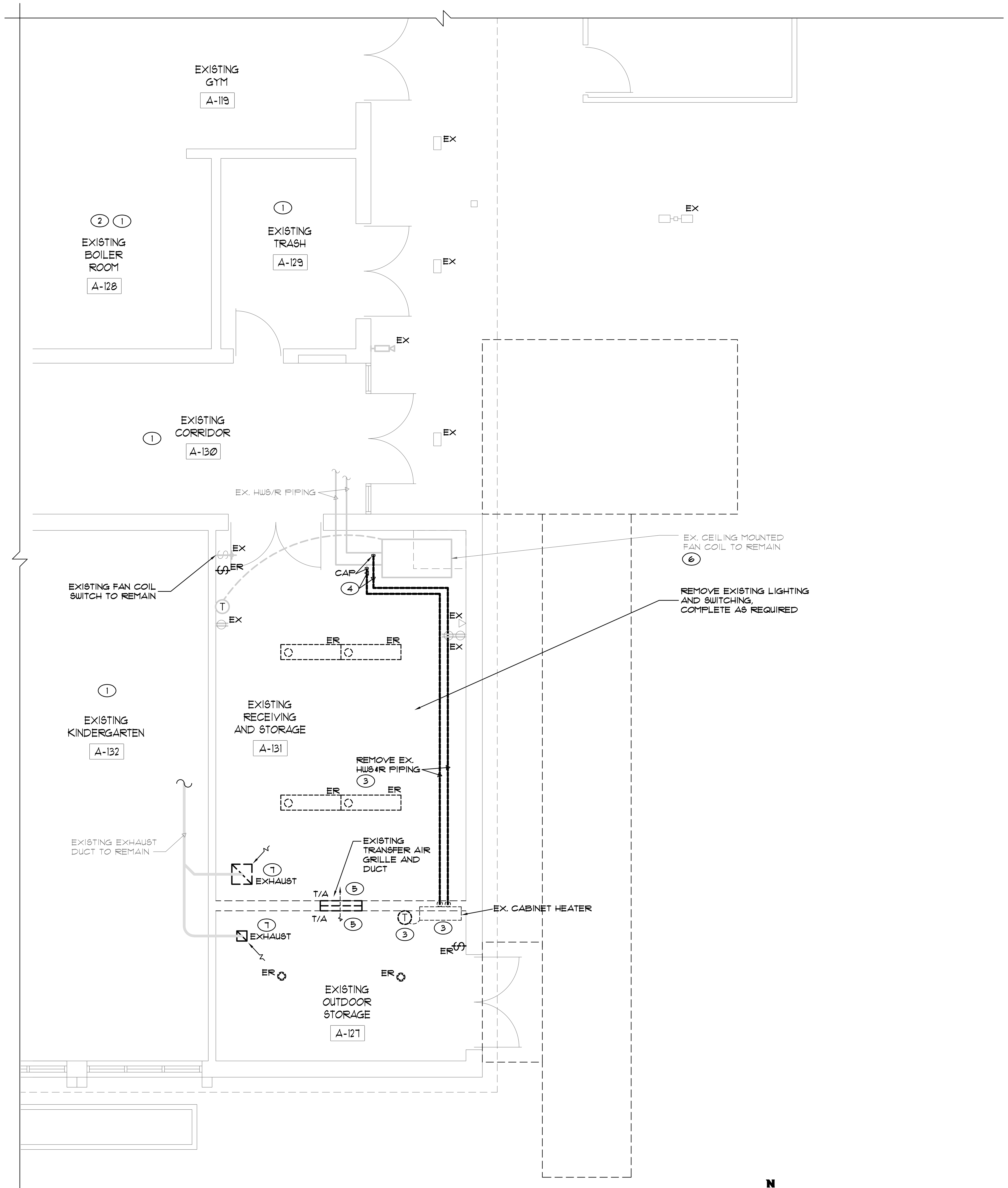
DUNELAND SCHOOL CORPORATION Chesterton, Indiana

PROJECT NUMBER: 17-063
PROJECT MANAGER: EK
DRAWN BY: SH.
ISSUED FOR BID AND PERMIT: 01/31/2018
REVISIONS: 1 2 3 4 5

MECHANICAL, PLUMBING & ELECTRICAL GENERAL NOTES

DAVID G. JANNEY
REGISTERED
NO. 10302590
STATE OF INDIANA
PROFESSIONAL ENGINEER

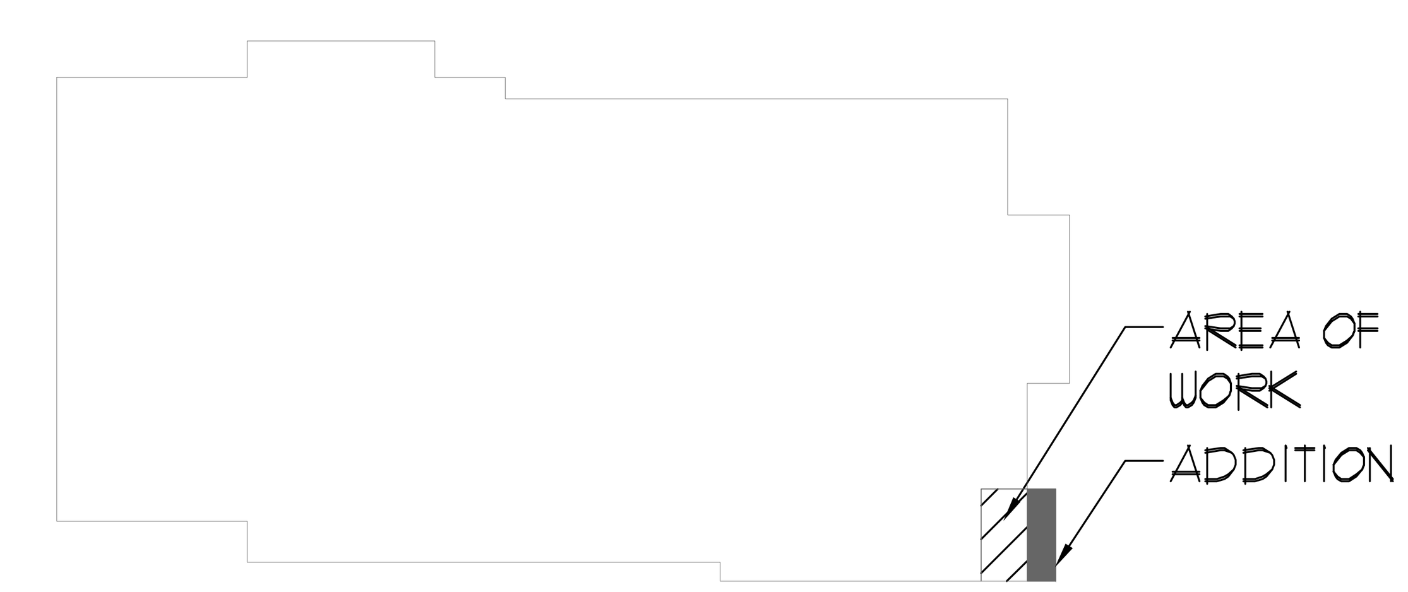
MPE0.00



1 PARTIAL FIRST FLOOR MECHANICAL, PLUMBING & ELECTRICAL DEMOLITION PLAN
1/4" = 1'-0"

SHEET NOTES

1. EXISTING LIGHTING AND POWER TO REMAIN.
2. APPROXIMATE LOCATION OF EXISTING SQUARE-D 120/208V, 3Φ, 4W PANEL'28' WITH 7 SPACES TO REMAIN. UTILIZE EXISTING SPACES FOR NEW LOADS.
3. REMOVE EXISTING WALL CABINET HEATER AND HOT WATER SUPPLY & RETURN PIPING & ASSOCIATED VALVES, TEMPERATURE CONTROLS, WALL THERMOSTAT, ETC. CAP ALL PNEUMATIC TEMPERATURE CONTROL LINES AT MAINS AIR TIGHT.
4. CAP HOT WATER SUPPLY & RETURN BRANCH PIPING AT HOT WATER SUPPLY & RETURN MAINS COMPLETE AS REQUIRED.
5. REMOVE EXISTING TRANSFER GRILLE AND ASSOCIATED DUCTWORK COMPLETE AS REQUIRED.
6. EXISTING HOT WATER HEATING FAN COIL UNIT SHALL REMAIN. EXISTING DRYWALL CEILING WILL BE REMOVED. REMOVE AND REINSTALL EXISTING FAN COIL AS REQUIRED FOR REMOVAL OF DRYWALL CEILING. DISCONNECT AND RECONNECT BRANCH HOT WATER SUPPLY & RETURN PIPING, CONTROLS, ETC. TO PLACE IN PROPER OPERATIONAL CONDITION. REPAIR ANY PIPE INSULATION DAMAGED DURING THEIR WORK TO RESTORE VAPOR BARRIER. COORDINATE ALL REQUIREMENTS IN THE FIELD.
7. EXISTING SURFACE-MOUNTED EXHAUST REGISTER SHALL BE REMOVED FOR DRYWALL CEILING REWORK. INSTALL NEW LAY-IN EXHAUST REGISTER ONTO EXISTING EXHAUST DUCTWORK. COMPLETE AS REQUIRED. PROVIDE ANY NEW EXHAUST DUCTWORK AS REQUIRED FOR NEW EXHAUST REGISTERS. COORDINATE ALL REQUIREMENTS IN THE FIELD.



TRIA ARCHITECTURE

DUNELAND SCHOOL CORPORATION
2018 ADDITION AT:
BRUMMITT ELEMENTARY SCHOOL
2500 INDIAN BOUNDARY ROAD CHESTERTON, INDIANA 46304

PARTIAL FIRST FLOOR MECHANICAL, PLUMBING & ELECTRICAL DEMOLITION PLAN

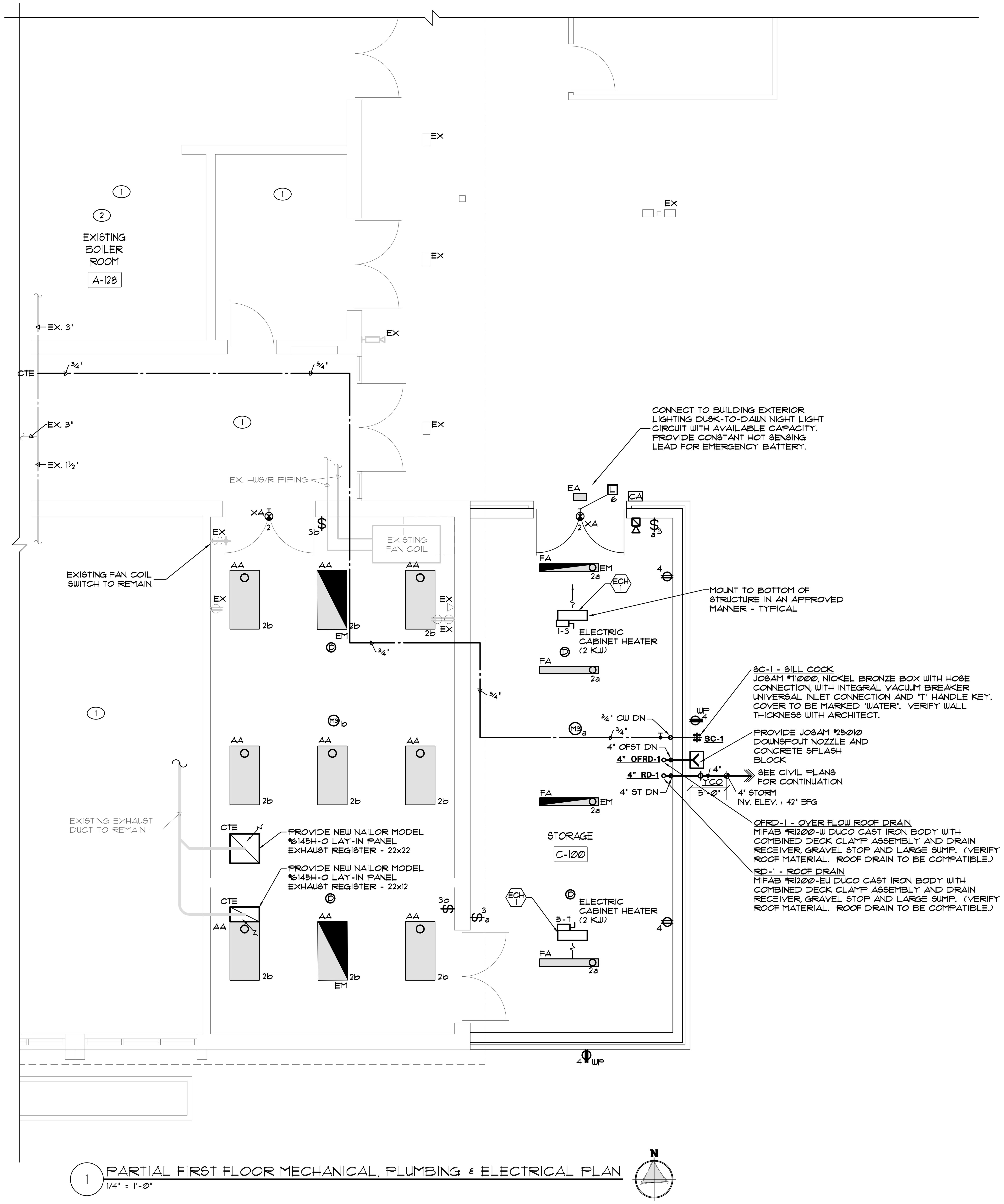
MPE0.10

SHEET NOTES

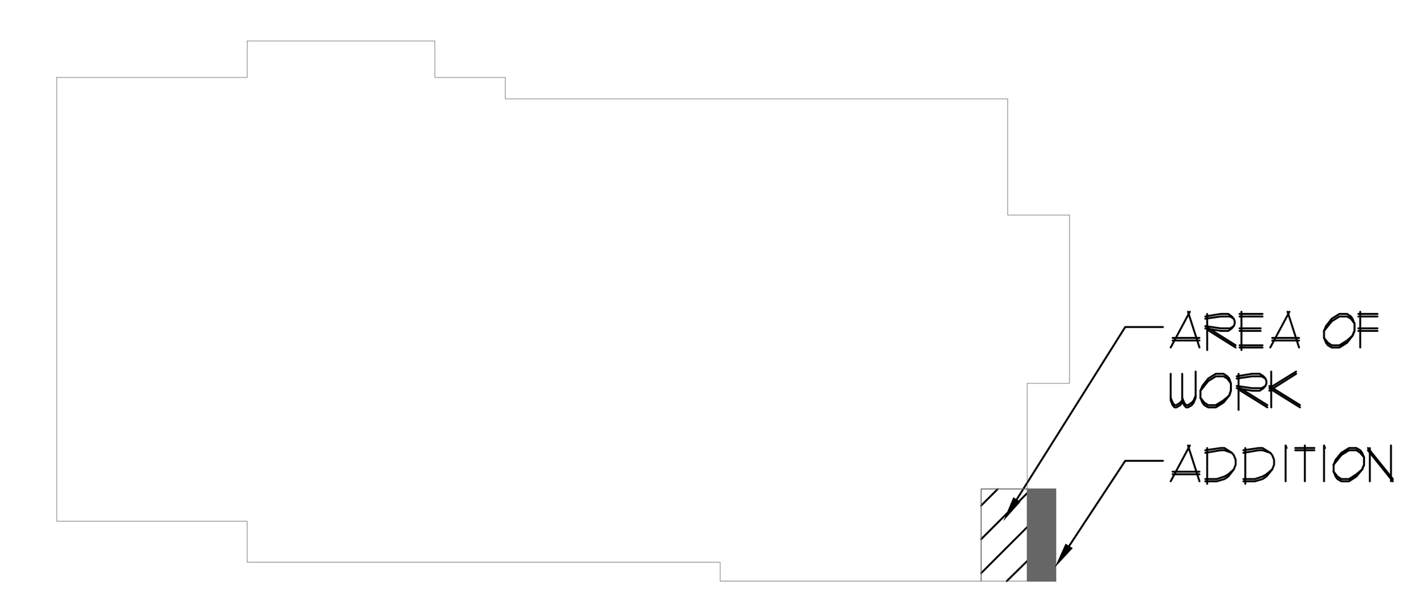
1. EXISTING LIGHTING AND POWER TO REMAIN.
2. APPROXIMATE LOCATION OF EXISTING SQUARE-D 120/208V, 3Φ, 4W PANEL '2B' WITH 7 SPACES. PROVIDE NEW CIRCUIT BREAKERS AS REQUIRED TO ACCOMMODATE NEW LOADS.

GENERAL NOTES

1. DEVICES SHALL BE CONNECTED TO EXISTING PANEL '2B', CIRCUIT NUMBERS SHOWN ARE NOT ACTUAL, BUT ARE SHOWN TO INDICATE CIRCUITING REQUIREMENTS. VERIFY ACTUAL CIRCUIT ASSIGNMENTS IN FIELD.
2. PROVIDE SURFACE RACEWAY AND SURFACE RACEWAY BACKBOXES AS REQUIRED FOR EXISTING WALLS WITH NEW DEVICES.



1 PARTIAL FIRST FLOOR MECHANICAL, PLUMBING & ELECTRICAL PLAN
1/4" = 1'-0"



TRIA ARCHITECTURE

MEP ENGINEER: Millies Engineering Group
CIVIL ENGINEER: McMAHON
STRUCTURAL ENGINEER: GreenbergFarrow

DUNELAND SCHOOL CORPORATION
2018 ADDITION AT:
BRUMMITT ELEMENTARY SCHOOL
2500 INDIAN BOUNDARY ROAD CHESTERTON, INDIANA 46304

PROJECT NUMBER: 17-063
PROJECT MANAGER: EK
DRAWN BY:
REVISIONS:

PARTIAL FIRST FLOOR MECHANICAL, PLUMBING & ELECTRICAL PLAN

DAVID G. JANNEY REGISTERED NO. 10302590 STATE OF INDIANA PROFESSIONAL ENGINEER

MPE1.10

ELECTRICAL HEAT EQUIPMENT SCHEDULE

TAG	MANUFACTURER	MODEL NUMBER	DESCRIPTION	CFM	HEATING CAPACITY	AMPS	VOLT/ PHASE	PANEL	STARTER/ CKT. NO.	FUSED SW/ C/B	FEEDER		DISC. SWT.		CONTROLLED UNITS BY	REMARKS
											CABLE	C	E.C.	M.C.		
ECH-1	QMARK	MUH-Ø321	ELECTRIC UNIT HEATER	35Ø	2.2 KW	11.Ø A	2Ø8/1	EX PANEL	VARIES	15A/2P	3 #12 & 1 #12 GRD.	¾"	√		INTEGRAL THERMOSTAT	PROVIDE WITH ISOLATION MOUNT AND INTEGRAL DISCONNECT

INTERIOR/EXTERIOR LIGHTING LUMINAIRE SCHEDULE

TAG	SYMBOL	DESCRIPTION	MANUFACTURER SERIES OR CATALOG NUMBER	VOLTAGE/ BALLAST	LAMPS/CROSS SECTION	MOUNTING	REMARKS
AA		2' X 4', LED LENSED FIXTURE WITH FLAT WHITE STEEL DOOR WITH PRISMATIC LENS	LITHONIA #2GTL-4-30L-EZ1-LP835 OR APPROVED EQUAL BY HUBBELL OR METALUX LIGHTING	12Ø/277 VOLT Ø-1ØV DIM - -	LED 35ØØK CRI +85 MIN 3ØØØ LM	RECESSED LAY-IN	-VERIFY FINAL COLOR TEMPERATURE WITH ARCHITECT - -
FA		4', LED INDUSTRIAL FIXTURE WITH WIREGUARD AND SAFETY CHAINS	LITHONIA #ZLIN-L48-5000LM-FST-MVOLT-35K-80CRI-WH-XX-WG248 OR APPROVED EQUAL BY HUBBELL OR COOPER LIGHTING	12Ø/277 VOLT Ø-1ØV DIM -	LED 35ØØK CRI +85 MIN 5ØØØ LM	'Y' CHAIN SUSPEND @ ?'-?" A.F.F. -	-COORD LOCATIONS WITH DUCTWORK & PIPING
EA		LED WALL MOUNTED EXTERIOR TRAPEZOIDAL SCONCE WITH INTEGRAL COLD TEMPERATURE BATTERY	LITHONIA #WST LED-P3-4ØK-VF-MVOLT-E7WC-XX OR APPROVED EQUAL	12Ø/277 VOLT - - -	LED 4ØØØK	WALL MOUNTED	-VERIFY FINISH WITH ARCHITECT -PROVIDE CONSTANT HOT BATTERY FEED
XA		SINGLE FACE EXIT 6" GREEN LETTERS CAST ALUM BODY WITH 90 MINUTE BATTERY	LITHONIA LE-S-W-1-G-120/277-ELN OR APPROVED EQUAL BY DUAL-LITE OR SURE-LITES	12Ø/277 VOLT	L.E.D. - - -	CEILING/ WALL	-FURNISH WITH ARROWS AS REQ'D BY CODE -PROVIDE WIRE GUARD WHERE INDICATED ON PLANS
EM NL		FIXTURE WITH 90 MINUTE BATTERY UNIT OR INVERTER	FACTORY INSTALLED EM DRIVER (LED) OR MYERS LV SERIES INVERTER (LED)	12Ø/277 VOLT	-	IN FIXTURE/ REMOTE	REMOTE MOUNT IN ACCESSIBLE CEILINGS WHERE INTERNAL INSTALLATION IS NOT POSSIBLE (PROVIDE TEST SWITCH & ALL NECESSARY APPURTENANCES)

MECHANICAL ABBREVIATIONS

ABBREVIATIONS	DESCRIPTION
CTE	CONNECT TO EXISTING
EX	EXISTING
EXH	EXHAUST
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
HW	HOT WATER
OBD	OPPOSED BLADE DAMPER
T/A	TRANSFER AIR
TYP	TYPICAL

ELECTRICAL ABBREVIATIONS

NOTE:
ABBREVIATIONS USED ON DRAWINGS IN GENERAL ARE LISTED BELOW. REFER TO CSI SECTION Ø142Ø FOR ANY ABBREVIATIONS LISTED ON THE DRAWINGS BUT ARE NOT LISTED BELOW.

A	AMPS	KVA	KILOVOLT AMPERE
AC	AIR CONDITIONING	KW	KILOWATTS
AFF	ABOVE FINISH FLOOR	MECH	MECHANICAL
AFG	ABOVE FINISH GRADE	MTD	MOUNTED
BRKR	BREAKER	NE	NEW LOCATION OF EXISTING RELOCATED DEVICE
C	CONDUIT	NIC	NOT IN CONTRACT
CH	CABINET HEATER	NL	NIGHTLIGHT
CKT	CIRCUIT	NTS	NOT TO SCALE
DISTR	DISTRIBUTION	O/C	ON CENTER
EF	EXHAUST FAN	P	POLE
ELEC	ELECTRICAL	PNL	PANEL
EM	EMERGENCY	PH	PHASE
EMT	ELECTRICAL METALLIC TUBING	RR	REMOVE AND RELOCATED EXISTING DEVICE
ER	EXISTING DEVICE TO BE REMOVED	SW	SWITCH
EX	EXISTING DEVICE TO REMAIN	TYP	TYPICAL
F	FUSE	UON	UNLESS OTHERWISE NOTED
FS	FUSIBLE SWITCH	V	VOLTS
G	GROUND	VIF	VERIFY IN FIELD
GFI	GROUND FAULT INTERRUPTING PROTECTION	W	WATTS
GRC	GALVANIZED RIGID CONDUIT	WP	WEATHERPROOF TYPE DEVICE
HP	HORSEPOWER	WG	WIRE GUARD
J	JUNCTION BOX	F&I	FURNISH AND INSTALL

SYMBOL LIST

* NOTE:
FIRE ALARM DEVICES, MOUNTING HEIGHT, ETC. SHALL COMPLY WITH 'ADA' STANDARDS.

D	FIRE ALARM SYSTEM HEAT DETECTOR - COMBINATION TYPE (R/R - FIXED TEMP.) IN BOILER ROOM
	FIRE ALARM AUDIO/VISUAL DEVICE MTD. 8Ø" A.F. OR 6" BELOW FINISHED CEILING WHICHEVER IS LOWER.
CA	CARD ACCESS CONTROLLER - PROVIDE BACK BOX MOUNTED 42" A.F.F. WITH ¾"C. ROUTED TO THE ACCESSIBLE CEILING SPACE. PROVIDE BUILDING STANDARD DEVICE AND CABLING BACK TO HEAD END FOR A COMPLETE AND PROPER INSTALLATION.
L	ELECTRIC DOOR STRIKE - STUB ¾" CONDUIT FROM THE ACCESSIBLE CEILING SPACE TO THE DOOR MULLION FOR WIRING. INTERFACE WIRING FROM THE DOOR STRIKE TO THE DOOR ACCESS SYSTEM FOR A COMPLETE AND PROPERLY OPERATING SYSTEM.
	EXISTING CAMERA
M3	FURNISH AND INSTALL CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR WITH POWER PACK. MANUFACTURERS: SENSORSWITCH #CM-PDT-1Ø-MP-2Ø (WITH MICROPHONICS) OR APPROVED EQUAL BY LEVITON OR COOPER CONTROLS.
$3	GENERAL PURPOSE 3-WAY SWITCH MTD 42" AFF (HUBBELL #1223 OR EQUAL)
	12ØV-2ØA SPECIFICATION GRADE DUPLEX RECEPTACLE - (MOUNTED 18" A.F.F. OR AS NOTED) (HUBBELL #5362 OR EQUAL).
	12ØV-2ØA SPECIFICATION GRADE GROUNDED DUPLEX RECEPTACLE WITH G.F.I. PROTECTION - (MOUNTED 18" A.F.F. OR AS NOTED) (HUBBELL #GF2Ø OR EQUAL)
J	JUNCTION BOX - SIZE AND TYPE AS REQUIRED.
	FLEX CONDUIT CONNECTION
	JUNCTION BOX W/ FLEX CONDUIT CONNECTION.
X X	HEXAGON TAG REFERENCE TO EQUIPMENT CONNECTION SCHEDULE
1	ELLIPSE TAG REFERENCE TO SHEET NOTES
	ELECTRIC PANELBOARDS.
	DISCONNECT SWITCH SIZE AND TYPE AS REQUIRED - COORDINATE AMPERE RATING WITH EQUIPMENT SUPPLIER
	EXISTING COLD WATER
	NEW COLD WATER
	EXISTING PIPING
	PIPING TO BE REMOVED
HWS	HOT WATER SUPPLY PIPING
HWR	HOT WATER RETURN PIPING
	PIPE TURNED DOWN
	EXISTING DUCTWORK
	RETURN OR EXHAUST REGISTER
T	THERMOSTAT - ADJUSTABLE

TRIA ARCHITECTURE

M/E/P ENGINEER: Millies Engineering Group, 9711 VALPARAISO DR #A, MUNSTER, INDIANA 46321, (P) 219.924.8400 (F) 219.924.5032

CIVIL ENGINEER: McMAHON, 952 SOUTH STATE ROAD 2, VALPARAISO, INDIANA 46385, (P) 219.462.7143 (F) 219.464.8248

STRUCTURAL ENGINEER: GreenbergFarrow, 21 SOUTH EVERGREEN, SUITE 200, ARLINGTON HEIGHTS, IL 60005, (P) 847.788.9200

DUNELAND SCHOOL CORPORATION, Chesterton, Indiana

DUNELAND SCHOOL CORPORATION

2018 ADDITION AT:
BRUMMITT ELEMENTARY SCHOOL
2500 INDIAN BOUNDARY ROAD CHESTERTON, INDIANA 46304

PROJECT NUMBER: 17-Ø63
PROJECT MANAGER: EK
DRAWN BY: SH
ISSUED FOR BID AND PERMIT: Ø1/31/2018

REVISIONS: 1, 2, 3, 4, 5

MECHANICAL, PLUMBING & ELECTRICAL SCHEDULES & ABBREVIATIONS

DAVID G. JANNEY, REGISTERED NO. 10302590, STATE OF INDIANA, PROFESSIONAL ENGINEER

MPE2.10