

DUNELAND SCHOOL CORPORATION

2022 RENOVATIONS AT:

CHESTERTON MIDDLE SCHOOL, 651 W. MORGAN AVENUE, CHESTERTON, INDIANA 46304 (BASE BID) SUPPORT SERVICES CENTER, 1012 NORTH OLD STATE ROAD 49, CHESTERTON, IN. 46304 (ALTERNATE #1) DISTRICT OFFICE, 601 W. MORGAN AVENUE, CHESTERTON, INDIANA 46304 (ALTERNATE #2)

TRIA PROJECT#: 21-037

ARCHITECT:

TRIA ARCHITECTURE, INC.

Illinois Office: 901 McClintock Drive, Suite 100 Burr Ridge, Illinois 60527

Indiana Office: 436 Sand Creek Drive N, Suite 105 Chesterton, Indiana 46304

Company Main: 630.455.4500 Fax: 630.455.4040 www.TriaArchitecture.com

M.E.P. CONSULTANT:

OAS, LLC.

769 Heartland Dr., Unit A Sugar Grove, Illinois 60554 Phone: 630.538.1996 www.oasllc.net

GENERAL BUILDING CODE REQUIREMENTS

BUILDING CODES REFERENCED:

2012 INTERNATIONAL BUILDING CODE WITH 2014 INDIANA AMENDMENTS
2006 INTERNATIONAL PLUMBING CODE 2ND EDITION AMENDED INDIANA 2012
2008 NATIONAL ELECTRICAL CODE WITH 2009 INDIANA AMENDMENTS
2012 INTERNATIONAL MECHANICAL CODE WITH 2014 INDIANA AMENDMENTS
INDIANA ENERGY CONSERVATION CODE 2010
2012 INTERNATIONAL FIRE CODE WITH 2014 INDIANA AMENDMENTS
2012 INTERNATIONAL FUEL GAS CODE 2ND EDITION WITH 2014 INDIANA AMENDMENTS

OCCUPANCY CLASSIFICATION: EDUCATIONAL GROUP E

LDUCATIONAL GROUP L

TYPE OF CONSTRUCTION: EXISTING: II-B

<u>DESIGN FIRM REGISTRATION:</u> THOMAS R. SZURGOT INDIANA LICENSE NUMBER: ARIO800173

SCHOOL BOARD

PRESIDENT
VICE PRESIDENT
BOARD SECRETARY
BOARD MEMBER

BOARD MEMBER

SUPERINTENDENT

BRANDON KROFT ALAYNA LIGHTFOOT POL TOM SCHNABEL RONALD STONE TIM MCGINTY

DR. CHIP PETTIT

DRAWING INDEX

TI.00 TITLE SHEET, SITE LOCATION MAP, INDEX, AND GENERAL BUILDING CODE REQUIREMENTS

AGO.OO SYMBOLS AND ABBREVIATIONS AND TYPICAL MOUNTING HEIGHTS

AG3.10 OVERALL FIRST FLOOR PLAN
AØ.10 PARTIAL EXISTING FLOOR PLAN

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AØ.11 PARTIAL EXISTING REFLECTED CEILING PLAN

A1.10 PARTIAL FLOOR PLAN

PARTIAL REFLECTED CEILING PLAN
PARTIAL ROOF PLAN AND DETAILS

PARTIAL FLOOR FINISH PLAN, ROOM FINISH SCHEDULE, AND NOTES

MECHANICA

MØ.ØØ NOTES - MECHANIC,

MO.10 EXISTING PARTIAL FLOOR PLAN - MECHANICAL
MO.20 EXISTING PARTIAL FLOOR PLAN - MECHANICAL
MI.10 PARTIAL FLOOR PLAN - MECHANICAL
MI.20 PARTIAL FLOOR PLAN - MECHANICAL
M2.00 SCHEDULES - MECHANICAL
M3.00 DETAILS - MECHANICAL

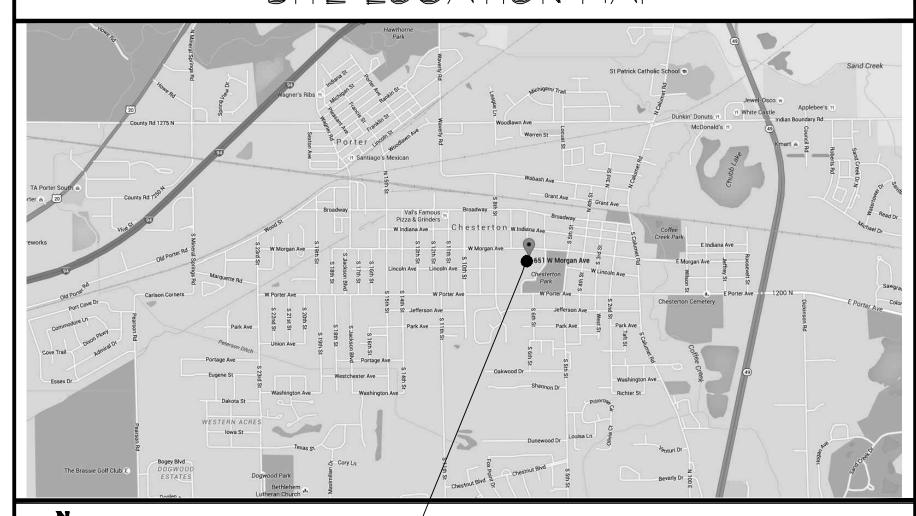
M3.00 DETAILS - MECHANICAL
M3.10 DETAILS - MECHANICAL
M3.20 DETAILS - MECHANICAL
M4.00 NOTES - MECHANICAL

4.10 ABBREVIATIONS AND SYMBOLS - MECHANICAL

ELECTRICAL

EØ.10 EXISTING FLOOR PLAN - ELECTRICAL
E1.00 FLOOR PLAN - ELECTRICAL - LIGHTING
E2.00 FLOOR PLAN - ELECTRICAL - POWER
E3.10 NOTES AND SCHEDULES - ELECTRICAL

SITE LOCATION MAP



SITE LOCATION

OWNER PURCHASED EQUIPMENT

MECHANICAL EQUIPMENT PURCHASED BY OWNER AND INSTALLED BY CONTRACTOR.

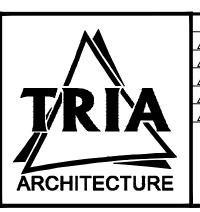
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MARCH 10, 2022

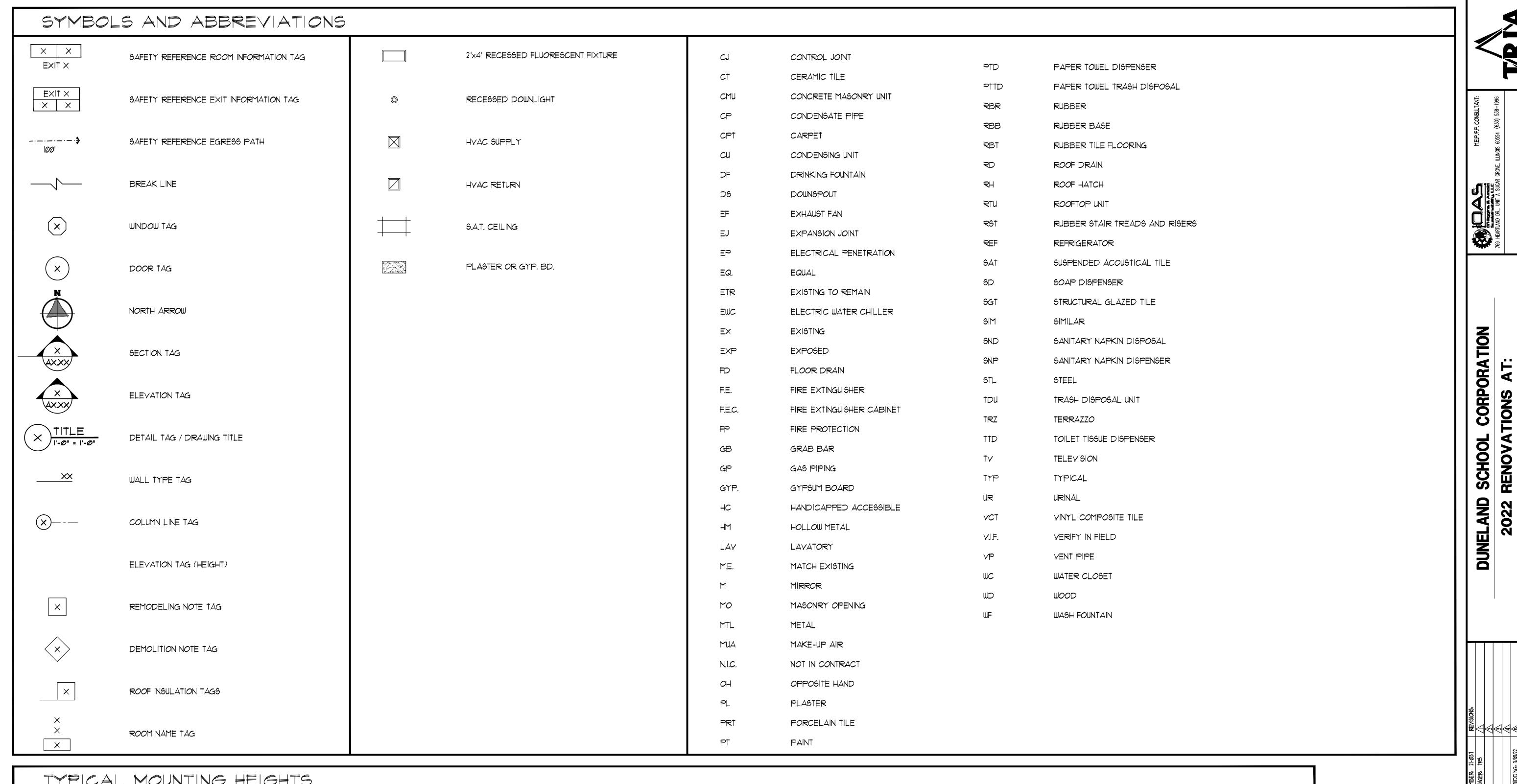
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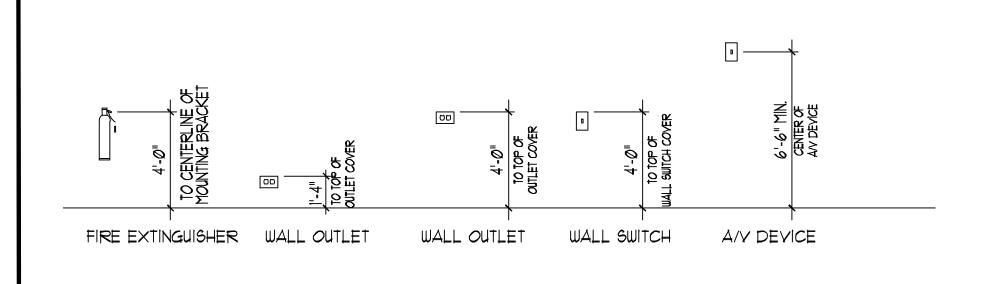


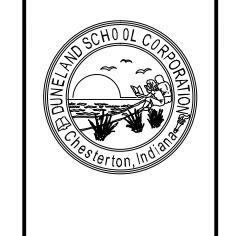


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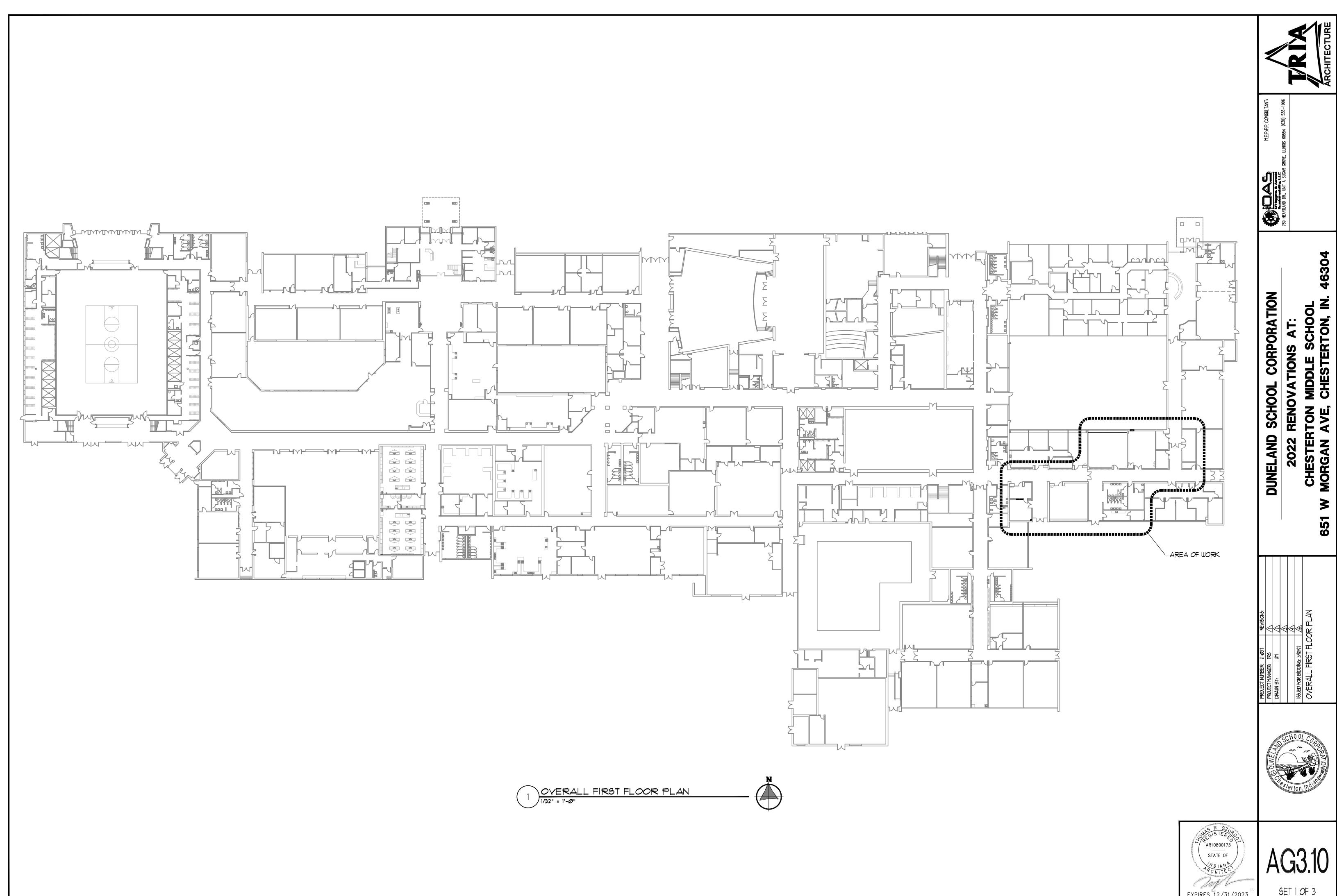
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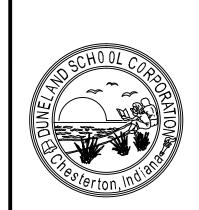
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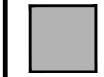
EXISTING PLAN REFERENCED NOTES

- EXISTING WALL CONSTRUCTION TO REMAIN PROTECT DURING CONSTRUCTION. EXISTING DOOR AND FRAME TO REMAIN - PROTECT DURING CONSTRUCTION.
- EXISTING PLUMBING FIXTURE TO REMAIN PROTECT DURING CONSTRUCTION.
- EXISTING LOCKERS TO REMAIN PROTECT DURING CONSTRUCTION.
- EXISTING WINDOW SYSTEM TO REMAIN PROTECT DURING CONSTRUCTION.
- EXISTING CASEWORK TO BE REMOVED.
- EXISTING MECHANICAL UNIT TO BE REMOVED.
- EXISTING ELECTRICAL PANELS TO REMAIN PROTECT DURING CONSTRUCTION. EXISTING FLOORING TO BE REMOVED.
- 10. REMOVE MASONRY AS REQUIRED TO PROVIDE NEW WORK INDICATED REFER TO FLOOR PLAN.

LEGEND

EXISTING CONSTRUCTION TO BE REMOVED.

EXISTING CONSTRUCTION TO REMAIN.

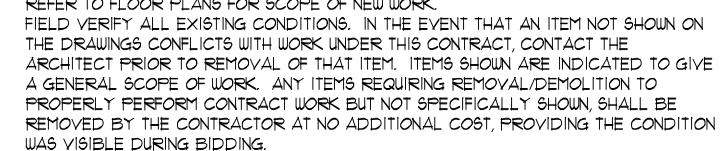


NOT IN CONTRACT



EXISTING PLAN GENERAL NOTES

REFER TO FLOOR PLANS FOR SCOPE OF NEW WORK.



SHORE OR BRACE ALL EXISTING CONSTRUCTION AS REQUIRED TO PERFORM WORK. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING, CUTTING, PATCHING, INFILLING, REPAIRING, REFINISHING, AND REMOVAL/REPLACEMENT OF BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OR REMOVAL OF THEIR WORK. ALL PATCHING, REPAIRING, AND REFINISHING SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE ADJACENT

REMOVE ALL EQUIPMENT LOCATED ON OR WITHIN WALL CONSTRUCTION SCHEDULED TO BE REMOVED, SO AS TO NOT DISRUPT EXISTING BUILDING OPERATIONS. DISCONNECT ALL ELECTRICAL WIRING, PULL WIRE BACK TO NEAREST JUNCTION BOX OR TO SERVICE.

PROTECT ALL EXISTING FINISHES, EQUIPMENT, AND ADJACENT WORK NOT SCHEDULED TO BE REMOVED FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGED FINISHES, EQUIPMENT, OR ADJACENT SURFACES SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.

THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ANY MATERIAL, EQUIPMENT OR FIXTURE TO BE REMOVED

WHERE POSSIBLE - RUN NEW ELECTRICAL WORK INSIDE WALL AND CEILING CONSTRUCTION (NEW AND EXISTING) - REMOVE EXISTING WALL/CEILING CONSTRUCTION SCHEDULED TO REMAIN AS REQUIRED TO PERFORM WORK INDICATED - PATCH ALL CONSTRUCTION TO PROVIDE A FINISHED CONDITION.

REMOVE/RELOCATE ALL ACCESSORIES ON WALL CONSTRUCTION TO BE REMOVED. 10. GENERAL CONTRACTOR TO COORDINATE ALL ARCHITECTURAL WORK WITH INDICATED MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION WORK - NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO PERFORMING WORK.

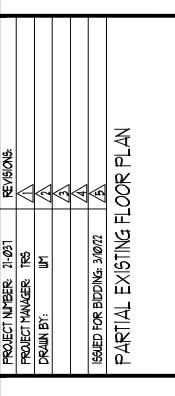
PATCH ALL EXISTING OPENINGS AT ALL EQUIPMENT SCHEDULED TO BE REMOVED, INCLUDING ABOYE CEILING- MATCH EXISTING WALL CONSTRUCTION IN MATERIAL THICKNESS, SIZE AND COLOR, UNLESS NOTED OTHERWISE - REFER TO MECHANICAL, AND ELECTRICAL DRAWINGS.

ALL EXISTING FLOOR FINISH SCHEDULED TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION - CONTRACTOR TO PROVIDE PLYWOOD, MDF AND/OR PLASTIC AS REQUIRED TO PROTECT FLOORING FROM DAMAGE DURING CONSTRUCTION - ANY DAMAGE TO BE REPAIRED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.

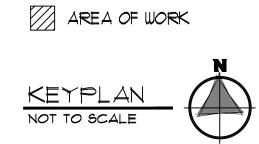
OWNER TO REMOVE AND REINSTALL ALL LOOSE FURNITURE AND ELECTRONIC EQUIPMENT UNLESS OTHERWISE NOTED - CONTRACTOR TO COORDINATE MOVING SCOPE AND STORAGE LOCATIONS WITH OWNER PRIOR TO BEGINNING ANY WORK.

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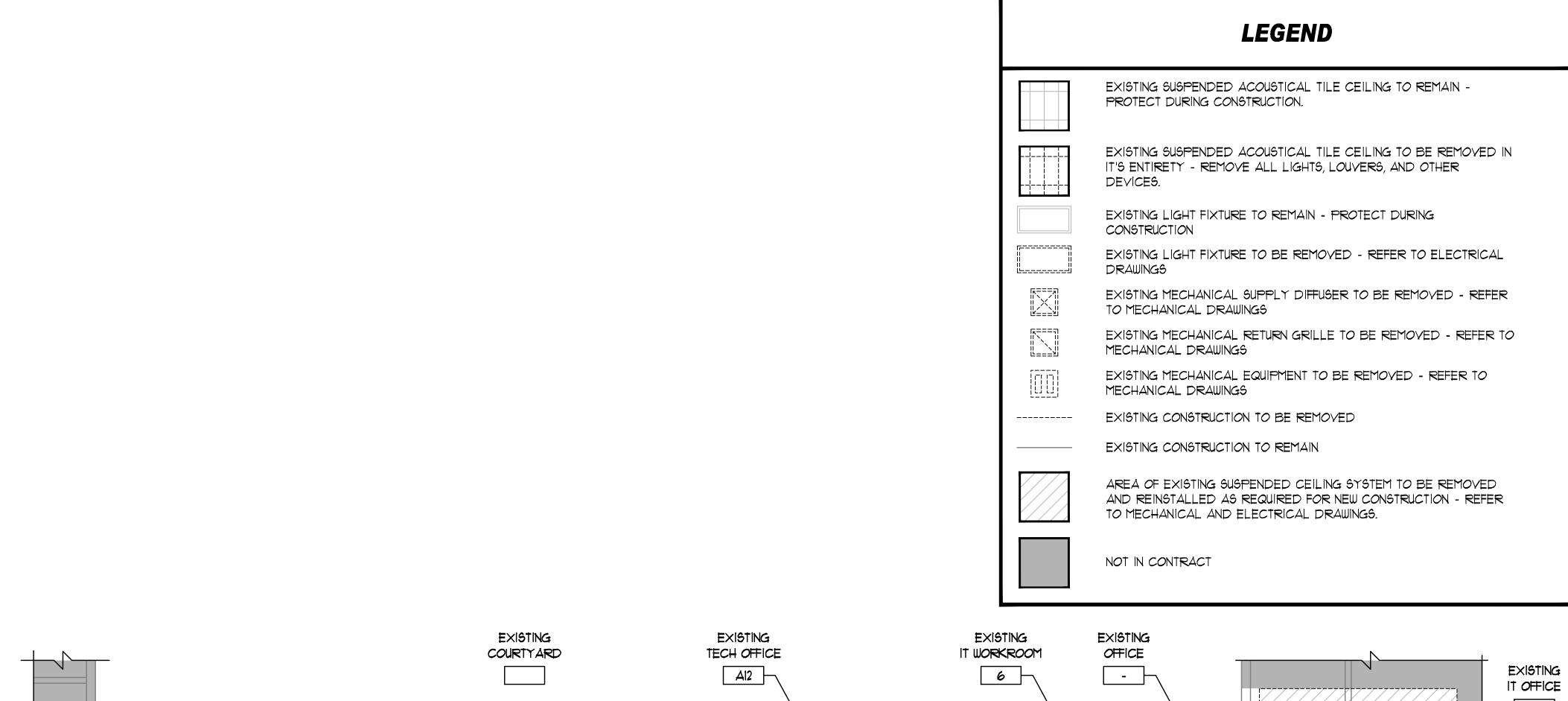




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EXISTING REFLECTED CEILING PLAN GENERAL NOTES

- ALL EXISTING CEILING SYSTEMS, LIGHTS, EQUIPMENT AND CEILING MOUNTED SPEAKERS TO BE REMOVED IN THEIR ENTIRETY WHERE INDICATED - REFER TO MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION DRAWINGS.
- REFER TO ELECTRICAL PLANS FOR ADDITIONAL CEILING MOUNTED DEVICES AND EQUIPMENT TO BE REMOVED.
- CONTRACTOR TO VERIFY ALL EXISTING CEILING HEIGHTS PRIOR TO BEGINNING WORK ON ANY CEILING SCHEDULED TO RECEIVE WORK
- 4. FIELD YERIFY ALL EXISTING CONDITIONS. IN THE EVENT THAT AN ITEM NOT SHOWN ON THE DRAWINGS CONFLICTS WITH WORK UNDER THIS CONTRACT, CONTACT THE ARCHITECT PRIOR TO REMOVAL OF THAT ITEM. ITEMS SHOWN ARE INDICATED TO GIVE A GENERAL SCOPE OF WORK. ANY ITEMS REQUIRING REMOVAL/DEMOLITION TO PROPERLY PERFORM CONTRACT WORK BUT NOT SPECIFICALLY SHOWN, SHALL BE REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST, PROVIDING THE CONDITION WAS VISIBLE DURING BIDDING.
- SHORE OR BRACE ALL EXISTING CONSTRUCTION AS REQUIRED TO PERFORM DEMOLITION WORK
- 6. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING, CUTTING, PATCHING, INFILLING, REPAIRING, REFINISHING, AND REMOVAL/ REPLACEMENT OF BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OR REMOVAL OF THEIR WORK. ALL PATCHING, REPAIRING, AND REFINISHING SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE ADJACENT CONSTRUCTION.
- PROTECT ALL EXISTING FINISHES, EQUIPMENT, AND ADJACENT WORK NOT SCHEDULED TO BE REMOVED FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGED FINISHES, EQUIPMENT, OR ADJACENT SURFACES SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
- THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ANY MATERIAL OR EQUIPMENT REMOVED.

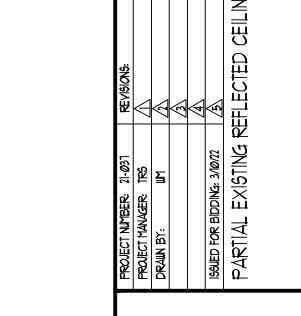
EXISTING REFLECTED CEILING



2. EXISTING MECHANICAL UNIT TO BE REMOVED - REFER TO MECHANICAL PLANS.

PLAN REFERENCED NOTES

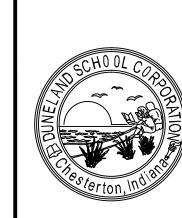
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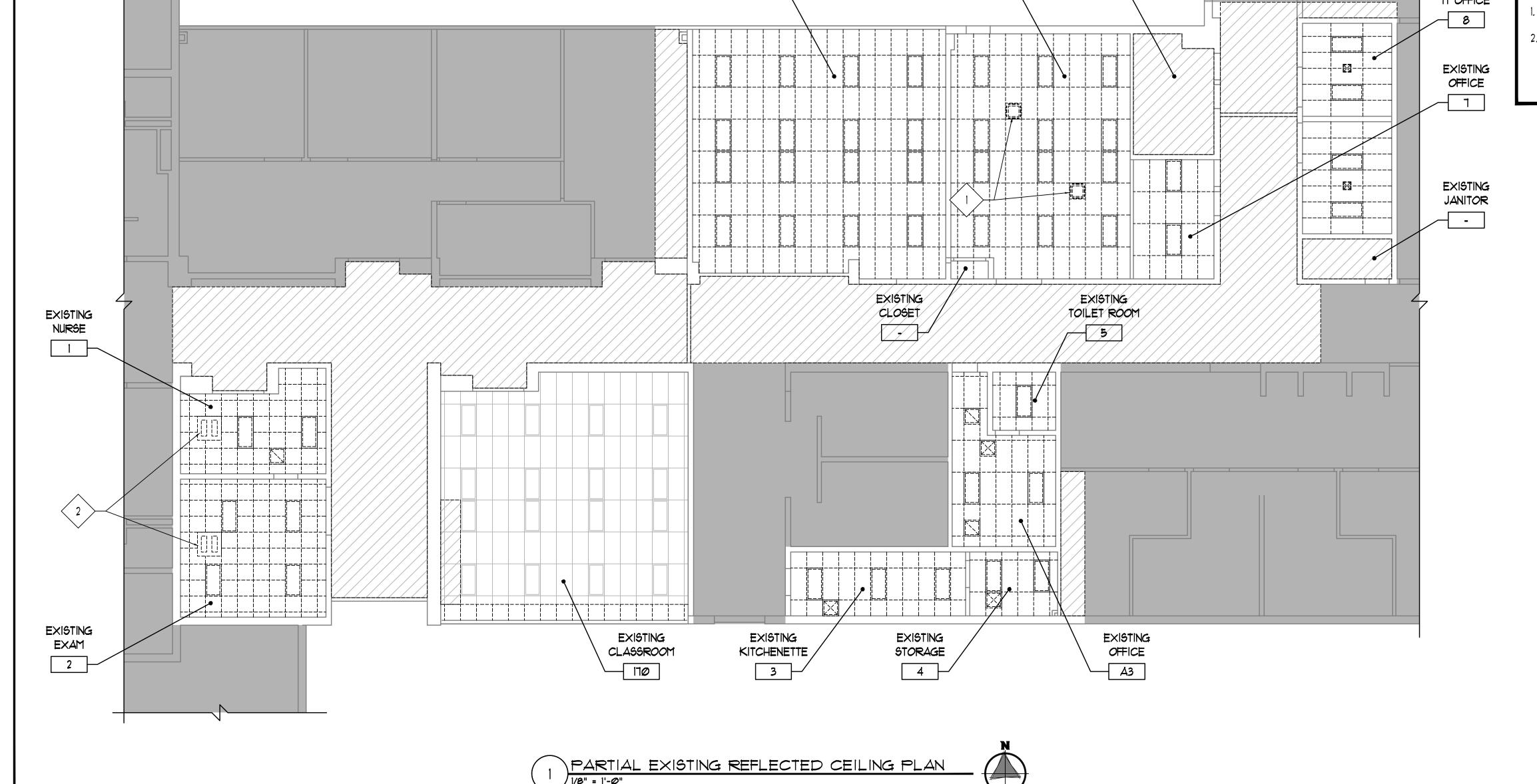
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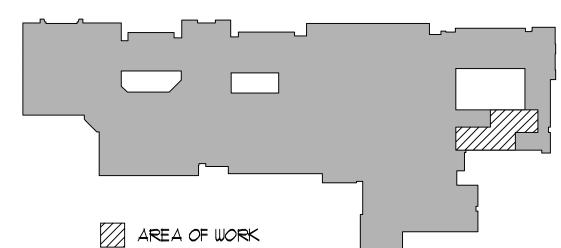
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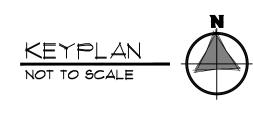




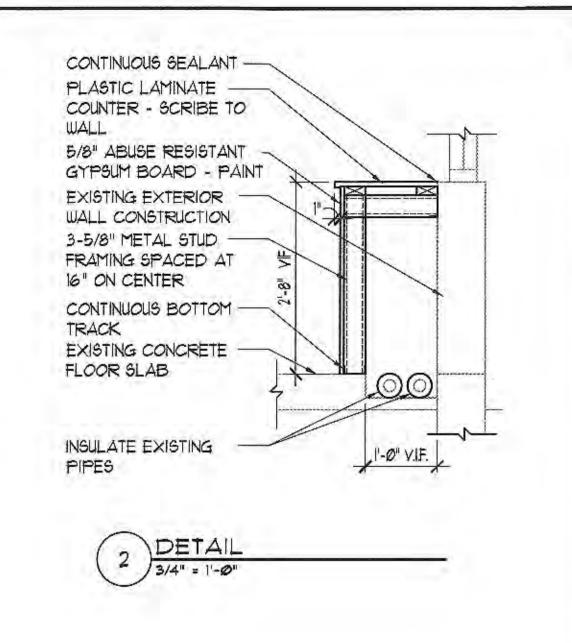


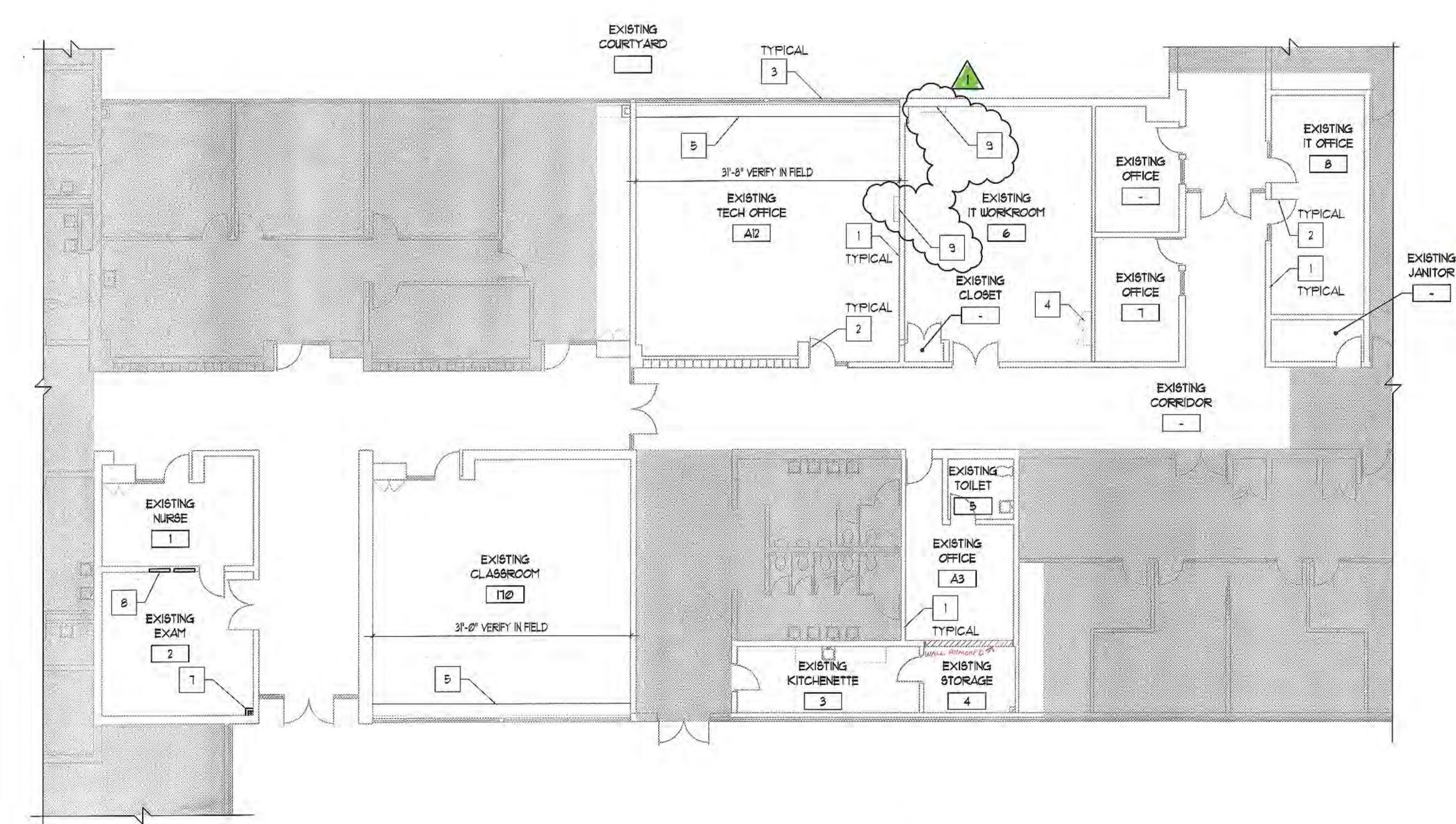












PARTIAL FLOOR PLAN

FLOOR PLAN GENERAL NOTES

- I. VERIFY EXACT DIMENSIONS OF ALL EXISTING CONDITIONS IN FIELD. GENERAL CONTRACTOR TO VERIFY AND COORDINATE ALL LAY OUTS AMONG ALL TRADES AFFECTED NOTIFY ARCHITECT OF ANY CONFLICTS PRIOR TO INSTALLATION BY ANY TRADE
- 2. REFER TO PROJECT MANUAL FOR PRODUCTS, MATERIALS, PROCEDURES AND ADDITIONAL INFORMATION NOT COVERED IN DRAWINGS.
- 3. PROTECT ALL EXISTING FINISHES, EQUIPMENT, AND ADJACENT WORK FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGED FINISHES, EQUIPMENT, OR ADJACENT SURFACES SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
- 4. PATCH EXISTING CONSTRUCTION AT ALL LOCATIONS OF ITEMS SCHEDULED TO BE REMOVED. FINISH TO MATCH ADJACENT SURFACES IN MATERIAL AND TEXTURE. TOOTH-IN ALL MASONRY IN WHOLE UNITS.
- PATCH AND SMOOTH EXISTING FLOOR TO MATCH ADJACENT SURFACES AS REQUIRED TO INSTALL NEW FLOOR FINISH.
- 6. AT ALL FLOOR SLABS TO RECEIVE FLOOR FINISH, CONTRACTOR SHALL GRIND HIGH SPOTS, FILL DEPRESSIONS AND INFILL ANY UNUSED PENETRATIONS IN THE FLOOR SLAB WITH A MATERIAL SUITABLE TO THE FLOORING MANUFACTURER. ALL CRACKS LARGER THAN 1/8" ARE TO BE GROUND OUT AND FILLED AS PER THE MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE LINTELS ABOVE ALL DOORS, PENETRATIONS, LOUVERS, ETC. IN MASONRY WALLS REFER TO LINTEL SCHEDULE ON STRUCTURAL DRAWINGS REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL LINTEL LOCATIONS REQUIRED DUE TO DUCT PENETRATIONS, ETC.
- 8. PATCH, PAINT, AND CLEAN EXISTING WALLS, FLOORS, AND CEILINGS AT ITEMS SCHEDULED TO BE REMOVED.
- REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
- 10. REMOVE EXISTING WALL CONSTRUCTION AS REQUIRED TO INSTALL MECHANICAL, PLUMBING, AND ELECTRICAL WORK PATCH WALLS AT REMOVED MECHANICAL, ELECTRICAL AND PLUMBING EQUIPMENT TO BE REMOVED.
- WHERE POSSIBLE RUN NEW ELECTRICAL WORK INSIDE WALL AND CEILING CONSTRUCTION (NEW AND EXISTING) - PATCH CONSTRUCTION AS REQUIRED TO PROVIDE WORK INDICATED.
- CUT, CORE, AND PATCH CONCRETE SLABS AS REQUIRED TO INSTALL PLUMBING, MECHANICAL, AND ELECTRICAL WORK.
- 13. TOOTH-IN MASONRY UNITS IN WHOLE UNITS AT NEW DOOR JAMB CONDITIONS TO PROVIDE A FINISHED APPEARANCE.
- 14. OWNER TO REMOVE AND REINSTALL ALL LOOSE FURNITURE AND ELECTRONIC EQUIPMENT UNLESS OTHERWISE NOTED - CONTRACTOR TO COORDINATE MOVING SCOPE AND STORAGE LOCATIONS WITH OWNER PRIOR TO BEGINNING ANY WORK.

FLOOR PLAN REFERENCED NOTES

EXISTING WALL CONSTRUCTION - PROTECT DURING CONSTRUCTION.
EXISTING DOOR AND FRAME - PROTECT DURING CONSTRUCTION.
EXISTING WINDOW EXISTENT PROTECT DURING CONSTRUCTION.

EXISTING WINDOW SYSTEM - PROTECT DURING CONSTRUCTION.
 EXISTING ELECTRICAL PANELS - PROTECT DURING CONSTRUCTION.

FLASTIC LAMINATE COUNTER OVER METAL STUD FRAMING - BLANK OFF AT LOUVER WITH SEALANT, SHEET METAL, 2" RIGID INSULATION, AND TREATED 2X4 AROUND REPRESENT AND SEALANT - REFER TO DETAIL 2/ALIO.

SISTING WALL - MATCH EXISTING WALL CONSTRUCTION

EXISTING WALL MOUNTED MECHANICAL UNIT TO REMAIN - REFER TO MECHANICAL

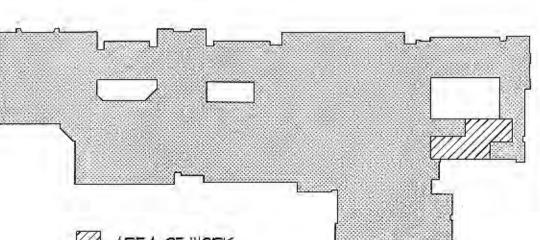
DRAWINGS.

LEGEND

EXISTING CONSTRUCTION

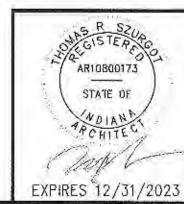
NEW CONSTRUCTION

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AREA OF WORK



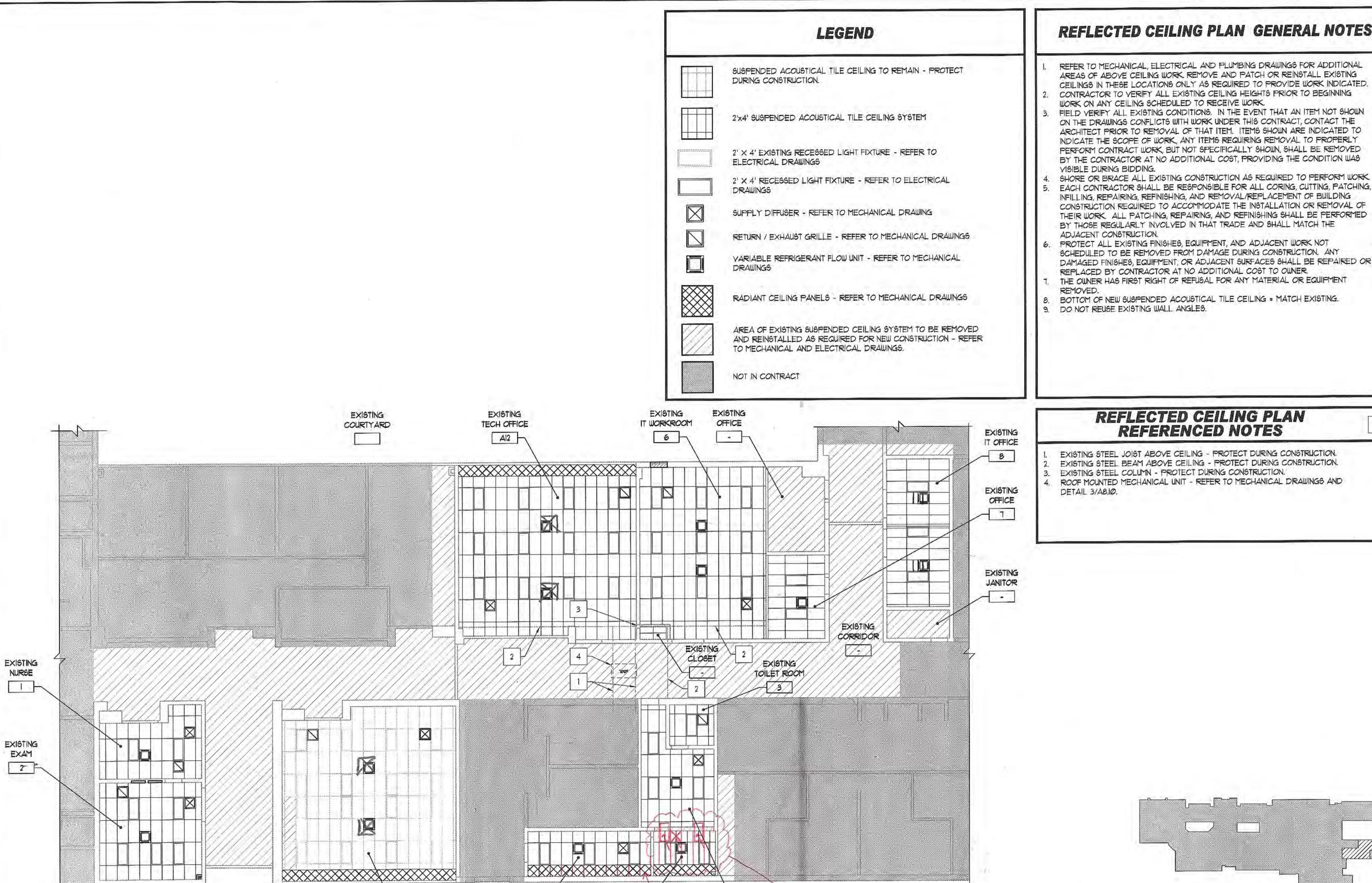


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REFLECTED CEILING PLAN GENERAL NOTES

REFER TO MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR ADDITIONAL AREAS OF ABOVE CEILING WORK, REMOVE AND PATCH OR REINSTALL EXISTING CEILINGS IN THESE LOCATIONS ONLY AS REQUIRED TO PROVIDE WORK INDICATED. CONTRACTOR TO VERIFY ALL EXISTING CEILING HEIGHTS PRIOR TO BEGINNING

FIELD VERIFY ALL EXISTING CONDITIONS. IN THE EVENT THAT AN ITEM NOT SHOWN ON THE DRAWINGS CONFLICTS WITH WORK UNDER THIS CONTRACT, CONTACT THE ARCHITECT PRIOR TO REMOVAL OF THAT ITEM. ITEMS SHOWN ARE INDICATED TO INDICATE THE SCOPE OF WORK, ANY ITEMS REQUIRING REMOVAL TO PROPERLY PERFORM CONTRACT WORK, BUT NOT SPECIFICALLY SHOWN, SHALL BE REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST, PROVIDING THE CONDITION WAS

EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING, CUTTING, PATCHING, INFILLING, REPAIRING, REFINISHING, AND REMOVAL/REPLACEMENT OF BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OR REMOVAL OF THEIR WORK. ALL PATCHING, REPAIRING, AND REFINISHING SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE

PROTECT ALL EXISTING FINISHES, EQUIPMENT, AND ADJACENT WORK NOT SCHEDULED TO BE REMOVED FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGED FINISHES, EQUIPMENT, OR ADJACENT SURFACES SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.

THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ANY MATERIAL OR EQUIPMENT

BOTTOM OF NEW SUSPENDED ACQUISTICAL TILE CEILING . MATCH EXISTING.

EXISTING STEEL JOIST ABOVE CEILING - PROTECT DURING CONSTRUCTION. EXISTING STEEL BEAM ABOVE CEILING - PROTECT DURING CONSTRUCTION.

ROOF MOUNTED MECHANICAL UNIT - REFER TO MECHANICAL DRAWINGS AND

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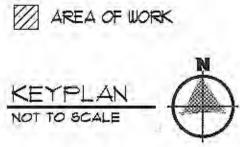
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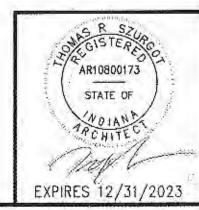
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PARTIAL REFLECTED CEILING PLAN

EXISTING CLASSROOM

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EXISTING KITCHENETTE



PANEL ELIMINATED

INFILL WIGHT TILE

STORAGE

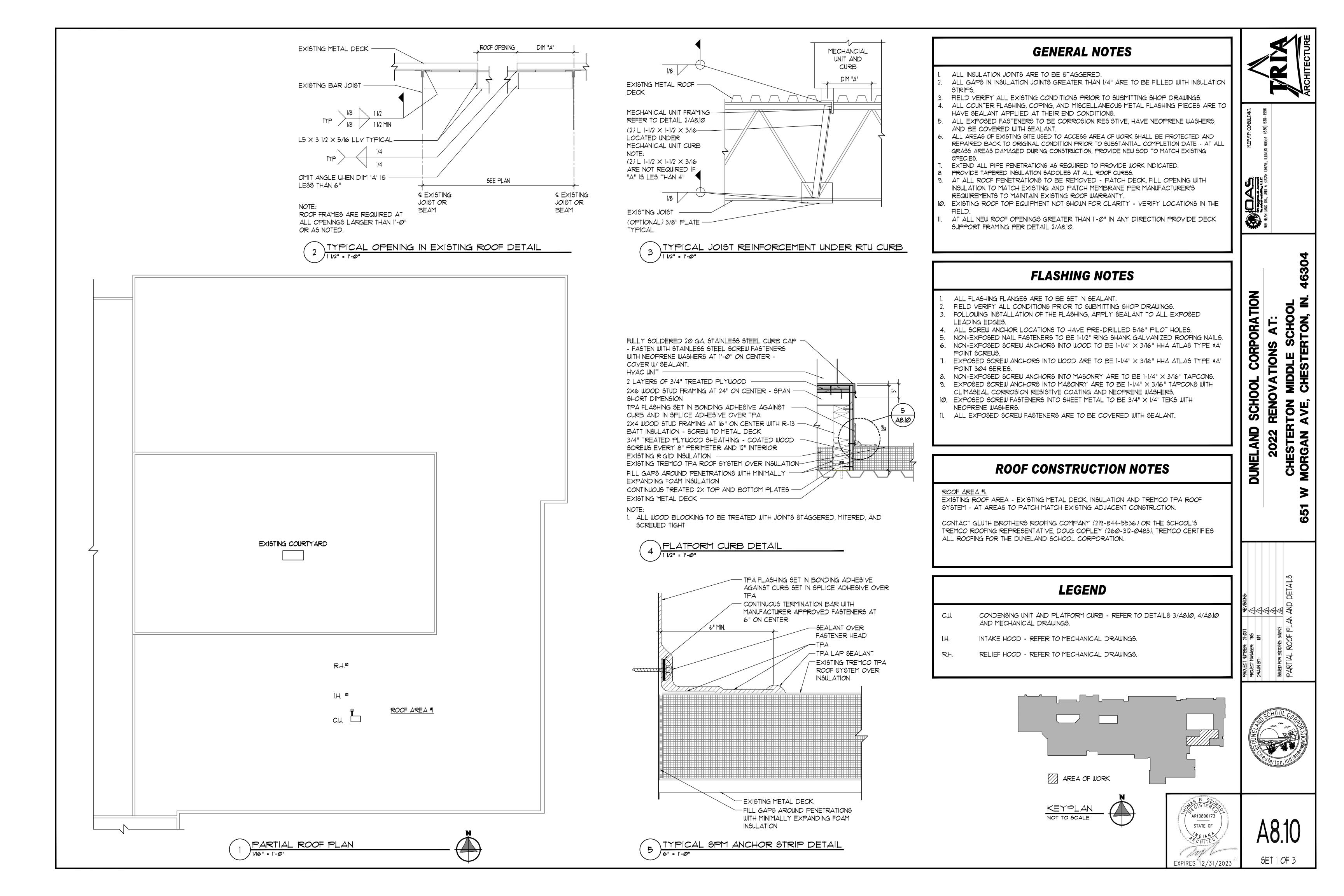
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				R	OOM FINI	SH SCHE	DULE					
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ROOM NO	ROOM NAME	WALL FINISH	WALL BASE	CEILING	FLOORING	NOTES						
1	NURSE	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	SAT	ETR	-
2	EXAM	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	SAT	ETR	-
170	CLASSROOM	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	-
3	KITCHENETTE	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	SAT	ETR	-
4	STORAGE	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	SAT	ETR	-
Д3	OFFICE	PT-1	RBB	PT-1	RBB	PT-1	RBB	PT-1	RBB	SAT	LVT	1
5	TOILET	PT-1	PRT-1	PT-1	PRT-1	PT-1	PRT-1	PRT-1	PRT-1	SAT	PRT-1	1
A12	TECH OFFICE	PT-1	RBB	PT-1	RBB	PT-1	RBB	PT-1	RBB	SAT	LVT	1
6	IT WORKROOM	PT-1	RBB	PT-1	RBB	PT-1	RBB	PT-1	RBB	SAT	LVT	1
٦	OFFICE	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	SAT	ETR	-
8	OFFICE	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	SAT	ETR	-

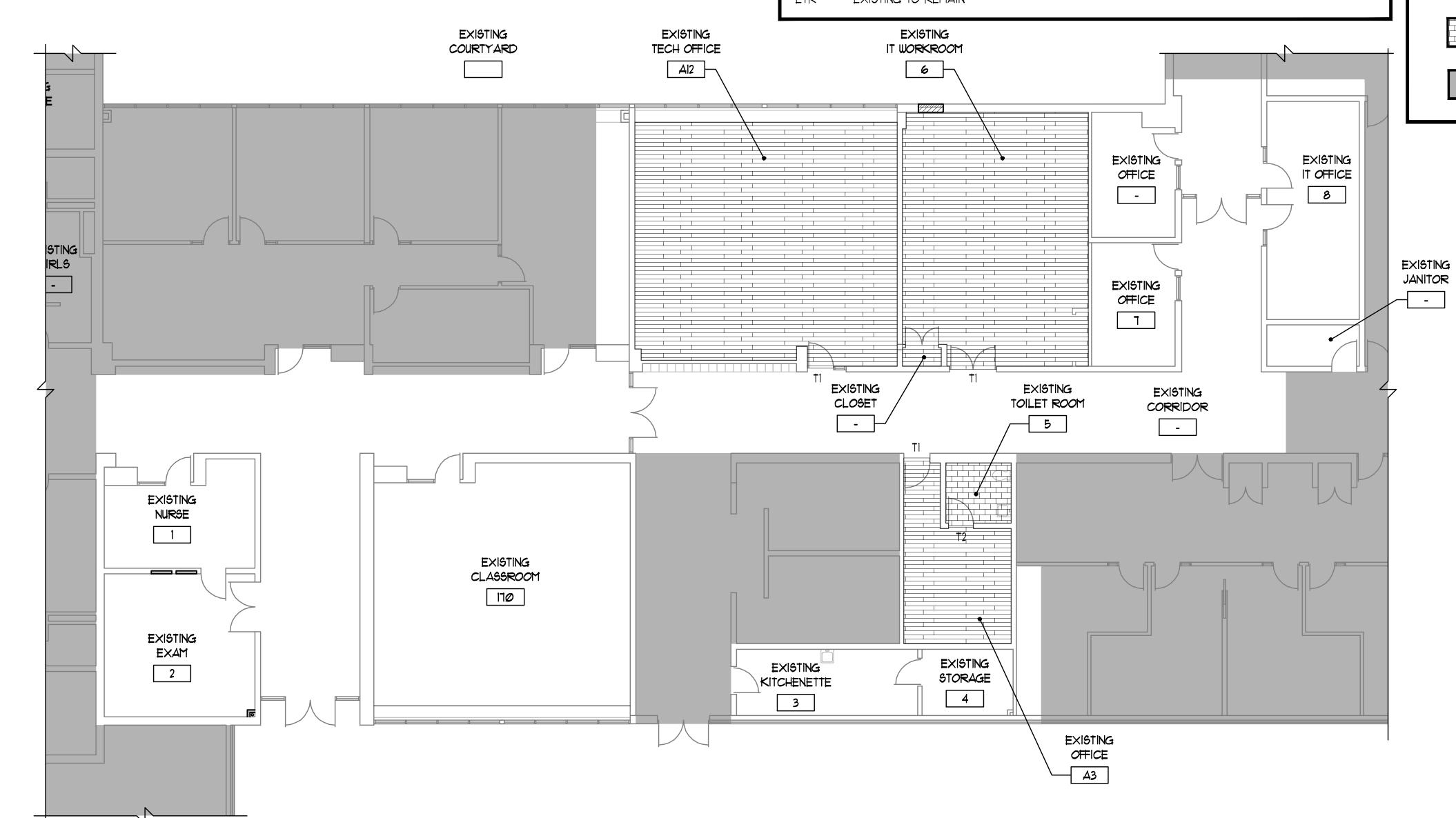
REFERENCED NOTES: 1. PAINT DOOR FRAME

ROOM FINISH SCHEDULE LEGEND

PAINT COLOR 1 - GENERAL FIELD COLOR PT-2 PAINT COLOR 2 - INTERIOR METAL FRAMES

- LUXURY VINYL TILE REFER TO SPECIFICATIONS PRT-1 PORCELAIN TILE - REFER TO SPECIFICATIONS RUBBER BASE - REFER TO SPECIFICATIONS
- SAT SUSPENDED ACOUSTICAL TILE CEILING - REFER TO SPECIFICATIONS
- EXISTING TO REMAIN

RBB



FLOOR FINISH PLAN GENERAL NOTES

REFER TO SPECIFICATIONS FOR ADDITIONAL PRODUCT INFORMATION.

- 2. MAKE EXISTING FLOOR SLAB SMOOTH AND FLAT TO FLOOR FINISH MANUFACTURER'S TOLERANCE
- WITH MATERIAL SUITABLE TO FLOOR FINISH. MANUFACTURER PRIOR TO INSTALLATION. 3. ALL TRANSITIONS BETWEEN DISSIMILAR FLOORING MATERIALS ARE TO RECEIVE A NEW TRANSITION
- 4. PROVIDE WALL BASE AT LOCATIONS OF NEW FLOORING OR NEW WALL CONSTRUCTION.
- 5. AREAS OF RESILIENT FLOORING ARE TO RECEIVE RUBBER COVED BASE VERIFY WITH BUILDING STANDARD.
- 6. AT AREAS WHERE PATCHING OF WALL BASE IS REQUIRED FINISH TO MATCH ADJACENT IN
- MATERIAL, COLOR, HEIGHT, FINISH AND PROFILE. 1. DO NOT PAINT PREFINISHED ITEMS.
- 8. FLOOR DRAINS AND CLEANOUT COVERS ARE TO BE FLUSH WITH FINISHED FLOORING ADJUST AS
- 9. AT AREAS WHERE MECHANICAL EQUIPMENT HAS BEEN REMOVED PATCH AND PAINT EXISTING EXPOSED CONSTRUCTION - MATCH ADJACENT EXISTING CONSTRUCTION IN MATERIAL, TEXTURE, SIZE, FINISH AND COLOR.
- 10. FLOORING SHALL BE STABLE, FIRM AND SLIP-RESISTANT.
- 17. TRANSITIONS IN FLOOR FINISHES, COLORS, OR PATTERNS ARE TO OCCUR AT THE CENTER OF DOORS UNLESS NOTED OTHERWISE.
- 18. CONTRACTOR TO VERIFY CONDITIONS AT EACH TRANSITION AND SIZE REDUCERS ACCORDINGLY.

19. PAINT NEW WALL CONSTRUCTION WHERE EXPOSED TO YIEW.

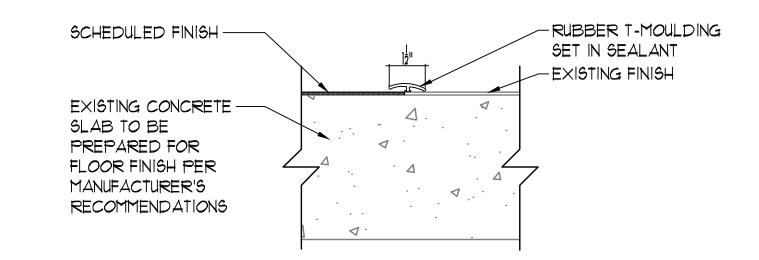
FLOOR FINISH PLAN LEGEND

EXISTING TO REMAIN - PROTECT DURING CONSTRUCTION - CONTRACTOR TO REPAIR ANY AFFECTED AREAS - MATCH ADJACENT FINISH IN MATERIAL, COLOR, TEXTURE, AND SIZE.

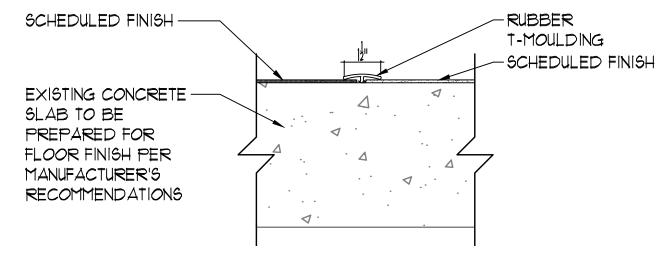
LUXURY VINYL TILE - REFER TO SPECIFICATIONS

PORCELAIN TILE - REFER TO SPECIFICATIONS

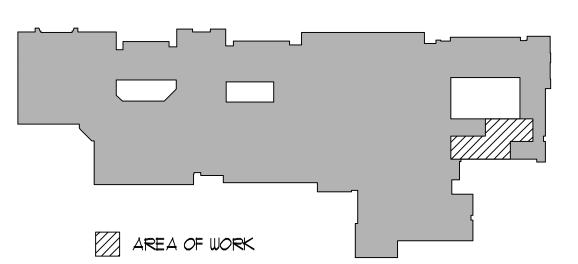
NOT IN CONTRACT



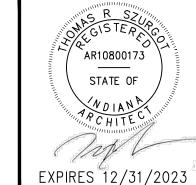




TRANSITION DETAIL - T2









SET I OF 3

46304

MIDDLE SCHOC CHESTERTON,

CORPORATION

SCHOOL RENOVAT

VELAND





MECHANICAL (HVAC) DEMOLITION NOTES

- D-1 THERMOSTAT/SENSOR TO BE COMPLETELY REMOVED INCLUDING ALL CONTROL WIRING AND/OR PNEUMATIC CONTROL AIR PIPING TO/FROM UNIT IT SERVES. PROVIDE STAINLESS STEEL BLANK COVER PLATE OVER OPENING IF LOCATION IS NOT REUSED FOR NEW THERMOSTAT/SENSOR UNDER THE INSTALLMENT OF THE NEW EQUIPMENT AND CONTROLS.
- D-2 REMOVE FLOOR UNIT VENTILATOR COMPLETELY INCLUDING ALL PIPING (HOT/CHILLED/CONDENSATE), INSULATION, CONTROLS, CONTROL WIRING, CONTROL AIR PIPING, SUPPORTS, VALVES, ETC. CAP PIPING AT MAINS IN PIPE TRENCH OR AT CHASE. COORDINATE ALL DISCONNECT REQUIREMENTS WITH ELECTRICAL CONTRACTOR. PATCH WALL/FLOOR AS STATED UNDER GENERAL DEMOLITION NOTES. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-3 REMOVE SHELVING COMPLETELY INCLUDING ALL PIPING, INSULATION, CONTROLS, CONTROL WIRING, CONTROL AIR PIPING, SUPPORTS, VALVES, ETC. PATCH WALL/FLOOR AS STATED UNDER GENERAL DEMOLITION NOTES. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-4 EXISTING WALL LOUVER TO REMAIN. PROVIDE 2" INSULATED SHEET METAL BLANK-OFF PANEL (APPROXIMATE 58"W X 11"H). SEAL AIR/WATER TIGHT. FIELD VERIFY DIMENSIONS.
- D-5 REMOVE HOT AND/OR CHILLED WATER SUPPLY/RETURN PIPING COMPLETELY INCLUDING VALVES, CONTROLS, HANGERS, INSULATION, EXPANSION JOINTS, PIPE GUIDES, SLEEVES, ANCHORS, ETC. CAPPING AT MAIN IN CORRIDOR. PATCH WALL AS STATED UNDER GENERAL DEMOLITION NOTES. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-6 EXISTING CHILLED WATER SUPPLY/RETURN PIPING TO REMAIN. SEE NEW WORK DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-7 EXISTING EXHAUST AIR DUCTWORK TO REMAIN.
- D-8 CAP AND INSULATE CHILLED WATER PIPING AT MAINS.
- D-9 EXISTING HOT WATER SUPPLY/RETURN IN TRENCH AT FLOOR TO REMAIN. OWNER TO INSULATE EXISTING PIPING. CAP PIPING AT REMOVED HOT WATER SUPPLY/RETURN CONNECTIONS WHERE CLASSROOM UNIT VENTILATOR(S) HAVE BEEN REMOVED. FIELD VERIFY REQUIREMENTS.
- D-10 EXISTING DUCTWORK TO REMAIN.

I. DRAWINGS

- D-11 REMOVE EXISTING DUCTWORK INCLUDING DIFFUSER(S), HANGERS, INSULATION, ETC. IN THEIR ENTIRETY. PROVIDE INSULATED CAP AT MAIN(S). PATCH WALLS AS STATED UNDER GENERAL DEMOLITION NOTES. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-12 EXISTING RADIANT PANEL AND ASSOCIATED PIPING TO REMAIN.
- D-13 EXISTING CONDENSATE PIPING TO REMAIN.
- D-14 EXISTING THERMOSTAT/SENSOR TO REMAIN.
- D-15 EXISTING HOT AND/OR CHILLED WATER SUPPLY/RETURN TO REMAIN.
- D-16 REMOVE/REINSTALL EXISTING REFRIGERANT PIPING INCLUDING INSULATION, HANGERS, ETC. AS REQUIRED TO RELOCATE VRF UNIT. SEE NEW WORK PLANS FOR NEW VRF LOCATION.
- D-17 REMOVE EXISTING CONDENSATE PIPING INCLUDING INSULATION, HANGERS, ETC. IN THEIR ENTIRETY. SEE NEW WORK PLANS FOR NEW PIPING REQUIREMENTS (APPROX. 30').

- D-18 REMOVE/RELOCATE VRF UNIT COMPLETELY INCLUDING ALL PIPING (REFRIGERANT/CONDENSATE), INSULATION, CONTROLS, CONTROL WIRING, SUPPORTS, VALVES, ETC. COORDINATE ALL DISCONNECT/RECONNECT REQUIREMENTS WITH ELECTRICAL CONTRACTOR. SEE NEW WORK DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-19 EXISTING VRF UNIT TO REMAIN.
- D-20 EXISTING ENERGY RECOVERY UNIT TO REMAIN.
- D-21 EXISTING ELECTRIC DUCT COIL TO REMAIN.
- D-22 EXISTING REFRIGERANT PIPING TO REMAIN.
- D-23 EXISTING HEAT RECOVERY BOX TO REMAIN.
- D-24 EXISTING HEAT RECOVERY BOX TO REMAIN. SEE NEW WORK DRAWINGS FOR PIPING MODIFICATIONS.
- D-25 EXISTING CABINET UNIT HEATER TO REMAIN.
- D-26 EXISTING ROOF MOUNTED CONDENSING UNIT AND ASSOCIATED REFRIGERANT PIPING TO REMAIN.
- D-27 REMOVE CEILING EXHAUST GRILLE. PROVIDE NEW GRILLE UNDER NEW WORK. SEE NEW WORK DRAWINGS.
- D-28 REMOVE CEILING UNIT VENTILATOR COMPLETELY INCLUDING ALL PIPING (HOT/CHILLED/CONDENSATE), DUCTWORK, INSULATION, DAMPERS, CONTROLS, CONTROL WIRING, CONTROL AIR PIPING, SUPPORTS, VALVES, ETC. CAP PIPING AT MAINS, FIELD VERIFY. REMOVE ROOF HOOD(S) AND ASSOCIATED SUPPLY/RETURN/OUTDOOR AIR DUCTWORK. COORDINATE ALL DISCONNECT REQUIREMENTS WITH ELECTRICAL CONTRACTOR. PATCH WALL/ROOF AS STATED UNDER GENERAL DEMOLITION NOTES. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-29 EXISTING WALL/GROUND MOUNTED COOLING UNIT AND ASSOCIATED PIPING TO REMAIN.
- D-30 EXISTING ROOF EXHAUST FAN TO REMAIN.
- D-31 EXISTING OUTDOOR AIR DUCTWORK TO BE REMOVED. SEE NEW WORK DRAWINGS FOR DUCTWORK EXTENSION
- D-32 EXISTING MOTORIZED DAMPER AND DUCTWORK TO REMAIN.
- D-33 EXISTING ROOF INTAKE HOOD AND DUCTWORK TO REMAIN.
- D=34 REMOVE WALL/CEILING MOUNTED CABINET/FAN COIL UNIT COMPLETELY INCLUDING ALL PIPING (HOT/CHILLED/CONDENSATE), INSULATION, CONTROLS, CONTROL WIRING, CONTROL AIR PIPING, SUPPORTS, VALVES, ETC. CAP PIPING AT MAINS. COORDINATE ALL DISCONNECT REQUIREMENTS WITH ELECTRICAL CONTRACTOR. PATCH WALL/CEILING AS STATED UNDER GENERAL DEMOLITION NOTES. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.

II. GENERAL

- A. ALL DEMOLITION OF THE HVAC SYSTEM AS CALLED FOR ON THE DEMOLITION DRAWINGS SHALL BE UNDER THE MECHANICAL (HVAC)
- B. MECHANICAL CONTRACTOR SHALL VISIT EACH SCHOOL BUILDING, BEFORE SUBMITTING HIS BID, TO VERIFY THE EXISTING CONDITIONS
- WHICH WILL AFFECT HIS WORK.

 C. BEFORE STARTING ANY DEMOLITION ON HVAC EQUIPMENT WHICH HAS AN ELECTRICAL CONNECTION. THE MECHANICAL CONTRACTOR SHALL MEET WITH THE ELECTRICAL CONTRACTOR TO IDENTIFY ALL SUCH EQUIPMENT. THE ELECTRICAL CONTRACTOR WILL DISCONNECT THE POWER TO EACH UNIT, REMOVE CONDUIT, WIRING, DISCONNECT SWITCHES AND STARTERS UNDER HIS CONTRACT. MECHANICAL
- CONTRACTOR WILL REMOVE ALL EQUIPMENT, ELECTRIC TEMPERATURE CONTROL WIRING AND CONDUIT UNDER THIS CONTRACT.

 D. MECHANICAL CONTRACTOR SHALL VERIFY SIZE OF ALL EXISTING OPENINGS, DOORS, ETC., FOR GETTING EQUIPMENT AND MATERIAL OUT OF BUILDING. MECHANICAL CONTRACTOR SHALL PROVIDE ANY NEW OR ENLARGED OPENINGS IN EXISTING BUILDING CONSTRUCTION REQUIPMENT TO FACILITATE EXITING OF HIS EQUIPMENT/MATERIAL AND RESTORE SUCH OPENINGS TO THEIR ORIGINAL STATE AFTER
- E. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN CLEAN-UP THROUGHOUT THE COURSE OF THE DEMOLITION WORK. IN THE EVENT HE FAILS TO PROVIDE SUCH CLEAN-UP THE ARCHITECT/ENGINEER WILL DIRECT THE CLEAN-UP TO BE PERFORMED BY ANOTHER CONTRACTOR AND THE MECHANICAL CONTRACTOR WILL BE BACK-CHARGED AS DEEMED APPROPRIATE BY ARCHITECT/ENGINEER.
- ALL EQUIPMENT, MATERIAL, ETC. THAT IS BEING DEMOLISHED WILL BECOME THE PROPERTY OF THE MECHANICAL CONTRACTOR. ALL SUCH ITEMS WILL BE REMOVED FROM THE BUILDING SITE BY THE MECHANICAL CONTRACTOR. NO ITEM WHICH IS BEING REMOVED UNDER THE DEMOLITION CONTRACT MAY BE REUSED UNDER THE NEW WORK CONTRACT.
- G. SEQUENCE OF ALL DEMOLITION WORK SHALL BE IN STRICT ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS AND/OR AS DIRECTED BY ARCHITECT/ENGINEER.
- H. THE CONTRACTOR PERFORMING THE DEMOLITION WORK SHALL REMOVE NO MORE THAN 8" OF BUILDING MATERIAL AROUND EACH DEVICE BEING DEMOLISHED.
- I. ALL ROOF PATCHING MUST BE PERFORMED BY OLSSON ROOFING TO COMPLY WITH THE CARLISLE EPDM WARRANTY.

 J. MECHANICAL CONTRACTOR MUST COORDINATE WORK ASSOCIATED WITH ALL NEW ROOF PENETRATIONS AND CAPPING EXISTING
- PENETRATIONS WITH OLSSON ROOFING.

 K. ROOFING PLANS FOR ROOFING WORK IN PROGRESS BY OLSSON ROOFING WILL BE PROVIDED FOR "REFERENCE ONLY" TO THE HVAC
- THE PATCHING OF FINISHED FLOORING MATERIALS IS TO BE PERFORMED BY A FLOORING CONTRACTOR AND PAID FROM AN ALLOWANCE.

NOTES:

1. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL LABOR AND MATERIAL REQUIRED TO PATCH ALL OPENINGS IN EXISTING WALLS AND FIRE SEPARATIONS CREATED BY THE REMOVAL OF THIS TRADES MATERIAL AND EQUIPMENT WHERE THESE OPENINGS ARE NOT TO BE REUSED. PATCHING OF ALL EXISTING CONCRETE FLOOR OPENINGS IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.

MECHANICAL VENTILATION NEW WORK NOTES

- A PROVIDE AND INSTALL INTAKE/RELIEF HOOD. PROVIDE MOTORIZED DAMPER(S) AT IH/RH. COORDINATE WITH EXISTING STRUCTURAL STEEL. CUT/PATCH ROOF. SEE LARGE SCALE DETAILS AND ARCHITECTURAL DRAWINGS ADDITIONAL REQUIREMENTS.
- B INSULATED SUPPLY/RETURN/EXHAUST AIR DUCT. COORDINATE DUCTWORK ROUTING WITH CEILING REMOVAL/REPLACEMENT. RUN DUCTWORK THROUGH JOIST WEBS AND IN JOIST SPACE. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- © SUPPLY/RETURN/EXHAUST/OUTDOOR AIR DUCTWORK TO/FROM ERV. PROVIDE FLEXIBLE CONNECTION AT EACH ERV DUCT CONNECTION. HANG ERV FROM EXISTING STRUCTURE (BEAM/JOIST) WITH ISOLATORS, PROVIDE ADDITIONAL SUPPORTS AS REQUIRED BY FIELD CONDITIONS. COORDINATE ERV WITH EXISTING BUILDING STRUCTURE. REMOVE/MODIFY/REINSTALL JOIST BRIDGING AS REQUIRED TO INSTALL ERV. FIELD VERIFY REQUIREMENTS. SEE SPECIFICATIONS AND LARGE SCALE DETAILS FOR ADDITIONAL REQUIREMENTS.
- D EXISTING WALL LOUVER. PROVIDE 2" INSULATED SHEET-METAL BLANK-OFF PANEL. SEAL AIR/WATER TIGHT. FIELD VERIFY
- (E) THERMOSTAT/SENSOR. CUT/PATCH NEW/EXISTING WALL AS REQUIRED TO INSTALL. PAINT WALL TO MATCH EXISTING.
- F ELECTRIC DUCT COIL, SEQUENCE WITH ERV AND DISCHARGE AIR SENSOR. SEE SEQUENCE OF OPERATION FOR ADDITIONAL REQUIREMENTS.
- © EXISTING ROOF INTAKE HOOD AND DUCTWORK.
- (H) EXISTING OUTDOOR AIR DUCTWORK AND MOTORIZED DAMPER. PROVIDE NEW CONNECTION AND EXTEND 4"0 OUTDOOR AIR DUCTWORK AS SHOWN TO NEW VRF UNIT(S).
- PROVIDE NEW 4" OUTDOOR AIR DUCTWORK AND MOTORIZED DAMPER. EXTEND AS SHOWN TO NEW VRF UNIT.
- DEXISTING OUTDOOR AIR DUCTWORK AND MOTORIZED DAMPER TO REMAIN.
- (K) EXISTING THERMOSTAT/SENSOR TO REMAIN. EXTEND WIRING TO RELOCATED VRF UNIT LOCATIONS.
- PROVIDE NEW LAY-IN CEILING EXHAUST GRILLE. RECONNECT TO EXISTING EXHAUST FAN/DUCTWORK. FIELD VERIFY REQUIREMENTS AND MODIFY DUCTWORK AS REQUIRED. BALANCE TO CFM SHOWN.
- M EXISTING SUPPLY/RETURN/OUTDOOR AIR DUCTWORK. PROVIDE INSULATED AIRTIGHT CAP.

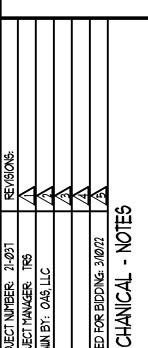
MECHANICAL PIPING NEW WORK NOTES

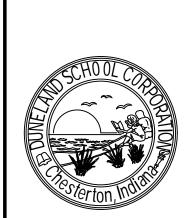
- 1 EXISTING VRF UNIT TO REMAIN.
- 2 EXISTING HEAT RECOVERY BOX TO REMAIN.
- 3 NEW LOCATION FOR RELOCATED VRF UNIT
- (4) EXISTING CONDENSATE PIPING TO REMAIN
- PROVIDE AND INSTALL ROOF MOUNTED CONDENSING UNIT ON 18" HIGH EQUIPMENT RAILS AND PIPE CURB. SEE LARGE SCALE DETAILS FOR ADDITIONAL REQUIREMENTS. PROVIDE NEW REFRIGERANT PIPING TO RUN TO/FROM AIR COOLED CONDENSER AND/OR HEAT RECOVERY UNIT(S) AND/OR INDOOR VRF UNIT(S). PROVIDE ROOF PIPE SUPPORTS 4'-0" O.C. EXTERIOR PIPING TO BE INSULATED AND PROVIDED WITH AN ALUMINUM JACKET PER THE SPECIFICATIONS. SEE LARGE SCALE DETAILS FOR ADDITIONAL REQUIREMENTS. FIELD VERIFY ROUTING AND PIPE SIZE WITH VRF UNIT MANUFACTURER.
- 6 VRF UNIT: PROVIDE REFRIGERANT PIPING TO RUN TO/FROM HR UNITS AND INDOOR VRF UNITS. PROVIDE 1" INSULATED CONDENSATE PIPE FROM VRF UNIT. RISE CONDENSATE OFF OF VRF UNIT AND RUN CONDENSATE PIPE IN JOIST SPACE AS HIGH AS POSSIBLE. COORDINATE LOCATION OF VRF UNITS WITH CEILING GRID AND EXISTING BUILDING STRUCTURE. HANG VRF UNIT FROM EXISTING STRUCTURE (BEAM/JOIST) WITH ISOLATORS, PROVIDE ADDITIONAL SUPPORTS AS REQUIRED BY FIELD CONDITIONS. REMOVE/REINSTALL JOIST BRIDGING AS REQUIRED TO INSTALL VRF UNITS. FIELD VERIFY REQUIREMENTS. FIELD VERIFY PIPE ROUTING AND PIPE SIZE WITH VRF UNIT MANUFACTURER. COORDINATE PIPE RUNS WITH CEILING REMOVAL/REPLACEMENT. PIPING TO RUN IN/THRU EXISTING JOIST SPACE. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- RUN INSULATED CONDENSATE AS HIGH AS POSSIBLE THROUGH EXISTING JOISTS AND JOIST WEBBING (TYPICAL). SEE PLANS FOR PIPE SIZES.
- 8 1-1/2" INSULATED CONDENSATE DROP IN PAINTED SHEET METAL CHASE TO BUILDING EXTERIOR. PROVIDE 45° SCREENED ELBOW WITH SPLASH BLOCK ON OUTDOOR TERMINATION. CUT/PATCH EXISTING WALL.
- HR UNIT: PROVIDE REFRIGERANT PIPING TO RUN TO/FROM AIR COOLED CONDENSER AND/OR INDOOR VRF UNITS.

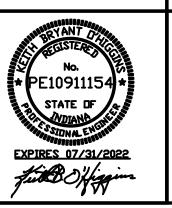
 COORDINATE LOCATION OF HR UNITS WITH CEILING GRID AND EXISTING BUILDING STRUCTURE. HANG HR UNIT FROM EXISTING STRUCTURE (BEAM/JOIST), PROVIDE ADDITIONAL SUPPORTS AS REQUIRED BY FIELD CONDITIONS. COORDINATE HR UNITS WITH EXISTING BUILDING STRUCTURE. REMOVE/REINSTALL JOIST BRIDGING AS REQUIRED TO INSTALL HR UNITS. FIELD VERIFY REQUIREMENTS. FIELD VERIFY PIPE ROUTING AND PIPE SIZE WITH VRF UNIT MANUFACTURER. COORDINATE PIPE RUNS WITH CEILING REMOVAL/REPLACEMENT. PIPING TO RUN IN/THRU EXISTING JOIST SPACE. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- PROVIDE REFRIGERANT PIPING TO RUN TO/FROM AIR COOLED CONDENSER UNIT AND/OR INDOOR HR/VRF UNITS. FIELD VERIFY REQUIREMENTS. FIELD VERIFY PIPE ROUTING AND PIPE SIZE WITH VRF UNIT MANUFACTURER. COORDINATE PIPE RUNS WITH CEILING REMOVAL/REPLACEMENT. PIPING TO RUN IN/THRU EXISTING JOIST SPACE. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- PROVIDE 3/4" HOT WATER SUPPLY/RETURN PIPES TO/FROM RADIANT CEILING PANEL. FIELD VERIFY PIPING REQUIREMENTS AND LOCATION OF EXISTING HOT WATER SUPPLY/RETURN (APPROX. 15'). SEE LARGE SCALE DETAILS FOR ADDITIONAL REQUIREMENTS.
- (12) EXISTING REFRIGERANT PIPING TO REMAIN.
- (13) 1-1/2" CONDENSATE PIPING, DROP TO EXISTING FLOOR SINK WITH AIR GAP.
- (14) PROVIDE NEW CONNECTION TO EXISTING CONDENSATE MAIN.
- (15) EXISTING CABINET UNIT HEATER.
- (6) EXISTING ROOF MOUNTED CONDENSING UNIT.



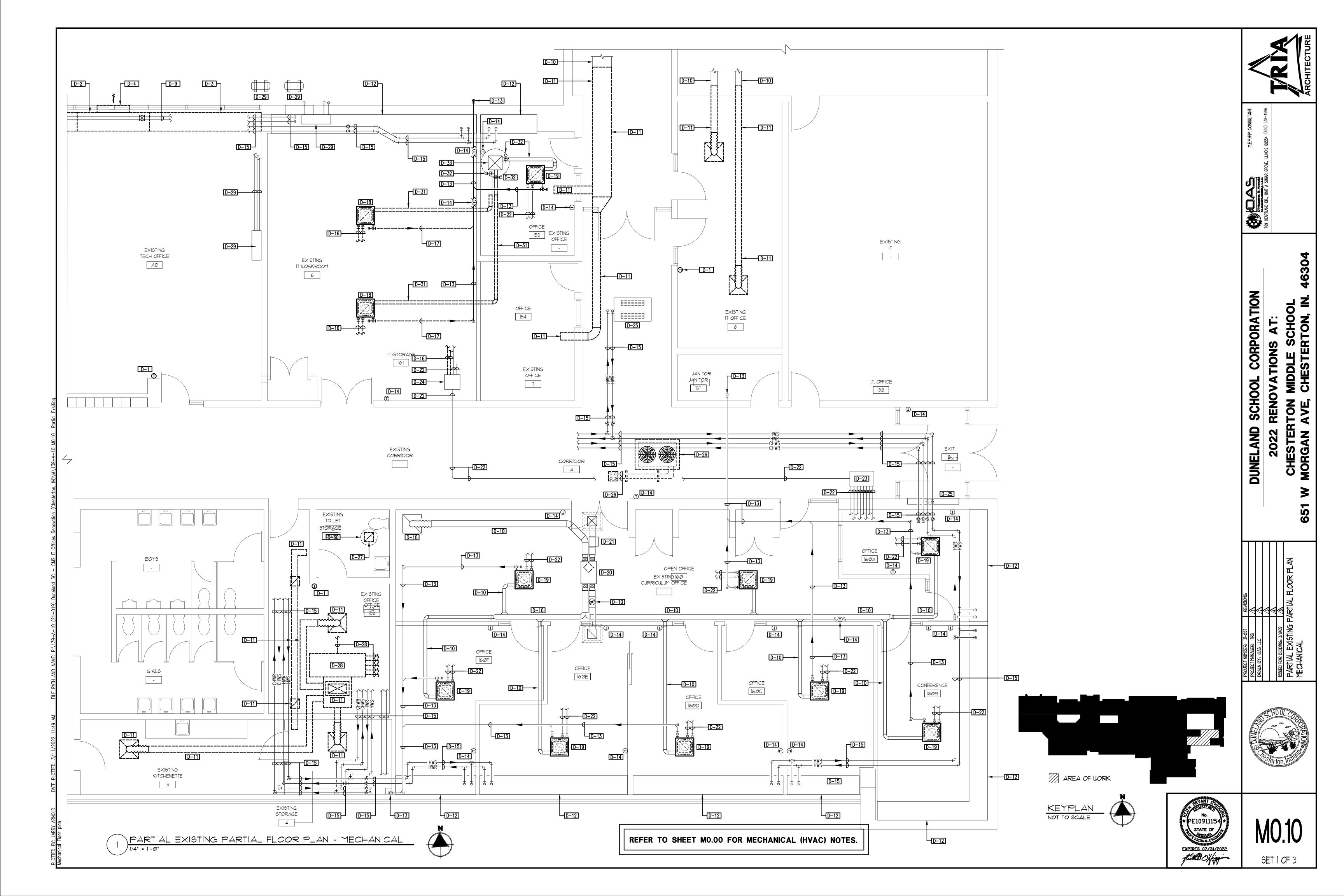
2022 RENOVATIONS AT:
CHESTERTON MIDDLE SCHOOL

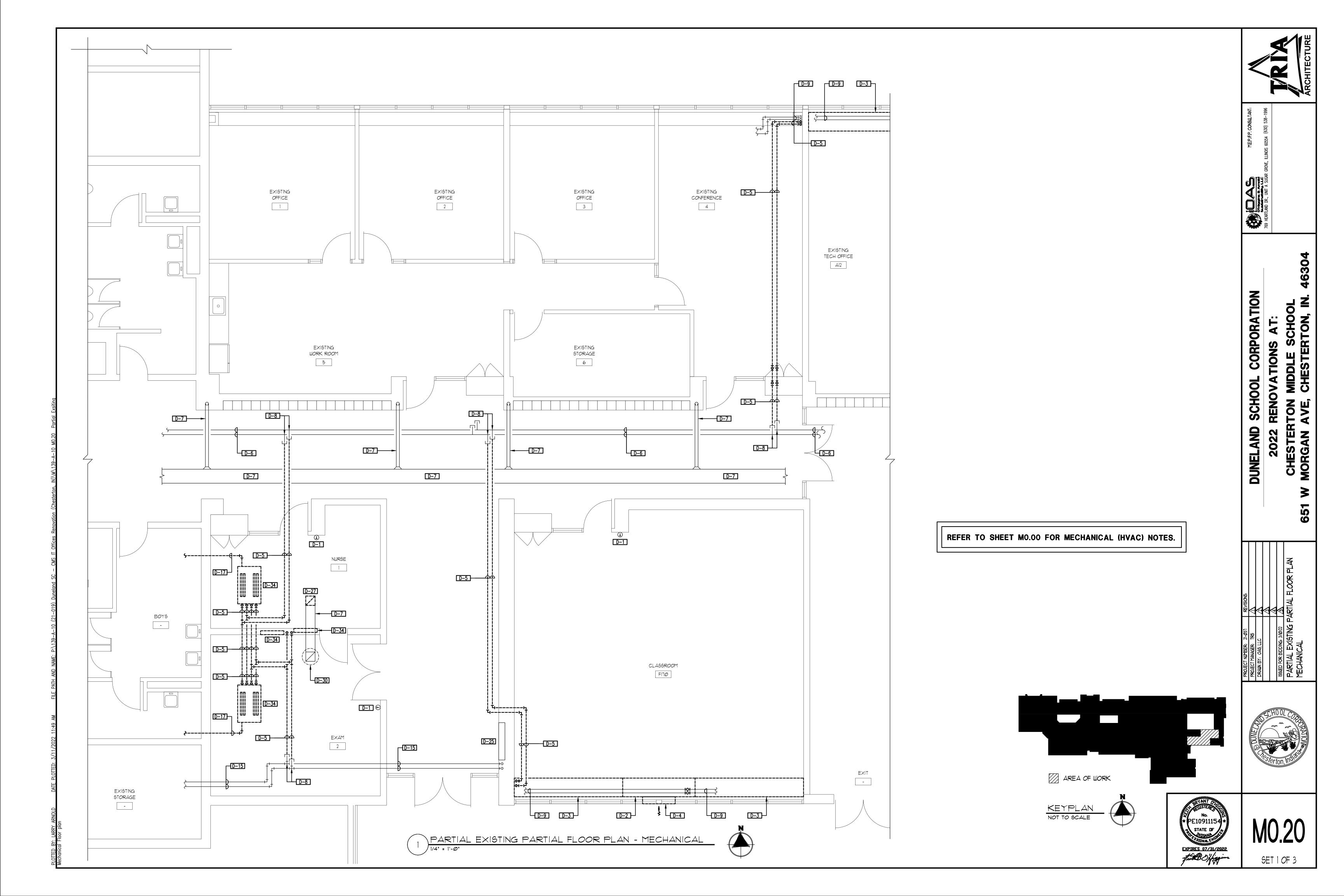


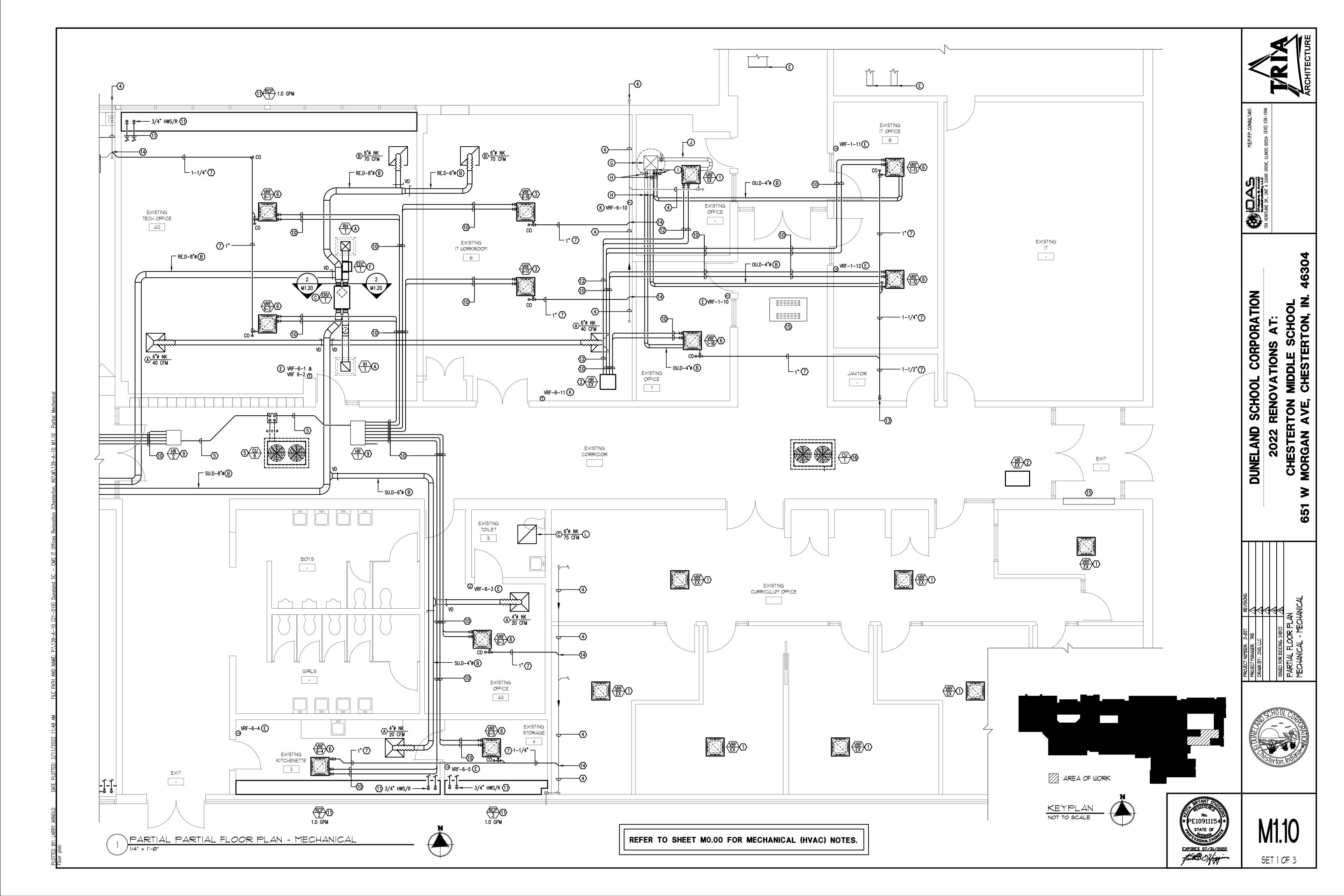


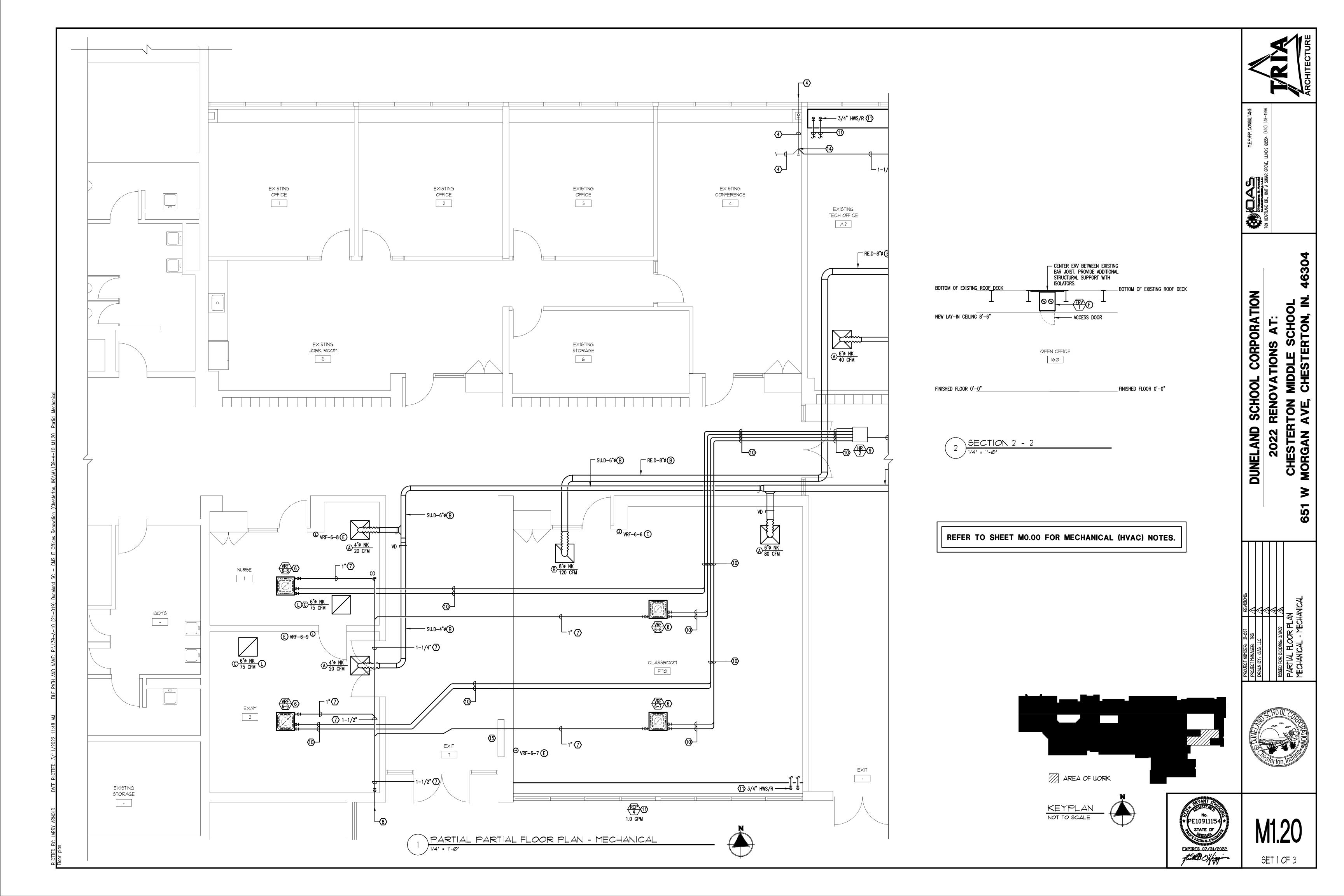












- . INCLUDE LOW AMBIENT CONTROL (-22.0° F), ANTI-CYCLING TIME DELAY, CRANKCASE HTR. AND AUTO. OPERATING HOT GAS BYPASS. (VRF MANF.) 5. PROVIDE GASKET, GRILLE AND AUTOMATIC FAN SPEED CONTROL FOR EACH INDOOR UNIT. (VRF MANF.)
- 2. DISCONNECT SWITCH FOR EACH VRF UNIT BY ELECTRICAL CONTRACTOR.
- 3. MECH. CONTRACTOR TO PROVIDE AND INSTALL UNIT ON 18" HIGH EQUIPMENT RAILS AND VIBRATION ISOLATORS.
- 4. PROVIDE WIND BAFFLE. PROVIDED BY VRF MANF. INSTALLED BY MECHANICAL CONTRACTOR.

- 6. PROVIDE CONDENSATE PUMP AND CONDENSATE DRAIN PAN FLOAT ALARM AND SHUT DOWN OF EACH UNIT. (VRF MANF.)
- 7. SYSTEM DESIGNED FOR SIMULTANEOUS HEATING/COOLING OPERATION. (VRF MANF.) 8. PROVIDE THERMOSTAT WITH PER VRF UNIT. PROVIDED BY VRF MANF. INSTALLED BY MECHANICAL CONTRACTOR.

- 9. PROVIDE BAS CONTROLLER AND INTERFACE PER THE SPECIFICATIONS. INSTALLED BY MECHANICAL CONTRACTOR.
 - 10. REFRIGERANT PIPING TO BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR.
 - 11. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

 - 13. MECHANICAL CONTRACTOR IS REQUIRED TO TAKE MANUFACTURES FREE "CERTIFIED INSTALLER TRAINING CLASS".

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			GENERAL DATA	١			DIMENSIO	DNAL DATA	\ (IN.)	SUP	PLY/EXHAUST	FAN DATA										ENERG	Y WHEEL										ELECTRICAL				FIL	LTERS			
						OPERATING				ESP	мот	/B					SUN	MMER/COC	LING							W	inter/Hi	EATING						T	(OUTDOOR A	IR .		ROOM AIR		NOTES
TAG	LOCATION	area served	MANUFACTURER	MODEL NUMBER	TYPE	WEIGHT	LENGTH	WIDTH	HEIGHT CFN	(IN.)	DRIVE MOTO	VFI	D FLA	OL	ITDOOR AIR			FRESH All	₹		ROOM A			OUTDOOL	RAIR	ļ.,	FRESH	 		ROOM AIF	•	VOLT/PH	MCA	MOPD	TYPE	DEDTU	RATING	TYPE	DEDTH	RATING	110120
						(LB.)								DB	WB GR	AINS/LB	DB	WB (GRAINS/LB	DB	WB	GRAINS/LB	DB	WB	GRAINS/LB	DB	WB	GRAINS/LB	DB	WB (GRAINS/LB				11PE	DEPIR	KATING	IIFE	DEPIR	RATING	,
ERV 1	EXISTING TECH OFFICE A12	TECH OFFICES	RENEWAIRE	EV300	INDOOR/ HORIZONTAL	72	34	22	22 240	0.75	DIRECT 1 @	0.2 NO	1.5	91.0	74.0	99	79.2	68.2	85.3	75.0	62.6	64.7	-10.0	-10.5	2.4	48.9	37.9	16.1	70.0	51.5	27.1	120/1	10.0	15	POLYESTER	1"	MERV-8	PLOYESTER	ł 1"	MERV-8	1,2,3,4,5
NOTES:		•							•				-			·																•	-					-			

- 1. DISCONNECT TO BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
- 2. FAN TO BE CONTROLLED BY BAS CONTRACTOR BASED ON OCCUPANCY. 3. VIBRATION ISOLATORS TO BE PROVIDED BY THE MECHANICAL CONTRACTOR.

- 4. BAS CONTRACTOR TO PROVIDE CURRENT SENSOR FOR PROOF OF OPERATION.
- 5. SEQUENCE INTAKE/RELIEF HOOD DAMPERS WITH ERV..
- 6. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

			RA	DIANT C	EILING	PAN	EL S	3CH	EDULE (RCP	\rangle			
TAG	LOCATION	MANUFACTURER	MODEL NUMBER	PANEL LENGTH (FT.)	PANEL WIDTH (FT.)	AWT (°F)	EWT (°F)	LWT (°F)	CAPACITY (BTUH/LIN. FT.)	NUMBER OF TUBES	TOTAL MBH	GPM	NOTES
RCP 1	TECH OFFICE A12	AERO TECH	AXO	8'-9"	24"	170	180	160	456	8	4.0	0.5	1,2,3,4
RCP 2	KITCHENETTE 3	AERO TECH	AXO	15'-10"	24"	170	180	160	456	8	7.2	1.0	1,2,3,4
RCP 3	STORAGE 4	AERO TECH	AXO	16'-1"	24"	170	180	160	456	8	7.3	1.0	1,2,3,4
RCP 4	CLASSROOM F170	AERO TECH	AXO	8'-0"	24"	170	180	160	456	8	3.7	0.5	1,2,3,4

- FIELD MEASURE ALL LENGTHS PRIOR TO FABRICATION. PANELS ARE WALL TO WALL. FIELD CUT PANELS TO MATCH WALLS. COLOR TO BE SELECTED BY ARCHITECT
- . ALL PANELS ARE TO BE MADE OF MULTIPLES OF 6" EXTRUSIONS. LONG RUNS OF PANELS TO BE MADE OF MULTIPLE MAXIMUM 12'-0" LENGTHS.
- PROVIDE PANEL SUPPORTS, EDGE SUPPORTS, ETC. FOR LAY-IN CEILING. LAY-IN CEILING BY GENERAL CONTRACTOR.
- SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

			l	NTAKE/RE	LIEF H	OOD	SCHE	DULE	H RH			
		GENE	RAL DATA						HOOD DATA			
TAG	LOCATION	AREA SERVED	MANUFACTURER	MODEL	TYPE	NO. OF TIERS	CFM	S.P. (IN.)	ROOF OPENING (IN. x IN.)	FREE AREA (SQ. FT.)	THROAT VEL. (FPM)	NOTES
(H)	ROOF	ERV-1	соок	TRE	INTAKE	2	240	0.01	12 x 12	1.0	240	1,2,3,4
RH 2	ROOF	ERV-1	соок	TRE	EXHAUST	2	240	0.01	12 x 12	1.0	240	1,2,3,4
NOTES:		_			<u> </u>							_

- 1. GALVANIZED BIRD SCREEN.
- 2. PREFABRICATED ROOF CURB MINIMUM 18" HIGH.
- 3. 1" THICK THERMAL LINER.
- 4. PROVIDE LOW LEAK MOTORIZED DAMPER.

				ELEC	CTRIC D	UCT	HEAT	ER S	CHEDUL	E EDH					
		GENERAL DATA	1					COIL	DATA			ELEC	TRICAL DA	ATA	
TAG	LOCATION	AREA SERVED	MANUF.	MODEL Number	SIZE (IN.)	CFM	EAT (°F)	LAT (°F)	SP (IN.)	STAGES	TYPE	KW	VOLT	PH	NOTES
(EDH)	TECH OFFICE A12	OFFICES	RENEWAIRE	RH-D	8 " ø	240	-10.0	55.5	0.1	SCR	INLINE OPEN COIL	5	208	1	1,2

OVER-TEMPERATURE PROTECTION, TRANSFORMER, AIRFLOW SWITCH, ROUND DUCT COLLARS, DUCT TEMPERATURE SENSOR AND MOUNTING FLANGES.

INTERLOCK WITH ERV. SCR CONTROLLER TO BE CONTROLLED BY BAS CONTRACTOR TO MAINTAIN 50°F DURING OCCUPIED HEATING SEASON.

MECHANICAL / ELECTRICAL COORDINATION SCHEDULE

- 1. EQUIPMENT FURNISHED BY THE ELECTRICAL CONTRACTOR (MARK 'E'), HEATING CONTRACTOR (MARK 'H'), VENTILATING CONTRACTOR (MARK 'V').
- 2. ALL CONDUIT AND WIRING FOR TEMPERATURE CONTROL AND EQUIPMENT INTERLOCK SHALL BE BY BAS CONTRACTOR. OTHER CONTROLS AND CONTROL CONDUITS/WIRING BY TRADE FURNISHING RESPECTIVE
- 3. E.C. SHALL COORD. & REVIEW THE ELECTRICAL CHARACTERISTICS, AMPACITY & OTHER REQUIREMENTS OF COMPONENTS BEFORE INSTALLATION OF WORK. ALL OTHER CONTRACTORS SHALL ADVISE E.C. OF ANY MOTOR/DEVICE CHANGES.
- 4. ALL LOOSE STARTERS SHALL INCLUDE HOA SWITCH, PILOT LIGHT MOUNTED IN COVER, CONTROL TRANSFORMER, AND ONE N.O. AND ONE N.C. AUXILIARY CONTACTS.

5. SEE	SPECIFICATIONS AND DRAWI	NGS FOR TYP	ES AND LOCATIONS	OF DEVICES SCH	EDULED BELOW.				
			UNIT MOL	INTED DEVICES			LOOSE DEVICE	S	
TAG	EQUIPMENT DESCRIPTION	STARTER	DISCONNECT	OVERCURRENT PROTECTION	SINGLE POINT CONNECTION	STARTER	DISCONNECT	OVERCURRENT PROTECTION	REMARKS
(VRF)	VARIABLE REFRIGERANT FLOW UNIT	-	-	-	YES	-	E	E	
CU	CONDENSING UNIT	-	-	-	YES	-	E	E	
HR	VRF REFRIGERANT BOX	-	-	-	YES	-	E	E	
EDH	ELECTRIC DUCT HEATER	-	-	-	YES	-	E	E	
ERV	ENERGY RECOVERY VENTILATOR	-	_	_	YES	_	E	E	

NOTES: 1. VERIFY FINAL LOADS AND REQUIREMENTS WITH FINAL MECHANICAL DRAWINGS.

		DIFFUSER, GR	ILLE AND REG	ISTER O NECK	SIZE NY. (CFM)	
MANUFACTURER	MODEL NUMBER	TYPE	SERVICE	MATERIAL	MAXIMUM NC	NOTES
TITUS	TMSA-AA	LOUVER FACE	SUPPLY	ALUMINUM	25	1,2,3
TITUS	350RL	35° BLADE – 3/4"	TRANSFER/EXHAUST/ RETURN	ALUMINUM	25	1,2,3,4
TITUS	350RL	35° BLADE – 3/4"	EXHAUST	ALUMINUM	25	1,2,3
	TITUS	TITUS TMSA-AA TITUS 350RL	TITUS TMSA-AA LOUVER FACE TITUS 350RL 35° BLADE - 3/4"	TITUS TMSA-AA LOUVER FACE SUPPLY TITUS 350RL 35° BLADE - 3/4" TRANSFER/EXHAUST/ RETURN	TITUS TMSA-AA LOUVER FACE SUPPLY ALUMINUM TITUS 350RL 35° BLADE - 3/4" TRANSFER/EXHAUST/ RETURN ALUMINUM	TITUS TMSA-AA LOUVER FACE SUPPLY ALUMINUM 25 TITUS 350RL 35° BLADE - 3/4" TRANSFER/EXHAUST/ RETURN ALUMINUM 25

1. OFF-WHITE BAKED ENAMEL FINISH

2. LAY-IN FRAME

- 3. PROVIDE FRAME COMPATIBLE WITH CEILING, FIELD VERIFY
- 4. INSULATED SQUARE TO ROUND ADAPTOR.

	VRF REF	RIGERANT BO	OXES - OV	WNER P	ROVI	DED	HR
	GE	NERAL DATA		ELECTI	RICAL DAT	ГА	
TAG	LOCATION	MANUFACTURER	MODEL NO.	VOLT	PH	RATED AMPS	NOTE
HR 1	EXISTING CORRIDOR	LG	PRHR083A	208/230	1	0.2	1,2,3,4
HR 2	EXISTING CORRIDOR	LG	PRHR063A	208/230	1	0.2	1,2,3,4

1. ISOLATION VALVES AT EACH CONNECTION PROVIDE AND INSTALLED BY MECHANICAL CONTRACTOR. 2. POWER TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

- 3. COMMUNICATION WIRES FOR CONNECTION TO INDOOR UNIT(S) TO BE PROVIDED AND INSTALLED BY MECHANICAL
- 4. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

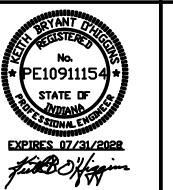
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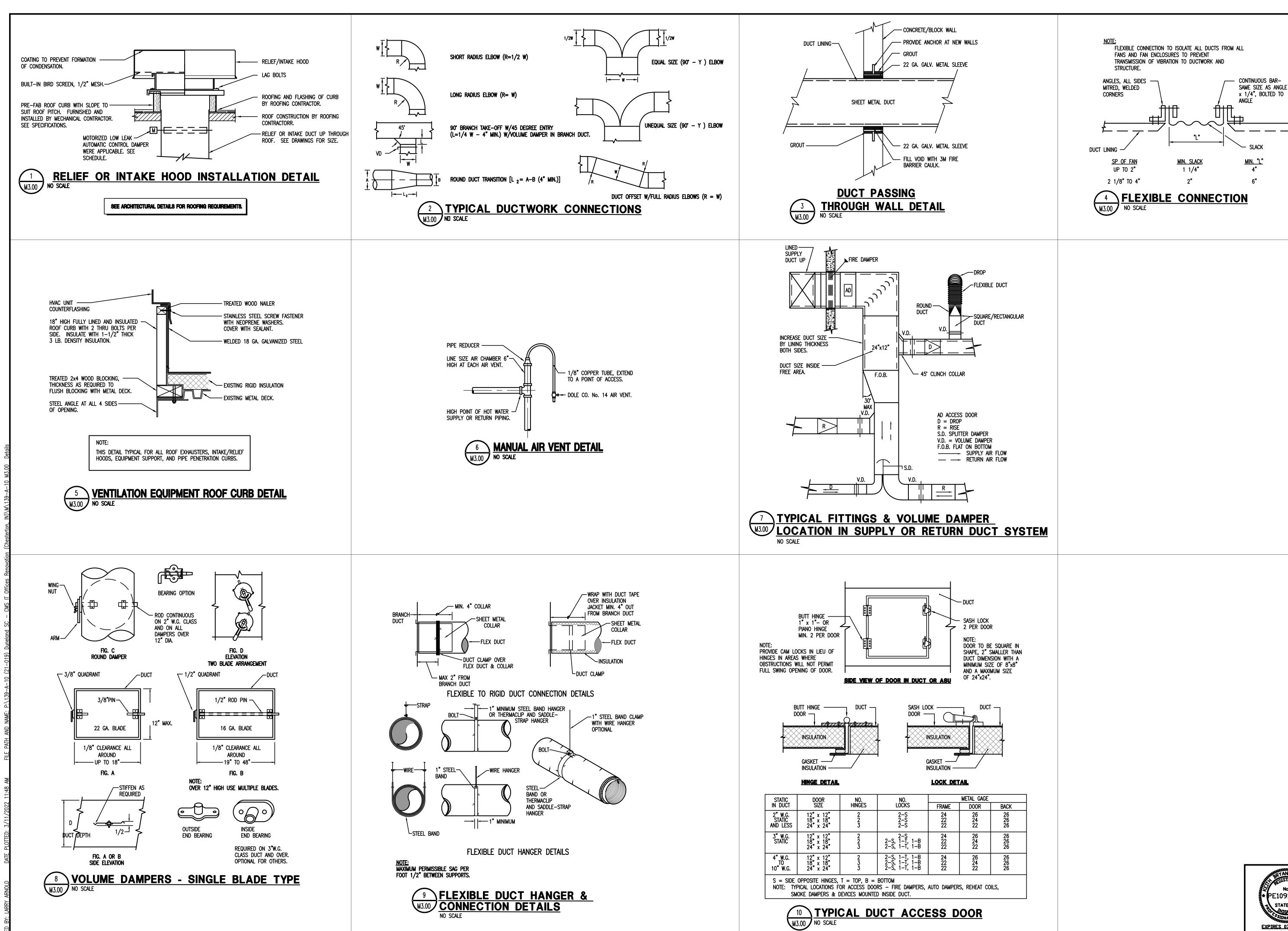
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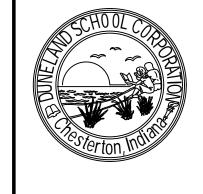
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PROJECT NUMBER: 21-037 REVISIONS.
PROJECT MANAGER: TRS
DRAWN BT: 0AS, LLC
3
SCHED FOR BIDDING: 3/0/72
DETAILS MECHANICAL



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CORPORATION

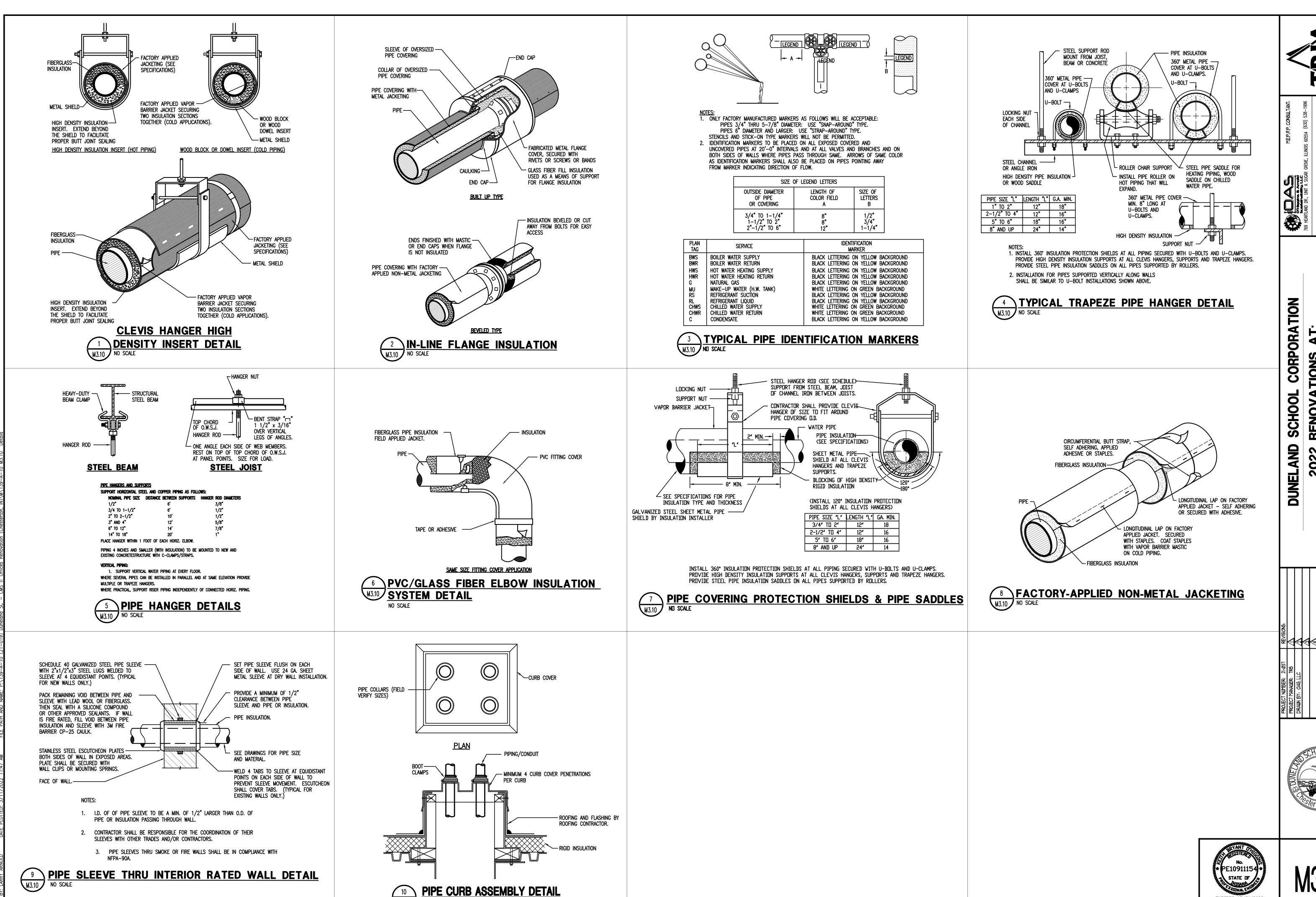
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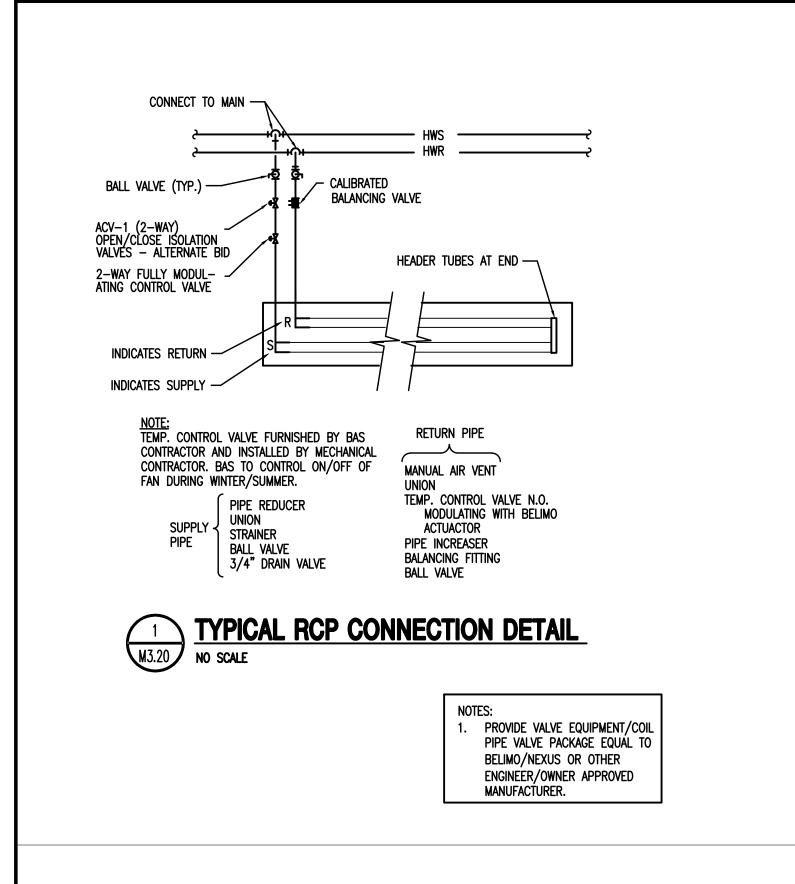
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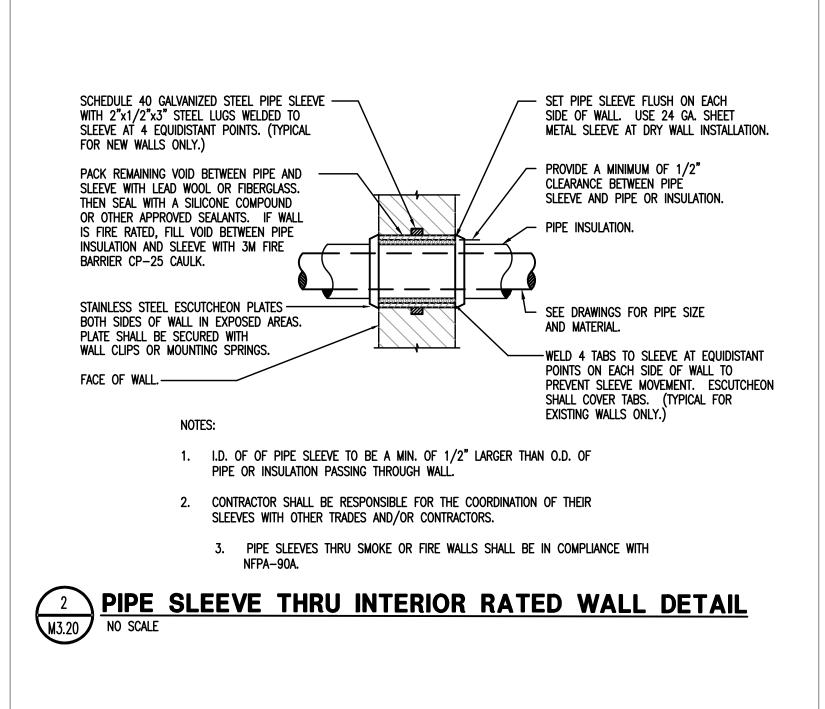


EXPIRES 07/31/2028

SET 1 OF 3

46304





MEPAFP. CONGULTANT:

LUGAR GROVE, ILLINOIS 60554 (630) 538–1996

APPAFECT

MEP/FP. CA
TO HEARTLAND DR., UNIT A SUGAR GROVE, ILLINOIS 60554 (630

SCHOOL CORPORATION
RENOVATIONS AT:

DUNELAND







GENERAL NOTES FOR MECHANICAL WORK

- DRAWINGS ARE GENERALLY DIAGRAMMATIC. ROUTING OF PIPING AND DUCTWORK AS SHOWN, DOES NOT INTEND TO SHOW EVERY RISE, DROP, OFFSET, FITTING NOR EVERY STRUCTURAL ELEMENT THAT MAY BE ENCOUNTERED DURING THE INSTALLATION OF THIS WORK. EACH CONTRACTOR SHALL MAKE ANY REQUIRED CHANGES FROM THE GENERAL ROUTING SHOWN ON THESE DRAWINGS, SUCH AS OFFSETS, BENDS OR CHANGES IN ELEVATION DUE TO COORDINATION WITH THE WORK OF OTHER TRADES AND BUILDING CONSTRUCTION. ALL CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER OR DELAY IN COMPLETION DATE OF THE PROJECT.
- 2. IT IS INTENDED THAT EQUIPMENT SHALL BE LOCATED SYMMETRICALLY WITH THE ARCHITECTURAL ELEMENTS OF THE BUILDING, NOTWITHSTANDING THE FACT THAT LOCATIONS INDICATED BY THESE DRAWINGS MAY BE DISTORTED FOR CLEARNESS OF PRESENTATION.
- CONTRACTOR SHALL CHECK DRAWINGS OF OTHER TRADES TO VERIFY THAT SPACES IN WHICH THEIR WORK WILL BE INSTALLED ARE CLEAR OF OBSTRUCTIONS. WORK SHALL BE INSTALLED TO MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITION AT ALL POINTS IN THE BUILDING. WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE, CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE INSTALLATION OF THEIR WORK.
- 4. CONTRACTOR SHALL FURNISH OTHER TRADES ADVANCE INFORMATION AND/OR SHOP DRAWINGS ON LOCATIONS AND SIZES OF PIPING, DUCTWORK, EQUIPMENT, FRAMES, BOXES, SLEEVES AND OPENINGS, ETC. NEEDED FOR THEIR WORK TO PERMIT OTHER TRADES AFFECTED TO INSTALL THEIR WORK PROPERLY AND WITHOUT DELAY.
- . WHERE THERE IS EVIDENCE THAT WORK OF ONE TRADE WILL INTERFERE WITH WORK OF OTHER TRADES, ALL TRADES SHALL MEET ON JOB SITE TO WORK OUT SPACE CONDITIONS AND MAKE SATISFACTORY ADJUSTMENTS TO INSTALLATION OF THE NEW WORK. CONTRACTOR SHALL BE RESPONSIBLE, AT THEIR OWN EXPENSE, FOR THE REMOVAL AND REINSTALLATION OF ANY PART OF THEIR WORK IF SAME WAS INSTALLED WITHOUT CONSULTING WITH OTHER TRADES BEFORE INSTALLING THEIR WORK.
- 6. CONTRACTOR SHALL PROVIDE SLEEVES IN FLOORS AND WALLS AS SHOWN ON THE DRAWINGS, AS REQUIRED BY JOB SITE CONDITIONS. AND/OR AS SPECIFIED. WHEN INSTALLING THEIR WORK.
- 7. THE SEQUENCE FOR THE INSTALLATION OF ALL WORK SHALL BE COORDINATED BETWEEN ALL CONTRACTORS ON THE PROJECT AND IN STRICT ACCORDANCE WITH ARCHITECT/ENGINEER AND OWNERS STIPULATION AS CALLED FOR IN THE SPECIFICATION AND/OR AS DIRECTED.
- 8. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL AND STRUCTURAL CONTRACT DRAWINGS (BEFORE SUBMITTING THEIR BIDS) TO FAMILIARIZE THEMSELVES WITH THE EXTENT OF THE OTHER TRADES CONTRACTORS WORK, CEILING HEIGHTS AND CLEARANCE FOR INSTALLING THEIR WORK.
- CONTRACTOR SHALL BE RESPONSIBLE AND PAY FOR ALL CORING, CUTTING, PATCHING, REPAIRING AND REFINISHING OF BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OF THEIR WORK. ALL PATCHING, REPAIRING AND REFINISHING WORK SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE NEW CONSTRUCTION AS CLOSELY AS POSSIBLE. CARE SHALL BE TAKEN SO AS NOT TO DAMAGE ANY EXISTING BUILDING CONSTRUCTION OR ITEMS THAT ARE TO REMAIN. ANY EXISTING FINISHES THAT ARE DAMAGED DURING THE INSTALLATION OF NEW WORK SHALL BE REPAIRED, REPLACED AND PAID FOR BY THE INSTALLING CONTRACTOR, TO THE SATISFACTION OF THE ARCHITECT AND OWNER. REFER TO ARCHITECTURAL DRAWINGS FOR EXISTING BUILDING CONSTRUCTION THAT IS TO REMAIN AND, THEREFORE, SUBJECT TO PATCHING, REPAIRING, AND
- 10. CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN CLEAN—UP DURING CONSTRUCTION. IF CONTRACTOR FAILS TO PROVIDE SUCH CLEAN—UP, THE ARCHITECT/ENGINEER WILL DIRECT ANOTHER CONTRACTOR TO PERFORM THE CLEAN—UP AND THE NEGLIGENT CONTRACTOR SHALL PAY THE ASSOCIATED BACK—CHARGES AS DEEMED APPROPRIATE BY THE ARCHITECT/ENGINEER.
- 11. CONTRACTOR SHALL INSTALL ALL AUXILIARY SUPPORTING STEEL AS REQUIRED FOR THE SUPPORTING OF THEIR PIPING, DUCTWORK, CONDUIT, TANKS, EQUIPMENT, ETC. ALL SUPPORTING STEEL FOR ITEMS ABOVE A SUSPENDED CEILING SHALL BE FROM BUILDING STRUCTURAL MEMBERS ONLY.
- 12. ALL PIPING SHALL BE SUSPENDED WITH CLEVIS AND/OR TRAPEZE PIPE HANGERS. INSULATED PIPING SHALL REST ON STEEL OR WOOD (CHILLED WATER PIPING) PIPE COVERING PROTECTION SADDLES OR SHEET METAL INSULATION SHIELDS AS CALLED FOR IN THE SPECIFICATIONS AND/OR DETAILED ON THE DRAWINGS
- 13. ALL WATER SUPPLY AND RETURN PIPING SHALL BE INSULATED, INCLUDING ALL PIPING ABOVE CEILINGS, INSIDE EQUIPMENT, CABINETS, PIPE CHASES AND IN WALLS. SEE SPECIFICATIONS FOR TYPE AND THICKNESS OF INSULATION.
- 14. ALL HOT WATER SUPPLY/RETURNS PIPING SHALL BE INSTALLED TO COMPENSATE FOR EXPANSION OF THE PIPE BY INSTALLING PIPE ANCHORS, GUIDES, EXPANSION JOINTS OR LOOPS AND PIPE OFFSETS AS REQUIRED BY FIELD CONDITIONS OR AS SHOWN ON THE DRAWINGS.
- 15. PITCH ALL SUPPLY AND RETURN WATER LINES TO DRAIN COMPLETELY THROUGH LOWER EQUIPMENT, UNIONS, OR DRAIN VALVES. INSTALL A 1/2" DRAIN VALVE WITH 3/4" HOSE THREAD OUTLET IN ALL MAIN PIPING RUNS WHICH WOULD NOT BE ABLE TO DRAIN THRU A LOWER PIECE OF EQUIPMENT. ALL DRAIN VALVES TO BE BALL VALVES.
- 16. RECESSED AND/OR SEMI-RECESSED CABINET UNIT HEATERS (CUH) SHALL BE MOUNTED A MINIMUM OF 8" ABOVE THE FLOOR AND HAVE A FOUR (4) SIDE FLANGED OVERLAP WALL GUARD FRAME.
- 17. ALL DUCTWORK SIZES SHOWN ON THE DRAWINGS ARE INSIDE DIMENSIONS. WHERE DUCT LINING IS CALLED FOR CONTRACTOR SHALL INCREASE THE SIZE OF THE DUCT TO MAINTAIN THE MINIMUM INSIDE DIMENSIONS CALLED FOR ON THE DRAWINGS.
- 18. MECHANICAL CONTRACTOR SHALL COORDINATE ALL SERVICE POINTS ON HVAC UNITS WITH THE INSTALLATION OF NEW WORK IN THIS PROJECT AND NEW BUILDING CHARACTERISTICS TO MAKE SURE ACCESSIBILITY IS MAINTAINED.
- 19. ALL DUCTWORK CONNECTIONS TO AIR MOVING EQUIPMENT SHALL BE MADE WITH FLEXIBLE DUCT CONNECTIONS ON THE INLET AND DISCHARGE OF ALL SUPPLY, RETURN AND EXHAUST FANS (EXCEPT ROOF MOUNTED EXHAUST FANS).

- 20. INSTALL TURNING VANES IN ALL SQUARE DUCT ELBOWS. INSTALL MANUAL VOLUME DAMPERS IN EACH BRANCH DUCT AT CONNECTION TO MAIN DUCT AND IN EACH DUCT AFTER A BRANCH DUCT SPLIT.
- 21. INSTALL A MINIMUM 12" X 12" ACCESS DOOR (INLET SIDE) AT EACH MOTORIZED DAMPER, FIRE DAMPER, SMOKE DAMPER, INLINE FAN, INTAKE AND EXHAUST PLENUMS AND AN ACCESS DOOR AT AIR SUPPLY UNIT FILTER SECTION.
- 22. THE LOCATIONS SHOWN FOR ALL DIFFUSERS, REGISTERS AND GRILLES, ETC. ARE DIAGRAMMATIC. EXACT LOCATION SHALL BE DETERMINED FROM THE REFLECTED CEILING PLANS AND/OR ON THE JOB SITE BY THE ARCHITECT/ENGINEER REPRESENTATIVES.
- 23. UNLESS INDICATED OTHERWISE, THE ARCHITECT/ENGINEER MAKES NO REPRESENTATION AS TO WHETHER OR NOT ANY HAZARDOUS OR CONTAMINATED MATERIALS (INCLUDING BUT NOT LIMITED TO ASBESTOS, PCB'S, CONTAMINATED SOILS, ETC.) ARE PRESENT WITHIN THE EXISTING BUILDING OR ON THE SITE. WORK SHOWN ON THE DRAWINGS AND/OR INDICATED IN THE SPECIFICATIONS SHALL NOT BE CONSTRUED TO CALL FOR CONTACT WITH ANY OF THESE MATERIALS. IF THESE MATERIALS ARE ENCOUNTERED OR SUSPECTED, THE CONTRACTOR SHALL NOT DISTURB THEM AND SHALL CONTACT THE ARCHITECT/ENGINEER IMMEDIATELY.
- 24. CONTRACTOR SHALL STORE ALL MATERIALS AND EQUIPMENT SHIPPED TO THE SITE IN A PROTECTED AREA. IF MATERIAL IS STORED OUTSIDE OF THE BUILDING, IT MUST BE STORED OFF THE GROUND A MINIMUM OF SIX INCHES (6") SET ON 6 X 6 PLANKS AND/ OR WOOD PALLETS. ALL MATERIAL AND EQUIPMENT MUST BE COMPLETELY COVERED WITH WATERPROOF TARPS OR VISQUIN. ALL PIPING AND DUCTWORK WILL HAVE THE ENDS CLOSED TO KEEP OUT DIRT AND OTHER DEBRIS. NO EQUIPMENT WILL BE ALLOWED TO BE STORED ON THE SITE UNLESS IT IS SITTING ON WOOD PLANKS AND COMPLETELY PROTECTED WITH WEATHERPROOF COVERS.
- 25. SEE LARGE SCALE DRAWINGS (DETAILS) FOR ALL REQUIRED VALVES, FITTINGS, GAUGES, VENTS, THERMOMETERS WHICH ARE CONNECTED TO RADIANT CEILING PANELS (RCP), CABINET UNIT HEATERS (CUH), ETC. ALL WORK SHOWN ON DETAILS SHALL BE BY INSTALLING CONTRACTOR UNLESS OTHERWISE NOTED.
- 26. ALL AUTOMATIC MOTORIZED DAMPERS SHALL BE FURNISHED BY BAS CONTRACTOR (EXCEPT FOR DAMPERS FURNISHED WITH PACKAGED AIR HANDLING UNITS AND PROVIDED WITH POWER ROOF EXHAUST FANS) AND INSTALLED BY MECHANICAL CONTRACTOR. ALL DAMPER MOTORS FURNISHED AND INSTALLED BY BAS CONTRACTOR
- 27. MECHANICAL CONTRACTOR SHALL PROVIDE ON SITE SCHOOLING OF OWNERS OPERATING PERSONNEL FOR ALL SYSTEMS AND EQUIPMENT INSTALLED UNDER HIS CONTRACT.
- 28. BEFORE STARTING ANY SYSTEM INSTALLING CONTRACTOR SHALL CONTACT EQUIPMENT MANUFACTURER TO VERIFY THAT EACH PIECE OF EQUIPMENT OR SYSTEM HAS BEEN CHECKED FOR PROPER LUBRICATION, DRIVE ROTATION, BELT TENSION, CONTROL SEQUENCE OR OTHER CONDITIONS WHICH MAY CAUSE DAMAGE TO THE EQUIPMENT OR SYSTEM.
- 29. MECHANICAL CONTRACTOR SHALL INSTALL ALL WELLS IN PIPING FOR MOUNTING OF BUILDING AUTOMATION SYSTEM CONTROLS AND MECHANICAL CONTRACTOR'S THERMOMETERS AND GAUGES. MECHANICAL CONTRACTOR WILL COORDINATE THE EXACT LOCATION OF BUILDING AUTOMATION SYSTEM CONTRACTOR'S CONTROLS WITH HIM PRIOR TO INSTALLING WELLS.
- 30. MECHANICAL CONTRACTOR SHALL RUN INSULATED DRAIN PIPES FROM ALL VRF UNITS. SEE DRAWINGS AND DETAILS FOR LOCATION OF TERMINATION OF DRAIN PIPING. ALL CONDENSATE DRAIN PIPES MUST BE PITCHED AWAY FROM THE DRAIN PAN. ALL CONDENSATE DRAIN PIPES WILL BE INSULATED FROM UNIT TO TERMINATION POINT.
- 31. MECHANICAL CONTRACTOR TO PROVIDE SCHEDULE OF CURB INSTALLATION/REMOVAL ON EXISTING ROOF AREAS TO CONTRACTOR FIVE (5) WORKING DAYS IN ADVANCE. ANY REVISIONS TO THIS SCHEDULE RESULTING IN UN-PATCHED ROOF TIE-INS AND DAMAGE TO EXISTING CONDITIONS SHALL BE REPAIRED BY MECHANICAL CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- 32. ALL PIPE PASSING THRU WALLS SHALL HAVE A GALVANIZED SHEET METAL OR SCHEDULE 40 STEEL PIPE SLEEVE INSTALLED AROUND THE PIPE AND PIPE INSULATION. SEE SLEEVE DETAILS THESE DRAWINGS.
- 33. INSTALL A SHEET METAL SLEEVE AROUND ANY DUCTWORK WHICH GOES THROUGH WALL CONSTRUCTION, PACK FIBERGLAS INSULATION AROUND SLEEVE AND DUCT AND CAULK WITH FIRE SEAL CAULKING.
- 34. WHEN INSTALLING EXPANSION JOINTS, CONTRACTOR SHALL INSTALL A PIPE ANCHOR AT EACH END OF RUN AND PIPE GUIDES A MINIMUM OF EVERY TWENTY—FIVE (25) FEET OR AS CALLED FOR ON THE DRAWINGS. MOUNT THE FIRST PIPE GUIDE LOCATED ON EACH SIDE OF THE EXPANSION JOINT A MINIMUM OF FOUR (4) PIPE DIAMETERS FROM THE EXPANSION JOINT.
- 35. THE DRAWINGS, SCHEDULES AND SPECIFICATIONS HAVE BEEN PREPARED USING ONE MANUFACTURER FOR EACH PIECE OF EQUIPMENT AS THE BASIS FOR DIMENSIONAL DESIGN. IF THE CONTRACTOR PURCHASES EQUIPMENT LISTED AS A SPECIFIED ACCEPTABLE MANUFACTURER BUT IS NOT THE SCHEDULED MANUFACTURER USED FOR THE BASE DESIGN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL THE DIMENSIONS OF THE EQUIPMENT TO VERIFY THAT IT WILL FIT IN THE SPACE SHOWN ON THE DRAWINGS. MINOR DEVIATIONS IN DIMENSIONS WILL BE PERMITTED, PROVIDED THE RATINGS MEET THOSE SHOWN ON THE DRAWINGS AND EQUIPMENT WILL PHYSICALLY FIT INTO THE SPACE ALLOCATED WITH SUITABLE ACCESS AROUND EQUIPMENT FOR OPERATION AND MAINTENANCE ON THE EQUIPMENT.
- 36. CONTRACTOR AND/OR MANUFACTURER SHALL VERIFY THAT THE CHARACTERISTICS OF THE EQUIPMENT HE SUBMITS FOR REVIEW MEETS THE CAPACITY AND DUTY SPECIFIED.
- 37. WHEN EQUIPMENT IS SUBMITTED FOR REVIEW AND DOES NOT MEET THE PHYSICAL SIZE OR ARRANGEMENT OF THAT SCHEDULED AND SPECIFIED, CONTRACTOR SHALL PAY FOR ALL ALTERATIONS REQUIRED TO ACCOMMODATE SUCH EQUIPMENT AT NO ADDITIONAL COST TO OWNER. CONTRACTOR WILL ALSO PAY ALL COSTS FOR ADDITIONAL WORK REQUIRED BY OTHER CONTRACTORS, OWNER, ARCHITECT OR ENGINEER TO MAKE CHANGES WHICH WOULD ALLOW THE EQUIPMENT TO FIT IN THE SPACE AND FUNCTION AS INTENDED.

GENERAL NOTES - BUILDING AUTOMATION SYSTEM

I. GENERAL

THE CONTROLS CONTRACTOR SHALL BE THE CONTROLS ENGINEER FOR THIS PROJECT: RESPONSIBLE FOR DESIGN AND ENGINEERING OF ALL CONTROL SYSTEMS TO OPERATE AS DESCRIBED IN THE SEQUENCE OF OPERATION, TO CONFORM WITH THE GOVERNING BUILDING CODES AND OPERATE IN A MANNER CONSISTENT WITH KNOWN GOOD CONTROLS ENGINEERING PRACTICE.

THE CONTROLS CONTRACTOR/ENGINEER SHALL IDENTIFY ANY POTENTIAL CONDITIONS THAT COULD BE CONSTRUED TO DEVIATE FROM GOOD CONTROLS ENGINEERING PRACTICE PRIOR TO BIDDING AND INCLUDE ALL ENGINEERING AND INSTALLATION WORK REQUIRED TO MAKE ALL HVAC SYSTEMS COMPLETE AND OPERATIONAL, IN CONFORMANCE WITH GOOD CONTROLS ENGINEERING PRACTICE: PRIOR TO SUBMITTING HIS BID.

THE BAS CONTRACTOR SHALL PROVIDE ALL CONTROL COMPONENTS, WIRING, INTERLOCKS, ELECTRICAL POWER AND ALL OTHER DEVICES REQUIRED TO MAKE ALL HVAC EQUIPMENT INSTALLED UNDER THIS PROJECT COMPLETE AND FULLY OPERATIONAL PER THE SEQUENCE OF OPERATION AND AS REQUIRED FOR SAFE AND ACCURATE CONTROL

THE BAS CONTRACTOR SHALL PROVIDE ALL CONTROL VALVES AND ACTUATORS TO THE MECHANICAL CONTRACTOR FOR INSTALLATION. THE BAS CONTRACTOR SHALL DIRECT THE MECHANICAL CONTRACTOR AS TO THE PROPER LOCATION AND ORIENTATION OF ALL DEVICES TO ACHIEVE A PROPER AND CORRECT CONTROL SEQUENCE.

THE BAS CONTRACTOR SHALL INCLUDE ADEQUATE TIME IN HIS BID FOR COMPLETE COMMISSIONING OF THE MECHANICAL SYSTEMS, ON SITE IN COORDINATION WITH THE MECHANICAL CONTRACTOR AND OTHER TRADES AS REQUIRED TO MAKE ALL EQUIPMENT COMPLETE AND FULLY OPERATIONAL.

IN THE EVENT THAT ANY PART OF THE MECHANICAL DRAWINGS, SPECIFICATIONS OR NOTES CONFLICT WITH ANY OTHER: THE MOST STRINGENT REQUIREMENT SHALL APPLY, PROVIDING THE GREATEST SAFETY AND/OR AT THE HIGHEST COST OF THE CONFLICTING OPTIONS.

II. ELECTRICAL

THE BAS CONTRACTOR SHALL PROVIDE EMERGENCY POWER FOR ALL ELECTRICAL POWER AND CONTROL WIRING, CONDUIT, JUNCTION BOXES, RACEWAY, TRANSFORMERS, RELAYS AND ALL OTHER ELECTRICAL APPURTENANCES REQUIRED FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. THIS INCLUDES ALL POWER WIRING FROM SPARE CIRCUIT BREAKERS PROVIDED IN BUILDING EMERGENCY POWER PANELS (EM120A-GMA) FOR POWERING OF CONTROLS AND CONTROL PANELS AND ALL OTHER CONTROL SYSTEM COMPONENTS. ALL HVAC EQUIPMENT, I.E AIR HANDLING UNITS, EXHAUST FANS, PUMPS, BOILERS, ETC. ARE TO HAVE THEIR CONTROLS POWERED FROM EMERGENCY POWER PANELS. SEE ELECTRICAL DRAWINGS FOR PANEL LOCATION.

ALL ELECTRICAL WORK SHALL BE IN CONFORMANCE WITH THE CURRENT NATIONAL ELECTRICAL CODE AND APPLICABLE STATE AND LOCAL AMENDMENTS.

THE BAS CONTRACTOR SHALL PROVIDE AND INSTALL ALL HARDWIRED INTERLOCKS BETWEEN STARTERS AS REQUIRED TO ACHIEVE THE SEQUENCE OF OPERATION AND PROPER SYSTEM CONTROLS. PROVIDE RELAYS AS REQUIRED FOR AUTOMATIC START/STOP OF ALL SINGLE PHASE EXHAUST FANS AND INTERLOCK OF AUTOMATIC DAMPERS

III. CONTROL VALVES

ALL CONTROL VALVES SHALL SPRING RETURN TO A FAIL SAFE POSITION. ALL HEATING CONTROL VALVES SHALL FAIL OPEN BY SPRING RETURN TO HEATING AND ALL COOLING CONTROL VALVES SHALL FAIL CLOSED BY SPRING RETURN.

ALL CONTROL VALVES USED FOR POSITIVE SHUT-OFF ISOLATION, SUCH AS HOT/CHILLED WATER ISOLATION OR CHANGEOVER IN A TWO-PIPE SYSTEM, SHALL BE QUARTER TURN TYPE BUTTERFLY OR BALL VALVES RATED FOR 300 PSI, BUBBLE TIGHT SHUT-OFF SERVICE.

THE CONTROLS CONTRACTOR/ENGINEER SHALL SIZE ALL MODULATING TEMPERATURE CONTROL VALVES WITH A CV AND PRESSURE DROP SUCH THAT THERE IS LINEAR CONTROL OF WATER FLOW THROUGHOUT THE ENTIRE STROKE OF THE VALVE. COORDINATE WITH THE MECHANICAL CONTRACTOR TO PROVIDE REDUCERS AS REQUIRED FOR MODULATING VALVES THAT ARE NOT LINE SIZE.

IV. AUTOMATIC CONTROL DAMPERS

ALL CONTROL DAMPERS SHALL BE EXTRUDED ALUMINUM, LOW LEAKAGE AIR FOIL BLADE TYPE WITH ELASTOMER BLADE EDGE SEALS AND STAINLESS STEEL OR ELASTOMER BLADE END SEALS.

ALL CONTROL DAMPERS SHALL SPRING RETURN TO A FAIL SAFE POSITION FOR FREEZE PREVENTION BY SPRING RETURN. FACE AND BYPASS DAMPER SHALL FAIL OPEN, OUTDOOR AIR DAMPERS SHALL FAIL CLOSED, EXHAUST AIR DAMPERS SHALL FAIL CLOSED, AND RETURN AIR DAMPER SHALL FAIL OPEN.

V. THERMOSTAT

THE BAS CONTRACTOR SHALL PROVIDE THERMOSTATS FOR ALL CONTROLLED EQUIPMENT TO OPERATE AS DESCRIBED IN THE SEQUENCE OF OPERATION AND/OR PER MANUFACTURER'S REQUIREMENTS AND KNOWN STANDARDS OF GOOD CONTROL PRACTICE. INCLUDE ALL THERMOSTATS AS REQUIRED FOR EQUIPMENT TO BE COMPLETE AND FULLY OPERATIONAL WHETHER SHOWN SPECIFICALLY ON THE PLANS OR NOT.

ALL TEMPERATURE SENSORS IN DUCTWORK, AIR HANDLING UNITS AND PLENUMS SHALL BE OF AVERAGING TYPE. PROPERLY SUPPORT AVERAGING ELEMENT (MINIMUM TWENTY FEET LENGTH) ACROSS A REPRESENTATIVE AREA TO ACHIEVE A TRUE AVERAGE READING. SUPPORT USING HEAVY CABLE AND/OR HALF INCH CONDUIT WITH NYLON WIRE TIES.

BUILDING/SPACE STATIC PRESSURE SENSORS SHALL BE INSTALLED IN THE CEILING IN A MAIN BUILDING CORRIDOR OPEN TO THE MAIN ENTRANCE OF THE BUILDING. STATIC PRESSURE SENSING TIP SHALL HAVE COVER PLATE TO MATCH CEILING AND AN EMBOSSED LABEL STATING "PRESSURE CONTROL SENSOR — DO NOT PAINT".

THE CONTROLS CONTRACTOR/ENGINEER SHALL SELECT ALL PRESSURE AND TEMPERATURE SENSORS WITH AN APPROPRIATE SPAN AND RANGE FOR THE APPLICATION.

ALL OUTDOOR AIR SENSORS SHALL BE INSTALLED WITH SUN SHIELD AND IN A LOCATION WHERE THEY CANNOT BE WASHED BY EXHAUST AIR OR OTHER SOURCES OF FALSE READINGS.

ALL TEMPERATURE AND PRESSURE SENSORS SHALL BE INSTALLED IN LOCATIONS SUCH THAT THEY DO NOT MAKE FALSE READINGS. BAS CONTRACTOR/ENGINEER SHALL REVIEW THE PLANS AND IDENTIFY ANY SUCH POTENTIAL CAUSES FOR FALSE READINGS AND NOTIFY THE ENGINEER IN WRITING THAT THESE SHOULD BE RELOCATED PRIOR TO ROUGH IN AND CONTROLS INSTALLATION. THE BAS CONTROLS CONTRACTOR SHALL RELOCATE ANY SENSORS INSTALLED IN IMPROPER LOCATIONS AND GIVING FALSE READINGS AT HIS OWN EXPENSE. CONDITIONS TO BE AWARE OF SHALL INCLUDE BUT ARE NOT LIMITED TO LOCATIONS OF THERMOSTATS BEHIND DOORS, OUTDOOR AIR SENSORS NEAR EXHAUST OPENINGS, STATIC PRESSURE SENSORS IN TURBULENT LOCATIONS, THERMOSTATS INSTALLED ADJACENT TO HEAT SOURCES SUCH AS COFFEE POTS, COMPUTERS, VENDING MACHINES AND OTHER APPLIANCES, ETC.

VI. SAFETY DEVICES

THE BAS CONTRACTOR/ENGINEER SHALL FURNISH AND INSTALL MANUAL RESET SAFETY DEVICES FOR ANY AND ALL CONDITIONS THAT COULD DAMAGE THE EQUIPMENT AND/OR REPRESENT A THREAT TO HUMAN SAFETY. ALL WATER COILS SHALL BE PROTECTED BY AN AVERAGING ELEMENT FREEZE—STAT WITH A NON—ADJUSTABLE 40°F SET POINT, MANUAL RESET, AND HARDWIRED INTERLOCK TO SHUT DOWN THE ASSOCIATED FAN ANY TIME THE TEMPERATURE ACROSS ANY 12" LENGTH OF THE AVERAGING ELEMENT FALLS BELOW 40°F. FREEZE STATS SHALL BE INSTALLED DOWNSTREAM OF ALL WATER COILS.

INSTALL A FLOAT SWITCH IN THE DRAIN PAN OF ALL VRF UNITS SHALL BE TO SHUT DOWN THE ASSOCIATED SYSTEM.

/II. RFLAYS

ALL RELAYS ARE TO BE INSTALLED IN CONTROL PANELS. RELAYS IN BOX (RIB'S) ARE NOT ACCEPTABLE. CONTROL RELAYS SHALL BE UL LISTED PLUG—IN TYPE WITH DUST COVER. RELAYS TO BE IDEC RR2P—UL AC24V WITH SR2P—06 BASE.

PROVIDE ALL RELAYS AS REQUIRED BY SITE CONDITIONS TO CONTROL ALL PUMPS, FANS, ETC. PROVIDE DEFINITE PURPOSE CONTRACTOR IF POWER REQUIREMENTS EXCEED RELAY CAPACITY.

VII. TAGGING

SEE EQUIPMENT SCHEDULES FOR EQUIPMENT TAGGING. ALL EQUIPMENT TO BE LABELED AND/OR

REFERENCED ON BAS WITH THE <u>DESIGNATION</u> PER THE EQUIPMENT SCHEDULES.



9 HEARTLAND DR., UNIT A SUGAR GROVE,

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
CHESTERTON MIDDLE SCHOOL

ROLECT MANAGER: TRS

ROLECT MANAGER: TRS

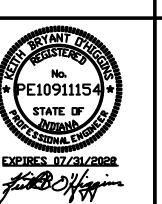
RAUN BY: 0AS, LLC

SOLED FOR BIDDING: 3/0/72

A

TECHANICAL







90° ELBOW WITH TURNING VANES

SHORT RADIUS ELBOW (R=1/2 W)

LONG RADIUS ELBOW (R= W)

90° BRANCH TAKE-OFF W/45 DEGREE ENTRY (L=1/4 W - 4" MIN.) W/VOLUME DAMPER IN BRANCH DUCT.

INDICATES

HEATING COIL WITH ACCESS DOOR IN DUCT

ROUND FLEXIBLE DUCT

ROUND OR OVAL DUCT (CENTER LINE OF DUCT)

ROUND DUCT UP

ROUND DUCT DOWN

CROSS-SECTION OF ROUND DUCT

UNEQUAL SIZE (90° - Y) ELBOW

EQUAL SIZE (90° - Y) ELBOW

90° BRANCH TAKE-OFF FROM MAIN

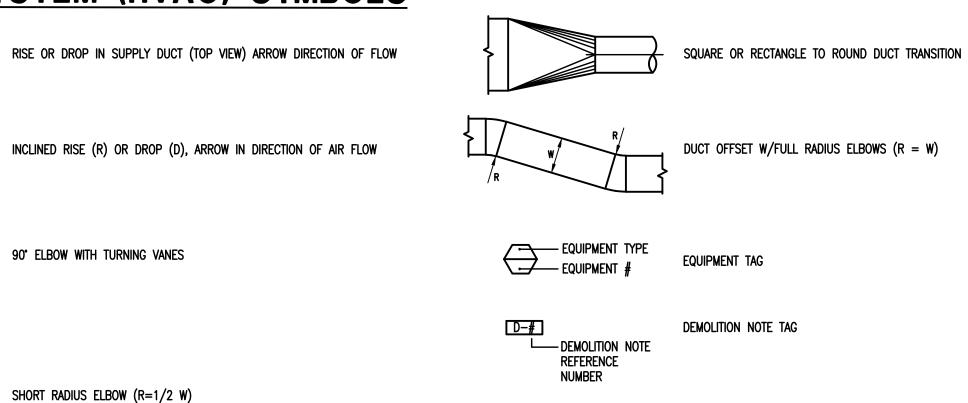
SQUARE OR RECTANGLE DUCT TRANSITION

SUPPLY OR FRESH AIR DUCT UP

RETURN OR EXHAUST AIR DUCT UP

SUPPLY OR FRESH AIR DUCT DOWN

RETURN OR EXHAUST AIR DUCT DOWN



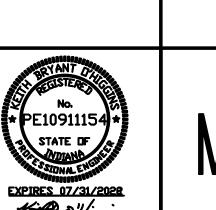
	NUMBER				
	MEC	HANIC	AL ABBREVIATIONS	LIST	
ACV	AUTOMATIC CONTROL VALVE	EXD	EXHAUST DUCT	N.O.	NORMALLY OPEN
AFD	AUTOMATIC FLOW DEVICE	F	FAHRENHEIT	OAD	OUTDOOR AIR DAMPER
BHP	BRAKE HORSE POWER	FC	FLEXIBLE CONNECTION	OUD	OUTSIDE AIR DUCT
BTU	BRITISH THERMAL UNIT	FPF	FINS PER FOOT	PD	PRESSURE DROP
BTUH	BRITISH THERMAL UNIT PER HOUR	FPM	FEET PER MINUTE	PG	PIPE GUIDE
BV	BALL VALVE	FV	FACE VELOCITY	PH	PHASE
CFM	CUBIC FEET PER MINUTE	GPM	GALLONS PER MINUTE	PS	PIPE SLEEVE
CKV	CHECK VALVE	GV	GATE VALVE	PSI	POUNDS PER SQUARE INCH
CU	CONDENSING LINIT	HP	HORSEPOWER	RAD	RETURN AIR DAMPER

PLAN NOTE TAG

	MEC	HANK	CAL ABBREVIATIONS	LIST	
ACV	AUTOMATIC CONTROL VALVE	EXD	EXHAUST DUCT	N.O.	NORMALLY OPEN
AFD	AUTOMATIC FLOW DEVICE	F	Fahrenheit	OAD	OUTDOOR AIR DAMPER
BHP	BRAKE HORSE POWER	FC	FLEXIBLE CONNECTION	OUD	OUTSIDE AIR DUCT
BTU	BRITISH THERMAL UNIT	FPF	FINS PER FOOT	PD	PRESSURE DROP
BTUH	BRITISH THERMAL UNIT PER HOUR	FPM	FEET PER MINUTE	PG	PIPE GUIDE
BV	BALL VALVE	FV	FACE VELOCITY	PH	PHASE
CFM	CUBIC FEET PER MINUTE	GPM	GALLONS PER MINUTE	PS	PIPE SLEEVE
CKV	CHECK VALVE	GV	GATE VALVE	PSI	POUNDS PER SQUARE INCH
CU	CONDENSING UNIT	HP	HORSEPOWER	RAD	RETURN AIR DAMPER
CUH	Cabinet unit heater	HWR	HOT WATER RETURN	RED	RETURN AIR DUCT
CWR	CHILLED WATER RETURN	HWS	HOT WATER SUPPLY	RH	RELIEF HOOD
CWS	CHILLED WATER SUPPLY	IH	INTAKE HOOD	RPM	REVOLUTIONS PER MINUTE
D	DRAIN LINE	LAT	LEAVING AIR TEMPERATURE	SP	STATIC PRESSURE
DB	DRY BULB	LWT	LEAVING WATER TEMPERTURE	STR	STRAINER
EAD	EXHAUST AIR DAMPER	MOD	MOTOR OPERATED DAMPER	SUD	SUPPLY DUCT
EAT	ENTERING AIR TEMPERATURE	NC	NEW CONNECTION	TSP	TOTAL STATIC PRESSURE
EDC	ELECTRIC DUCT COIL	NK	NECK	WB	WET BULB
ERV	ENERGY RECOVERY VENTILATOR	N.C.	NORMALLY CLOSED	WC	WATER COLUMN
EWT	ENTERING WATER TEMPERATURE	N.I.C.	NOT IN CONTRACT	WG	WATER GAUGE

CORPORATION

SCHOOL

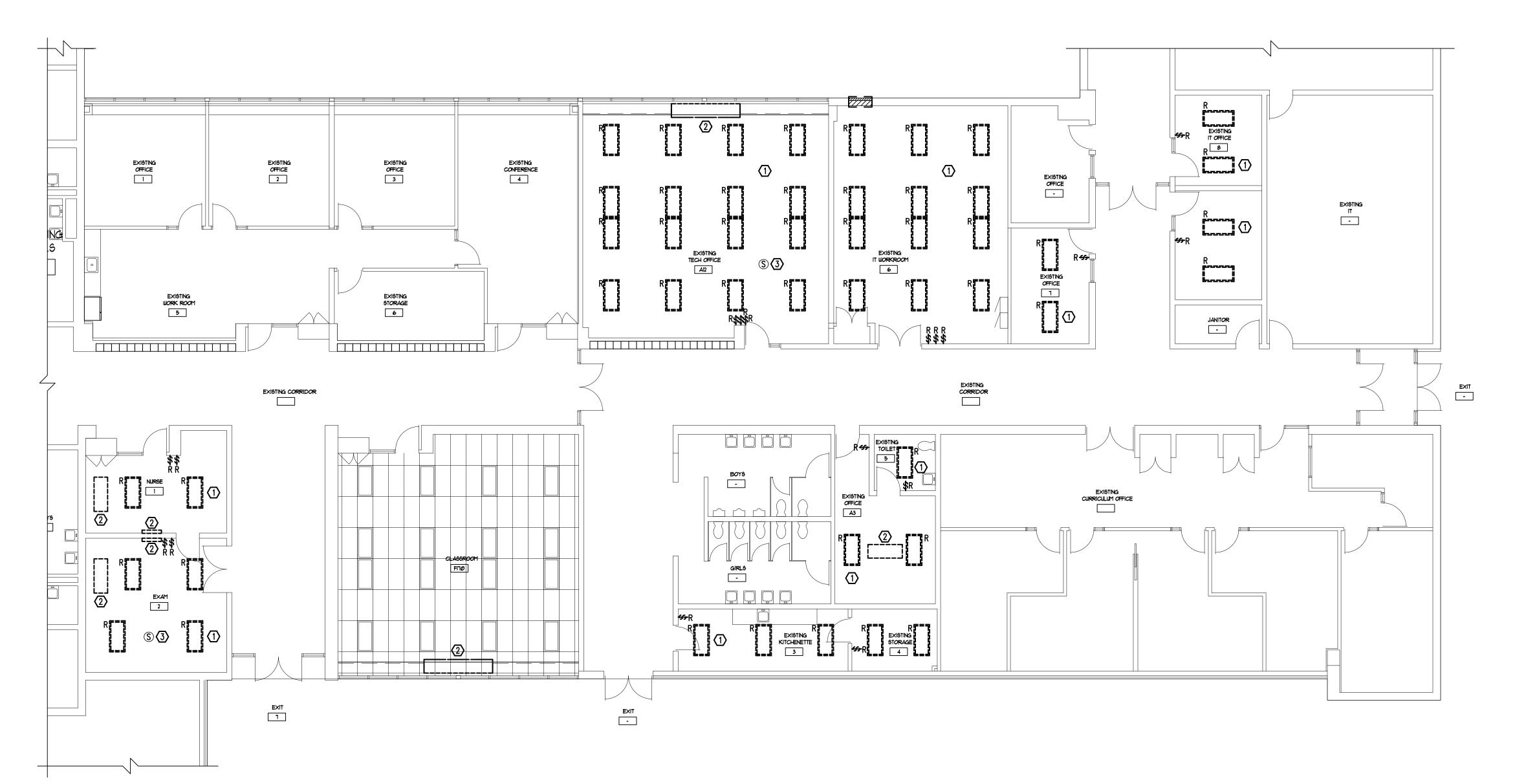




	ELECTRICAL DEMOLITION SYMBOLS
SYM BOL	DESCRIPTION
R	EXISTING ELECTRICAL EQUIPMENT OR OUTLET TO BE REMOVED.
Х	EXISTING ELECTRICAL EQUIPMENT OR OUTLET TO REMAIN.
XN	EXISTING ELECTRICAL EQUIPMENT OR OUTLET RELOCATED (NEW LOCATION).
XRR	EXISTING ELECTRICAL EQUIPMENT OR OUTLET TO BE REMOVED, RELOCATED AND JUNCTION BOX REMOVED OR CAPPED AS REQUIRED

		ELEC	ΓRI	CAL	KE	Y	NOT	ES
OVE	ALL	LIGHTING	AND	SWITCHI	NG.	ELE(CTRICAL	CIRC

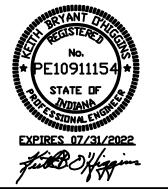
- REMOVE ALL LIGHTING AND SWITCHING. ELECTRICAL CIRCUITS TO LIGHTING TO REMAIN AND SHALL BE REUSED FOR NEW LIGHTING LAYOUT.
- DISCONNECT UNIT VENTILATOR. REMOVE CONDUIT AND WIRE BACK TO PANEL.
- 3 EXISTING SPEAKER TO BE PROTECTED AND REINSTALLED IN NEW CEILING.

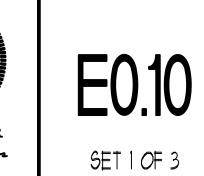












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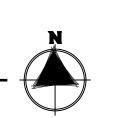
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DUNELAND

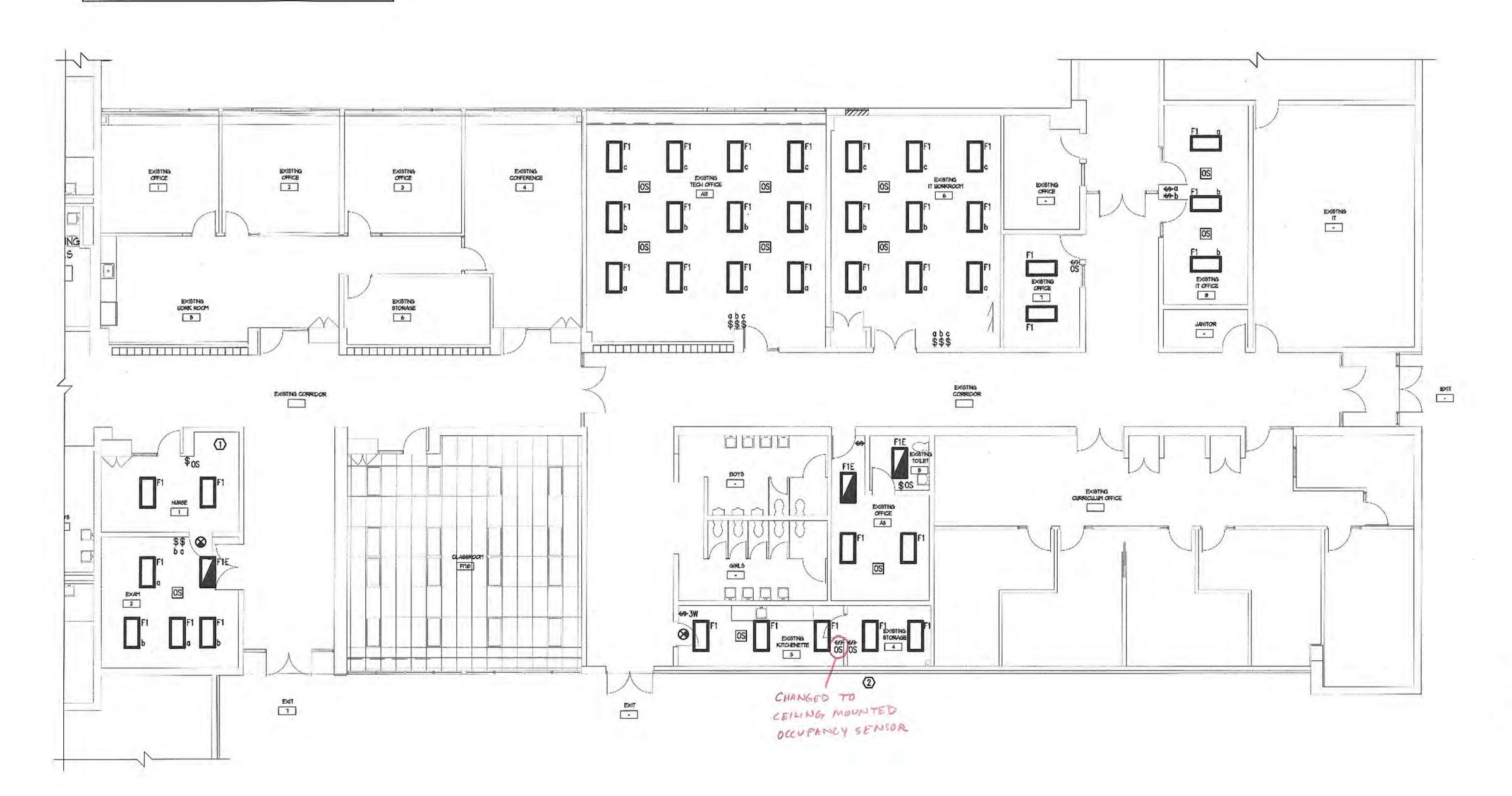




- EXISTING LIGHTING CIRCUITS IN NEW WORK AREA BASE BID TO BE REUSED FOR NEW LIGHTING.
- 2. CONNECT ALL NEW LIGHTING TO EXISTING CIRCUITS. PROVIDE NEW SWITCH LEGS AS SHOWN AND OCCUPANCY SENSOR CONTROL.
- 3. CONNECT EXIST SIGNS AND EMERGENCY LIGHTS TO UNSWITCHED LEG OF LOCAL LIGHTING CIRCUIT.

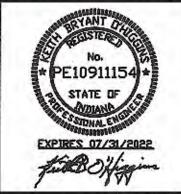
ELECTRICAL KEYED NOTES:

- 1) PROVIDE BLANK OF PLATE ON UNUSED SWITCH.
- PROVIDE SURFACE MOUNTED RACEWAY AND SWITCH BOX EQUAL TO WIREMOLD SERIES 500.









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FLOOR PLAN - ELECTRICAL - LIGHTING



MEPJEP. CONBUL.
769 HEARTLAND DR., UNIT A SUGAR GROVE, ILLINOIS 60554 (630) 538-

DUNELAND SCHOOL CORPORATION

2022 RENOVATIONS AT:

OJECT NAMBER: 21-031 REVISIONS:

ALIN BY: OAS, LLC

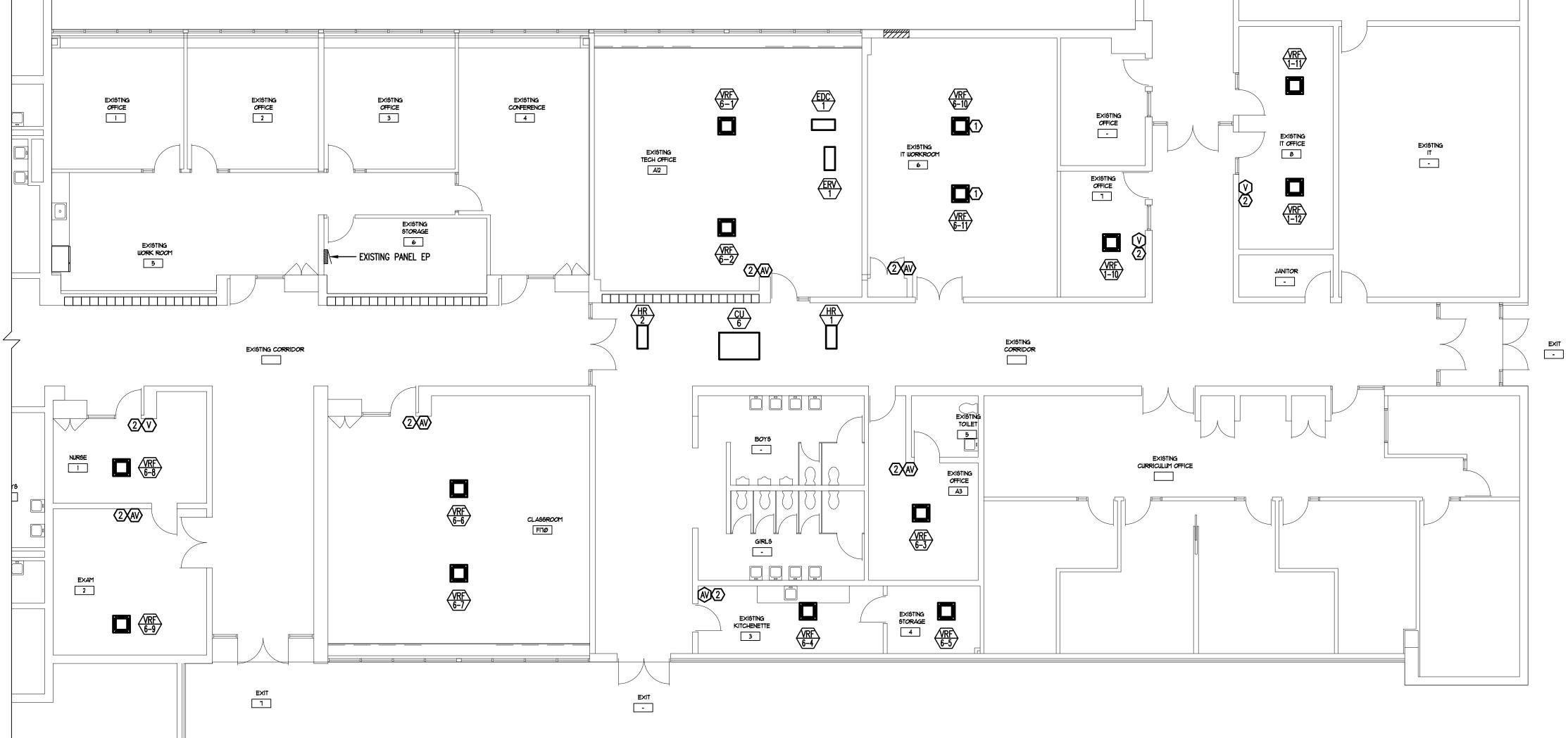


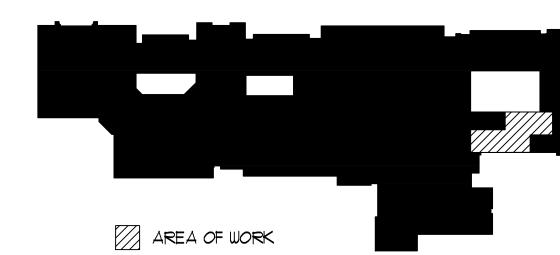
GENERAL NOTES:

- 1. REFER TO SHEET E3.10 FOR POWER REQUIREMENTS OF MECHANICAL
- 2. EXTEND EXISTING FIRE ALARM SYSTEM TO NEW DEVICES. EQUIPMENT TO MATCH EXISTING SYSTEM. PROVIDE ALL TESTING AND PROGRAMMING OF

ELECTRICAL KEYED NOTES:

- RECONNECT EXISTING RELOCATED VRF CASSETTE UNITS TO THE EXISTING POWER. EXTEND EXISTING POWER AS REQUIRED TO REACH NEW VRF
- 2 NEW FIRE ALARM DEVICE. CONTRACTOR TO EXTEND EXISTING SYSTEM AND CONNECT NEW DEVICES. FURNISH AND INSTALL ALL NECESSARY NAC PANELS, POWER AND PROGRAMMING TO ACHIEVE THIS. DEVICES MUST BE OF SAME MANUFACTURER AS EXISTING FIRE ALARM SYSTEM.







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CHESTERTON,

RENOVA-TON MID AVE, CHE

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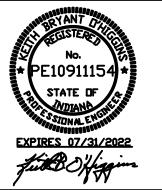
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CORPORATION

SCHOOL

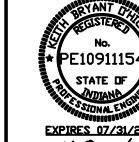
NELAND











- 2. DO NOT SCALE DRAWINGS.
- 3. NOTES ON DRAWINGS SHALL APPLY TO ALL SIMILAR CONDITIONS WHETHER THEY ARE REPEATED OR NOT.
- 4. BOXES LOCATED ON OPPOSITE SIDES OF NON-FIRE RATED WALLS SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY. BOXES ON OPPOSITE SIDES OF FIRE RATED WALL SHALL BE OFFSET A MINIMUM OF 24" HORIZONTALLY. "THRU THE WALL" BOXES SHALL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
- 5. ELECTRICAL CONTRACTOR SHALL VERIFY TOTAL CONNECTED LOAD/HP WITH ALL OTHER TRADES PRIOR TO WIRING OF ALL OTHER TRADES' EQUIPMENT. MAKE ANY CHANGES TO OVERCURRENT DEVICES AND FEEDER SIZE PER ELECTRICAL CODE AS REQUIRED.
- 6. ELECTRICAL CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION, THIS CONTRACTOR SHALL ADJUST RECEPTACLES, OUTLETS OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
- 7. ALL EXPOSED CABLES IN PLENUM CEILING SHALL BE APPROVED FOR PLENUM APPLICATION.
- 8. PROVIDE SLEEVES/CONDUITS FOR LOW VOLTAGE CABLES WHEN THEY TRAVERSE ABOVE NON ACCESSIBLE CEILING SPACE. ALSO, PROVIDE SLEEVES THROUGH MASONRY WALLS FOR LOW VOLTAGE CABLES. VERIFY SLEEVE/CONDUIT SIZE REQUIREMENTS AND LOCATION WITH THE CONTRACTOR INSTALLING LOW VOLTAGE SYSTEM.
- 9. UNLESS NOTED OTHERWISE, THE CONDUITS AND BACK BOXES SHALL BE CONCEALED WITHIN ALL EXISTING AND NEW MASONRY WALLS. SURFACE METAL RACEWAY SHALL ONLY BE USED IF SPECIFICALLY INDICATED. THE SURFACE METAL RACEWAY SHALL BE ROUTED IN THE CORNER AND/OR ADJACENT TO WINDOW, DOOR FRAMEWORK ETC. SO IT IS AS INCONSPICUOUS AS POSSIBLE. CONDUIT IN UTILITY AREAS MAY BE SURFACE MOUNTED, BUT MUST BE APPROVED PRIOR TO INSTALLATION. ANY SURFACE CONDUIT INSTALLED BY THIS CONTRACTOR THAT IS DEEMED UNSIGHTLY MUST BE HIDDEN WITH THAT WALL ON WHICH IT IS MOUNTED AT NO COST TO THE OWNER.
- 10. WHERE POWER AND LOW VOLTAGE OUTLETS (SUCH AS DATA OUTLETS) ARE SHOWN TOGETHER ON DRAWINGS, PROVIDE THEM ADJACENT TO EACH OTHER.
- 11. PROVIDE CONCRETE PAD FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT. (SUCH AS SWITCHBOARDS, PANELS, TRANSFORMER, ETC.)
- 12. IF A NEW RECEPTACLE IS INDICATED WITHOUT A CIRCUIT NUMBER, PROVIDE A CIRCUIT. COORDINATE SPECIFIC REQUIREMENTS IN FIELD PRIOR TO INSTALLATION.
- 13. CIRCUIT NUMBERS SHOWN FOR EXISTING PANELS ARE FOR REFERENCE ONLY. USE NEXT AVAILABLE
- CIRCUITS AND PROVIDE APPROPRIATE SIZE BREAKERS.

 14. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ELECTRICAL EQUIPMENT & DEVICES.
- 15. EACH 120V CIRCUIT SHALL HAVE ITS OWN NEUTRAL. SHARING OF NEUTRALS IS NOT ALLOWED.

THE ELECTRICAL DRAWINGS ARE FOR CONCEPT ONLY.

LIGHTING FIXTURE, POWER FOR CONTROL EQUIPMENT, ETC.

- 16. IN GENERAL, DASHED LINES INDICATE EXISTING ITEMS TO BE REMOVED, LIGHT OR HALF-TONE SOLID LINES INDICATE ITEMS TO REMAIN AND DARK SOLID LINES INDICATE NEW ITEMS.
- 17. THE SYSTEMS PROVIDED BY THIS CONTRACTOR SHALL BE COMPLETELY OPERATIONAL REGARDLESS OF OMISSION OF MINOR ITEMS, SUCH AS CIRCUIT NUMBER FOR RELAY, A CIRCUIT NUMBER NEXT TO A
- 18. ALL OUTDOOR DEVICES SUCH AS RECEPTACLES, DISCONNECTS, SPEAKERS, LIGHTING FIXTURES, JUNCTION BOXES, ETC. SHALL BE OUTDOOR TYPE.
- 19. THE EXIT SIGNS ARE PROVIDED FOR BIDDING PURPOSES. FINAL LOCATION SHALL BE AS DETERMINED BY LOCAL FIRE MARSHAL. IF REQUIRED BY FIRE MARSHAL, PROVIDE ADDITIONAL EXIT SIGNS WITHOUT ADDITIONAL COST TO OWNER.
- 20. PROVIDE LOCKING CLIPS ON CIRCUIT BREAKERS SERVING EMERGENCY LIGHTING, FIRE ALARM SYSTEM, PA/INTERCOMM, TELEPHONE SYSTEM AND SECURITY SYSTEM LOAD.
- 21. IN CERTAIN CASES LARGER SIZE CABLES ARE SPECIFIED IN ORDER TO COMPENSATE FOR VOLTAGE DROP. PROVIDE OVERSIZE AND/OR MULTIPLE LUGS AT THE LINE AND LOAD SIDE OF EQUIPMENT TO INCORPORATE LARGER AND ADDITIONAL CABLES. IF REQUIRED, PROVIDE SPLICE BOXES AT EITHER END OF CABLE TO INTERCEPT CHANGE IN THE CABLES.
- 22. UNO, ALL OVERCURRENT PROTECTION DEVICES 800 AMP AND LARGER SHALL BE 100% RATED.
- 23. DUE TO THE SMALL SCALE AND INTERFERENCE OF EXISTING EQUIPMENT, EACH AND EVERY ITEM IS NOT SHOWN. SHOWN INFORMATION IS INTENDED AS A GUIDE. CONTRACTOR SHALL VERIFY INFORMATION AND CONDITIONS IN THE FIELD.
- 24. RECONFIGURE LIGHTING FIXTURES AND OUTLETS IN MECHANICAL ROOMS TO BE COMPATIBLE WITH EQUIPMENT LAYOUT AS REQUIRED.
- 25. COORDINATE THE FINAL LOCATION OF RECEPTACLES IN TELECOMMUNICATION CLOSETS WITH TELECOMMUNICATION EQUIPMENT VENDOR.
- 26. ALL RECEPTACLES LOCATED WITHIN 6' OF SOURCE OF WATER (SUCH AS SINK) AND ALL OUTDOOR RECEPTACLES SHALL BE GFI TYPE, WHETHER SPECIFICALLY INDICATED OR NOT.
- 27. WHERE THE OUTLETS ARE SHOWN ON FURNITURE/DESK THEY SHALL BE PROVIDED EITHER UNDER THE DESK OR AS A PART OF MILLWORK AS INDICATED ON ARCHITECTURAL DRAWINGS. PROVIDE CONDUITS AND WIRING UNDER OR WITHIN THE FURNITURE/DESK. THE QUANTITY AND LOCATION OF INDICATED OUTLETS IS APPROXIMATE. COORDINATE EXACT REQUIREMENTS WITH ARCHITECT AND MILLWORK VENDOR. IF FURNITURE/DESK IS NEXT TO WALL, THE ROUGH—IN SHALL BE PROVIDED FROM WALLS. IF FURNITURE/DESK IS FREE STANDING, THE ROUGH—IN SHALL BE PROVIDED FROM FLOOR. THE POWER POLE IS NOT ALLOWED UNLESS SPECIFICALLY INDICATED.
- 28. PROVIDE EXPANSION FITTINGS FOR ALL ELECTRICAL RACEWAYS AT EVERY EXPANSION JOINT. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR LOCATION OF EXPANSION JOINTS.
- 29. COORDINATE THE INSTALLATION OF ELECTRICAL PANELS, SWITCHBOARD, ETC. WITH OTHER TRADES SUCH THAT NO DUCTWORK, PIPING ETC. IS LOCATED ABOVE THEM.
- 30. VERIFY QUANTITY AND SIZE OF LUGS PROVIDED IN OTHER TRADE'S EQUIPMENT (FOR EXAMPLE, CHILLER, ELEVATOR, FIRE PUMP ETC.) BEFORE STARTING ANY WORK ASSOCIATED WITH SUCH EQUIPMENT. IF THEIR LUGS CANNOT ACCOMMODATE THE CABLES INDICATED IN ELECTRICAL DOCUMENT, PROVIDE LUG FITTINGS TO ACCOMMODATE CHANGE IN THE CABLES. PROVIDE SUCH FITTINGS IN A JUNCTION BOX AS CLOSE AS POSSIBLE TO THEIR EQUIPMENT. IF ALLOWED BY THE EQUIPMENT MANUFACTURER, SUCH FITTINGS MAY BE INSTALLED IN THEIR EQUIPMENT RATHER THAN IN A SEPARATE JUNCTION BOX.
- 31. MAIN SERVICE ENTRANCE EQUIPMENT SHALL HAVE LABEL FOR SERVICE ENTRANCE TYPE, AND SHALL BE GROUNDED PER ELECTRICAL CODE.
- 32. PROVIDE SEPARATE DEDICATED GROUNDING CONDUCTOR IN EACH FEEDER AND BRANCH CIRCUIT WIRING CIRCUIT.
- 33. PROVIDE REMOTE TEST AND INDICATING STATION IN A READILY ACCESSIBLE AND VISIBLE SPACE FOR EACH DUCT SMOKE DETECTOR.
- 34. PROVIDE RED PLASTIC SIGN AT MAIN WATER SERVICE METER INDICATING "MAIN GROUND LOCATION."
- 35. ALL RECEPTACLES FOR VENDING MACHINES, ICE MACHINES AND REFRIGERATORS SHALL BE GFCI TYPE WHETHER SPECIFICALLY INDICATED OR NOT.
- 36. PROVIDE ONE WEATHERPROOF, GFI RECEPTACLE WITHIN 25' OF ROOF MOUNTED OR GRADE MOUNTED HVAC EQUIPMENT, WHETHER SPECIFICALLY INDICATED OR NOT AND FEED FROM NEAREST UNLOADED RECEPTACLE CIRCUIT.

- 37. WHETHER SPECIFICALLY INDICATED OR NOT, PROVIDE MINIMUM OF ONE DUCT SMOKE DETECTOR FOR AIR SUPPLY SYSTEM HAVING A CAPACITY GREATER THAN 2,000 CFM AND TWO DUCT SMOKE DETECTORS FOR AIR SUPPLY SYSTEM HAVING A CAPACITY GREATER THAN 15,000 CFM.
- 38. PERFORM COORDINATION STUDY OF ELECTRICAL DISTRIBUTION SYSTEM AS INDICATED IN POWER SYSTEM STUDY SPECIFICATION. IT SHALL BE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO PROVIDE EQUIPMENT WITH PROPER INTERRUPTING RATING OF EQUIPMENT BASED UPON COORDINATION STUDY. AIC (AVAILABLE INTERRUPTING CAPACITY) OF ALL PANELS AND SWITCHBOARD SHOWN IN DRAWINGS ARE FOR GENERAL INFORMATION ONLY. THE FINAL AIC OF ELECTRICAL EQUIPMENT SHALL BE BASED UPON WORST CONDITION COMED FAULT CURRENT AND THE RECOMMENDATIONS MADE IN COORDINATION STUDY. THE COST TO PROVIDE ALL ELECTRICAL DISTRIBUTION EQUIPMENT WITH PROPER FAULT INTERRUPTING RATING (REGARDLESS OF WHAT IS SHOWN ON DRAWINGS) SHALL BE INCLUDED IN THE BID.
- 39. PROVIDE DEEPER BACK BOX AS REQUIRED FOR EACH DEVICE; FOR EXAMPLE MINIMUM OF 2.5" DEEP FOR WALL BOX TYPE OCCUPANCY SENSOR.
- 40. PROVIDE WEATHERPROOF TYPE WHILE-IN-USE COVER FOR ALL 15 AMP AND 20 AMP 120V. RECEPTACLES LOCATED IN OUTDOOR LOCATIONS WHETHER SPECIFICALLY INDICATED OR NOT.
- 41. PROVIDE SLEEVES THRU FLOOR AND WALLS AS REQUIRED FOR LOW VOLTAGE CABLES. COORDINATE ALL REQUIREMENTS WITH LOW VOLTAGE CONTRACTORS.
- 42. THE PANEL DIRECTORY SHALL HAVE SPECIFIC LIST OF LOAD SERVED. THE GENERIC OR BROAD LIST IS NOT ACCEPTABLE. FOR EXAMPLE LISTING "LIGHTS IN CLASSROOM" IS NOT ADEQUATE. PROVIDE MORE SPECIFIC LIST SUCH AS "LIGHTS IN CLASSROOM 231, 234 AND STORAGE 239" SHALL BE PROVIDED TO REFLECT THE SPECIFIC LOAD SERVED.
- 43. UNLESS NOTED OTHERWISE, ALL WIRING SHALL BE IN CONDUIT EXCEPT LOW VOLTAGE WIRING ABOVE ACCESSIBLE CEILING SPACE. LOW VOLTAGE WIRING EXCEPT FIRE ALARM SYSTEM WIRING ABOVE ACCESSIBLE CEILING SPACE MAY BE EXPOSED. ALL FIRE ALARM SYSTEM WIRING SHALL BE IN CONDUIT
- 44. LOCATE THE OUTLETS FOR LCD PROJECTORS AS DIRECTED BY OWNER'S LCD PROJECTOR VENDOR TO PROVIDE OPTIMUM COVERAGE OF THE PROJECTOR.
- 45. UNLESS SPECIFICALLY INDICATED, ALL CONDUITS OTHER THAN IN ELECTRICAL/ MECHANICAL EQUIPMENT ROOMS AND AUTO/WOOD SHOPS SHALL BE CONCEALED. POWER POLES OR CONDUIT FED FROM CEILING IS STRICTLY PROHIBITED.
- 46. ALL FLOOR MOUNTED RECEPTACLES SHALL BE FLUSH WITH FLOOR AND SHALL HAVE HINGED COVER PLATES. PEDESTAL TYPE RECEPTACLES ARE NOT ALLOWED.
- 47. ALL CONDUITS FOR TELEPHONE AND DATA OUTLETS SHALL BE 1.25" UNLESS NOTED OTHERWISE. ALL BACKBOXES FOR TELEPHONE AND DATA OUTLETS SHALL BE 2 GANG AND SHALL BE MINIMUM OF 2.75" DEEP.
- 48. LOW VOLTAGE SYSTEMS, INCLUDING TELECOMMUNICATIONS, SECURITY, FIRE ALARM, ETC. SHALL BE BY THIS CONTRACTOR, INCLUDING WIRING, CONDUIT, TERMINATIONS, POWER REQUIREMENTS, PROGRAMMING, ETC., UNLESS SPECIFICALLY NOTED OTHERWISE. SMART BOARDS AND VIDEO PROJECTORS SHALL BE FURNISHED BY OWNER, BUT ALL ASSOCIATED POWER AND WIRING REQUIREMENTS SHALL BE BY THIS CONTRACTOR.
- 49. THE CONTRACTOR MUST VISIT THE SITE TO FAMILIARIZE HIMSELF WITH THE EXISTING SITE AND BUILDING CONDITIONS WHICH WILL BE AFFECTED DURING CONSTRUCTION PRIOR TO SUBMITTING HIS BID PROPOSAL. CONTRACTOR IS CAUTIONED THAT THE PROJECT IS A REMODELING JOB AND IT IS ASSUMED THAT HE HAS INCLUDED FUNDS IN HIS BID TO COVER UNFORESEEN ITEMS WHICH MUST BE MOVED, RELOCATED OR ADJUSTED TO FIT HIS WORK. NO EXTRA COMPENSATION WILL BE ALLOWED FOR ANY EXTRA WORK CAUSED BY FAILURE TO VISIT. EXAMINE OR VERIFY.
- 50. ALL EXISTING EQUIPMENT IS TO REMAIN OPERATIONAL DURING CONSTRUCTION PERIOD. ALL TEMPORARY WIRING OR REROUTING OF CIRCUITRY TO ACHIEVE THIS IS BY THE ELECTRICAL CONTRACTOR. SHUTDOWN OF EXISTING SERVICES SHALL ONLY BE PERMITTED UPON WRITTEN APPROVAL FROM THE OWNER AND THEN ONLY FOR THAT DATE AND DURATION AGREED UPON. INCLUDE ALL PREMIUM TIME CHARGES IN THE BASE BID.
- 51. EXISTING CONDUITS IN GOOD CONDITION MAY BE REUSED WHERE POSSIBLE. PULL NEW WIRE AS REQUIRED. ALL UNUSED CONDUIT, WIRE, JUNCTION BOXES, ETC. WILL BE REMOVED. ALL JUNCTION BOXES MUST HAVE COVERS. VERIFY REQUIREMENTS IN FIELD.
- 52. FOR THE AREA TO BE DEMOLISHED, THE DEMOLITION OF LIGHT FIXTURES, OUTLETS OR ANY OTHER ELECTRICAL EQUIPMENT/DEVICES SHALL BE PERFORMED AS REQUIRED. SEE ARCHITECTURAL DRAWINGS AND THE RESPECTIVE FLOOR PLANS IN ELECTRICAL DRAWINGS FOR DEMOLITION. ELECTRICAL CONTRACTOR SHALL REMOVE ALL ASSOCIATED RACEWAYS AND WIRING AS REQUIRED. ELECTRICAL CONTRACTOR SHALL DE-ENERGIZE AND DISCONNECT APPLICABLE WIRING TO FACILITATE SAFE
- 53. THE EXISTING EQUIPMENT IS SHOWN BASED UPON THE INFORMATION OBTAINED THROUGH BRIEF SURVEY OF THE FACILITY. CONTRACTOR IS TO SURVEY THE EXISTING FACILITY IN ORDER TO DETERMINE THE FULL EXTENT OF WORK AND BE COMPLETELY FAMILIAR WITH ALL THE EXISTING CONDITIONS INCLUDING PLUMBING, HVAC, ELECTRICAL, ETC. THE ARCHITECT/ENGINEER AND OWNER ASSUME NO RESPONSIBILITY IN RESPECT TO THE ACCURACY OF SUCH INFORMATION SHOWN ON THE DRAWINGS. CONTRACTOR SHALL MAKE ADEQUATE ALLOWANCE IN HIS BID FOR SOME DEVIATIONS TO SUCH INFORMATION.
- 54. WHERE EXISTING CONDITIONS PREVENT PROPER INSTALLATION OF PROPOSED WORK, REROUTE, EXTEND OR ALTER EXISTING WORK SO AS TO ACCOMMODATE PROPOSED WORK REQUIREMENTS.
- 55. WHERE A NEW WALL IS TO BE BUILT PERPENDICULAR TO EXISTING WALL AND IF THERE IS AN INTERFERING EXISTING RECEPTACLE ON THE EXISTING WALL, RELOCATE THIS RECEPTACLE AS REQUIRED.
- 56. AS REQUIRED EXTEND EXISTING RECEPTACLES WHERE EXISTING WALLS ARE FURRED OUT. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT OF THIS WORK.
- 57. IN ORDER TO FACILITATE THE REPLACEMENT OF EXISTING OR INSTALLATION OF NEW DUCTWORK AND/OR PIPING, REMOVE EXISTING LIGHTING FIXTURE AND/OR SMOKE/HEAT DETECTORS AS REQUIRED, WHETHER SHOWN ON DRAWINGS OR NOT. THIS NOTE IS GENERALLY APPLICABLE, BUT NOT LIMITED TO, WHERE THERE IS NO DROPPED CEILING (IN EXPOSED CEILING AREA). ONCE THE INSTALLATION OF DUCTWORK, PIPING ETC IS COMPLETED, REINSTALL ELECTRICAL EQUIPMENT/DEVICES. PROVIDE ADEQUATE ALLOWANCE IN THE BID FOR THIS WORK.
- 58. ELECTRICAL CONTRACTOR SHALL VERIFY SIZE OF ALL EXISTING OPENINGS, DOORS, ETC., FOR REMOVING EQUIPMENT AND MATERIAL OUT OF BUILDING. ELECTRICAL CONTRACTOR SHALL PROVIDE ANY NEW OR ENLARGED OPENINGS IN EXISTING BUILDING CONSTRUCTION REQUIRED TO FACILITATE EXITING OF HIS EQUIPMENT/MATERIAL AND RESTORE SUCH OPENINGS TO THEIR ORIGINAL STATE AFTER COMPLETION.
- 59. THE ELECTRICAL DRAWINGS SHOW DIRECT PRINCIPLE WORK WHICH MUST BE ACCOMPLISHED UNDER THIS CONTRACT. INDIRECT AND INCIDENTAL WORK WILL ALSO BE NECESSARY DUE TO CHANGES AFFECTING EXISTING ARCHITECTURAL, MECHANICAL, PLUMBING OR OTHER SYSTEMS. SUCH INCIDENTAL WORK IS ALSO PART OF THIS CONTRACT. INSPECT THOSE AREA, AND ASCERTAIN WORK NEEDED AND DO THAT WORK IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS, AT NO ADDITIONAL COST.
- 60. WHERE LIGHTING FIXTURES ARE TO BE REUSED, CLEAN FIXTURES THOROUGHLY.
- 61. ALL SWITCHBOARDS, DISTRIBUTION PANELS AND PANEL BOARDS SHALL BE FURNISHED WITH FULL RATED COPPER BUS ND BE BRACED FOR AVAILABLE FAULT CURRENT WITH MINIMUM RATINGS AS FOLLOWS: SWITCHBOARDS 100,000 AIC DISTRIBUTION PANELS 55,000 AIC PANELBOARDS 10,000 AIC (120/240V)
- 62. ALL CIRCUIT BREAKERS FOR PANEL BOARDS SHALL BE THE BOLT—ON TYPE, RATED FOR SWITCHING DUTY AND RATED FOR THE AVAILABLE FAULT CURRENT WITH MINIMUM RATING OF 10,000 AIC FOR 120/240V PANELS.
- 63. ALL CIRCUIT BREAKER SIZES AND QUANTITIES INDICATED ON SCHEDULE(S) ARE FOR THE CONVENIENCE OF THE BIDDERS ONLY. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND SUPPLYING ALL REQUIRED BRANCH BREAKERS.
- 64. ALL PANELS RECESSED IN WALLS SHALL HAVE 3-1" CONDUITS STUBBED INTO CEILING CAVITY OR STUBBED OUT OF WALL 12'-0" ABOVE SLAB.

								MOTOR /	AND EQ	UIPMEN	IT SCHE	DULE				
EQUIP.	DESIGNATED TAG	LOCATIONS		•	LOAD			CONDUIT AND WIRE SIZE	SOURCE (OF POWER	PROTECT	STAF		DISCO		REMARKS
TAG			VOLTS	PHASE	H.P.	AMP	KVA		PANEL	CCT. NO.	(AMPERES)	SIZE	TYPE	SIZE	TYPE	
		CEILING	208	1	-	24	5	3#10, 1#10G, 3/4°C	EP	23,25	30A, 2P	ı	-	30A, 2P	NEMA 3R	
$\frac{CU}{2}$	CONDENSING UNIT	ROOF	208	3	-	51.1		3#6, 1#10G, 3/4°C	EP	17,19,21	70A, 3P	ı	-	70A, 3P	NEMA 3R	
(ERV)	ENERGY RECOVERY	CEILING	120	1	-	10		2#12, 1#12G, 3/4°C	EP	24	20A, 1P	ı	ı	TOG	GLE	
(HR)	VRF REFRIGERANT BOX	ABOVE CORRIDOR CEILING	208	1	-	0.2	0.1	2#12, 1#12G, 3/4°C	EP	26	20A, 2P	ı	ı	TOG	GLE	
(HR) 2 (RF) 6-1	VRF REFRIGERANT BOX	ABOVE CORRIDOR CEILING	208	1	-	0.2	0.1	2#12, 1#12G, 3/4°C	EP	26	20A, 2P	ı	1	TOG	GLE	
VRF 6−1	VARIABLE REFRIGERANT FLOW	TECH OFFICE	208	1	-	1.3	.27	2#12, 1#12G, 3/4°C	EP	28,30	20A, 2P	ı	1	TOG	GLE	
VRF 6−2	VARIABLE REFRIGERANT FLOW	TECH OFFICE	208	1	-	1.3	.27	2#12, 1#12G, 3/4°C	EP	28,30	20A, 2P	ı	ı	TOG	GLE	
$\langle VRF \rangle$ $6-3$	VARIABLE REFRIGERANT FLOW	OFFICE	208	1	-	1.3	.27	2#12, 1#12G, 3/4°C	EP	28,30	20A, 2P	ı	ı	TOG	GLE	
VRF 6−4	VARIABLE REFRIGERANT FLOW	KITCHEN	208	1	-	1.3	.27	2#12, 1#12G, 3/4°C	EP	28,30	20A, 2P	ı	ı	TOG	GLE	
VRF 6−5	VARIABLE REFRIGERANT FLOW	STORAGE	208	1	-	0.2	0.1	2#12, 1#12G, 3/4°C	EP	28,30	20A, 2P	ı	ı	TOG	GLE	
VRF 6-6	VARIABLE REFRIGERANT FLOW	CONFERENCE	208	1	-	0.2	0.1	2#12, 1#12G, 3/4°C	EP	28,30	20A, 2P	ı	-	TOG	GLE	
VRF 6−7	VARIABLE REFRIGERANT FLOW	CONFERENCE	208	1	-	1.3	.27	2#12, 1#12G, 3/4°C	EP	27,29	20A, 2P	ı	-	TOG	GLE	
VRF 6−8	VARIABLE REFRIGERANT FLOW	NURSE	208	1	-	1.3	.27	2#12, 1#12G, 3/4°C	EP	27,29	20A, 2P	ı	-	TOG	GLE	
VRF 6−9	VARIABLE REFRIGERANT FLOW	NURSE	208	1	-	1.3	.27	2#12, 1#12G, 3/4°C	EP	27,29	20A, 2P	ı	ı	TOG	GLE	
VRF 1−10	VARIABLE REFRIGERANT FLOW	OFFICE	208	1	-	1.3	.27	2#12, 1#12G, 3/4°C	EP	27,29	20A, 2P	ı	-	TOG	GLE	
VRF 1-11	VARIABLE REFRIGERANT FLOW	OFFICE	208	1	-	1.3	.27	2#12, 1#12G, 3/4°C	EP	27,29	20A, 2P	ı	-	TOG	GLE	
VRF 1-12	VARIABLE REFRIGERANT FLOW	OFFICE	208	1	-	1.3	.27	2#12, 1#12G, 3/4°C	EP	27,29	20A, 2P	-	-	TOG	GLE	

			LIGH	TING	FIXT	URE SCHEDULE	
TYPE	LAMP TYPE	MOUNTING	ACCEPTABLE MANUFACTURER AND CATALOG NUMBER	VOLTS	INPUT WATTS	DESCRIPTION	REMARKS
F1	LED	LAY-IN	LITHONIA 2BLT440LADPMVOLTGZ10LP840	120	31	2x4 LAY-IN	
F1E	LED	LAY-IN	LITHONIA 2BLT440LADPMVOLTGZ10LP840 EL141LSD	120	31	2x4 LAY-IN	1400 LUMEN BATTERY PAK W/ SELF DIAGNOSTICS
8	LED	SURFACE	LITHONIA #LQM-S-W-3-R-120/277-ELN	-	3	LED EXIT SIGN, RED LETTERS, NiCad BATTERIES.	

LIGHTING FIXTURE SCHEDULE NOTES

- ALL LIGHTING FIXTURES SHALL BE RATED FOR BUILDING SYSTEM VOLTAGE. CONTRACTOR MUST VERIFY ALL CONDITIONS.
- 2. ELECTRICAL CONTRACTOR SHALL PROVIDE EACH LIGHTING FIXTURE COMPLETE WITH PLASTER FRAMES AND ALL OTHER INSTALLATION AND HANGING HARDWARE AS REQUIRED FOR A COMPLETE AND FINISHED INSTALLATION AT EACH FIXTURE LOCATION.

 3. VERIFY ALL LIGHTING FIXTURE LOCATIONS, FINISHES, VOLTAGE AND CEILING TYPES WITH ARCHITECT PRIOR TO ORDERING.
- 3. VERIFY ALL LIGHTING FIXTURE LOCATIONS, FINISHES, VOLTAGE AND CEILING TYPES WITH ARCHITECT PRIOR TO ORDERING.
 4. ELECTRICAL CONTRACTOR SHALL CHECK AND COORDINATE ALL LIGHTING FIXTURE CATALOG NUMBERS WITH THE INTENT OF FIXTURE DESCRIPTIONS, LISTED ACCESSORIES AND TYPE OF INSTALLATION.
- 4. ELECTRICAL CONTRACTOR SHALL CHECK AND COORDINATE ALL LIGHTING FIXTORE CATALOG NUMBERS WITH THE INTENT OF FIXTORE DESCRIPTIONS, LISTED ACCESSORIES AND TYPE OF INSTALLATION.

 5. ALL FIXTURES SHALL BE "U.L." LABELED. ALL LIGHTING FIXTURES EXPOSED TO WEATHER OR MOISTURE SHALL BEAR U.L. "WET LOCATION" LABEL AND LIGHTING FIXTURES EXPOSED TO DAMPNESS SHALL BEAR U.L. "DAMP LOCATION" LABEL.
- 6. EXIT/DIRECTIONAL SIGNS SHALL BE CEILING OR WALL MOUNTED AS PER FIELD CONDITION, REGARDLESS OF HOW THEY ARE SHOWN ON FLOOR PLANS. THEY SHALL BE INSTALLED COMPLETE WITH ALL INSTALLATION AND HANGING ACCESSORIES TO PROVIDE AN UNOBSTRUCTED VIEW OF EACH SIGN FACE AS REQUIRED. SIGNS SHALL BE ADJUSTED AS NECESSARY WITHOUT ADDITIONAL COST.
- SIGNS TO READ "EXIT". SIGNS SHALL BE SINGLE OR DOUBLE FACED WITH OR WITHOUT DIRECTIONAL ARROWS, ALL AS SHOWN ON PLANS. SIGNS IN GENERAL SHALL BE CEILING MOUNTED, LOCATED AND ADJUSTED FOR BEST VIEW. ALL EXIT SIGNS IN HIGH CEILING AREAS TO BE MOUNTED ON WALL AT MAXIMUM OF +8"-0" ABOVE FLOOR. NO PENDANTS SHALL BE USED. SHADED PORTION DENOTES ILLUMINATION FACE.
- 8. ALL EXIT SIGNS AND BATTERY EMERGENCY UNITS MUST BE APPROVED BY LOCAL CODE.

5. See specifications and drawings for types and locations of devices scheduled below.

MECHANICAL / ELECTRICAL COORDINATION SCHEDULE

NOTES:

ERV ENERGY RECOVERY

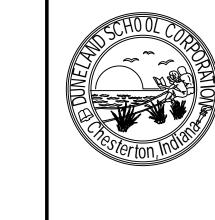
/ | VENTILATOR

- OTES. . EQUIPMENT FURNISHED BY THE ELECTRICAL CONTRACTOR (MARK 'E'), HEATING CONTRACTOR (MARK 'H'), VENTILATING CONTRACTOR (MARK 'V').
- 2. ALL CONDUIT AND WIRING FOR TEMPERATURE CONTROL AND EQUIPMENT INTERLOCK SHALL BE BY BAS CONTRACTOR. OTHER CONTROLS AND CONTROL CONDUITS/WIRING BY TRADE FURNISHING RESPECTIVE EQUIPMENT.
- 3. E.C. SHALL COORD. & REVIEW THE ELECTRICAL CHARACTERISTICS, AMPACITY & OTHER REQUIREMENTS OF COMPONENTS BEFORE INSTALLATION OF WORK. ALL OTHER CONTRACTORS SHALL ADVISE E.C. OF ANY MOTOR/DEVICE CHANGES.
- 4. ALL LOOSE STARTERS SHALL INCLUDE HOA SWITCH, PILOT LIGHT MOUNTED IN COVER, CONTROL TRANSFORMER, AND ONE N.O. AND ONE N.C. AUXILIARY CONTACTS.

			UNIT MOU	INTED DEVICES			LOOSE DEVICES	S	
TAG	EQUIPMENT DESCRIPTION	STARTER	DISCONNECT	OVERCURRENT PROTECTION	SINGLE POINT CONNECTION	STARTER	DISCONNECT	OVERCURRENT PROTECTION	REMARKS
CUH	CABINET UNIT HEATER	ı	М	-	YES	-	-	E	NON-FUSED DISCONNECT PROVIDED BY MECHANICAL CONTRACTOR
(VRF)	VARIABLE REFRIGERANT FLOW UNIT	-	-	-	YES	-	E	E	
CU	CONDENSING UNIT	ı	-	-	YES	-	E	E	
HR	VRF REFRIGERANT BOX	ı	-	-	YES	-	E	E	
(EDH)	ELECTRIC DUCT HEATER	-	_	_	YES	_	E	E	

YES

		•			•	-
NOTES:	1. VERIFY FINAL	LOADS AND	REQUIREMENTS	WITH FINAL	MECHANICAL DRAW	INGS.



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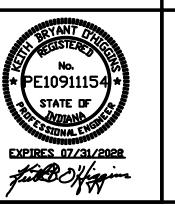
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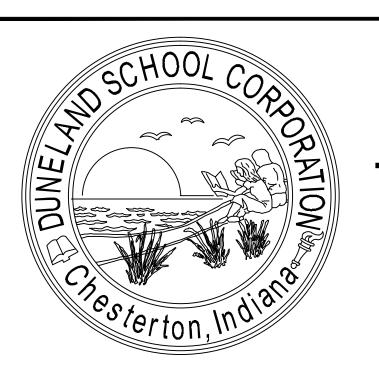
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DUNELAND SCHOOL CORPORATION 2022 RENOVATIONS AT:

CHESTERTON MIDDLE SCHOOL, 651 W. MORGAN AVENUE, CHESTERTON, INDIANA 46304 (BASE BID) SUPPORT SERVICES CENTER, 1012 NORTH OLD STATE ROAD 49, CHESTERTON, IN. 46304 (ALTERNATE #1) DISTRICT OFFICE, 601 W. MORGAN AVENUE, CHESTERTON, INDIANA 46304 (ALTERNATE #2) TRIA PROJECT#: 21-037

GENERAL BUILDING CODE REQUIREMENTS

BUILDING CODES REFERENCED:

2012 INTERNATIONAL BUILDING CODE WITH 2014 INDIANA AMENDMENTS 2006 INTERNATIONAL PLUMBING CODE 2ND EDITION AMENDED INDIANA 2012 2008 NATIONAL ELECTRICAL CODE WITH 2009 INDIANA AMENDMENTS 2012 INTERNATIONAL MECHANICAL CODE WITH 2014 INDIANA AMENDMENTS INDIANA ENERGY CONSERVATION CODE 2010 2012 INTERNATIONAL FIRE CODE WITH 2014 INDIANA AMENDMENTS 2012 INTERNATIONAL FUEL GAS CODE 2ND EDITION WITH 2014 INDIANA AMENDMENTS

OCCUPANCY CLASSIFICATION:

EXISTING: STORAGE GROUP 5-1 / BUSINESS GROUP B - NONSEPARATED

TYPE OF CONSTRUCTION: EXISTING: III-B

SPRINKLERED/UNSPRINKLERED: UNSPRINKLERED

DESIGN FIRM REGISTRATION: THOMAS R. SZURGOT INDIANA LICENSE NUMBER: *ARIØ800173

SCHOOL BOARD

PRESIDENT VICE PRESIDENT BOARD SECRETARY BOARD MEMBER BOARD MEMBER

BRANDON KROFT ALAYNA LIGHTFOOT POL TOM SCHNABEL RONALD STONE TIM MCGINTY

SUPERINTENDENT

DR. CHIP PETTIT

DRAWING INDEX

TITLE SHEET, SITE LOCATION MAP, INDEX, AND GENERAL BUILDING CODE REQUIREMENTS

AGO.OO SYMBOLS AND ABBREVIATIONS AND TYPICAL MOUNTING

PARTIAL EXISTING MEZZANINE PLAN

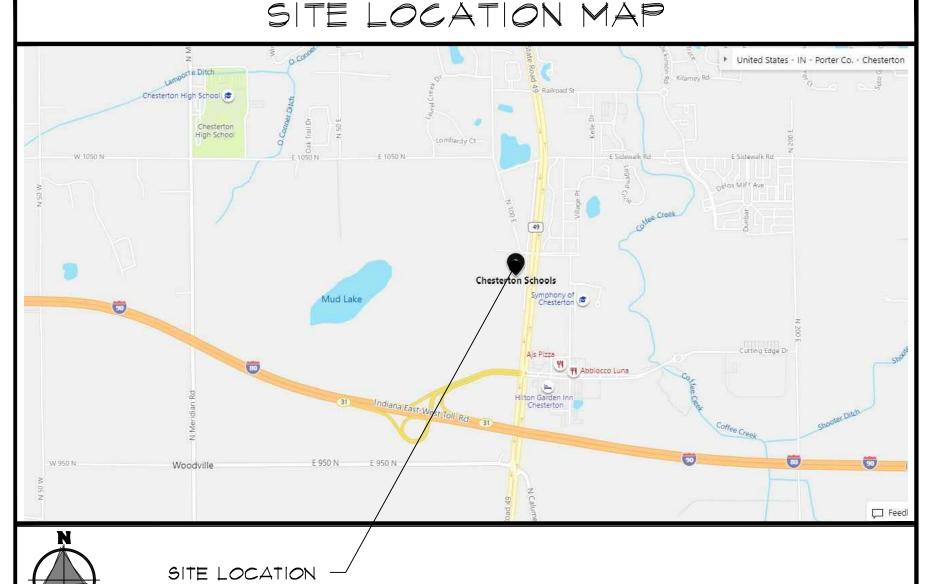
PARTIAL EXISTING REFLECTED CEILING PLAN PARTIAL REFLECTED CEILING PLAN

EXISTING PARTIAL PLANS - MECHANICAL PARTIAL FLOOR PLANS - MECHANICAL PARTIAL FLOOR PLANS - MECHANICAL

SCHEDULES - MECHANICAL DETAILS - MECHANICAL DETAILS - MECHANICAL

NOTES - MECHANICAL ABBREVIATIONS AND SYMBOLS - MECHANICAL

PARTIAL EXISTING FLOOR PLAN - ELECTRICAL PARTIAL FLOOR PLAN - ELECTRICAL - POWER NOTES AND SCHEDULES - ELECTRICAL



OWNER PURCHASED EQUIPMENT

MECHANICAL EQUIPMENT PURCHASED BY OWNER AND INSTALLED BY CONTRACTOR.

Indiana Office: 436 Sand Creek Drive N, Suite 105

TRIA ARCHITECTURE, INC.

Illinois Office: 901 McClintock Drive, Suite 100

Chesterton, Indiana 46304

Company Main: 630.455.4500 Fax: 630.455.4040 www.TriaArchitecture.com

M.E.P. CONSULTANT:

Burr Ridge, Illinois 60527

OAS, LLC.

ARCHITECT:

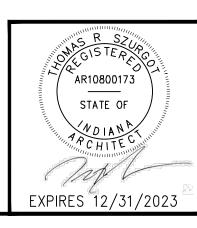
769 Heartland Dr., Unit \triangle Sugar Grove, Illinois 60554 Phone: 630.538.1996 www.oasllc.net

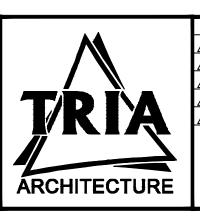
ISSUED FOR BIDDING:

MARCH 10, 2022

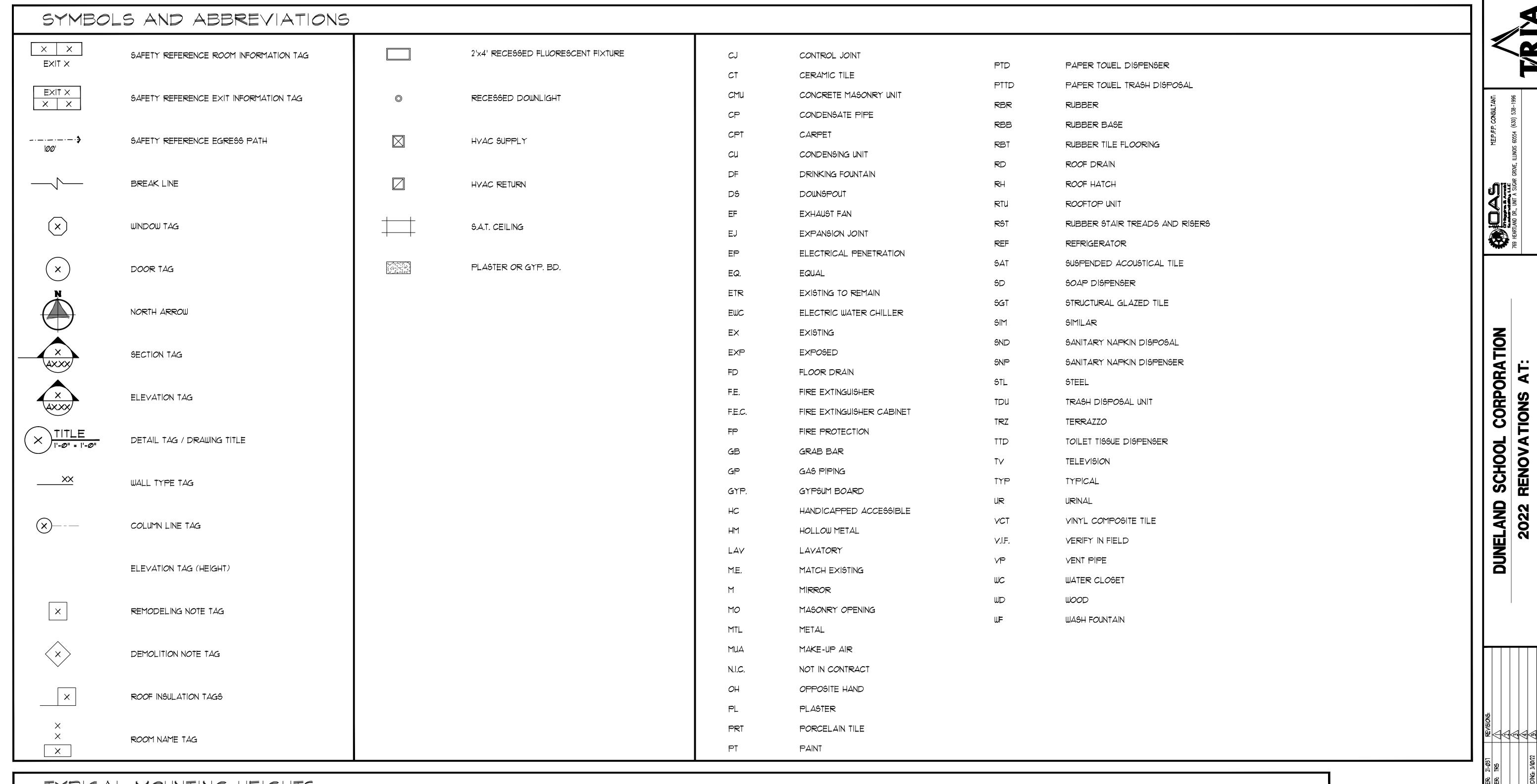
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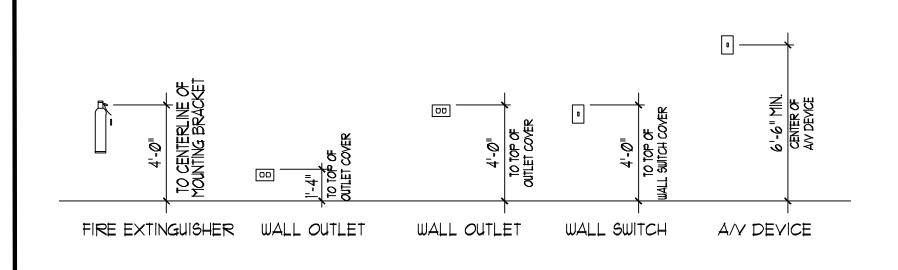


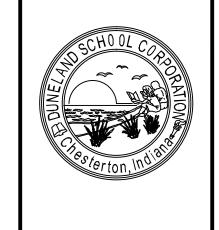


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TYPICAL MOUNTING HEIGHTS





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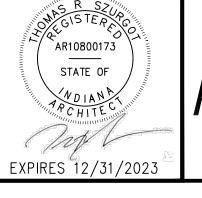
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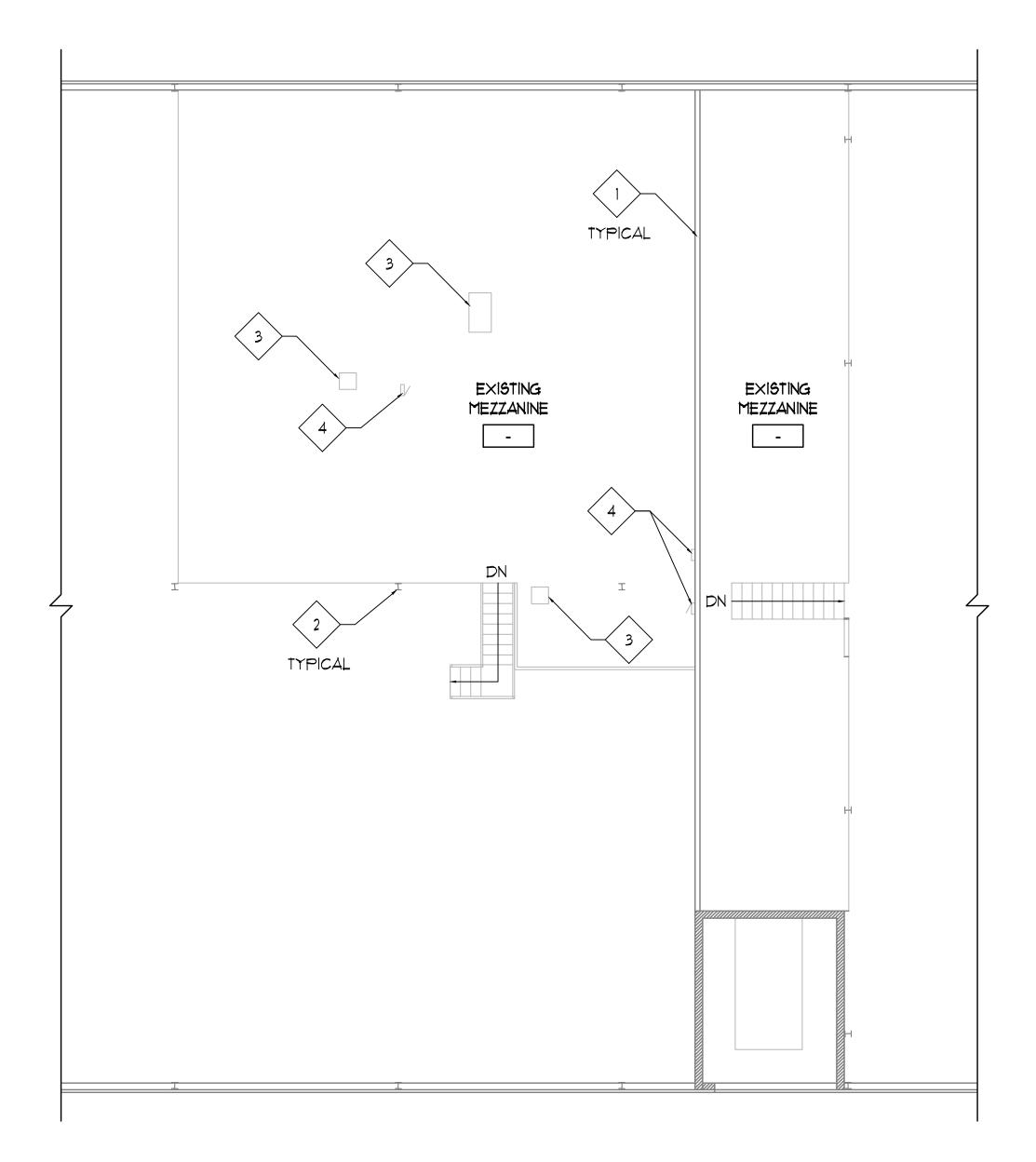
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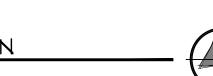
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SET 2 OF 3





EXISTING PLAN GENERAL NOTES

- 1. REFER TO FLOOR PLANS FOR SCOPE OF NEW WORK.
- FIELD VERIFY ALL EXISTING CONDITIONS. IN THE EVENT THAT AN ITEM NOT SHOWN ON THE DRAWINGS CONFLICTS WITH WORK UNDER THIS CONTRACT, CONTACT THE ARCHITECT PRIOR TO REMOVAL OF THAT ITEM. ITEMS SHOWN ARE INDICATED TO GIVE A GENERAL SCOPE OF WORK. ANY ITEMS REQUIRING REMOVAL/DEMOLITION TO PROPERLY PERFORM CONTRACT WORK BUT NOT SPECIFICALLY SHOWN, SHALL BE REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST, PROVIDING THE CONDITION WAS VISIBLE DURING BIDDING.
- SHORE OR BRACE ALL EXISTING CONSTRUCTION AS REQUIRED TO PERFORM WORK.
 EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING, CUTTING, PATCHING, INFILLING, REPAIRING, REFINISHING, AND REMOVAL/REPLACEMENT OF BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OR REMOVAL OF THEIR WORK. ALL PATCHING, REPAIRING, AND REFINISHING SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE ADJACENT CONSTRUCTION.
- 5. REMOVE ALL EQUIPMENT LOCATED ON OR WITHIN WALL CONSTRUCTION SCHEDULED TO BE REMOVED, SO AS TO NOT DISRUPT EXISTING BUILDING OPERATIONS. DISCONNECT ALL ELECTRICAL WIRING, PULL WIRE BACK TO NEAREST JUNCTION BOX OR TO SERVICE.
- 6. PROTECT ALL EXISTING FINISHES, EQUIPMENT, AND ADJACENT WORK NOT SCHEDULED TO BE REMOVED FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGED FINISHES, EQUIPMENT, OR ADJACENT SURFACES SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
- 1. THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ANY MATERIAL, EQUIPMENT OR FIXTURE TO BE REMOVED
- 8. WHERE POSSIBLE RUN NEW ELECTRICAL WORK INSIDE WALL AND CEILING CONSTRUCTION (NEW AND EXISTING) REMOVE EXISTING WALL/CEILING CONSTRUCTION SCHEDULED TO REMAIN AS REQUIRED TO PERFORM WORK INDICATED PATCH ALL CONSTRUCTION TO PROVIDE A FINISHED CONDITION.
- 9. REMOVE/RELOCATE ALL ACCESSORIES ON WALL CONSTRUCTION TO BE REMOVED.
 10. GENERAL CONTRACTOR TO COORDINATE ALL ARCHITECTURAL WORK WITH INDICATED MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION WORK NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
- 11. PATCH ALL EXISTING OPENINGS AT ALL EQUIPMENT SCHEDULED TO BE REMOVED, INCLUDING ABOVE CEILING- MATCH EXISTING WALL CONSTRUCTION IN MATERIAL THICKNESS, SIZE AND COLOR, UNLESS NOTED OTHERWISE REFER TO MECHANICAL, ELECTRICAL, AND FIRE PROTECTION DRAWINGS.
- 12. ALL EXISTING FLOOR FINISH SCHEDULED TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION CONTRACTOR TO PROVIDE PLYWOOD, MDF AND/OR PLASTIC AS REQUIRED TO PROTECT FLOORING FROM DAMAGE DURING CONSTRUCTION ANY DAMAGE TO BE REPAIRED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
- 13. OWNER TO REMOVE AND REINSTALL ALL LOOSE FURNITURE AND ELECTRONIC EQUIPMENT UNLESS OTHERWISE NOTED CONTRACTOR TO COORDINATE MOVING SCOPE AND STORAGE LOCATIONS WITH OWNER PRIOR TO BEGINNING ANY WORK.

LEGEND

----- EXISTING CONSTRUCTION TO BE REMOVED.

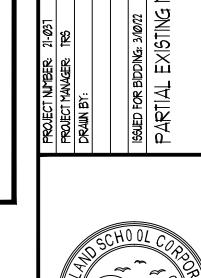
- EXISTING CONSTRUCTION TO REMAIN.



NOT IN CONTRACT

EXISTING PLAN REFERENCED NOTES

- EXISTING WALL CONSTRUCTION TO REMAIN PROTECT DURING CONSTRUCTION.
- 2. EXISTING STEEL COLUMN TO REMAIN.
- 3. EXISTING MECHANICAL UNIT TO BE REMOVED. 4. EXISTING ELECTRICAL PANELS TO REMAIN - PROTECT DURING CONSTRUCTION.



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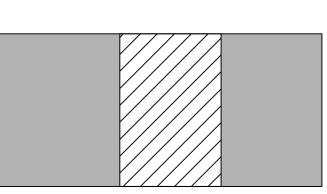
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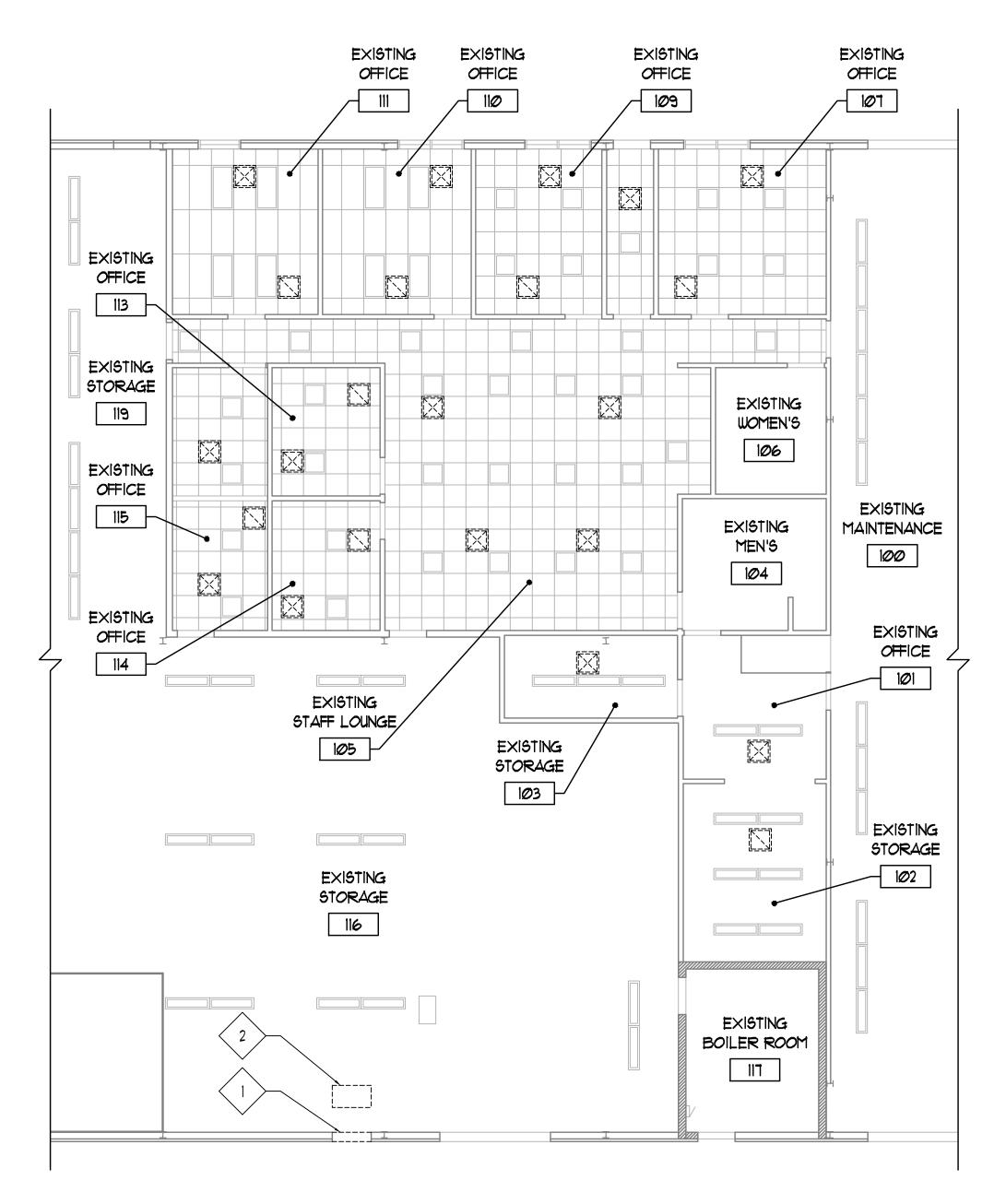


AREA OF WORK

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SET 2 OF 3









ALL EXISTING CEILING SYSTEMS, LIGHTS, EQUIPMENT AND CEILING MOUNTED SPEAKERS TO BE REMOVED IN THEIR ENTIRETY WHERE INDICATED - REFER TO MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION DRAWINGS.

REFER TO ELECTRICAL PLANS FOR ADDITIONAL CEILING MOUNTED DEVICES AND EQUIPMENT TO BE REMOVED.

CONTRACTOR TO YERIFY ALL EXISTING CEILING HEIGHTS PRIOR TO BEGINNING WORK ON ANY CEILING SCHEDULED TO RECEIVE WORK

FIELD YERIFY ALL EXISTING CONDITIONS. IN THE EVENT THAT AN ITEM NOT SHOWN ON THE DRAWINGS CONFLICTS WITH WORK UNDER THIS CONTRACT, CONTACT THE ARCHITECT PRIOR TO REMOVAL OF THAT ITEM. ITEMS SHOWN ARE INDICATED TO GIVE A GENERAL SCOPE OF WORK. ANY ITEMS REQUIRING REMOVAL/DEMOLITION TO PROPERLY PERFORM CONTRACT WORK BUT NOT SPECIFICALLY SHOWN, SHALL BE REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST, PROVIDING THE CONDITION WAS YISIBLE DURING BIDDING.

SHORE OR BRACE ALL EXISTING CONSTRUCTION AS REQUIRED TO PERFORM DEMOLITION WORK

EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING, CUTTING, PATCHING, INFILLING, REPAIRING, REFINISHING, AND REMOVAL/ REPLACEMENT OF BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OR REMOVAL OF THEIR WORK. ALL PATCHING, REPAIRING, AND REFINISHING SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE ADJACENT CONSTRUCTION.

PROTECT ALL EXISTING FINISHES, EQUIPMENT, AND ADJACENT WORK NOT SCHEDULED TO BE REMOVED FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGED FINISHES, EQUIPMENT, OR ADJACENT SURFACES SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.

THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ANY MATERIAL OR EQUIPMENT REMOVED.

LEGEND

SUSPENDED ACOUSTICAL TILE CEILING TO REMAIN - REMOVE AND REINSTALL AS REQUIRED FOR NEW WORK - PROTECT DURING CONSTRUCTION.

LIGHT FIXTURE TO REMAIN - REFER TO ELECTRICAL DRAWINGS

2' X 2' RECESSED LIGHT FIXTURE TO REMAIN - REFER TO ELECTRICAL DRAWINGS

MECHANICAL SUPPLY DIFFUSER TO BE REMOVED - REFER TO MECHANICAL DRAWINGS

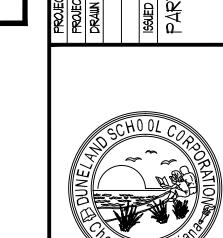
MECHANICAL RETURN / EXHAUST GRILLE TO BE REMOVED - REFER TO MECHANICAL DRAWINGS

EXISTING CONSTRUCTION TO BE REMOVED

EXISTING CONSTRUCTION TO REMAIN

EXISTING REFLECTED CEILING PLAN REFERENCED NOTES

EXISTING WALL AREA TO BE REMOVED - REFER TO MECHANICAL PLANS. 2. EXISITNG ROOF AREA TO BE REMOVED - REFER TO MECHANICAL PLANS.



CORPORATION

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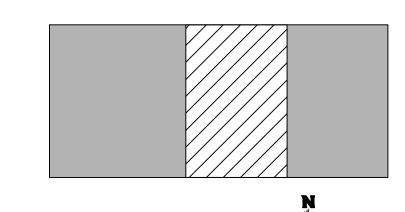
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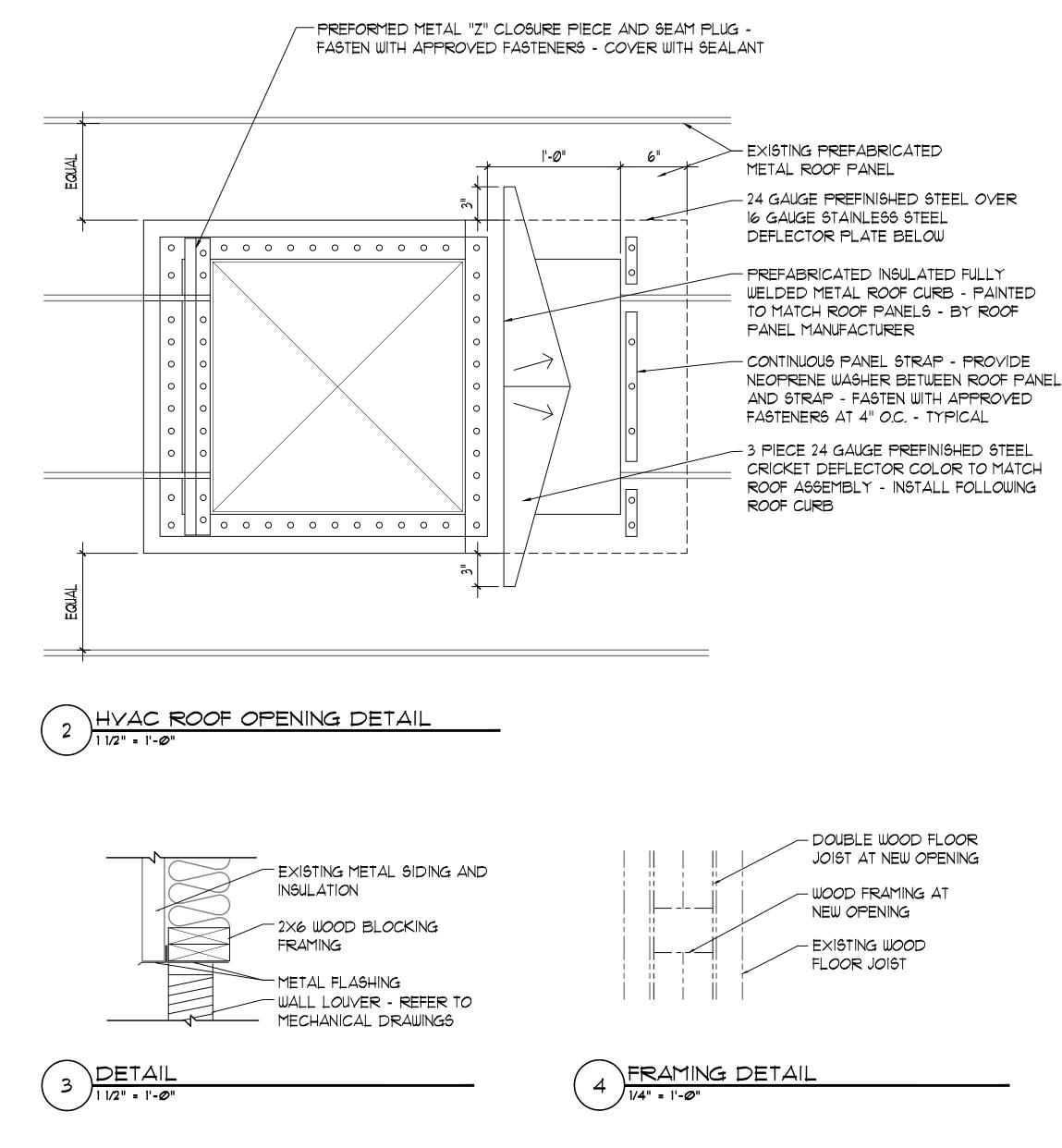


SET 2 OF 3









REFLECTED CEILING PLAN GENERAL NOTES

REFER TO MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR ADDITIONAL AREAS OF ABOVE CEILING WORK, REMOVE AND PATCH OR REINSTALL EXISTING CEILINGS IN THESE LOCATIONS ONLY AS REQUIRED TO PROVIDE WORK INDICATED.

CONTRACTOR TO VERIFY ALL EXISTING CEILING HEIGHTS PRIOR TO BEGINNING WORK ON ANY CEILING SCHEDULED TO RECEIVE WORK.

FIELD VERIFY ALL EXISTING CONDITIONS. IN THE EVENT THAT AN ITEM NOT SHOWN ON THE DRAWINGS CONFLICTS WITH WORK UNDER THIS CONTRACT, CONTACT THE ARCHITECT PRIOR TO REMOVAL OF THAT ITEM, ITEMS SHOWN ARE INDICATED TO INDICATE THE SCOPE OF WORK., ANY ITEMS REQUIRING REMOVAL TO PROPERLY PERFORM CONTRACT WORK, BUT NOT SPECIFICALLY SHOWN, SHALL BE REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST, PROVIDING THE CONDITION WAS

YISIBLE DURING BIDDING.

SHORE OR BRACE ALL EXISTING CONSTRUCTION AS REQUIRED TO PERFORM WORK. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING, CUTTING, PATCHING, INFILLING, REPAIRING, REFINISHING, AND REMOVAL/REPLACEMENT OF BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OR REMOVAL OF THEIR WORK. ALL PATCHING, REPAIRING, AND REFINISHING SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE ADJACENT CONSTRUCTION.

PROTECT ALL EXISTING FINISHES, EQUIPMENT, AND ADJACENT WORK NOT SCHEDULED TO BE REMOVED FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGED FINISHES, EQUIPMENT, OR ADJACENT SURFACES SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER

THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ANY MATERIAL OR EQUIPMENT

INFILL ALL OPENINGS (NEW AND EXISTING) IN PLYWOOD MEZZANINE FLOOR WITH 2X BLOCKING AND 3/4" PLYWOOD.

LEGEND

EXISTING SUSPENDED ACOUSTICAL TILE CEILING SYSTEM - PROTECT DURING CONSTRUCTION.

EXISTING LIGHT FIXTURE - REFER TO ELECTRICAL DRAWINGS

EXISTING 2' X 2' RECESSED LIGHT FIXTURE - REFER TO ELECTRICAL DRAWINGS

SUPPLY DIFFUSER - REFER TO MECHANICAL DRAWINGS

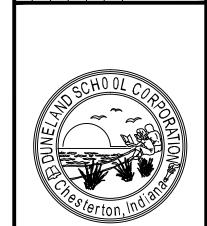
RETURN / EXHAUST GRILLE - REFER TO MECHANICAL DRAWINGS

YARIABLE REFRIGERANT FLOW UNIT - REFER TO MECHANICAL

REFLECTED CEILING PLAN REFERENCED NOTES

- REINSTALL / REPLACE CEILING TILES AS REQUIRED TO PROVIDE WORK INDICATED. MECHANICAL EQUIPMENT - REFER TO MECHANICAL DRAWINGS. FOR NEW ROOF OPENING PROVIDE 2XIØ WOOD FRAMED OPENING BOLTED TO EXISTING STEEL FRAMING. PROVIDE ALL NECESSARY FLASHING, METAL CHANNELS, AND TRIM PIECES FOR COMPLETE INSTALLATION - REFER TO DETAIL 2/A1.10.
- MECHANICAL LOUYER THROUGH WALL INSTALL PER MANUFACTURERS INSTRUCTIONS -PROVIDE 2X6 WOOD FRAMED OPENING BOLTED TO EXISTING STEEL PURLINS. PROVIDE ALL NECESSARY FLASHING, METAL CHANNELS, AND TRIM PIECES FOR COMPLETE INSTALLATION - REFER TO DETAIL 3/47.10.
- FRAME NEW OPENING AT VRF LOCATIONS WITH 2X WOOD FRAMING, DOUBLE 2X WOOD JOISTS BOTH SIDES, MATCH SIZE OF EXISTING FRAMING - REFER TO DETAIL 4/A7.10.

EXISTING ELECTRICAL PANEL.



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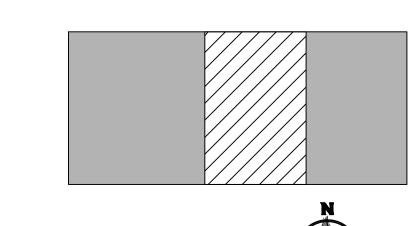
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KEYPLAN NOT TO SCALE





EXPIRES 12/31/2023

SET 2 OF 3



EXISTING

OFFICE

EXISTING STAFF LOUNGE

105

EXISTING

STORAGE

116

EXISTING

OFFICE

113

EXISTING

STORAGE

119

EXISTING

OFFICE

115

EXISTING

OFFICE

114

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OFFICE

110

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EXISTING STORAGE

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EXISTING

OFFICE

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EXISTING

WOMEN'S

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EXISTING

MEN'S

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EXISTING BOILER ROOM

117

EXISTING

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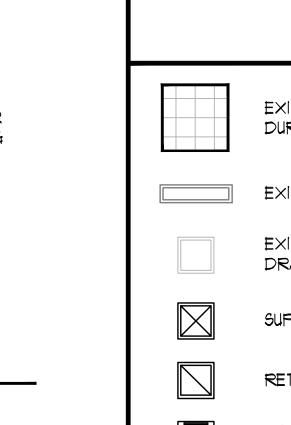
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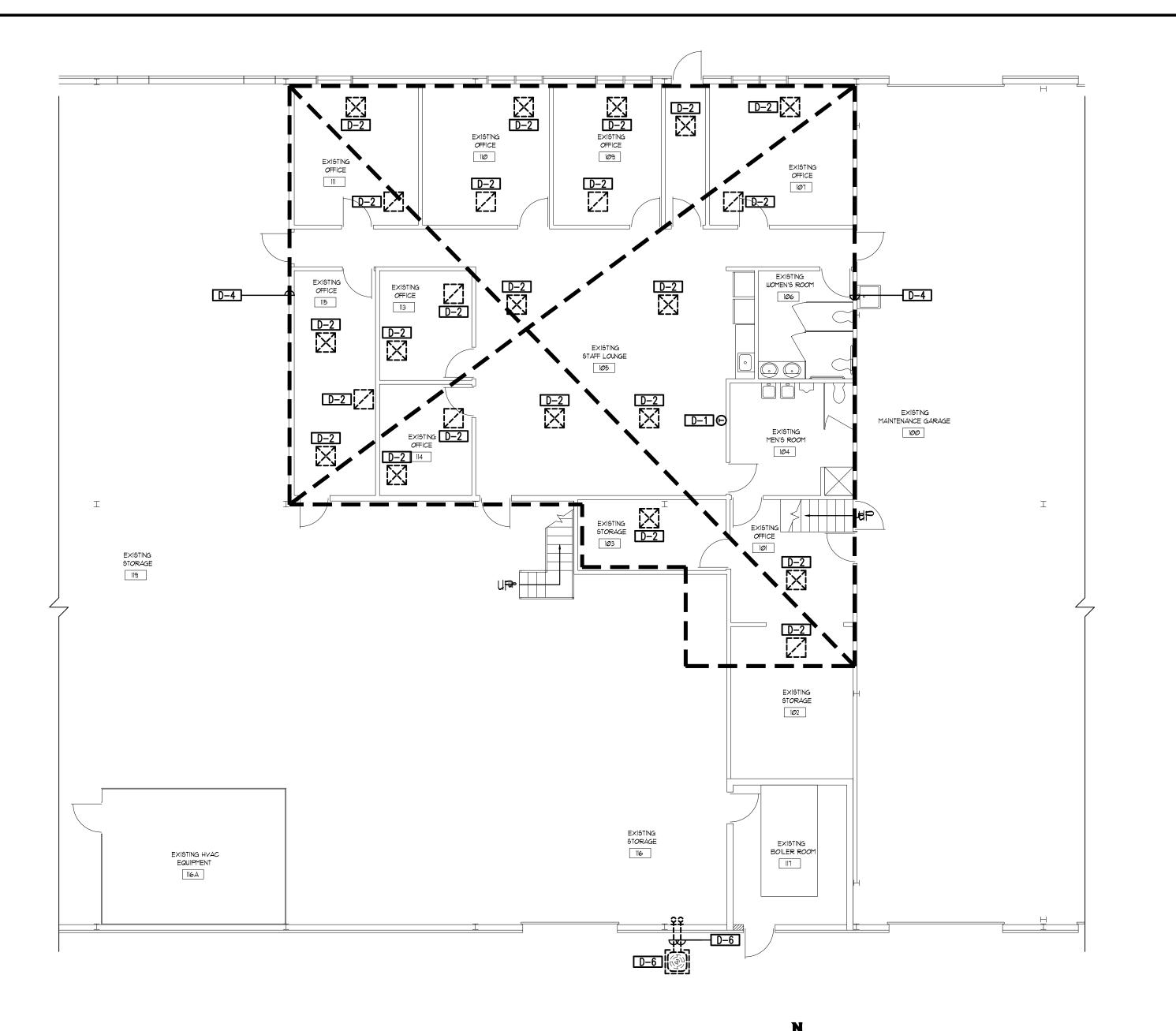
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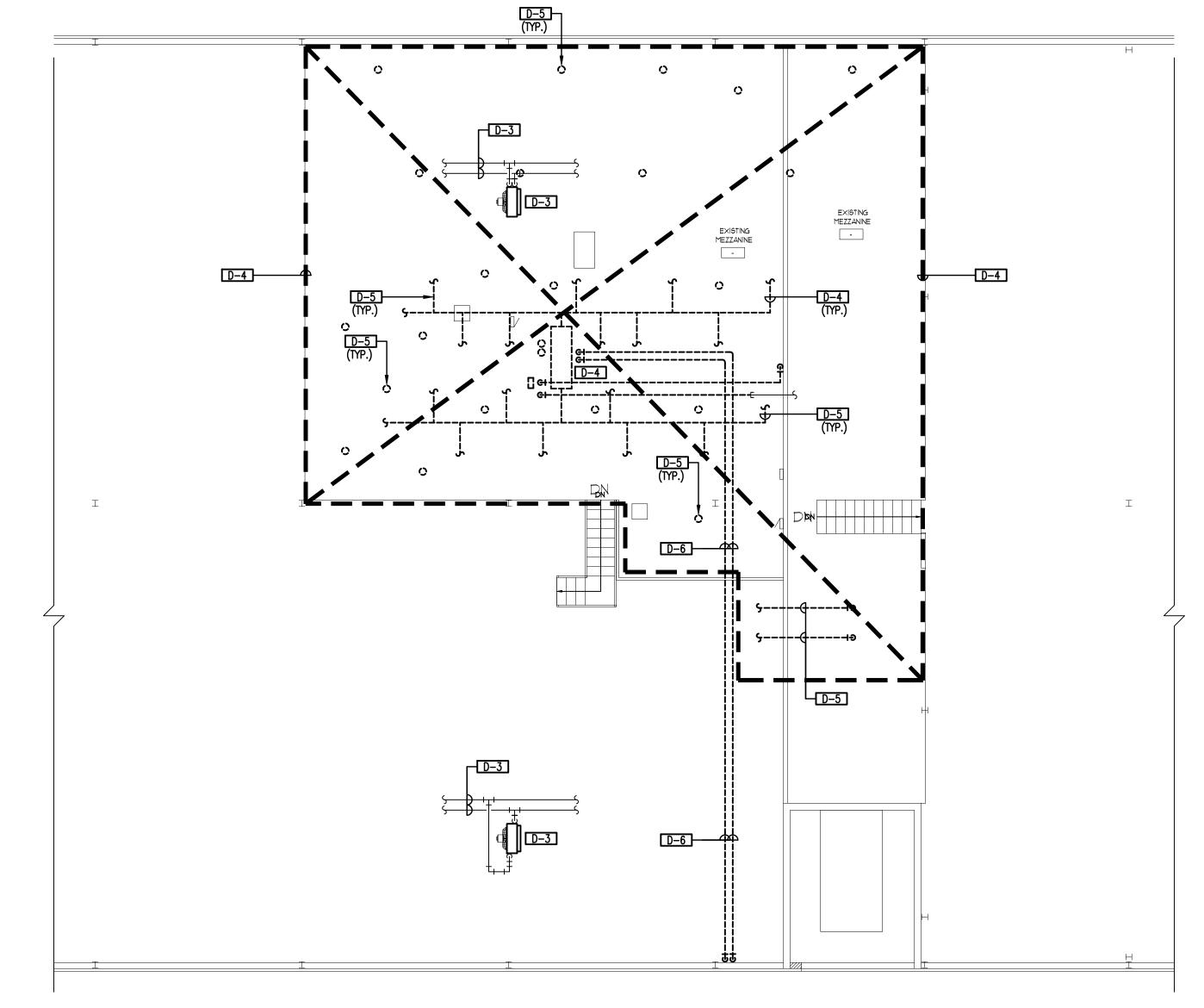
EXISTING

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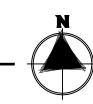






EXISTING PARTIAL FLOOR PLAN - MECHANICAL

EXISTING PARTIAL MEZZANINE PLAN - MECHANICAL



MECHANICAL (HVAC) DEMOLITION NOTES

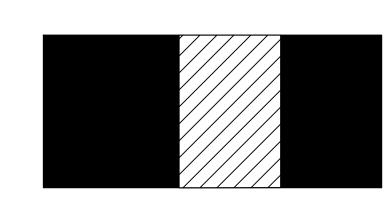
I. DRAWINGS

- D-1 THERMOSTAT/SENSOR TO BE COMPLETELY REMOVED INCLUDING ALL CONTROL WIRING TO/FROM UNIT IT SERVES. PROVIDE STAINLESS STEEL BLANK COVER PLATE OVER OPENING IF LOCATION IS NOT REUSED FOR NEW THERMOSTAT/SENSOR UNDER THE INSTALLMENT OF THE NEW EQUIPMENT AND
- D-2 REMOVE CEILING DIFFUSER AND ASSOCIATED DUCTWORK INCLUDING DIFFUSER(S), HANGERS, INSULATION, ETC. IN THEIR ENTIRETY. OPENING TO MEZZANINE ABOVE TO BE REUSED, SEE NEW WORK DRAWINGS. ALL MEZZANINE OPENINGS NOT BEING REUSED ARE TO BE SEALED. PATCH FLOOR AS STATED UNDER GENERAL DEMOLITION NOTES. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-3 EXISTING HOT WATER SUSPENDED UNIT HEATER AND ASSOCIATED PIPING, CONTROLS, ETC. TO REMAIN.
- D-4 REMOVE HORIZONTAL FURNACE COMPLETELY INCLUDING ALL REFRIGERANT/CONDENSATE/GAS PIPING, DUCTWORK, INTAKE HOOD, COMBUSTION/SUPPLY/RETURN/FLUE DUCTWORK, INSULATION, CONDENSATE PUMP, CONTROLS, CONTROL WIRING, SUPPORTS, VALVES, ETC. CAP GAS PIPING AT MAIN. COORDINATE ALL DISCONNECT REQUIREMENTS WITH ELECTRICAL CONTRACTOR. PATCH WALL/FLOOR/ROOF AS STATED UNDER GENERAL DEMOLITION NOTES. FIELD VERIFY ALL REQUIREMENTS. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL RÉQUIREMENTS.
- D-5 REMOVE SUPPLY/RETURN DUCTWORK INCLUDING DIFFUSER(S), HANGERS, INSULATION, ETC. IN THEIR ENTIRETY. OPENING IN MEZZANINE FLOOR TO BE REUSED, SEE NEW WORK DRAWINGS. ALL MEZZANINE OPENINGS NOT BEING REUSED ARE TO BE SEALED. PATCH FLOOR AS STATED UNDER GENERAL DEMOLITION NOTES. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-6 REMOVE GROUND MOUNTED AIR COOLED CONDENSING UNIT COMPLETELY INCLUDING ALL REFRIGERANT PIPING, INSULATION, CONCRETE BASE, CONTROLS, CONTROL WIRING, SUPPORTS, VALVES, ETC. COORDINATE ALL DISCONNECT REQUIREMENTS WITH ELECTRICAL CONTRACTOR. PATCH WALL/FLOOR/ROOF AS STATED UNDER GENERAL DEMOLITION NOTES. FIELD VERIFY ALL REQUIREMENTS. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.

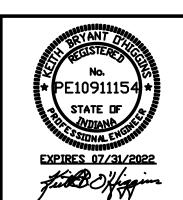
II. GENERAL

- A. ALL DEMOLITION OF THE HVAC SYSTEM AS CALLED FOR ON THE DEMOLITION DRAWINGS SHALL BE UNDER THE MECHANICAL (HVAC)
- CONTRACTORS WORK. MECHANICAL CONTRACTOR SHALL VISIT EACH SCHOOL BUILDING, BEFORE SUBMITTING HIS BID, TO VERIFY THE EXISTING CONDITIONS
- WHICH WILL AFFECT HIS WORK. BEFORE STARTING ANY DEMOLITION ON HVAC EQUIPMENT WHICH HAS AN ELECTRICAL CONNECTION. THE MECHANICAL CONTRACTOR SHALL MEET WITH THE ELECTRICAL CONTRACTOR TO IDENTIFY ALL SUCH EQUIPMENT. THE ELECTRICAL CONTRACTOR WILL DISCONNECT THE
- POWER TO EACH UNIT, REMOVE CONDUIT, WIRING, DISCONNECT SWITCHES AND STARTERS UNDER HIS CONTRACT. MECHANICAL CONTRACTOR WILL REMOVE ALL EQUIPMENT, ELECTRIC TEMPERATURE CONTROL WIRING AND CONDUIT UNDER THIS CONTRACT. MECHANICAL CONTRACTOR SHALL VERIFY SIZE OF ALL EXISTING OPENINGS, DOORS, ETC., FOR GETTING EQUIPMENT AND MATERIAL OUT OF BUILDING. MECHANICAL CONTRACTOR SHALL PROVIDE ANY NEW OR ENLARGED OPENINGS IN EXISTING BUILDING CONSTRUCTION
- REQUIRED TO FACILITATE EXITING OF HIS EQUIPMENT/MATERIAL AND RESTORE SUCH OPENINGS TO THEIR ORIGINAL STATE AFTER COMPLETION. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN CLEAN-UP THROUGHOUT THE COURSE OF THE DEMOLITION WORK. IN
- THE EVENT HE FAILS TO PROVIDE SUCH CLEAN-UP THE ARCHITECT/ENGINEER WILL DIRECT THE CLEAN-UP TO BE PERFORMED BY ANOTHER CONTRACTOR AND THE MECHANICAL CONTRACTOR WILL BE BACK-CHARGED AS DEEMED APPROPRIATE BY ARCHITECT/ENGINEER. ALL EQUIPMENT, MATERIAL, ETC. THAT IS BEING DEMOLISHED WILL BECOME THE PROPERTY OF THE MECHANICAL CONTRACTOR. ALL SUCH ITEMS WILL BE REMOVED FROM THE BUILDING SITE BY THE MECHANICAL CONTRACTOR. NO ITEM WHICH IS BEING REMOVED UNDER THE
- DEMOLITION CONTRACT MAY BE REUSED UNDER THE NEW WORK CONTRACT. G. SEQUENCE OF ALL DEMOLITION WORK SHALL BE IN STRICT ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS AND/OR AS DIRECTED BY
- ARCHITECT/ENGINEER. H. THE CONTRACTOR PERFORMING THE DEMOLITION WORK SHALL REMOVE NO MORE THAN 8" OF BUILDING MATERIAL AROUND EACH DEVICE
- BEING DEMOLISHED. ALL ROOF PATCHING MUST BE PERFORMED BY OLSSON ROOFING TO COMPLY WITH THE CARLISLE EPDM WARRANTY.
- MECHANICAL CONTRACTOR MUST COORDINATE WORK ASSOCIATED WITH ALL NEW ROOF PENETRATIONS AND CAPPING EXISTING PENETRATIONS WITH OLSSON ROOFING.
- K. ROOFING PLANS FOR ROOFING WORK IN PROGRESS BY OLSSON ROOFING WILL BE PROVIDED FOR "REFERENCE ONLY" TO THE HVAC CONTRACTORS.
- L. THE PATCHING OF FINISHED FLOORING MATERIALS IS TO BE PERFORMED BY A FLOORING CONTRACTOR AND PAID FROM AN ALLOWANCE.

 THIS CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL LABOR AND MATERIAL REQUIRED TO PATCH ALL OPENINGS IN EXISTING WALLS AND FIRE SEPARATIONS CREATED BY THE REMOVAL OF THIS TRADES MATERIAL AND EQUIPMENT WHERE THESE OPENINGS ARE NOT TO BE REUSED. PATCHING OF ALL EXISTING CONCRETE FLOOR OPENINGS IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.



AREA OF WORK

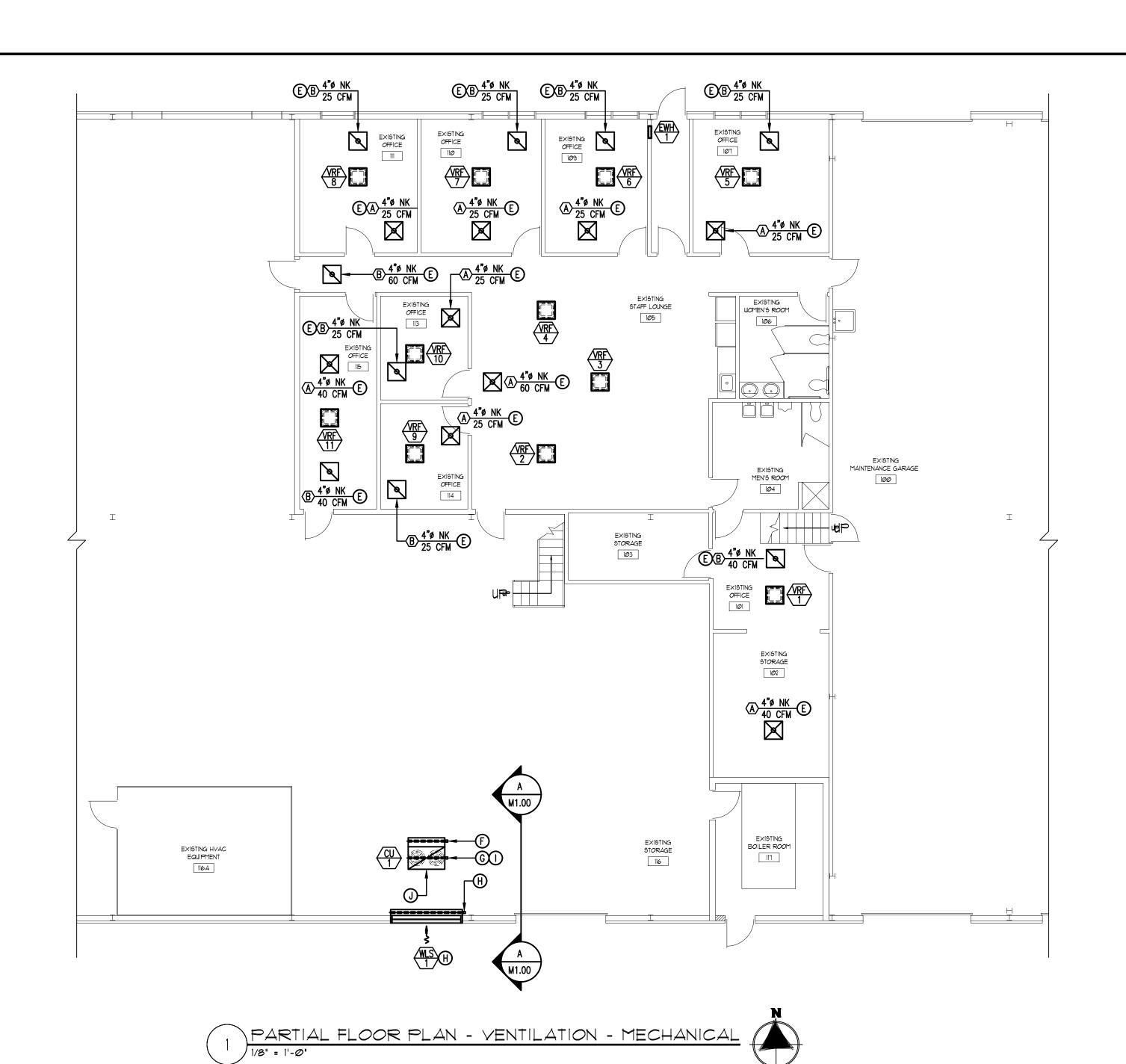


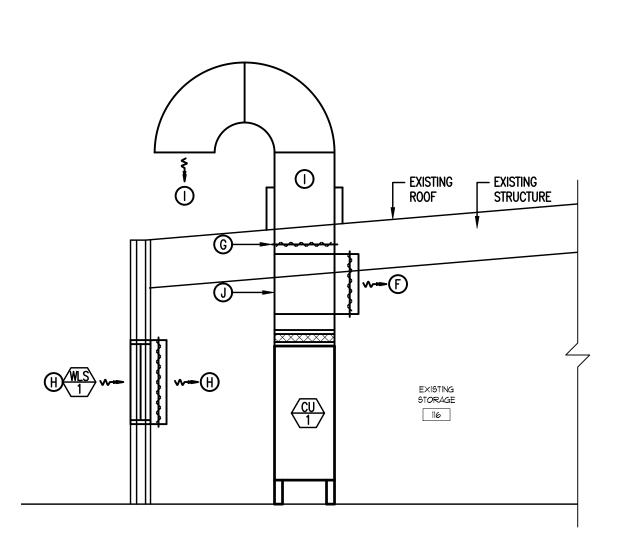
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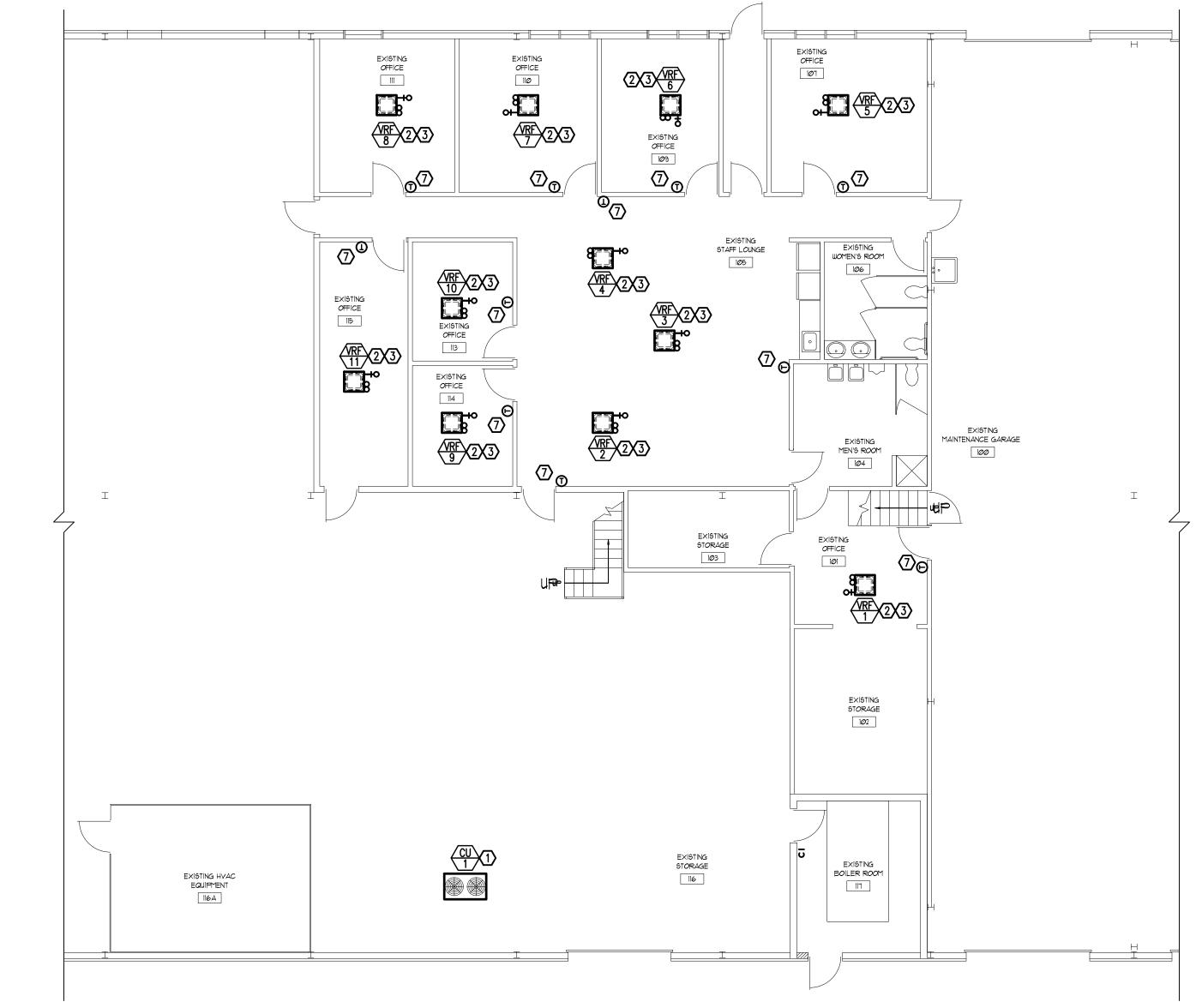






MECHANICAL VENTILATION NEW WORK NOTES

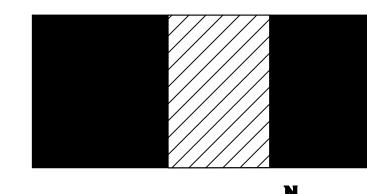
- A PROVIDE AND INSTALL INTAKE/RELIEF HOOD. PROVIDE MOTORIZED DAMPER(S) AT IH/RH. COORDINATE WITH EXISTING STRUCTURAL STEEL. CUT/PATCH ROOF. SEE LARGE SCALE DETAILS AND ARCHITECTURAL DRAWINGS ADDITIONAL
- (B) INSULATED SUPPLY/RETURN/EXHAUST AIR DUCT. RUN DUCTWORK ABOVE MEZZANINE FLOOR. SUPPORT FROM ROOF
- © 10" SUPPLY/RETURN/EXHAUST/OUTDOOR AIR DUCTWORK TO/FROM ERV. PROVIDE FLEXIBLE CONNECTION AT EACH ERV DUCT CONNECTION. HANG ERV FROM EXISTING STRUCTURE (BEAM/JOIST) WITH ISOLATORS, PROVIDE ADDITIONAL SUPPORTS AS REQUIRED BY FIELD CONDITIONS. COORDINATE ERV WITH EXISTING BUILDING STRUCTURE. FIELD VERIFY REQUIREMENTS. SEE SPECIFICATIONS AND LARGE SCALE DETAILS FOR ADDITIONAL REQUIREMENTS.
- D ELECTRIC DUCT COIL, SEQUENCE WITH ERV AND DISCHARGE AIR SENSOR. SEE SEQUENCE OF OPERATION FOR ADDITIONAL
- (E) PROVIDE INSULATED SHEET METAL DUCT THROUGH MEZZANINE FLOOR WITH FLEX. ABOVE MEZZANINE. PROVIDE NEW OPENING OR ENLARGE EXISTING OPENING THROUGH MEZZANINE FLOOR.
- F INSULATED (WRAPPED) EXHAUST AIR DUCTWORK/DAMPER (W/END SWITCH) 48"x30" (WINTER)
- G INSULATED (WRAPPED) EXHAUST AIR DUCTWORK/DAMPER (W/END SWITCH) 48"x30" (SUMMER)
- H) INSULATED (WRAPPED) OUTDOOR AIR LOUVER, DUCTWORK AND DAMPER (W/END SWITCH) 96"x42".
- EX.D-30"x48" THROUGH ROOF WITH PITCHED ROOF CURB AND GOOSENECK.
- ACCESS DOOR. SIZE PER MANUFACTURERS SERVICE REQUIREMENTS.



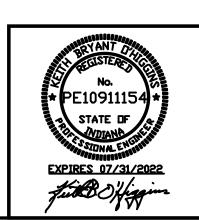
PARTIAL FLOOR PLAN - PIPING - MECHANICAL

MECHANICAL PIPING NEW WORK NOTES

- PROVIDE AND INSTALL FLOOR MOUNTED CONDENSING UNIT ON 12" HIGH EQUIPMENT RAILS. PROVIDE NEW REFRIGERANT PIPING TO RUN TO/FROM AIR COOLED CONDENSER AND/OR HEAT RECOVERY UNIT(S) AND/OR INDOOR VRF UNIT(S). SEE LARGE SCALE DETAILS FOR ADDITIONAL REQUIREMENTS. FIELD VERIFY ROUTING AND PIPE SIZE WITH VRF UNIT MANUFACTURER.
- 2 VRF UNIT: PROVIDE REFRIGERANT PIPING TO RUN TO/FROM HR UNITS AND INDOOR VRF UNITS. PROVIDE 1" INSULATED CONDENSATE PIPE FROM VRF UNIT. RISE CONDENSATE OFF OF VRF UNIT AND RUN CONDENSATE PIPE IN JOIST SPACE AS HIGH AS POSSIBLE. COORDINATE LOCATION OF VRF UNITS WITH CEILING GRID AND EXISTING BUILDING STRUCTURE. HANG VRF UNIT FROM EXISTING STRUCTURE (BEAM/JOIST) WITH ISOLATORS, PROVIDE ADDITIONAL SUPPORTS AS REQUIRED BY FIELD CONDITIONS. REMOVE/REINSTALL JOIST BRIDGING AS REQUIRED TO INSTALL VRF UNITS. FIELD VERIFY REQUIREMENTS. FIELD VERIFY PIPE ROUTING AND PIPE SIZE WITH VRF UNIT MANUFACTURER. COORDINATE PIPE RUNS WITH CEILING REMOVAL/REPLACEMENT. PIPING TO RUN IN/THRU EXISTING JOIST SPACE. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- RUN INSULATED CONDENSATE AS HIGH AS POSSIBLE ABOVE MEZZANINE FLOOR AND THROUGH EXISTING JOISTS AND JOIST WEBBING (TYPICAL). SEE PLANS FOR PIPE SIZES.
- (4) 2-1/2" INSULATED CONDENSATE DROP IN SINK IN MAINTENANCE BAY WITH AIR GAP. CUT/PATCH EXISTING WALL.
- 5) HR UNIT: PROVIDE REFRIGERANT PIPING TO RUN TO/FROM AIR COOLED CONDENSER AND/OR INDOOR VRF UNITS. COORDINATE LOCATION OF HR UNITS WITH CEILING GRID AND EXISTING BUILDING STRUCTURE. HANG HR UNIT FROM EXISTING STRUCTURE (BEAM/JOIST), PROVIDE ADDITIONAL SUPPORTS AS REQUIRED BY FIELD CONDITIONS. COORDINATE HR UNITS WITH EXISTING BUILDING STRUCTURE. FIELD VERIFY REQUIREMENTS. FIELD VERIFY PIPE ROUTING AND PIPE SIZE WITH VRF UNIT MANUFACTURER. COORDINATE PIPE RUNS WITH CEILING REMOVAL/REPLACEMENT. PIPING TO RUN IN/THRU EXISTING JOIST SPACE. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
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- THERMOSTAT/SENSOR. CUT/PATCH EXISTING WALL AS REQUIRED TO INSTALL. PAINT WALL TO MATCH EXISTING.
- 8 PROVIDE INSULATED DRAIN PAN WITH CONDENSATE PUMP, FLOAT AND OVERFLOW ALARM. SELECT PUMP AND SUBMIT FOR APPROVAL. EXTEND INSULATED CONDENSATE TO BOILER ROOM FLOOR DRAIN. SEE PLANS FOR ROUTING.



AREA OF WORK

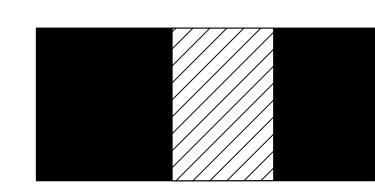




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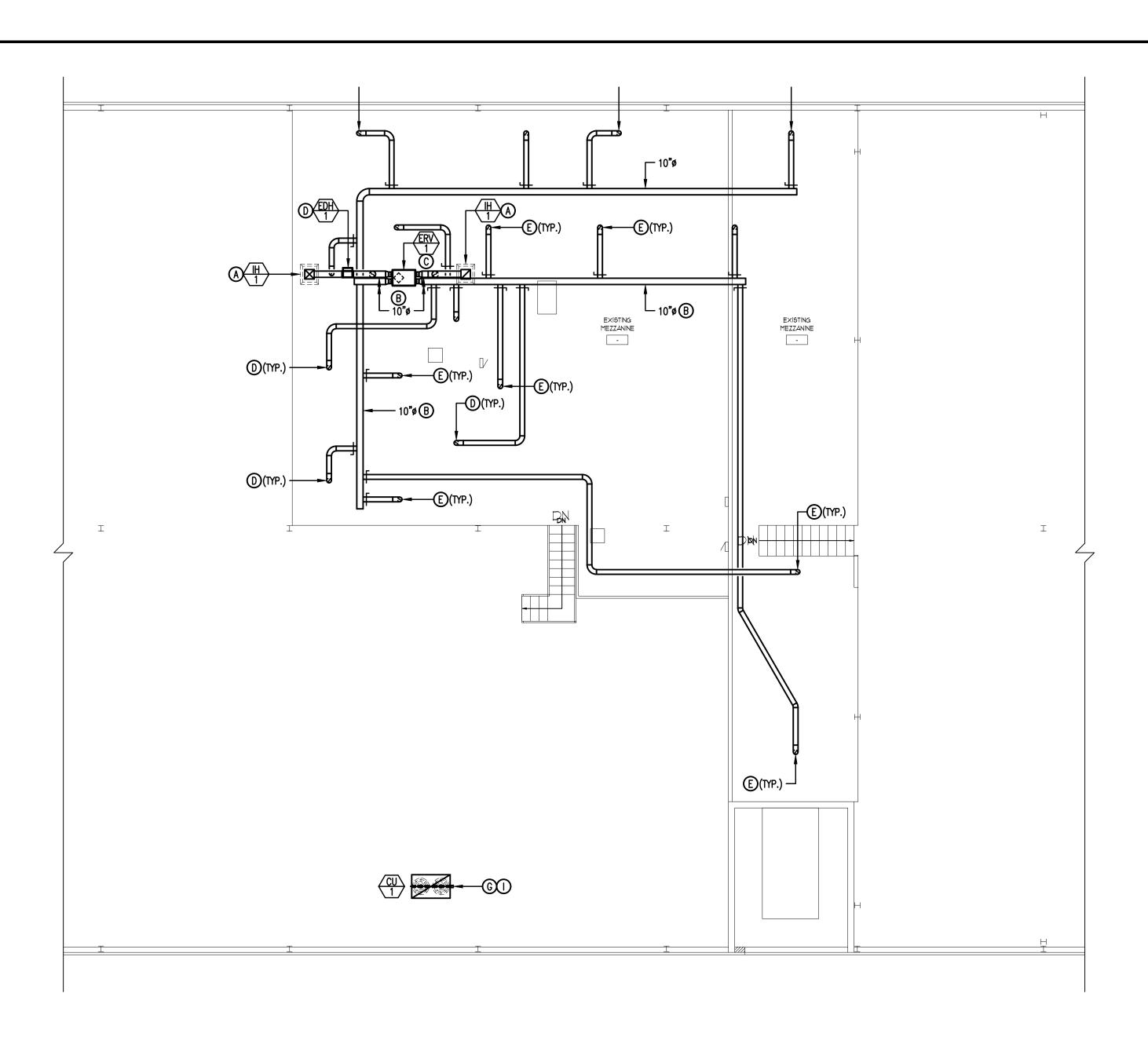
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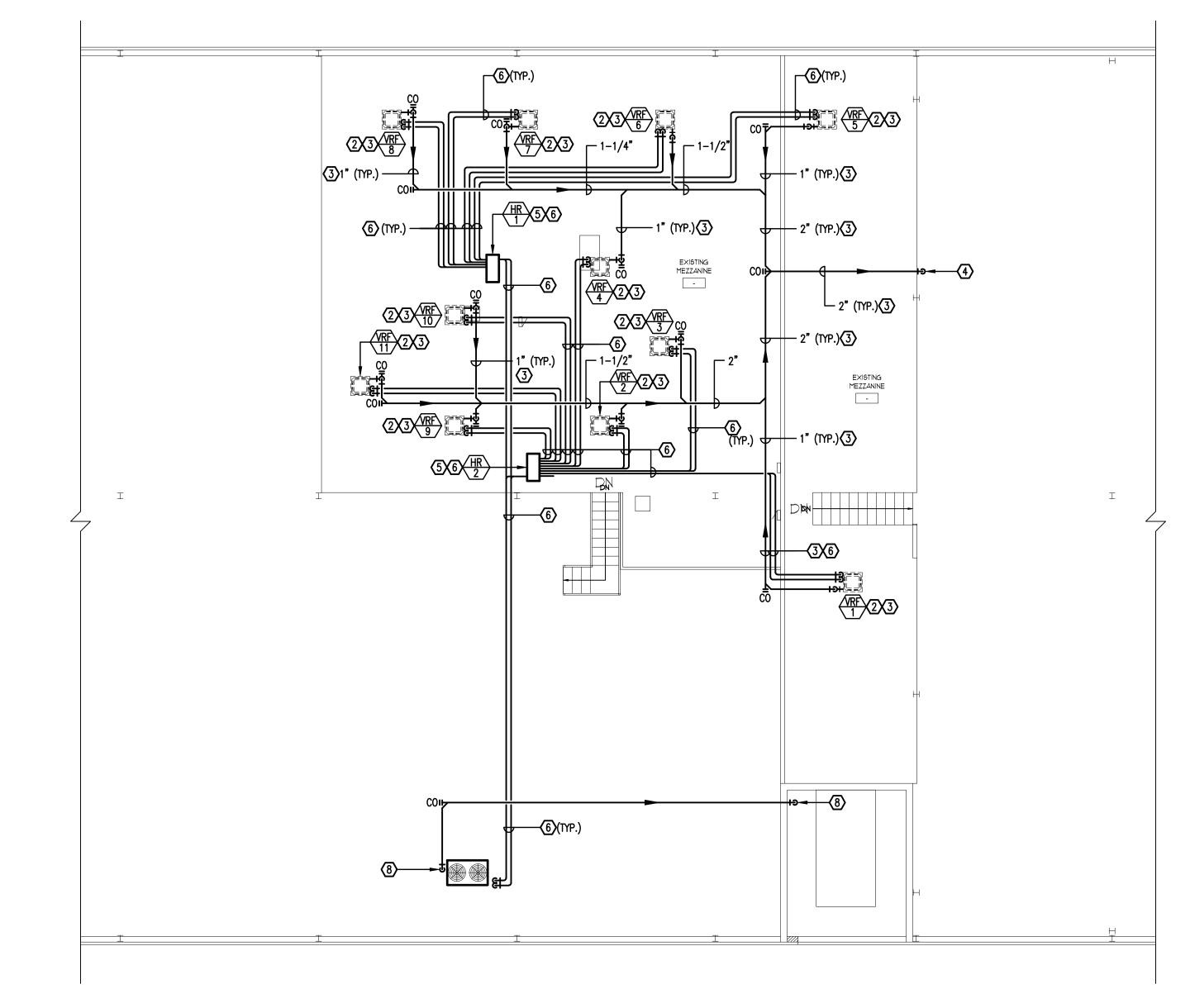
SECTION A-A





MECHANICAL VENTILATION NEW WORK NOTES

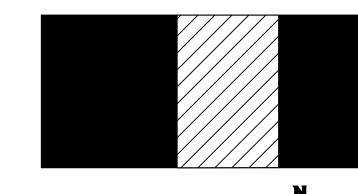
- (A) PROVIDE AND INSTALL INTAKE/RELIEF HOOD. PROVIDE MOTORIZED DAMPER(S) AT IH/RH. COORDINATE WITH EXISTING STRUCTURAL STEEL. CUT/PATCH ROOF. SEE LARGE SCALE DETAILS AND ARCHITECTURAL DRAWINGS ADDITIONAL REQUIREMENTS.
- B INSULATED SUPPLY/RETURN/EXHAUST AIR DUCT. RUN DUCTWORK ABOVE MEZZANINE FLOOR. SUPPORT FROM ROOF
- © 10" SUPPLY/RETURN/EXHAUST/OUTDOOR AIR DUCTWORK TO/FROM ERV. PROVIDE FLEXIBLE CONNECTION AT EACH ERV DUCT CONNECTION. HANG ERV FROM EXISTING STRUCTURE (BEAM/JOIST) WITH ISOLATORS, PROVIDE ADDITIONAL SUPPORTS AS REQUIRED BY FIELD CONDITIONS. COORDINATE ERV WITH EXISTING BUILDING STRUCTURE. FIELD VERIFY REQUIREMENTS. SEE SPECIFICATIONS AND LARGE SCALE DETAILS FOR ADDITIONAL REQUIREMENTS.
- ELECTRIC DUCT COIL, SEQUENCE WITH ERV AND DISCHARGE AIR SENSOR. SEE SEQUENCE OF OPERATION FOR ADDITIONAL REQUIREMENTS.
- E PROVIDE INSULATED SHEET METAL DUCT THROUGH MEZZANINE FLOOR WITH FLEX. ABOVE MEZZANINE. PROVIDE NEW OPENING OR ENLARGE EXISTING OPENING THROUGH MEZZANINE FLOOR.
- F INSULATED (WRAPPED) EXHAUST AIR DUCTWORK/DAMPER (W/END SWITCH) 48"x30" (WINTER)
- (G) INSULATED (WRAPPED) EXHAUST AIR DUCTWORK/DAMPER (W/END SWITCH) 48"x30" (SUMMER)
- (W/END SWITCH) 96"x42". EX.D-30"x48" THROUGH ROOF WITH PITCHED ROOF CURB AND GOOSENECK.
- ACCESS DOOR. SIZE PER MANUFACTURERS SERVICE REQUIREMENTS.



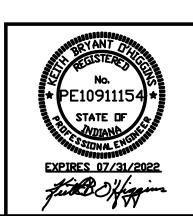


MECHANICAL PIPING NEW WORK NOTES

- PROVIDE AND INSTALL FLOOR MOUNTED CONDENSING UNIT ON 12" HIGH EQUIPMENT RAILS. PROVIDE NEW REFRIGERANT PIPING TO RUN TO/FROM AIR COOLED CONDENSER AND/OR HEAT RECOVERY UNIT(S) AND/OR INDOOR VRF UNIT(S). SEE LARGE SCALE DETAILS FOR ADDITIONAL REQUIREMENTS. FIELD VERIFY ROUTING AND PIPE SIZE WITH VRF UNIT MANUFACTURER.
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- HR UNIT: PROVIDE REFRIGERANT PIPING TO RUN TO/FROM AIR COOLED CONDENSER AND/OR INDOOR VRF UNITS. COORDINATE LOCATION OF HR UNITS WITH CEILING GRID AND EXISTING BUILDING STRUCTURE. HANG HR UNIT FROM EXISTING STRUCTURE (BEAM/JOIST), PROVIDE ADDITIONAL SUPPORTS AS REQUIRED BY FIELD CONDITIONS. COORDINATE HR UNITS WITH EXISTING BUILDING STRUCTURE. FIELD VERIFY REQUIREMENTS. FIELD VERIFY PIPE ROUTING AND PIPE SIZE WITH VRF UNIT MANUFACTURER. COORDINATE PIPE RUNS WITH CEILING REMOVAL/REPLACEMENT. PIPING TO RUN IN/THRU EXISTING JOIST SPACE. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
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- 8 PROVIDE INSULATED DRAIN PAN WITH CONDENSATE PUMP, FLOAT AND OVERFLOW ALARM. SELECT PUMP AND SUBMIT FOR APPROVAL. EXTEND INSULATED CONDENSATE TO BOILER ROOM FLOOR DRAIN. SEE PLANS FOR ROUTING.



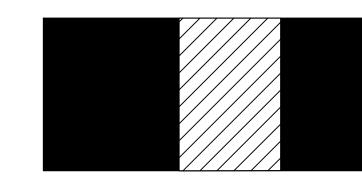
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M	LOCATION	AREA SERVED	MANUFACTURER	MODEL NUMBER	TYPE	CORRECTED COOLING (BTUH)	CORRECTED SENSIBLE COOLING (BTUH)	CORRECTED HEATING (BTUH)	CFM	EAT D.B. (°F)	EAT W.B. (°F)	HTG EAT DB (°F)	Filter Type	RLA	VOLT/PH	DIMENSIONS LxWXH (IN.)		TAG	MANF.	MODEL NUMBER	WEIGHT (LB.S)	DIMENSIONS LxWXH (IN.)	CORRECTED TOTAL COOLING (MBH)	CORRECTED TOTAL HEATING (MBH)	AMBIENT AIR (°F)	IEER	MCA	MOCP	VOLTS/ PHASE	NOTES
VRF 1	EXISTING OFFICE 101/102	EXISTING OFFICE 101	LG	ARNU153TQD4	4-WAY CASSETTE	12,560	9,601	12,440	388	75	63	70	WASHABLE	0.2	208/1	22x22x10		(CU 1	LG	ARUM168BTE5	694	49x30x67	137,754	136,435	95.0/75.0 -10.0	25.4	54.0	70	208/3	1,2,3,4,5,6,7,9
VRF 2	EXISTING STAFF LOUNGE 105	EXISTING STAFF LOUNGE 105	LG	ARNU183TQD4	4-WAY Cassette	15,578	11,956	15,429	396	75	63	70	WASHABLE	0.2	208/1	22x22x10														1,2,3,4,5,6,7,9
$\frac{\sqrt{\text{RF}}}{3}$	EXISTING STAFF LOUNGE 105	EXISTING STAFF LOUNGE 105	LG	ARNU183TQD4	4-WAY CASSETTE	15,578	11,956	15,429	396	75	63	70	WASHABLE	0.2	208/1	22x22x10														1,2,3,4,5,6,7,9
VRF 4	EXISTING STAFF LOUNGE 105	EXISTING STAFF LOUNGE 105	LG	ARNU183TQD4	4-WAY Cassette	15,578	11,956	15,429	396	75	63	70	WASHABLE	0.2	208/1	22x22x10														1,2,3,4,5,6,7,9
VRF 5	EXISTING OFFICE 107	EXISTING OFFICE 107	LG	ARNU153TQD4	4-WAY Cassette	12,560	9,601	12,440	388	75	63	70	WASHABLE	0.2	208/1	22x22x10	OUTDOOR													1,2,3,4,5,6,7,9
VRF 6	EXISTING OFFICE 109	EXISTING OFFICE 109	LG	ARNU153TQD4	4-WAY Cassette	12,560	9,601	12,440	388	75	63	70	WASHABLE	0.2	208/1	22x22x10	SECTION													1,2,3,4,5,6,7,9
VRF 7	EXISTING OFFICE 110	EXISTING OFFICE 110	LG	ARNU153TQD4	4-WAY CASSETTE	12,560	9,601	12,440	388	75	63	70	WASHABLE	0.2	208/1	22x22x10														1,2,3,4,5,6,7,9
VRF 8	EXISTING OFFICE 111	EXISTING OFFICE 111	LG	ARNU153TQD4	4-WAY CASSETTE	12,560	9,601	12,440	388	75	63	70	WASHABLE	0.2	208/1	22x22x10														1,2,3,4,5,6,7,9
VRF 9	EXISTING OFFICE 113	EXISTING OFFICE 113	LG	ARNU093TRD4	4-WAY CASSETTE	7,830	6,013	7,755	283	75	63	70	WASHABLE	0.2	208/1	22x22x10														1,2,3,4,5,6,7,9
VRF 10	EXISTING OFFICE 114	EXISTING OFFICE 114	LG	ARNU093TRD4	4-WAY CASSETTE	7,830	6,013	7,755	283	75	63	70	WASHABLE	0.2	208/1	22x22x10		V												1,2,3,4,5,6,7,9
VRF 11	EXISTING OFFICE 115	EXISTING OFFICE 115	LG	ARNU153TQD4	4-WAY CASSETTE	12,560	9,601	12,440	388	75	63	70	WASHABLE	0.2	208/1	22x22x10		(CU 1												1,2,3,4,5,6,7,9
NOTES:	·				·				·												·									

VRF REFRIGERANT BOXES (OWNER PROVIDED) GENERAL DATA ELECTRICAL DATA TAG LOCATION MODEL NO. MANUFACTURER SYSTEM VOLT PH RLA 0.2 PRHR043A (CU) 208 1,2 PRHR083A LG 0.2

. PROVIDE ISOLATION VALVES AT EACH CONNECTION.

2. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

			DIFFUSER, GRII	LLE AND REGIS	STER O NEC	K SIZE QTY. (CFM)	
TAG	MANUF.	MODEL NUMBER	TYPE	SERVICE	MATERIAL	MAXIMUM NC	NOTES
(A)	TITUS	TMS-AA	24"x24" LOUVER FACE DIFFUSER	SUPPLY	ALUMINUM	25	1,2,3
A	TITUS	350RL	35° BLADE – 3/4"	Transfer/exhaust/ Return	ALUMINUM	25	1,2,3

POLYESTER

15

OFF-WHITE BAKED ENAMEL FINISH

3. PROVIDE FRAME COMPATIBLE WITH CEILING, FIELD VERIFY

MERV-8 PLOYESTER 1"

MERV-8 1,2,3,4,5,6

LAY-IN FRAME

38

. PROVIDE CONDENSATE PUMP. 6. MECHANICAL CONTRACTOR TO PROVIDE ALL MOUNTING AND ISOLATION HARDWARE FOR CEILING CASSETTE UNITS.

EV300

DISCONNECT BY ELEC. CONTRACTOR. 7. MECHANICAL CONTRACTOR TO PROVIDE AND EQUIPMENT SUPPORT RAILS AND CONDENSATE PAN WITH DRAIN FOR CONDENSING UNIT ON GRADE. VERIFY REQUIREMENTS WITH MANUFACTURER. REFRIGERANT LINE KITS BY MECHANICAL CONTRACTOR. 8. ALTERNATE BID.

9. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

4. SIMULTANEOUS HEATING/COOLING PROVIDE REMOTE THERMOSTAT.

				El	NERGY RECOVERY VE	'ENTILATOR SCHEDULE (ERV)							
	GENERAL DATA	DIMENSIONAL DATA (IN.)	SUPPLY FAN DATA	EXHAUST FAN DATA		ENERGY	WHEEL			ELE	ECTRICAL	FILT	TERS
	OPERA OPERA	ING	FSP MOTOR	FSP MOTOR	`	SUMMER/COOLING		WINTER/HEATING				OUTDOOR AIR	ROOM AIR
TA	ag location area served manufacturer model number type Weig	^t Length Width Height	· CFM CIN DRIVE MOTOR VFD FLA	CFM (IN) MOTOR VFD FLA	OUTDOOR AIR	FRESH AIR ROOM AIR	OUTDOOR AIR	FRESH AIR	ROOM AIR V	VOLT/PH	MCA MOPD		

1. DISCONNECT TO BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

renewaire

OFFICES

4. BAS CONTRACTOR TO PROVIDE CURRENT SENSOR FOR PROOF OF OPERATION.

2. FAN TO BE CONTROLLED BY BAS CONTRACTOR BASED ON OCCUPANCY. 3. VIBRATION ISOLATORS TO BE PROVIDED BY THE MECHANICAL CONTRACTOR. 5. SEQUENCE INTAKE/RELIEF HOOD DAMPERS WITH ERV. 6. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

							ELE	CTRIC	C WALL	UNIT H	EATER SC	HEDULE (<u>CWH</u>							
		GENERAL DA	NTA .		FAN	DATA	HEAT	TING COIL	DATA			CABINE	T DATA				ELEC	TRICAL DATA		
TAG	LOCATION	MANUFACTURER	MODEL NUMBER	TYPE	CFM	RPM	KW	PHASE	VOLT	MOUNTING	ARRANGEMENT	PROJECTION	MOUNTING HEIGHT	LENGTH (IN.)	HEIGHT (IN.)	DEPTH (IN.)	AMPS	VOLT	PH	NOTES
EWH 1	CORRIDOR	BERKO	FRC4020	WALL CABINET RECESSED	100		4.0	1	208	WALL	TOP/F SUPPLY BOT/F RETURN	NONE	6" AFF	16	20	4	10.8	277	1	1,2,3,4,5,6

1. BUILT IN DISCONNECT.

3. COLOR AS SELECTED BY ARCHITECT. 4. PROVIDE BUILT-IN THERMOSTAT.

2. PROVIDE RECESSING FLANGE/SLEEVE AND MOUNTING HARDWARE

5. HEAVY DUTY UNIT WITH RELAY TO ALLOW CONTROL FROM BAS CONTRACTOR AND TIME-DELAY RELAY.

6. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

				EL	ECTRIC	DUC	T HE	ATER	SCHED	OULE (EDI	}				
		GENERAL DATA	4					COIL	. Data			ELEC	TRICAL D	ATA	
TAG	LOCATION	AREA SERVED	MANUF.	MODEL Number	SIZE (IN.)	CFM	EAT (°F)	LAT (°F)	SP (IN.)	STAGES	TYPE	KW	VOLT	PH	NOTES
	MEZZANINE	OFFICES	RENEWAIRE	RH-D	10 " ø	290	-10.0	55.1	0.1	SCR	INLINE OPEN COIL	6.0	208	1	1,2

. OVER-TEMPERATURE PROTECTION, TRANSFORMER, AIRFLOW SWITCH, ROUND DUCT COLLARS, DUCT TEMPERATURE SENSOR AND MOUNTING FLANGES.

. INTERLOCK WITH ERV. SCR CONTROLLER TO BE CONTROLLED BY BAS CONTRACTOR TO MAINTAIN 50°F DURING OCCUPIED HEATING SEASON.

				WALL	LOUVER S	CHEDULE	WLS			
TAG	MANUFACTURER	MODEL NUMBER	SIZE	LOCATION	AREA/EQUIPMENT SERVIED	CFM	FREE AREA (SQ. FT.)	VELOCITY (FPM)	PRESSURE DROP (IN.)	NOTES
WLS 1	RUSKIN	ELF6350DMP	96" x 42"	STORAGE	CU-1	11,500	17.13	670	0.06	1,2,3,4

. PROVIDE BIRDSCREEN. 3. 6" DEEP STATIONARY DRAINABLE.

. PROVIDE ANODIZED FINISH, COLOR BE SELECTED BY

4. CONTRACTOR TO FIELD VERIFY LOUVER WIDTH AND HEIGHT OF LOUVER PRIOR TO RELEASING.

MECHANICAL / ELECTRICAL COORDINATION SCHEDULE

25.6

1. EQUIPMENT FURNISHED BY THE ELECTRICAL CONTRACTOR (MARK 'E'), HEATING CONTRACTOR (MARK 'H'), VENTILATING CONTRACTOR (MARK 'V').

2.4 53.4 43.4

2. ALL CONDUIT AND WIRING FOR TEMPERATURE CONTROL AND EQUIPMENT INTERLOCK SHALL BE BY BAS CONTRACTOR. OTHER CONTROLS AND CONTROL CONDUITS/WIRING BY TRADE FURNISHING RESPECTIVE

70.0 54.4

3. E.C. SHALL COORD. & REVIEW THE ELECTRICAL CHARACTERISTICS, AMPACITY & OTHER REQUIREMENTS OF COMPONENTS BEFORE INSTALLATION OF WORK. ALL OTHER CONTRACTORS SHALL ADVISE E.C. OF ANY MOTOR/DEVICE CHANGES.

4. ALL LOOSE STARTERS SHALL INCLUDE HOA SWITCH, PILOT LIGHT MOUNTED IN COVER, CONTROL TRANSFORMER, AND ONE N.O. AND ONE N.C. AUXILIARY CONTACTS.

5. SEE SPECIFICATIONS AND DRAWINGS FOR TYPES AND LOCATIONS OF DEVICES SCHEDULED BELOW.

-10.0 -10.5

			UNIT MOU	NTED DEVICES			LOOSE DEVICES	S	
TAG	EQUIPMENT DESCRIPTION	STARTER	DISCONNECT	OVERCURRENT PROTECTION	SINGLE POINT CONNECTION	STARTER	DISCONNECT	OVERCURRENT PROTECTION	REMARKS
VRF	VARIABLE REFRIGERANT FLOW UNIT	-	-	-	YES	-	E	E	
CU	CONDENSING UNIT	ı	ı	ı	YES	ı	E	E	
HR	VRF REFRIGERANT BOX	-	-	-	YES	-	E	E	
EDH)	ELECTRIC DUCT HEATER	ı	ı	ı	YES	ı	E	E	
(ERV)	ENERGY RECOVERY VENTILATOR	ı	ı	ı	YES	ı	E	E	
EWH	ELECTRIC WALL HEATER	-	_	_	YES	-	E	E	
NOTES:	1. VERIFY FINAL LOADS AN	ND REQUIREME	ENTS WITH FINAL N	IECHANICAL DRAWIN	NGS.				

INTAKE/RELIEF HOOD SCHEDULE (III) (RIII)												
GENERAL DATA						HOOD DATA						
TAG	LOCATION	AREA SERVED	MANUFACTURER	MODEL	TYPE	NO. OF TIERS	CFM	S.P. (IN.)	ROOF OPENING (IN. x IN.)	FREE AREA (SQFT)	THROAT VEL. (FPM)	NOTES
(IH)	ROOF	ERV-1	соок	TRE	INTAKE	2	290		12 x 12	1.0	290	1,2,3,4
$\frac{\mathbb{R}H}{2}$	ROOF	ERV-1	соок	TRE	EXHAUST	2	290		12 x 12	1.0	290	1,2,3,4

I. GALVANIZED BIRD SCREEN.

75.0 62.6

81.9

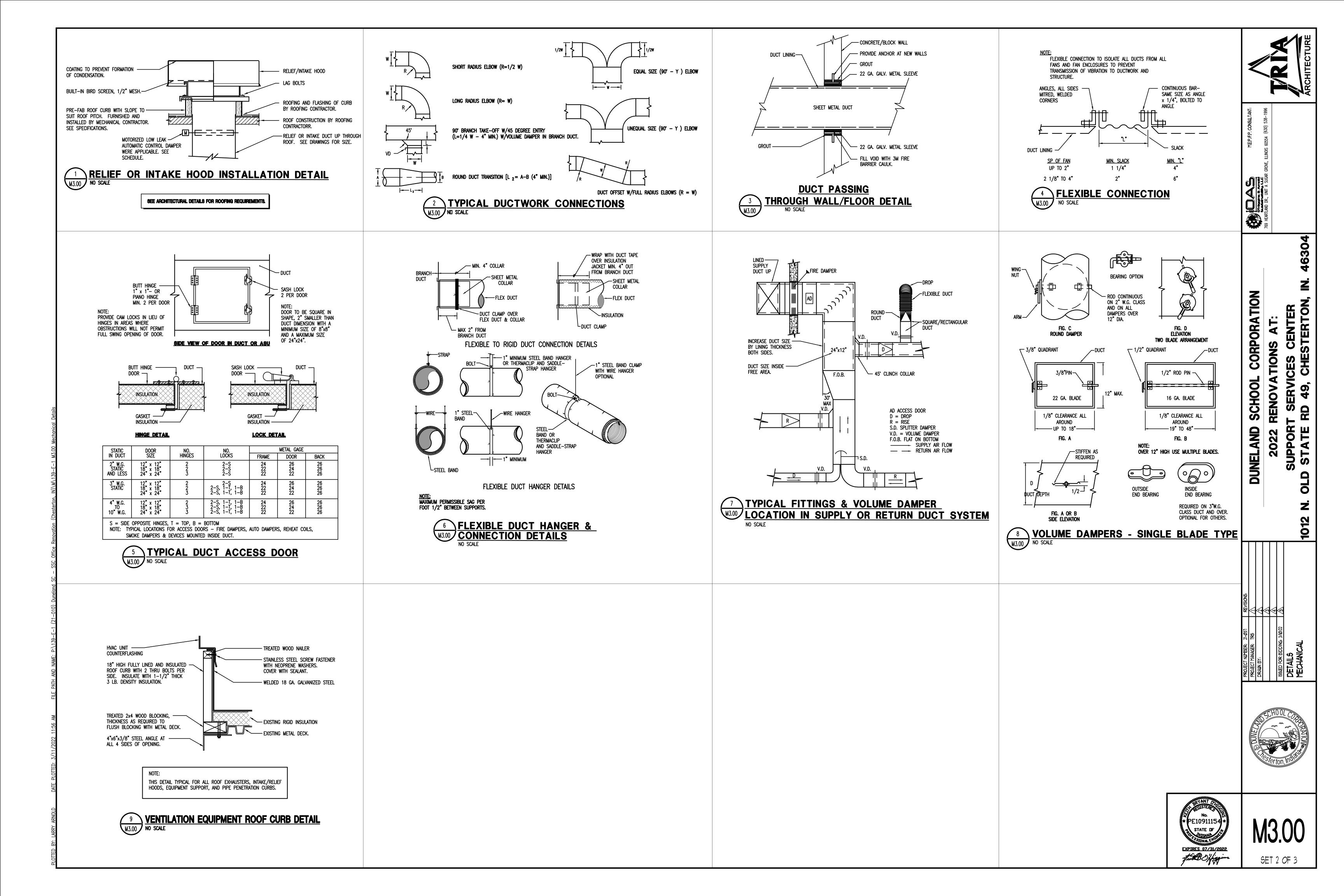
2. PREFABRICATED PITCHED ROOF CURB MINIMUM 18" HIGH.

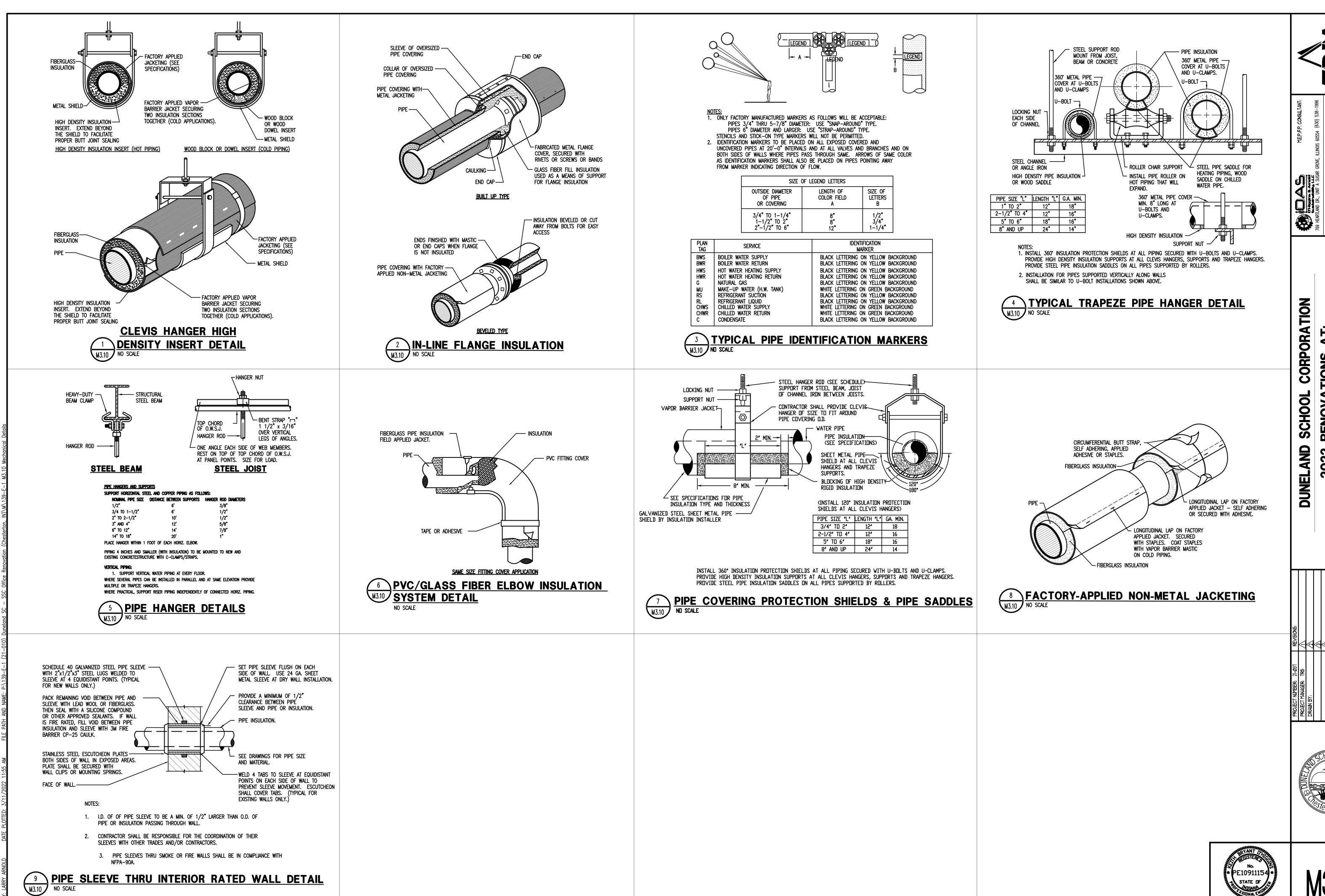
3. 1" THICK THERMAL LINER. 4. PROVIDE LOW LEAK MOTORIZED DAMPER. EXPIRES 07/31/2022

CORPORATION

SCHOOL

OLD





EXPIRES 07/31/2022 fut BOHjagin

SET 2 OF 3

OLD

GENERAL NOTES FOR MECHANICAL WORK

- DRAWINGS ARE GENERALLY DIAGRAMMATIC. ROUTING OF PIPING AND DUCTWORK AS SHOWN, DOES NOT INTEND TO SHOW EVERY RISE, DROP, OFFSET, FITTING NOR EVERY STRUCTURAL ELEMENT THAT MAY BE ENCOUNTERED DURING THE INSTALLATION OF THIS WORK. EACH CONTRACTOR SHALL MAKE ANY REQUIRED CHANGES FROM THE GENERAL ROUTING SHOWN ON THESE DRAWINGS, SUCH AS OFFSETS, BENDS OR CHANGES IN ELEVATION DUE TO COORDINATION WITH THE WORK OF OTHER TRADES AND BUILDING CONSTRUCTION. ALL CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER OR DELAY IN COMPLETION DATE OF THE PROJECT.
- 2. IT IS INTENDED THAT EQUIPMENT SHALL BE LOCATED SYMMETRICALLY WITH THE ARCHITECTURAL ELEMENTS OF THE BUILDING, NOTWITHSTANDING THE FACT THAT LOCATIONS INDICATED BY THESE DRAWINGS MAY BE DISTORTED FOR CLEARNESS OF PRESENTATION.
- . CONTRACTOR SHALL CHECK DRAWINGS OF OTHER TRADES TO VERIFY THAT SPACES IN WHICH THEIR WORK WILL BE INSTALLED ARE CLEAR OF OBSTRUCTIONS. WORK SHALL BE INSTALLED TO MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITION AT ALL POINTS IN THE BUILDING. WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE, CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE INSTALLATION OF THEIR WORK.
- 4. CONTRACTOR SHALL FURNISH OTHER TRADES ADVANCE INFORMATION AND/OR SHOP DRAWINGS ON LOCATIONS AND SIZES OF PIPING, DUCTWORK, EQUIPMENT, FRAMES, BOXES, SLEEVES AND OPENINGS, ETC. NEEDED FOR THEIR WORK TO PERMIT OTHER TRADES AFFECTED TO INSTALL THEIR WORK PROPERLY AND WITHOUT DELAY.
- . WHERE THERE IS EVIDENCE THAT WORK OF ONE TRADE WILL INTERFERE WITH WORK OF OTHER TRADES, ALL TRADES SHALL MEET ON JOB SITE TO WORK OUT SPACE CONDITIONS AND MAKE SATISFACTORY ADJUSTMENTS TO INSTALLATION OF THE NEW WORK. CONTRACTOR SHALL BE RESPONSIBLE, AT THEIR OWN EXPENSE, FOR THE REMOVAL AND REINSTALLATION OF ANY PART OF THEIR WORK IF SAME WAS INSTALLED WITHOUT CONSULTING WITH OTHER TRADES BEFORE INSTALLING THEIR WORK.
- 6. CONTRACTOR SHALL PROVIDE SLEEVES IN FLOORS AND WALLS AS SHOWN ON THE DRAWINGS, AS REQUIRED BY JOB SITE CONDITIONS. AND/OR AS SPECIFIED. WHEN INSTALLING THEIR WORK.
- 7. THE SEQUENCE FOR THE INSTALLATION OF ALL WORK SHALL BE COORDINATED BETWEEN ALL CONTRACTORS ON THE PROJECT AND IN STRICT ACCORDANCE WITH ARCHITECT/ENGINEER AND OWNERS STIPULATION AS CALLED FOR IN THE SPECIFICATION AND/OR AS DIRECTED.
- 8. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL AND STRUCTURAL CONTRACT DRAWINGS (BEFORE SUBMITTING THEIR BIDS) TO FAMILIARIZE THEMSELVES WITH THE EXTENT OF THE OTHER TRADES CONTRACTORS WORK, CEILING HEIGHTS AND CLEARANCE FOR INSTALLING THEIR WORK.
- PATCHING, REPAIRING AND REFINISHING OF BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OF THEIR WORK. ALL PATCHING, REPAIRING AND REFINISHING WORK SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE NEW CONSTRUCTION AS CLOSELY AS POSSIBLE. CARE SHALL BE TAKEN SO AS NOT TO DAMAGE ANY EXISTING BUILDING CONSTRUCTION OR ITEMS THAT ARE TO REMAIN. ANY EXISTING FINISHES THAT ARE DAMAGED DURING THE INSTALLATION OF NEW WORK SHALL BE REPAIRED, REPLACED AND PAID FOR BY THE INSTALLING CONTRACTOR, TO THE SATISFACTION OF THE ARCHITECT AND OWNER. REFER TO ARCHITECTURAL DRAWINGS FOR EXISTING BUILDING CONSTRUCTION THAT IS TO REMAIN AND, THEREFORE, SUBJECT TO PATCHING, REPAIRING, AND REFINISHING.
- 10. CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN CLEAN—UP DURING CONSTRUCTION. IF CONTRACTOR FAILS TO PROVIDE SUCH CLEAN—UP, THE ARCHITECT/ENGINEER WILL DIRECT ANOTHER CONTRACTOR TO PERFORM THE CLEAN—UP AND THE NEGLIGENT CONTRACTOR SHALL PAY THE ASSOCIATED BACK—CHARGES AS DEEMED APPROPRIATE BY THE ARCHITECT/ENGINEER.
- 11. CONTRACTOR SHALL INSTALL ALL AUXILIARY SUPPORTING STEEL AS REQUIRED FOR THE SUPPORTING OF THEIR PIPING, DUCTWORK, CONDUIT, TANKS, EQUIPMENT, ETC. ALL SUPPORTING STEEL FOR ITEMS ABOVE A SUSPENDED CEILING SHALL BE FROM BUILDING STRUCTURAL MEMBERS ONLY.
- 12. ALL PIPING SHALL BE SUSPENDED WITH CLEVIS AND/OR TRAPEZE PIPE HANGERS. INSULATED PIPING SHALL REST ON STEEL OR WOOD (CHILLED WATER PIPING) PIPE COVERING PROTECTION SADDLES OR SHEET METAL INSULATION SHIELDS AS CALLED FOR IN THE SPECIFICATIONS AND/OR DETAILED ON THE DRAWINGS
- 13. ALL WATER SUPPLY AND RETURN PIPING SHALL BE INSULATED, INCLUDING ALL PIPING ABOVE CEILINGS, INSIDE EQUIPMENT, CABINETS, PIPE CHASES AND IN WALLS. SEE SPECIFICATIONS FOR TYPE AND THICKNESS OF INSULATION.
- 14. ALL HOT WATER SUPPLY/RETURNS PIPING SHALL BE INSTALLED TO COMPENSATE FOR EXPANSION OF THE PIPE BY INSTALLING PIPE ANCHORS, GUIDES, EXPANSION JOINTS OR LOOPS AND PIPE OFFSETS AS REQUIRED BY FIELD CONDITIONS OR AS SHOWN ON THE DRAWINGS.
- 15. PITCH ALL SUPPLY AND RETURN WATER LINES TO DRAIN COMPLETELY THROUGH LOWER EQUIPMENT, UNIONS, OR DRAIN VALVES. INSTALL A 1/2" DRAIN VALVE WITH 3/4" HOSE THREAD OUTLET IN ALL MAIN PIPING RUNS WHICH WOULD NOT BE ABLE TO DRAIN THRU A LOWER PIECE OF EQUIPMENT. ALL DRAIN VALVES TO BE BALL VALVES.
- 16. RECESSED AND/OR SEMI—RECESSED CABINET UNIT HEATERS (CUH) SHALL BE MOUNTED A MINIMUM OF 8" ABOVE THE FLOOR AND HAVE A FOUR (4) SIDE FLANGED OVERLAP WALL GUARD FRAME.
- 17. ALL DUCTWORK SIZES SHOWN ON THE DRAWINGS ARE INSIDE DIMENSIONS. WHERE DUCT LINING IS CALLED FOR CONTRACTOR SHALL INCREASE THE SIZE OF THE DUCT TO MAINTAIN THE MINIMUM INSIDE DIMENSIONS CALLED FOR ON THE DRAWINGS.
- 18. MECHANICAL CONTRACTOR SHALL COORDINATE ALL SERVICE POINTS ON HVAC UNITS WITH THE INSTALLATION OF NEW WORK IN THIS PROJECT AND NEW BUILDING CHARACTERISTICS TO MAKE SURE ACCESSIBILITY IS MAINTAINED.
- 19. ALL DUCTWORK CONNECTIONS TO AIR MOVING EQUIPMENT SHALL BE MADE WITH FLEXIBLE DUCT CONNECTIONS ON THE INLET AND DISCHARGE OF ALL SUPPLY, RETURN AND EXHAUST FANS (EXCEPT ROOF MOUNTED EXHAUST FANS).

- 20. INSTALL TURNING VANES IN ALL SQUARE DUCT ELBOWS. INSTALL MANUAL VOLUME DAMPERS IN EACH BRANCH DUCT AT CONNECTION TO MAIN DUCT AND IN EACH DUCT AFTER A BRANCH DUCT SPLIT.
- 21. INSTALL A MINIMUM 12" X 12" ACCESS DOOR (INLET SIDE) AT EACH MOTORIZED DAMPER, FIRE DAMPER, SMOKE DAMPER, INLINE FAN, INTAKE AND EXHAUST PLENUMS AND AN ACCESS DOOR AT AIR SUPPLY UNIT FILTER SECTION.
- 22. THE LOCATIONS SHOWN FOR ALL DIFFUSERS, REGISTERS AND GRILLES, ETC. ARE DIAGRAMMATIC. EXACT LOCATION SHALL BE DETERMINED FROM THE REFLECTED CEILING PLANS AND/OR ON THE JOB SITE BY THE ARCHITECT/ENGINEER REPRESENTATIVES.
- 23. UNLESS INDICATED OTHERWISE, THE ARCHITECT/ENGINEER MAKES NO REPRESENTATION AS TO WHETHER OR NOT ANY HAZARDOUS OR CONTAMINATED MATERIALS (INCLUDING BUT NOT LIMITED TO ASBESTOS, PCB'S, CONTAMINATED SOILS, ETC.) ARE PRESENT WITHIN THE EXISTING BUILDING OR ON THE SITE. WORK SHOWN ON THE DRAWINGS AND/OR INDICATED IN THE SPECIFICATIONS SHALL NOT BE CONSTRUED TO CALL FOR CONTACT WITH ANY OF THESE MATERIALS. IF THESE MATERIALS ARE ENCOUNTERED OR SUSPECTED, THE CONTRACTOR SHALL NOT DISTURB THEM AND SHALL CONTACT THE ARCHITECT/ENGINEER IMMEDIATELY.
- 24. CONTRACTOR SHALL STORE ALL MATERIALS AND EQUIPMENT SHIPPED TO THE SITE IN A PROTECTED AREA. IF MATERIAL IS STORED OUTSIDE OF THE BUILDING, IT MUST BE STORED OFF THE GROUND A MINIMUM OF SIX INCHES (6") SET ON 6 X 6 PLANKS AND/ OR WOOD PALLETS. ALL MATERIAL AND EQUIPMENT MUST BE COMPLETELY COVERED WITH WATERPROOF TARPS OR VISQUIN. ALL PIPING AND DUCTWORK WILL HAVE THE ENDS CLOSED TO KEEP OUT DIRT AND OTHER DEBRIS. NO EQUIPMENT WILL BE ALLOWED TO BE STORED ON THE SITE UNLESS IT IS SITTING ON WOOD PLANKS AND COMPLETELY PROTECTED WITH WEATHERPROOF COVERS.
- 25. SEE LARGE SCALE DRAWINGS (DETAILS) FOR ALL REQUIRED VALVES, FITTINGS, GAUGES, VENTS, THERMOMETERS WHICH ARE CONNECTED TO RADIANT CEILING PANELS (RCP), CABINET UNIT HEATERS (CUH), ETC. ALL WORK SHOWN ON DETAILS SHALL BE BY INSTALLING CONTRACTOR UNLESS OTHERWISE NOTED.
- 26. ALL AUTOMATIC MOTORIZED DAMPERS SHALL BE FURNISHED BY BAS CONTRACTOR (EXCEPT FOR DAMPERS FURNISHED WITH PACKAGED AIR HANDLING UNITS AND PROVIDED WITH POWER ROOF EXHAUST FANS) AND INSTALLED BY MECHANICAL CONTRACTOR. ALL DAMPER MOTORS FURNISHED AND INSTALLED BY BAS CONTRACTOR
- 27. MECHANICAL CONTRACTOR SHALL PROVIDE ON SITE SCHOOLING OF OWNERS OPERATING PERSONNEL FOR ALL SYSTEMS AND EQUIPMENT INSTALLED UNDER HIS CONTRACT.
- 28. BEFORE STARTING ANY SYSTEM INSTALLING CONTRACTOR SHALL CONTACT EQUIPMENT MANUFACTURER TO VERIFY THAT EACH PIECE OF EQUIPMENT OR SYSTEM HAS BEEN CHECKED FOR PROPER LUBRICATION, DRIVE ROTATION, BELT TENSION, CONTROL SEQUENCE OR OTHER CONDITIONS WHICH MAY CAUSE DAMAGE TO THE EQUIPMENT OR SYSTEM.
- 29. MECHANICAL CONTRACTOR SHALL INSTALL ALL WELLS IN PIPING FOR MOUNTING OF BUILDING AUTOMATION SYSTEM CONTROLS AND MECHANICAL CONTRACTOR'S THERMOMETERS AND GAUGES.

 MECHANICAL CONTRACTOR WILL COORDINATE THE EXACT LOCATION OF BUILDING AUTOMATION SYSTEM CONTRACTOR'S CONTROLS WITH HIM PRIOR TO INSTALLING WELLS.
- 30. MECHANICAL CONTRACTOR SHALL RUN INSULATED DRAIN PIPES FROM ALL VRF UNITS. SEE DRAWINGS AND DETAILS FOR LOCATION OF TERMINATION OF DRAIN PIPING. ALL CONDENSATE DRAIN PIPES MUST BE PITCHED AWAY FROM THE DRAIN PAN. ALL CONDENSATE DRAIN PIPES WILL BE INSULATED FROM UNIT TO TERMINATION POINT.
- 31. MECHANICAL CONTRACTOR TO PROVIDE SCHEDULE OF CURB INSTALLATION/REMOVAL ON EXISTING ROOF AREAS TO CONTRACTOR FIVE (5) WORKING DAYS IN ADVANCE. ANY REVISIONS TO THIS SCHEDULE RESULTING IN UN-PATCHED ROOF TIE-INS AND DAMAGE TO EXISTING CONDITIONS SHALL BE REPAIRED BY MECHANICAL CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- 32. ALL PIPE PASSING THRU WALLS SHALL HAVE A GALVANIZED SHEET METAL OR SCHEDULE 40 STEEL PIPE SLEEVE INSTALLED AROUND THE PIPE AND PIPE INSULATION. SEE SLEEVE DETAILS THESE DRAWINGS.
- 33. INSTALL A SHEET METAL SLEEVE AROUND ANY DUCTWORK WHICH GOES THROUGH WALL CONSTRUCTION, PACK FIBERGLAS INSULATION AROUND SLEEVE AND DUCT AND CAULK WITH FIRE SEAL CAULKING.
- 34. WHEN INSTALLING EXPANSION JOINTS, CONTRACTOR SHALL INSTALL A PIPE ANCHOR AT EACH END OF RUN AND PIPE GUIDES A MINIMUM OF EVERY TWENTY—FIVE (25) FEET OR AS CALLED FOR ON THE DRAWINGS. MOUNT THE FIRST PIPE GUIDE LOCATED ON EACH SIDE OF THE EXPANSION JOINT A MINIMUM OF FOUR (4) PIPE DIAMETERS FROM THE EXPANSION JOINT.
- 35. THE DRAWINGS, SCHEDULES AND SPECIFICATIONS HAVE BEEN PREPARED USING ONE MANUFACTURER FOR EACH PIECE OF EQUIPMENT AS THE BASIS FOR DIMENSIONAL DESIGN. IF THE CONTRACTOR PURCHASES EQUIPMENT LISTED AS A SPECIFIED ACCEPTABLE MANUFACTURER BUT IS NOT THE SCHEDULED MANUFACTURER USED FOR THE BASE DESIGN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL THE DIMENSIONS OF THE EQUIPMENT TO VERIFY THAT IT WILL FIT IN THE SPACE SHOWN ON THE DRAWINGS. MINOR DEVIATIONS IN DIMENSIONS WILL BE PERMITTED, PROVIDED THE RATINGS MEET THOSE SHOWN ON THE DRAWINGS AND EQUIPMENT WILL PHYSICALLY FIT INTO THE SPACE ALLOCATED WITH SUITABLE ACCESS AROUND EQUIPMENT FOR OPERATION AND MAINTENANCE ON THE EQUIPMENT.
- 36. CONTRACTOR AND/OR MANUFACTURER SHALL VERIFY THAT THE CHARACTERISTICS OF THE EQUIPMENT HE SUBMITS FOR REVIEW MEETS THE CAPACITY AND DUTY SPECIFIED.
- 37. WHEN EQUIPMENT IS SUBMITTED FOR REVIEW AND DOES NOT MEET THE PHYSICAL SIZE OR ARRANGEMENT OF THAT SCHEDULED AND SPECIFIED, CONTRACTOR SHALL PAY FOR ALL ALTERATIONS REQUIRED TO ACCOMMODATE SUCH EQUIPMENT AT NO ADDITIONAL COST TO OWNER. CONTRACTOR WILL ALSO PAY ALL COSTS FOR ADDITIONAL WORK REQUIRED BY OTHER CONTRACTORS, OWNER, ARCHITECT OR ENGINEER TO MAKE CHANGES WHICH WOULD ALLOW THE EQUIPMENT TO FIT IN THE SPACE AND FUNCTION AS INTENDED.

GENERAL NOTES - BUILDING AUTOMATION SYSTEM

I. GENERAL

THE CONTROLS CONTRACTOR SHALL BE THE CONTROLS ENGINEER FOR THIS PROJECT: RESPONSIBLE FOR DESIGN AND ENGINEERING OF ALL CONTROL SYSTEMS TO OPERATE AS DESCRIBED IN THE SEQUENCE OF OPERATION, TO CONFORM WITH THE GOVERNING BUILDING CODES AND OPERATE IN A MANNER CONSISTENT WITH KNOWN GOOD CONTROLS ENGINEERING PRACTICE.

THE CONTROLS CONTRACTOR/ENGINEER SHALL IDENTIFY ANY POTENTIAL CONDITIONS THAT COULD BE CONSTRUED TO DEVIATE FROM GOOD CONTROLS ENGINEERING PRACTICE PRIOR TO BIDDING AND INCLUDE ALL ENGINEERING AND INSTALLATION WORK REQUIRED TO MAKE ALL HVAC SYSTEMS COMPLETE AND OPERATIONAL, IN CONFORMANCE WITH GOOD CONTROLS ENGINEERING PRACTICE: PRIOR TO SUBMITTING HIS BID.

THE BAS CONTRACTOR SHALL PROVIDE ALL CONTROL COMPONENTS, WIRING, INTERLOCKS, ELECTRICAL POWER AND ALL OTHER DEVICES REQUIRED TO MAKE ALL HVAC EQUIPMENT INSTALLED UNDER THIS PROJECT COMPLETE AND FULLY OPERATIONAL PER THE SEQUENCE OF OPERATION AND AS REQUIRED FOR SAFE AND ACCURATE CONTROL.

THE BAS CONTRACTOR SHALL PROVIDE ALL CONTROL VALVES AND ACTUATORS TO THE MECHANICAL CONTRACTOR FOR INSTALLATION. THE BAS CONTRACTOR SHALL DIRECT THE MECHANICAL CONTRACTOR AS TO THE PROPER LOCATION AND ORIENTATION OF ALL DEVICES TO ACHIEVE A PROPER AND CORRECT CONTROL SEQUENCE.

THE BAS CONTRACTOR SHALL INCLUDE ADEQUATE TIME IN HIS BID FOR COMPLETE COMMISSIONING OF THE MECHANICAL SYSTEMS, ON SITE IN COORDINATION WITH THE MECHANICAL CONTRACTOR AND OTHER TRADES AS REQUIRED TO MAKE ALL EQUIPMENT COMPLETE AND FULLY OPERATIONAL.

IN THE EVENT THAT ANY PART OF THE MECHANICAL DRAWINGS, SPECIFICATIONS OR NOTES CONFLICT WITH ANY OTHER: THE MOST STRINGENT REQUIREMENT SHALL APPLY, PROVIDING THE GREATEST SAFETY AND/OR AT THE HIGHEST COST OF THE CONFLICTING OPTIONS.

II. ELECTRICAL

THE BAS CONTRACTOR SHALL PROVIDE EMERGENCY POWER FOR ALL ELECTRICAL POWER AND CONTROL WIRING, CONDUIT, JUNCTION BOXES, RACEWAY, TRANSFORMERS, RELAYS AND ALL OTHER ELECTRICAL APPURTENANCES REQUIRED FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. THIS INCLUDES ALL POWER WIRING FROM SPARE CIRCUIT BREAKERS PROVIDED IN BUILDING EMERGENCY POWER PANELS (EM120A-GMA) FOR POWERING OF CONTROLS AND CONTROL PANELS AND ALL OTHER CONTROL SYSTEM COMPONENTS. ALL HVAC EQUIPMENT, I.E AIR HANDLING UNITS, EXHAUST FANS, PUMPS, BOILERS, ETC. ARE TO HAVE THEIR CONTROLS POWERED FROM EMERGENCY POWER PANELS. SEE ELECTRICAL DRAWINGS FOR PANEL LOCATION.

ALL ELECTRICAL WORK SHALL BE IN CONFORMANCE WITH THE CURRENT NATIONAL ELECTRICAL CODE AND APPLICABLE STATE AND LOCAL AMENDMENTS.

THE BAS CONTRACTOR SHALL PROVIDE AND INSTALL ALL HARDWIRED INTERLOCKS BETWEEN STARTERS AS REQUIRED TO ACHIEVE THE SEQUENCE OF OPERATION AND PROPER SYSTEM CONTROLS. PROVIDE RELAYS AS REQUIRED FOR AUTOMATIC START/STOP OF ALL SINGLE PHASE EXHAUST FANS AND INTERLOCK OF AUTOMATIC

III. CONTROL VALVES

ALL CONTROL VALVES SHALL SPRING RETURN TO A FAIL SAFE POSITION. ALL HEATING CONTROL VALVES SHALL FAIL OPEN BY SPRING RETURN TO HEATING AND ALL COOLING CONTROL VALVES SHALL FAIL CLOSED BY SPRING RETURN.

ALL CONTROL VALVES USED FOR POSITIVE SHUT-OFF ISOLATION, SUCH AS HOT/CHILLED WATER ISOLATION OR CHANGEOVER IN A TWO-PIPE SYSTEM, SHALL BE QUARTER TURN TYPE BUTTERFLY OR BALL VALVES RATED FOR 300 PSI, BUBBLE TIGHT SHUT-OFF SERVICE.

THE CONTROLS CONTRACTOR/ENGINEER SHALL SIZE ALL MODULATING TEMPERATURE CONTROL VALVES WITH A CV AND PRESSURE DROP SUCH THAT THERE IS LINEAR CONTROL OF WATER FLOW THROUGHOUT THE ENTIRE STROKE OF THE VALVE. COORDINATE WITH THE MECHANICAL CONTRACTOR TO PROVIDE REDUCERS AS REQUIRED FOR MODULATING VALVES THAT ARE NOT LINE SIZE.

IV. AUTOMATIC CONTROL DAMPERS

ALL CONTROL DAMPERS SHALL BE EXTRUDED ALUMINUM, LOW LEAKAGE AIR FOIL BLADE TYPE WITH ELASTOMER BLADE EDGE SEALS AND STAINLESS STEEL OR ELASTOMER BLADE END SEALS.

ALL CONTROL DAMPERS SHALL SPRING RETURN TO A FAIL SAFE POSITION FOR FREEZE PREVENTION BY SPRING RETURN. FACE AND BYPASS DAMPER SHALL FAIL OPEN, OUTDOOR AIR DAMPERS SHALL FAIL CLOSED, EXHAUST AIR DAMPERS SHALL FAIL CLOSED, AND RETURN AIR DAMPER SHALL FAIL OPEN.

V. THERMOSTAT

THE BAS CONTRACTOR SHALL PROVIDE THERMOSTATS FOR ALL CONTROLLED EQUIPMENT TO OPERATE AS DESCRIBED IN THE SEQUENCE OF OPERATION AND/OR PER MANUFACTURER'S REQUIREMENTS AND KNOWN STANDARDS OF GOOD CONTROL PRACTICE. INCLUDE ALL THERMOSTATS AS REQUIRED FOR EQUIPMENT TO BE COMPLETE AND FULLY OPERATIONAL WHETHER SHOWN SPECIFICALLY ON THE PLANS OR NOT.

ALL TEMPERATURE SENSORS IN DUCTWORK, AIR HANDLING UNITS AND PLENUMS SHALL BE OF AVERAGING TYPE. PROPERLY SUPPORT AVERAGING ELEMENT (MINIMUM TWENTY FEET LENGTH) ACROSS A REPRESENTATIVE AREA TO ACHIEVE A TRUE AVERAGE READING. SUPPORT USING HEAVY CABLE AND/OR HALF INCH CONDUIT WITH NYLON WIRE TIES.

BUILDING/SPACE STATIC PRESSURE SENSORS SHALL BE INSTALLED IN THE CEILING IN A MAIN BUILDING CORRIDOR OPEN TO THE MAIN ENTRANCE OF THE BUILDING. STATIC PRESSURE SENSING TIP SHALL HAVE COVER PLATE TO MATCH CEILING AND AN EMBOSSED LABEL STATING "PRESSURE CONTROL SENSOR — DO NOT PAINT".

THE CONTROLS CONTRACTOR/ENGINEER SHALL SELECT ALL PRESSURE AND TEMPERATURE SENSORS WITH AN APPROPRIATE SPAN AND RANGE FOR THE APPLICATION.

ALL OUTDOOR AIR SENSORS SHALL BE INSTALLED WITH SUN SHIELD AND IN A LOCATION WHERE THEY CANNOT BE WASHED BY EXHAUST AIR OR OTHER SOURCES OF FALSE READINGS.

ALL TEMPERATURE AND PRESSURE SENSORS SHALL BE INSTALLED IN LOCATIONS SUCH THAT THEY DO NOT MAKE FALSE READINGS. BAS CONTRACTOR/ENGINEER SHALL REVIEW THE PLANS AND IDENTIFY ANY SUCH POTENTIAL CAUSES FOR FALSE READINGS AND NOTIFY THE ENGINEER IN WRITING THAT THESE SHOULD BE RELOCATED PRIOR TO ROUGH IN AND CONTROLS INSTALLATION. THE BAS CONTROLS CONTRACTOR SHALL RELOCATE ANY SENSORS INSTALLED IN IMPROPER LOCATIONS AND GIVING FALSE READINGS AT HIS OWN EXPENSE. CONDITIONS TO BE AWARE OF SHALL INCLUDE BUT ARE NOT LIMITED TO LOCATIONS OF THERMOSTATS BEHIND DOORS, OUTDOOR AIR SENSORS NEAR EXHAUST OPENINGS, STATIC PRESSURE SENSORS IN TURBULENT LOCATIONS, THERMOSTATS INSTALLED ADJACENT TO HEAT SOURCES SUCH AS COFFEE POTS, COMPUTERS, VENDING MACHINES AND OTHER APPLIANCES, ETC.

VI. SAFETY DEVICES

THE BAS CONTRACTOR/ENGINEER SHALL FURNISH AND INSTALL MANUAL RESET SAFETY DEVICES FOR ANY AND ALL CONDITIONS THAT COULD DAMAGE THE EQUIPMENT AND/OR REPRESENT A THREAT TO HUMAN SAFETY. ALL WATER COILS SHALL BE PROTECTED BY AN AVERAGING ELEMENT FREEZE—STAT WITH A NON—ADJUSTABLE 40°F SET POINT, MANUAL RESET, AND HARDWIRED INTERLOCK TO SHUT DOWN THE ASSOCIATED FAN ANY TIME THE TEMPERATURE ACROSS ANY 12" LENGTH OF THE AVERAGING ELEMENT FALLS BELOW 40°F. FREEZE STATS SHALL BE INSTALLED DOWNSTREAM OF ALL WATER COILS.

INSTALL A FLOAT SWITCH IN THE DRAIN PAN OF ALL VRF UNITS SHALL BE TO SHUT DOWN THE ASSOCIATED SYSTEM.

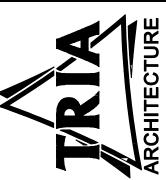
VII. RELAYS

ALL RELAYS ARE TO BE INSTALLED IN CONTROL PANELS. RELAYS IN BOX (RIB'S) ARE NOT ACCEPTABLE. CONTROL RELAYS SHALL BE UL LISTED PLUG—IN TYPE WITH DUST COVER. RELAYS TO BE IDEC RR2P—UL AC24V WITH SR2P—06 BASE.

PROVIDE ALL RELAYS AS REQUIRED BY SITE CONDITIONS TO CONTROL ALL PUMPS, FANS, ETC. PROVIDE DEFINITE PURPOSE CONTRACTOR IF POWER REQUIREMENTS EXCEED RELAY CAPACITY.

VII. TAGGING

SEE EQUIPMENT SCHEDULES FOR EQUIPMENT TAGGING. ALL EQUIPMENT TO BE LABELED AND/OR REFERENCED ON BAS WITH THE DESIGNATION PER THE EQUIPMENT SCHEDULES.



MEP/FP. CONSULTANT: ILLINOIS 60554 (630) 538-1996

THE SUGAR GROV

DUNELAND SCHOOL CORPORATION

2022 RENOVATIONS AT:
SUPPORT SERVICES CENTER

N. OLD STATE RD 49, CHESTERTON, IN. 4

PROJECT MANAGER: TRS

DRAWN BY:

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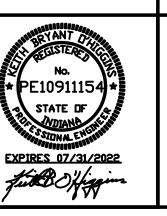
ISSUED FOR BIDDING: 3/10/12

NOTES

MECHANICAL

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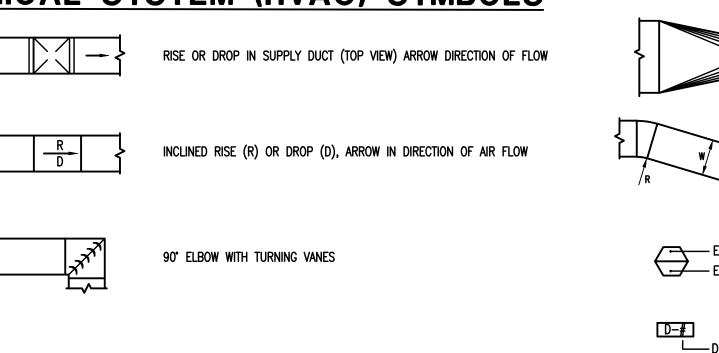


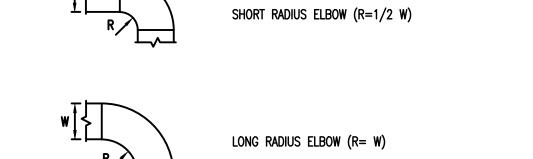


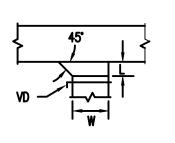
M4.00 SET 2 OF 3

SUPPLY OR FRESH AIR DUCT DOWN

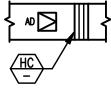
RETURN OR EXHAUST AIR DUCT DOWN



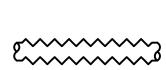




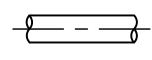
90° BRANCH TAKE-OFF W/45 DEGREE ENTRY (L=1/4 W - 4" MIN.) W/VOLUME DAMPER IN BRANCH DUCT.



HEATING COIL WITH ACCESS DOOR IN DUCT

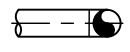


ROUND FLEXIBLE DUCT

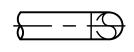


ROUND OR OVAL DUCT (CENTER LINE OF DUCT) - INDICATES





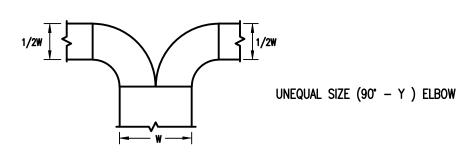
ROUND DUCT UP

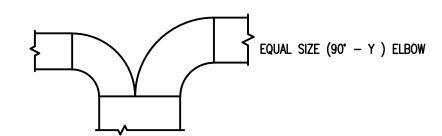


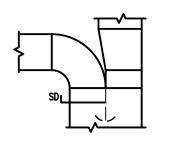
ROUND DUCT DOWN



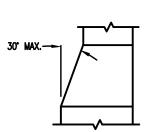
CROSS-SECTION OF ROUND DUCT



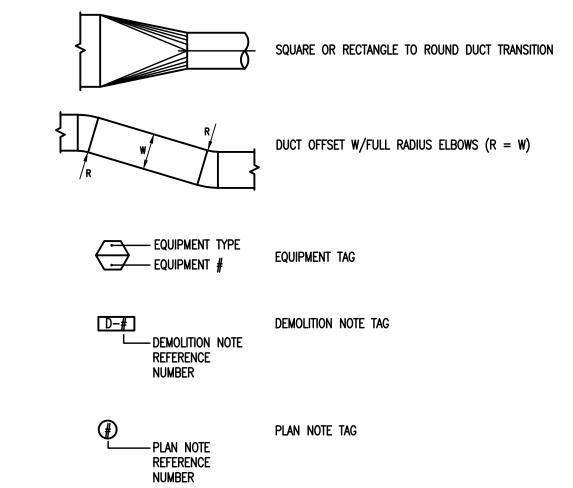




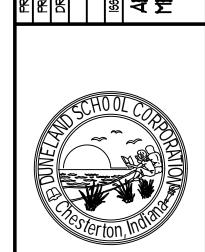
90° BRANCH TAKE-OFF FROM MAIN



SQUARE OR RECTANGLE DUCT TRANSITION



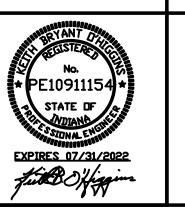
	MEC	HANI	CAL ABBREVIATIONS	LIST	
ACV	AUTOMATIC CONTROL VALVE	EXD	EXHAUST DUCT	N.O.	NORMALLY OPEN
AFD	AUTOMATIC FLOW DEVICE	F	FAHRENHEIT	OAD	OUTDOOR AIR DAMPER
BHP	BRAKE HORSE POWER	FC	FLEXIBLE CONNECTION	OUD	OUTSIDE AIR DUCT
BTU	British Thermal Unit	FPF	FINS PER FOOT	PD	PRESSURE DROP
BTUH	British Thermal Unit Per Hour	FPM	FEET PER MINUTE	PG	PIPE GUIDE
BV	BALL VALVE	FV	FACE VELOCITY	PH	PHASE
CFM	CUBIC FEET PER MINUTE	GPM	GALLONS PER MINUTE	PS	PIPE SLEEVE
CKV	CHECK VALVE	GV	GATE VALVE	PSI	POUNDS PER SQUARE INCH
CU	CONDENSING UNIT	HP	HORSEPOWER	RAD	RETURN AIR DAMPER
CUH	CABINET UNIT HEATER	HWR	HOT WATER RETURN	RED	RETURN AIR DUCT
CWR	CHILLED WATER RETURN	HWS	HOT WATER SUPPLY	RH	RELIEF HOOD
CWS	CHILLED WATER SUPPLY	IH	INTAKE HOOD	RPM	REVOLUTIONS PER MINUTE
D	DRAIN LINE	LAT	LEAVING AIR TEMPERATURE	SP	STATIC PRESSURE
DB	DRY BULB	LWT	LEAVING WATER TEMPERTURE	STR	STRAINER
EAD	EXHAUST AIR DAMPER	MOD	MOTOR OPERATED DAMPER	SUD	SUPPLY DUCT
EAT	ENTERING AIR TEMPERATURE	NC	NEW CONNECTION	TSP	TOTAL STATIC PRESSURE
EDC	ELECTRIC DUCT COIL	NK	NECK	WB	WET BULB
ERV	ENERGY RECOVERY VENTILATOR	N.C.	NORMALLY CLOSED	WC	WATER COLUMN
EWT	ENTERING WATER TEMPERATURE	N.I.C.	NOT IN CONTRACT	WG	WATER GAUGE



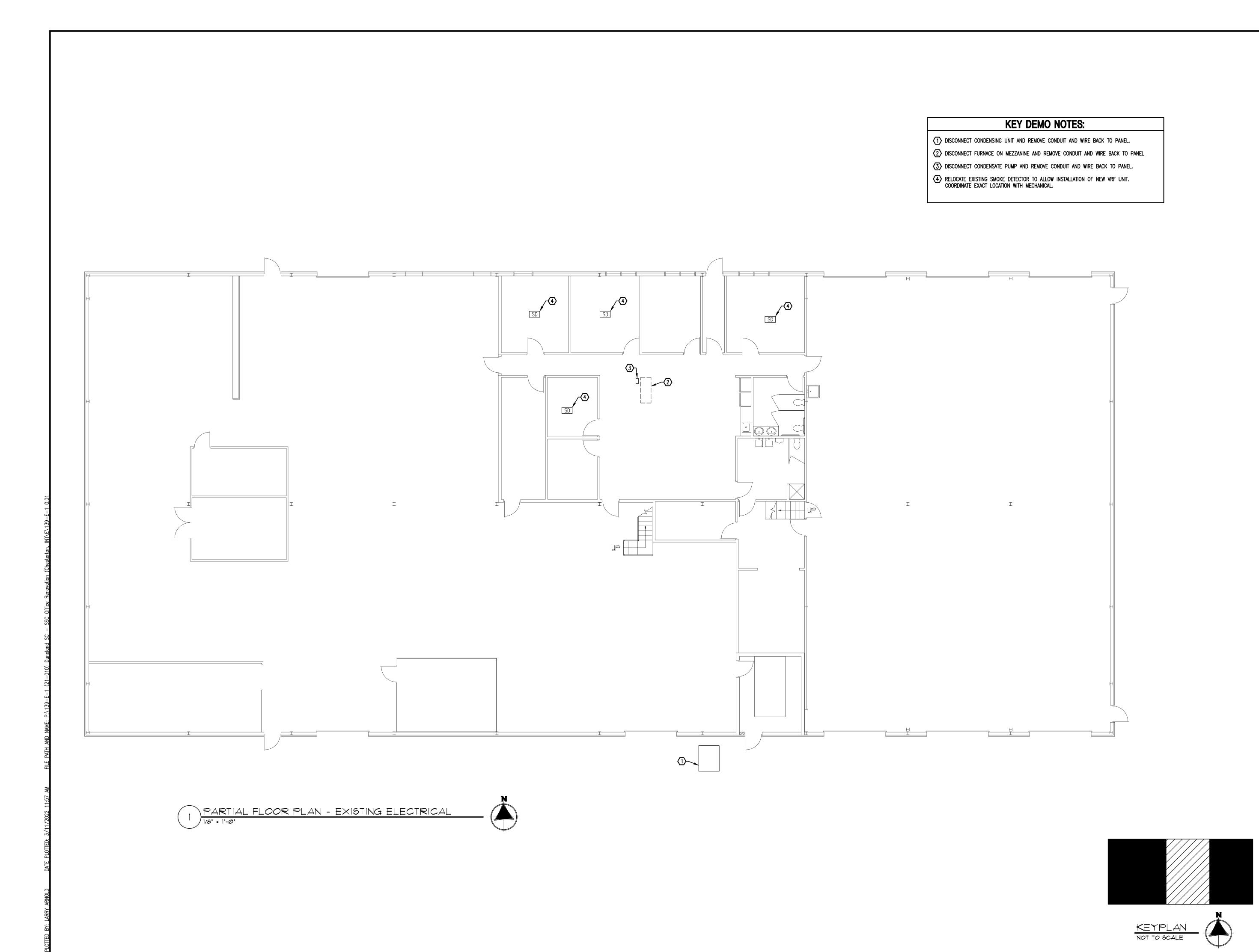
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DUNELAND SCHOOL CORPOR,

2022 RENOVATIONS AT

SUPPORT SERVICES CENT

OLD STATE RD 49, CHESTER

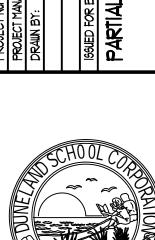
PROJECT NUMBER: 21-031 REVISIONS:
PROJECT MANAGER: TRS

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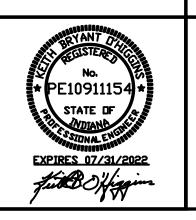
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PARTIAL FLOOR PLAN

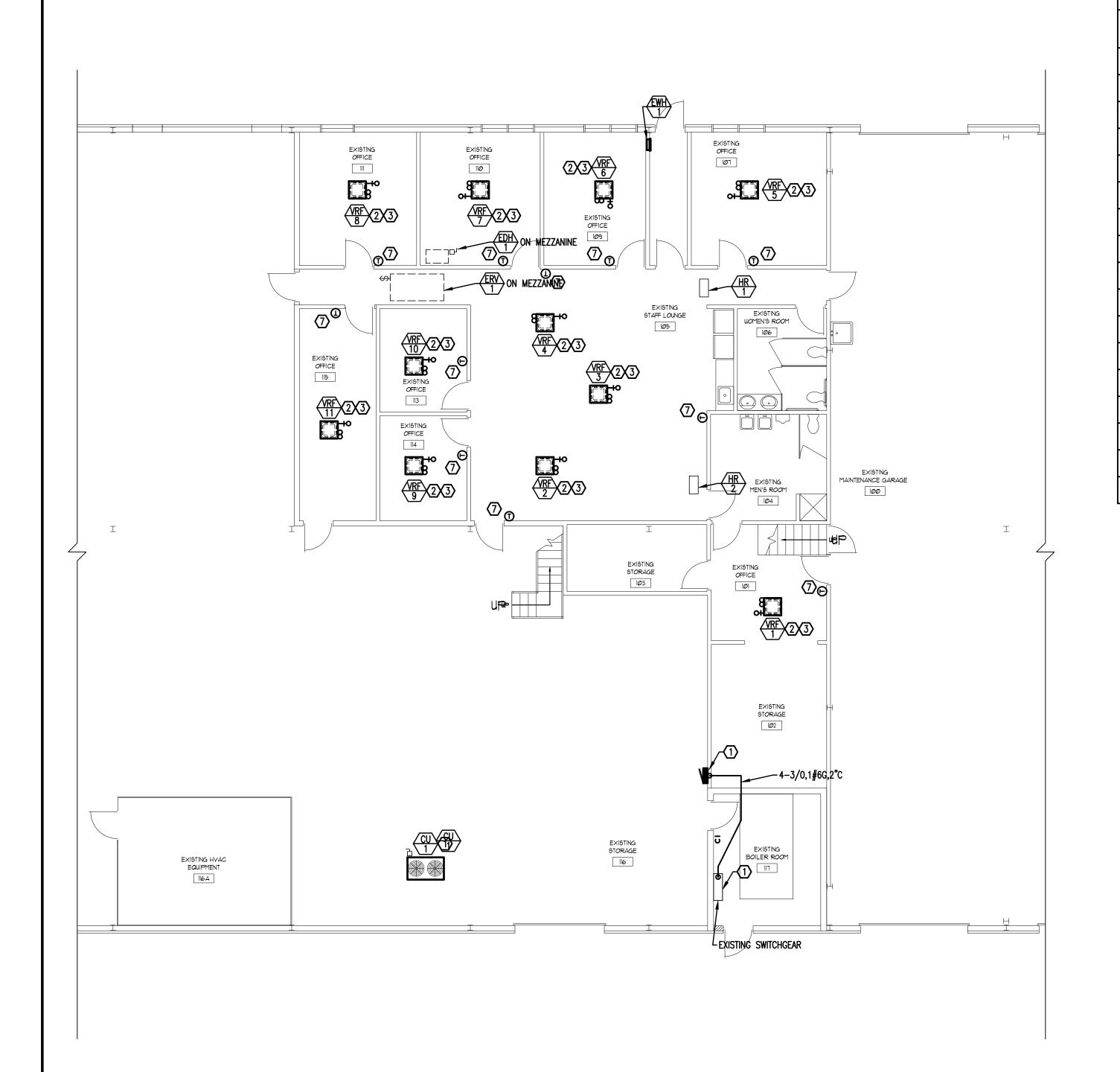












PARTIAL FLOOR PLAN - PIPING - MECHANICAL

	MOTOR AND EQUIPMENT SCHEDULE														7		
EQUIP.	DESIGNATED TAG	LOCATIONS			LOAD			CONDUIT AND WIRE SIZE	SOURCE	OF POWER	PROTECT	STA	rter	DISCO	NNECT	REMARKS	1
TAG	DESIGNATED TAG	LOCATIONS	VOLTS	PHASE	H.P.	AMP	KVA	CONDOIT AND WIRE SIZE	PANEL	CCT. NO.	(AMPERES)	SIZE	TYPE	SIZE	TYPE	NEMARRS	』 │ `
	DUCT HEATER	MEZZANINE	208	1	_	94	6	3#10, 1#10G, 3/4°C	PP-1	2,4	40A, 2P	-	_	40A, 2P	_		
CU	CONDENSING UNIT	FLOOR	208	3	-	51.1	19.5	3#4, 1#8G, "C	PP-1	1,3,5	70A, 3P	-	-	70A, 3P	NEMA 3R		1
ERV 1	ENERGY RECOVERY	MEZZANINE	120	1	-	54.0	1.2	2#12, 1#12G, 3/4"C	PP-1	6	20A, 1P	-	-	TOO	GGLE		LTANT:
HR 1	VRF REFRIGERANT BOX	ABOVE CEILING	208	1	_	0.2	0.1	2#12, 1#12G, 3/4°C	PP-1	8,10	20A, 2P	-	-	TOO	GGLE		L L L L L L L L L L L L L L L L L L L
HR 2	VRF REFRIGERANT BOX	ABOVE CEILING	208	1	-	0.2	0.1	2#12, 1#12G, 3/4°C	PP-1	8,10	20A, 2P	-	-	TOO	GGLE		MEPÆ!
VRF 6−1	VARIABLE REFRIGERANT FLOW	PARTS OFFICE	208	1	-	1.3	.27	2#12, 1#12G, 3/4°C	PP-1	11,13	20A, 2P	-	-	TOO	GGLE		11
VRF 6−2	VARIABLE REFRIGERANT FLOW	STAFF LOUNGE	208	1	-	1.3	.27	2#12, 1#12G, 3/4°C	PP-1	11,13	20A, 2P	-	-	TOO	GGLE		
VRF 6−3	VARIABLE REFRIGERANT FLOW	STAFF LOUNGE	208	1	-	1.3	.27	2#12, 1#12G, 3/4°C	PP-1	12,14	20A, 2P	-	-	TOO	GGLE		
VRF 6−4	VARIABLE REFRIGERANT FLOW	STAFF LOUNGE	208	1	-	1.3	.27	2#12, 1#12G, 3/4°C	PP-1	12,14	20A, 2P	-	-	TOO	GGLE		1 4
VRF 6−5	VARIABLE REFRIGERANT FLOW	OFFICE	208	1	-	0.2	.27	2#12, 1#12G, 3/4°C	PP-1	12,14	20A, 2P	1	-	TOO	GGLE		
VRF 6−6	VARIABLE REFRIGERANT FLOW	OFFICE	208	1	-	0.2	.27	2#12, 1#12G, 3/4°C	PP-1	15,17	20A, 2P	-	_	TOO	GGLE		
VRF 6−7	VARIABLE REFRIGERANT FLOW	OFFICE	208	1	-	1.3	.27	2#12, 1#12G, 3/4°C	PP-1	15,17	20A, 2P	-	_	TOO	GGLE		
VRF 6-8	VARIABLE REFRIGERANT FLOW	OFFICE	208	1	-	1.3	.27	2#12, 1#12G, 3/4°C	PP-1	16,18	20A, 2P	-	-	TOO	GGLE		
VRF 6−9	VARIABLE REFRIGERANT FLOW	OFFICE	208	1	-	1.3	.27	2#12, 1#12G, 3/4°C	PP-1	16,18	20A, 2P	-	-	TOO	GGLE		
VRF 1-10	VARIABLE REFRIGERANT FLOW	OFFICE	208	1	-	1.3	.27	2#12, 1#12G, 3/4°C	PP-1	20,22	20A, 2P	_	_	TOO	GGLE		1
VRF 1-11	VARIABLE REFRIGERANT FLOW	OFFICE	208	1	-	1.3	.27	2#12, 1#12G, 3/4°C	PP-1	20,22	20A, 2P	-	-	TOO	GGLE] 7
(EWH)	WALL HEATER	CORRIDOR	208	1	-	19.2	4.9	2#12, 1#12G, 3/4°C	PP-1	7,9	20A, 2P	-	-	TOO	GGLE] ;

KEY NOTES:

TIE INTO EXISTING SPARE 200A, 3P DISCONNECT SWITCH AND RUN TO NEW PANEL PP-1 LOCATION.

MOUNT NEW PANEL PP-1 ON 3/4" PLYWOOD BOARD ON EXPOSED WOOD FRAMED WALL. PROVIDE NEW 200A, 120/208V,3P,4W,42 CIRCUIT PANEL BOARD.

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AREA OF WORK

E2.00SET 2 OF 3

GENERAL ELECTRICAL NOTES

- . REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ADDITIONAL GENERAL NOTES WHICH WILL APPLY HERE.
- 2. DO NOT SCALE DRAWINGS.
- 3. NOTES ON DRAWINGS SHALL APPLY TO ALL SIMILAR CONDITIONS WHETHER THEY ARE REPEATED OR NOT.
- 4. BOXES LOCATED ON OPPOSITE SIDES OF NON-FIRE RATED WALLS SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY. BOXES ON OPPOSITE SIDES OF FIRE RATED WALL SHALL BE OFFSET A MINIMUM OF 24" HORIZONTALLY. "THRU THE WALL" BOXES SHALL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
- 5. ELECTRICAL CONTRACTOR SHALL VERIFY TOTAL CONNECTED LOAD/HP WITH ALL OTHER TRADES PRIOR TO WIRING OF ALL OTHER TRADES' EQUIPMENT. MAKE ANY CHANGES TO OVERCURRENT DEVICES AND FEEDER SIZE PER ELECTRICAL CODE AS REQUIRED.
- 6. ELECTRICAL CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION, THIS CONTRACTOR SHALL ADJUST RECEPTACLES, OUTLETS OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
- ALL EXPOSED CABLES IN PLENUM CEILING SHALL BE APPROVED FOR PLENUM APPLICATION.
- 8. PROVIDE SLEEVES/CONDUITS FOR LOW VOLTAGE CABLES WHEN THEY TRAVERSE ABOVE NON ACCESSIBLE CEILING SPACE. ALSO, PROVIDE SLEEVES THROUGH MASONRY WALLS FOR LOW VOLTAGE CABLES. VERIFY SLEEVE/CONDUIT SIZE REQUIREMENTS AND LOCATION WITH THE CONTRACTOR INSTALLING LOW VOLTAGE SYSTEM.
- 9. UNLESS NOTED OTHERWISE, THE CONDUITS AND BACK BOXES SHALL BE CONCEALED WITHIN ALL EXISTING AND NEW MASONRY WALLS. SURFACE METAL RACEWAY SHALL ONLY BE USED IF SPECIFICALLY INDICATED. THE SURFACE METAL RACEWAY SHALL BE ROUTED IN THE CORNER AND/OR ADJACENT TO WINDOW, DOOR FRAMEWORK ETC. SO IT IS AS INCONSPICUOUS AS POSSIBLE. CONDUIT IN UTILITY AREAS MAY BE SURFACE MOUNTED, BUT MUST BE APPROVED PRIOR TO INSTALLATION. ANY SURFACE CONDUIT INSTALLED BY THIS CONTRACTOR THAT IS DEEMED UNSIGHTLY MUST BE HIDDEN WITH THAT WALL ON WHICH IT IS MOUNTED AT NO COST TO THE OWNER.
- 10. WHERE POWER AND LOW VOLTAGE OUTLETS (SUCH AS DATA OUTLETS) ARE SHOWN TOGETHER ON DRAWINGS, PROVIDE THEM ADJACENT TO EACH OTHER.
- 11. PROVIDE CONCRETE PAD FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT. (SUCH AS SWITCHBOARDS, PANELS, TRANSFORMER, ETC.)
- 12. IF A NEW RECEPTACLE IS INDICATED WITHOUT A CIRCUIT NUMBER, PROVIDE A CIRCUIT. COORDINATE SPECIFIC REQUIREMENTS IN FIELD PRIOR TO INSTALLATION.
- 13. CIRCUIT NUMBERS SHOWN FOR EXISTING PANELS ARE FOR REFERENCE ONLY. USE NEXT AVAILABLE
- 14. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ELECTRICAL EQUIPMENT & DEVICES. THE ELECTRICAL DRAWINGS ARE FOR CONCEPT ONLY.
- 15. EACH 120V CIRCUIT SHALL HAVE ITS OWN NEUTRAL. SHARING OF NEUTRALS IS NOT ALLOWED.

CIRCUITS AND PROVIDE APPROPRIATE SIZE BREAKERS.

LIGHTING FIXTURE, POWER FOR CONTROL EQUIPMENT, ETC.

- 16. IN GENERAL, DASHED LINES INDICATE EXISTING ITEMS TO BE REMOVED, LIGHT OR HALF-TONE SOLID LINES INDICATE ITEMS TO REMAIN AND DARK SOLID LINES INDICATE NEW ITEMS.
- 17. THE SYSTEMS PROVIDED BY THIS CONTRACTOR SHALL BE COMPLETELY OPERATIONAL REGARDLESS OF OMISSION OF MINOR ITEMS, SUCH AS CIRCUIT NUMBER FOR RELAY, A CIRCUIT NUMBER NEXT TO A
- 18. ALL OUTDOOR DEVICES SUCH AS RECEPTACLES, DISCONNECTS, SPEAKERS, LIGHTING FIXTURES, JUNCTION BOXES, ETC. SHALL BE OUTDOOR TYPE.
- 19. THE EXIT SIGNS ARE PROVIDED FOR BIDDING PURPOSES. FINAL LOCATION SHALL BE AS DETERMINED BY LOCAL FIRE MARSHAL. IF REQUIRED BY FIRE MARSHAL, PROVIDE ADDITIONAL EXIT SIGNS WITHOUT ADDITIONAL COST TO OWNER.
- 20. PROVIDE LOCKING CLIPS ON CIRCUIT BREAKERS SERVING EMERGENCY LIGHTING, FIRE ALARM SYSTEM, PA/INTERCOMM, TELEPHONE SYSTEM AND SECURITY SYSTEM LOAD.
- 21. IN CERTAIN CASES LARGER SIZE CABLES ARE SPECIFIED IN ORDER TO COMPENSATE FOR VOLTAGE DROP. PROVIDE OVERSIZE AND/OR MULTIPLE LUGS AT THE LINE AND LOAD SIDE OF EQUIPMENT TO INCORPORATE LARGER AND ADDITIONAL CABLES. IF REQUIRED, PROVIDE SPLICE BOXES AT EITHER END OF CABLE TO INTERCEPT CHANGE IN THE CABLES.
- 22. UNO, ALL OVERCURRENT PROTECTION DEVICES 800 AMP AND LARGER SHALL BE 100% RATED.
- 23. DUE TO THE SMALL SCALE AND INTERFERENCE OF EXISTING EQUIPMENT, EACH AND EVERY ITEM IS NOT SHOWN. SHOWN INFORMATION IS INTENDED AS A GUIDE. CONTRACTOR SHALL VERIFY INFORMATION AND CONDITIONS IN THE FIELD.
- 24. RECONFIGURE LIGHTING FIXTURES AND OUTLETS IN MECHANICAL ROOMS TO BE COMPATIBLE WITH EQUIPMENT LAYOUT AS REQUIRED.
- 25. COORDINATE THE FINAL LOCATION OF RECEPTACLES IN TELECOMMUNICATION CLOSETS WITH TELECOMMUNICATION EQUIPMENT VENDOR.
- 26. ALL RECEPTACLES LOCATED WITHIN 6' OF SOURCE OF WATER (SUCH AS SINK) AND ALL OUTDOOR RECEPTACLES SHALL BE GFI TYPE, WHETHER SPECIFICALLY INDICATED OR NOT.
- 27. WHERE THE OUTLETS ARE SHOWN ON FURNITURE/DESK THEY SHALL BE PROVIDED EITHER UNDER THE DESK OR AS A PART OF MILLWORK AS INDICATED ON ARCHITECTURAL DRAWINGS. PROVIDE CONDUITS AND WIRING UNDER OR WITHIN THE FURNITURE/DESK. THE QUANTITY AND LOCATION OF INDICATED OUTLETS IS APPROXIMATE. COORDINATE EXACT REQUIREMENTS WITH ARCHITECT AND MILLWORK VENDOR. IF FURNITURE/DESK IS NEXT TO WALL, THE ROUGH—IN SHALL BE PROVIDED FROM WALLS. IF FURNITURE/DESK IS FREE STANDING, THE ROUGH—IN SHALL BE PROVIDED FROM FLOOR. THE POWER POLE IS NOT ALLOWED UNLESS SPECIFICALLY INDICATED.
- 28. PROVIDE EXPANSION FITTINGS FOR ALL ELECTRICAL RACEWAYS AT EVERY EXPANSION JOINT. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR LOCATION OF EXPANSION JOINTS.
- 29. COORDINATE THE INSTALLATION OF ELECTRICAL PANELS, SWITCHBOARD, ETC. WITH OTHER TRADES SUCH THAT NO DUCTWORK, PIPING ETC. IS LOCATED ABOVE THEM.
- 30. VERIFY QUANTITY AND SIZE OF LUGS PROVIDED IN OTHER TRADE'S EQUIPMENT (FOR EXAMPLE, CHILLER, ELEVATOR, FIRE PUMP ETC.) BEFORE STARTING ANY WORK ASSOCIATED WITH SUCH EQUIPMENT. IF THEIR LUGS CANNOT ACCOMMODATE THE CABLES INDICATED IN ELECTRICAL DOCUMENT, PROVIDE LUG FITTINGS TO ACCOMMODATE CHANGE IN THE CABLES. PROVIDE SUCH FITTINGS IN A JUNCTION BOX AS CLOSE AS POSSIBLE TO THEIR EQUIPMENT. IF ALLOWED BY THE EQUIPMENT MANUFACTURER, SUCH FITTINGS MAY BE INSTALLED IN THEIR EQUIPMENT RATHER THAN IN A SEPARATE JUNCTION BOX.
- 31. MAIN SERVICE ENTRANCE EQUIPMENT SHALL HAVE LABEL FOR SERVICE ENTRANCE TYPE, AND SHALL BE GROUNDED PER ELECTRICAL CODE.
- 32. PROVIDE SEPARATE DEDICATED GROUNDING CONDUCTOR IN EACH FEEDER AND BRANCH CIRCUIT WIRING CIRCUIT.
- 33. PROVIDE REMOTE TEST AND INDICATING STATION IN A READILY ACCESSIBLE AND VISIBLE SPACE FOR EACH DUCT SMOKE DETECTOR.
- 34. PROVIDE RED PLASTIC SIGN AT MAIN WATER SERVICE METER INDICATING "MAIN GROUND LOCATION."
- 35. ALL RECEPTACLES FOR VENDING MACHINES, ICE MACHINES AND REFRIGERATORS SHALL BE GFCI TYPE WHETHER SPECIFICALLY INDICATED OR NOT.
- 36. PROVIDE ONE WEATHERPROOF, GFI RECEPTACLE WITHIN 25' OF ROOF MOUNTED OR GRADE MOUNTED HVAC EQUIPMENT, WHETHER SPECIFICALLY INDICATED OR NOT AND FEED FROM NEAREST UNLOADED RECEPTACLE CIRCUIT.

- 37. WHETHER SPECIFICALLY INDICATED OR NOT, PROVIDE MINIMUM OF ONE DUCT SMOKE DETECTOR FOR AIR SUPPLY SYSTEM HAVING A CAPACITY GREATER THAN 2,000 CFM AND TWO DUCT SMOKE DETECTORS FOR AIR SUPPLY SYSTEM HAVING A CAPACITY GREATER THAN 15,000 CFM.
- 38. PERFORM COORDINATION STUDY OF ELECTRICAL DISTRIBUTION SYSTEM AS INDICATED IN POWER SYSTEM STUDY SPECIFICATION. IT SHALL BE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO PROVIDE EQUIPMENT WITH PROPER INTERRUPTING RATING OF EQUIPMENT BASED UPON COORDINATION STUDY. AIC (AVAILABLE INTERRUPTING CAPACITY) OF ALL PANELS AND SWITCHBOARD SHOWN IN DRAWINGS ARE FOR GENERAL INFORMATION ONLY. THE FINAL AIC OF ELECTRICAL EQUIPMENT SHALL BE BASED UPON WORST CONDITION COMED FAULT CURRENT AND THE RECOMMENDATIONS MADE IN COORDINATION STUDY. THE COST TO PROVIDE ALL ELECTRICAL DISTRIBUTION EQUIPMENT WITH PROPER FAULT INTERRUPTING RATING (REGARDLESS OF WHAT IS SHOWN ON DRAWINGS) SHALL BE INCLUDED IN THE BID.
- 39. PROVIDE DEEPER BACK BOX AS REQUIRED FOR EACH DEVICE; FOR EXAMPLE MINIMUM OF 2.5" DEEP FOR WALL BOX TYPE OCCUPANCY SENSOR.
- 40. PROVIDE WEATHERPROOF TYPE WHILE—IN—USE COVER FOR ALL 15 AMP AND 20 AMP 120V. RECEPTACLES LOCATED IN OUTDOOR LOCATIONS WHETHER SPECIFICALLY INDICATED OR NOT.
- 41. PROVIDE SLEEVES THRU FLOOR AND WALLS AS REQUIRED FOR LOW VOLTAGE CABLES. COORDINATE ALL REQUIREMENTS WITH LOW VOLTAGE CONTRACTORS.
- 42. THE PANEL DIRECTORY SHALL HAVE SPECIFIC LIST OF LOAD SERVED. THE GENERIC OR BROAD LIST IS NOT ACCEPTABLE. FOR EXAMPLE LISTING "LIGHTS IN CLASSROOM" IS NOT ADEQUATE. PROVIDE MORE SPECIFIC LIST SUCH AS "LIGHTS IN CLASSROOM 231, 234 AND STORAGE 239" SHALL BE PROVIDED TO REFLECT THE SPECIFIC LOAD SERVED.
- 43. UNLESS NOTED OTHERWISE, ALL WIRING SHALL BE IN CONDUIT EXCEPT LOW VOLTAGE WIRING ABOVE ACCESSIBLE CEILING SPACE. LOW VOLTAGE WIRING EXCEPT FIRE ALARM SYSTEM WIRING ABOVE ACCESSIBLE CEILING SPACE MAY BE EXPOSED. ALL FIRE ALARM SYSTEM WIRING SHALL BE IN CONDUIT
- 44. LOCATE THE OUTLETS FOR LCD PROJECTORS AS DIRECTED BY OWNER'S LCD PROJECTOR VENDOR TO PROVIDE OPTIMUM COVERAGE OF THE PROJECTOR.
- 45. UNLESS SPECIFICALLY INDICATED, ALL CONDUITS OTHER THAN IN ELECTRICAL/ MECHANICAL EQUIPMENT ROOMS AND AUTO/WOOD SHOPS SHALL BE CONCEALED. POWER POLES OR CONDUIT FED FROM CEILING IS STRICTLY PROHIBITED.
- 46. ALL FLOOR MOUNTED RECEPTACLES SHALL BE FLUSH WITH FLOOR AND SHALL HAVE HINGED COVER PLATES. PEDESTAL TYPE RECEPTACLES ARE NOT ALLOWED.
- 47. ALL CONDUITS FOR TELEPHONE AND DATA OUTLETS SHALL BE 1.25" UNLESS NOTED OTHERWISE. ALL BACKBOXES FOR TELEPHONE AND DATA OUTLETS SHALL BE 2 GANG AND SHALL BE MINIMUM OF 2.75" DEEP.
- 48. LOW VOLTAGE SYSTEMS, INCLUDING TELECOMMUNICATIONS, SECURITY, FIRE ALARM, ETC. SHALL BE BY THIS CONTRACTOR, INCLUDING WIRING, CONDUIT, TERMINATIONS, POWER REQUIREMENTS, PROGRAMMING, ETC., UNLESS SPECIFICALLY NOTED OTHERWISE. SMART BOARDS AND VIDEO PROJECTORS SHALL BE FURNISHED BY OWNER, BUT ALL ASSOCIATED POWER AND WIRING REQUIREMENTS SHALL BE BY THIS CONTRACTOR.
- 49. THE CONTRACTOR MUST VISIT THE SITE TO FAMILIARIZE HIMSELF WITH THE EXISTING SITE AND BUILDING CONDITIONS WHICH WILL BE AFFECTED DURING CONSTRUCTION PRIOR TO SUBMITTING HIS BID PROPOSAL. CONTRACTOR IS CAUTIONED THAT THE PROJECT IS A REMODELING JOB AND IT IS ASSUMED THAT HE HAS INCLUDED FUNDS IN HIS BID TO COVER UNFORESEEN ITEMS WHICH MUST BE MOVED, RELOCATED OR ADJUSTED TO FIT HIS WORK. NO EXTRA COMPENSATION WILL BE ALLOWED FOR ANY EXTRA WORK CAUSED BY FAILURE TO VISIT, EXAMINE OR VERIFY.
- 50. ALL EXISTING EQUIPMENT IS TO REMAIN OPERATIONAL DURING CONSTRUCTION PERIOD. ALL TEMPORARY WIRING OR REROUTING OF CIRCUITRY TO ACHIEVE THIS IS BY THE ELECTRICAL CONTRACTOR. SHUTDOWN OF EXISTING SERVICES SHALL ONLY BE PERMITTED UPON WRITTEN APPROVAL FROM THE OWNER AND THEN ONLY FOR THAT DATE AND DURATION AGREED UPON. INCLUDE ALL PREMIUM TIME CHARGES IN THE BASE BID.
- 51. EXISTING CONDUITS IN GOOD CONDITION MAY BE REUSED WHERE POSSIBLE. PULL NEW WIRE AS REQUIRED. ALL UNUSED CONDUIT, WIRE, JUNCTION BOXES, ETC. WILL BE REMOVED. ALL JUNCTION BOXES MUST HAVE COVERS. VERIFY REQUIREMENTS IN FIELD.
- 52. FOR THE AREA TO BE DEMOLISHED, THE DEMOLITION OF LIGHT FIXTURES, OUTLETS OR ANY OTHER ELECTRICAL EQUIPMENT/DEVICES SHALL BE PERFORMED AS REQUIRED. SEE ARCHITECTURAL DRAWINGS AND THE RESPECTIVE FLOOR PLANS IN ELECTRICAL DRAWINGS FOR DEMOLITION. ELECTRICAL CONTRACTOR SHALL REMOVE ALL ASSOCIATED RACEWAYS AND WIRING AS REQUIRED. ELECTRICAL CONTRACTOR SHALL DE-ENERGIZE AND DISCONNECT APPLICABLE WIRING TO FACILITATE SAFE
- 53. THE EXISTING EQUIPMENT IS SHOWN BASED UPON THE INFORMATION OBTAINED THROUGH BRIEF SURVEY OF THE FACILITY. CONTRACTOR IS TO SURVEY THE EXISTING FACILITY IN ORDER TO DETERMINE THE FULL EXTENT OF WORK AND BE COMPLETELY FAMILIAR WITH ALL THE EXISTING CONDITIONS INCLUDING PLUMBING, HVAC, ELECTRICAL, ETC. THE ARCHITECT/ENGINEER AND OWNER ASSUME NO RESPONSIBILITY IN RESPECT TO THE ACCURACY OF SUCH INFORMATION SHOWN ON THE DRAWINGS. CONTRACTOR SHALL MAKE ADEQUATE ALLOWANCE IN HIS BID FOR SOME DEVIATIONS TO SUCH INFORMATION.
- 54. WHERE EXISTING CONDITIONS PREVENT PROPER INSTALLATION OF PROPOSED WORK, REROUTE, EXTEND OR ALTER EXISTING WORK SO AS TO ACCOMMODATE PROPOSED WORK REQUIREMENTS.
- 55. WHERE A NEW WALL IS TO BE BUILT PERPENDICULAR TO EXISTING WALL AND IF THERE IS AN INTERFERING EXISTING RECEPTACLE ON THE EXISTING WALL, RELOCATE THIS RECEPTACLE AS REQUIRED.
- 56. AS REQUIRED EXTEND EXISTING RECEPTACLES WHERE EXISTING WALLS ARE FURRED OUT. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT OF THIS WORK.
- 57. IN ORDER TO FACILITATE THE REPLACEMENT OF EXISTING OR INSTALLATION OF NEW DUCTWORK AND/OR PIPING, REMOVE EXISTING LIGHTING FIXTURE AND/OR SMOKE/HEAT DETECTORS AS REQUIRED, WHETHER SHOWN ON DRAWINGS OR NOT. THIS NOTE IS GENERALLY APPLICABLE, BUT NOT LIMITED TO, WHERE THERE IS NO DROPPED CEILING (IN EXPOSED CEILING AREA). ONCE THE INSTALLATION OF DUCTWORK, PIPING ETC IS COMPLETED, REINSTALL ELECTRICAL EQUIPMENT/DEVICES. PROVIDE ADEQUATE ALLOWANCE IN THE BID FOR THIS WORK.
- 58. ELECTRICAL CONTRACTOR SHALL VERIFY SIZE OF ALL EXISTING OPENINGS, DOORS, ETC., FOR REMOVING EQUIPMENT AND MATERIAL OUT OF BUILDING. ELECTRICAL CONTRACTOR SHALL PROVIDE ANY NEW OR ENLARGED OPENINGS IN EXISTING BUILDING CONSTRUCTION REQUIRED TO FACILITATE EXITING OF HIS EQUIPMENT/MATERIAL AND RESTORE SUCH OPENINGS TO THEIR ORIGINAL STATE AFTER COMPLETION.
- 59. THE ELECTRICAL DRAWINGS SHOW DIRECT PRINCIPLE WORK WHICH MUST BE ACCOMPLISHED UNDER THIS CONTRACT. INDIRECT AND INCIDENTAL WORK WILL ALSO BE NECESSARY DUE TO CHANGES AFFECTING EXISTING ARCHITECTURAL, MECHANICAL, PLUMBING OR OTHER SYSTEMS. SUCH INCIDENTAL WORK IS ALSO PART OF THIS CONTRACT. INSPECT THOSE AREA, AND ASCERTAIN WORK NEEDED AND DO THAT WORK IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS, AT NO ADDITIONAL COST.
- 60. WHERE LIGHTING FIXTURES ARE TO BE REUSED, CLEAN FIXTURES THOROUGHLY.
- 61. ALL SWITCHBOARDS, DISTRIBUTION PANELS AND PANEL BOARDS SHALL BE FURNISHED WITH FULL RATED COPPER BUS ND BE BRACED FOR AVAILABLE FAULT CURRENT WITH MINIMUM RATINGS AS FOLLOWS: SWITCHBOARDS 100,000 AIC DISTRIBUTION PANELS 55,000 AIC PANELBOARDS 10,000 AIC (120/240V)
- 62. ALL CIRCUIT BREAKERS FOR PANEL BOARDS SHALL BE THE BOLT—ON TYPE, RATED FOR SWITCHING DUTY AND RATED FOR THE AVAILABLE FAULT CURRENT WITH MINIMUM RATING OF 10,000 AIC FOR 120/240V PANELS.
- 63. ALL CIRCUIT BREAKER SIZES AND QUANTITIES INDICATED ON SCHEDULE(S) ARE FOR THE CONVENIENCE OF THE BIDDERS ONLY. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND SUPPLYING ALL REQUIRED BRANCH BREAKERS.
- 64. ALL PANELS RECESSED IN WALLS SHALL HAVE 3-1" CONDUITS STUBBED INTO CEILING CAVITY OR STUBBED OUT OF WALL 12'-0" ABOVE SLAB.

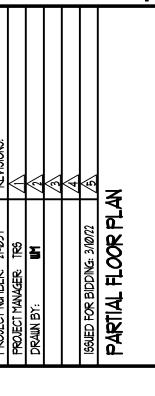
	PANEL B	OAR	SCH	IEDUI	LE į	PP-1
VOLTAGE, 120/209/OLT 3DUASE AWIDE		MAIN (A)	MCB	MLO	LOCATION:	WAREHOUSE
VOLTAGE: 120/208VOLT 3PHASE 4WIRE		200 A WITH GRO	OUND BUS		MOUNT: TYPE:	WALL
USE AND/OR AREA SERVED	C/B CIR. NO.	Α	В	С	CIR. C/B	
	70 / 1	6500 3000			2 40/	ELECTRICAL DUCT HEATER
CONDENSING UNIT CU-1	/ 3		6500 3000		4 2	
	3 5			6500 1200	6 20	ERV-1
ELECTRICAL WALL HEATER	25 / 7	2000 100			8 20	HEAT RECOVERY BOXES HR 1 AND 2
	2 9		2000 100		10 2	
VRF-1 AND 2	20 / 11			270 405	12 20	VRF-3, 4 AND 5
	2 13	270 405			14	
VRF-6 AND 7	20 / 15		270 270		16 20	VRF-8 AND 9
	1 17			270 270	18	
	20 <u>19</u>	0 270			20	VRF-10 AND 11
	20 21		0 270		22 / 2	
	20 <u>23</u> 1			0	24 20 1	
	20 25	0			26 20 1	
	20 <u>27</u> 1		0		28 20 1	
	20 <u>29</u> 1			0	30 20	
	20 31	0			32 20 1	
	20 33		0		34 20	
	20 35			0	36 20	
	20 37	0		-	38 20	
	20 39		0		40 20	
	20 41			0	42 20	
TOT	AL LOAD PER PHASE	125 4 5	12410	8915	TOTAL KVA:	33.9
					AMPS:	94.0



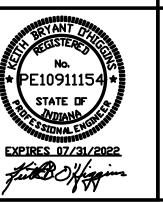
MEPAPP. CONGULTANT: GROVE, ILLINOIS 60554 (630) 538-1996

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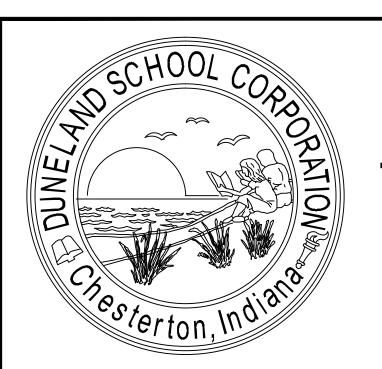
DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
SUPPORT SERVICES CENTER







E3.00



DUNELAND SCHOOL CORPORATION

2022 RENOVATIONS AT:

CHESTERTON MIDDLE SCHOOL, 651 W. MORGAN AVENUE, CHESTERTON, INDIANA 46304 SUPPORT SERVICES CENTER, 1012 NORTH OLD STATE ROAD 49, CHESTERTON, IN. 46304 (ALTERNATE #1)

> DISTRICT OFFICE, 601 W. MORGAN AVENUE, CHESTERTON, INDIANA 46304 (ALTERNATE #2) TRIA PROJECT#: 21-037

GENERAL BUILDING CODE REQUIREMENTS

BUILDING CODES REFERENCED:

2012 INTERNATIONAL BUILDING CODE WITH 2014 INDIANA AMENDMENTS 2006 INTERNATIONAL PLUMBING CODE 2ND EDITION AMENDED INDIANA 2012 2008 NATIONAL ELECTRICAL CODE WITH 2009 INDIANA AMENDMENTS 2012 INTERNATIONAL MECHANICAL CODE WITH 2014 INDIANA AMENDMENTS INDIANA ENERGY CONSERVATION CODE 2010 2012 INTERNATIONAL FIRE CODE WITH 2014 INDIANA AMENDMENTS 2012 INTERNATIONAL FUEL GAS CODE 2ND EDITION WITH 2014 INDIANA AMENDMENTS

OCCUPANCY CLASSIFICATION: EDUCATIONAL GROUP E

TYPE OF CONSTRUCTION:

EXISTING: 11-B DESIGN FIRM REGISTRATION:

THOMAS R. SZURGOT INDIANA LICENSE NUMBER: ARIØ8ØØ173

SCHOOL BOARD

PRESIDENT VICE PRESIDENT BOARD SECRETARY BOARD MEMBER BOARD MEMBER

SUPERINTENDENT

BRANDON KROFT ALAYNA LIGHTFOOT POL TOM SCHNABEL RONALD STONE TIM MCGINTY

DR. CHIP PETTIT

DRAWING INDEX

TITLE SHEET, SITE LOCATION MAP, INDEX, AND GENERAL BUILDING CODE REQUIREMENTS

ARCHITECTURAL

AGO.OO SYMBOLS AND ABBREVIATIONS AND TYPICAL MOUNTING HEIGHTS

AG3.10 OVERALL FIRST FLOOR PLAN PARTIAL EXISTING REFLECTED CEILING PLAN PARTIAL REFLECTED CEILING PLAN

PARTIAL ROOF PLAN AND DETAILS

MECHANICAL

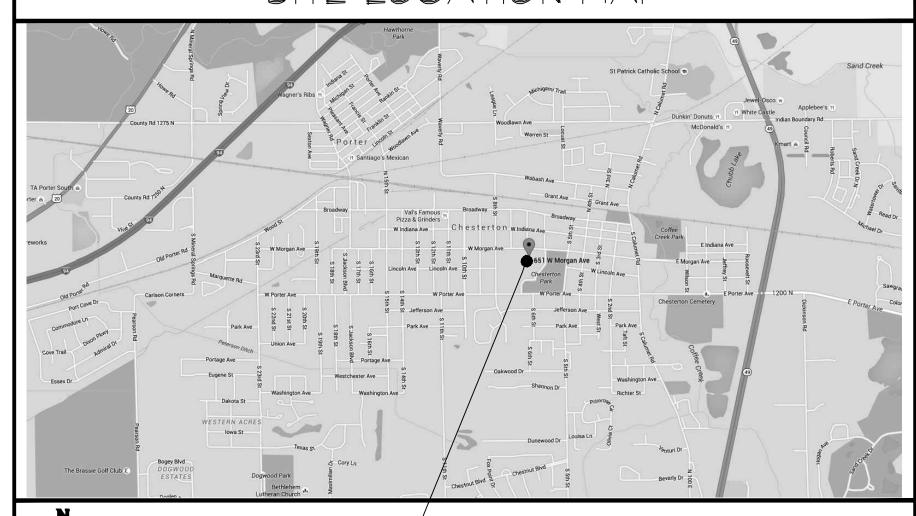
EXISTING PARTIAL FLOOR PLAN - MECHANICAL

PARTIAL FLOOR PLAN - VENTILATION PARTIAL FLOOR PLANS - PIPING

DETAILS - MECHANICAL NOTES - MECHANICAL ABBREVIATIONS - MECHANICAL

EXISTING PARTIAL FLOOR PLAN - ELECTRICAL PARTIAL FLOOR PLAN - ELECTRICAL - LIGHTING PARTIAL FLOOR PLAN - ELECTRICAL - POWER NOTES AND SCHEDULES - ELECTRICAL

SITE LOCATION MAP



SITE LOCATION

CONTRACTOR PURCHASED EQUIPMENT

MECHANICAL EQUIPMENT PURCHASED AND INSTALLED BY CONTRACTOR.

Indiana Office: 436 Sand Creek Drive N, Suite 105 Chesterton, Indiana 46304

Company Main: 630.455.4500 Fax: 630.455.4040 www.TriaArchitecture.com

TRIA ARCHITECTURE, INC.

Illinois Office: 901 McClintock Drive, Suite 100

M.E.P. CONSULTANT:

Burr Ridge, Illinois 60527

OAS, LLC.

ARCHITECT:

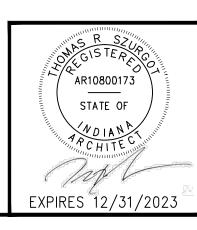
769 Heartland Dr. Unit A Sugar Grove, Illinois 60554 Phone: 630.538.1996 www.oasllc.net

ISSUED FOR BIDDING:

MARCH 10, 2022

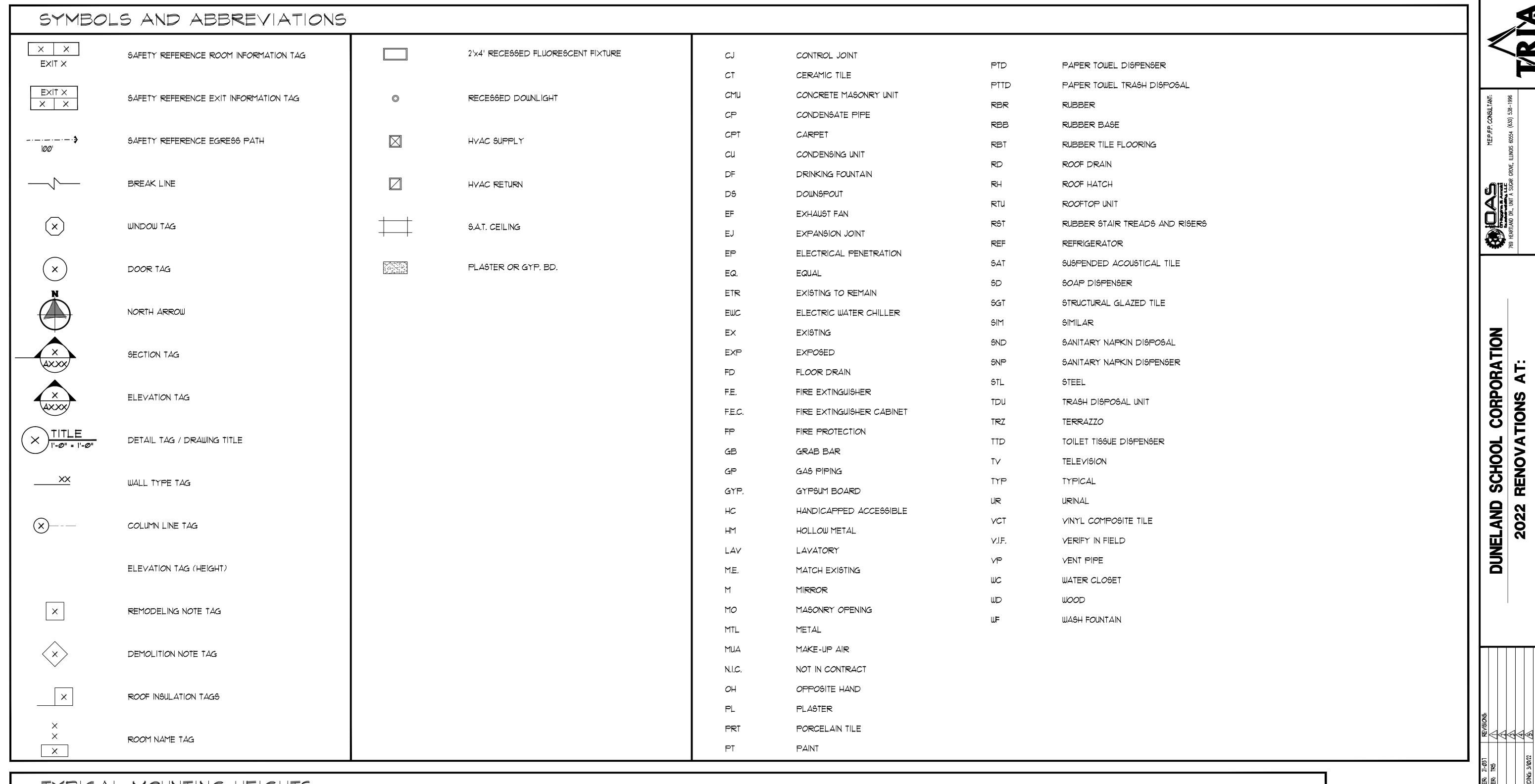
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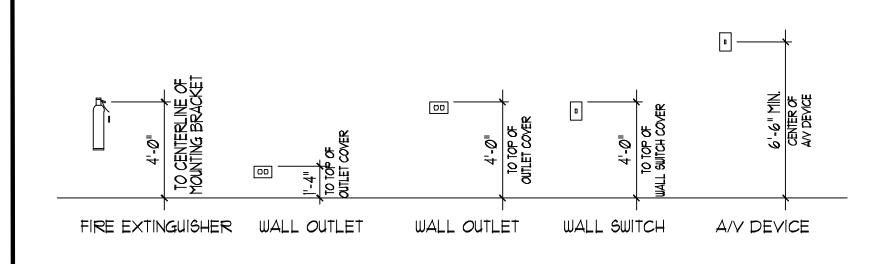


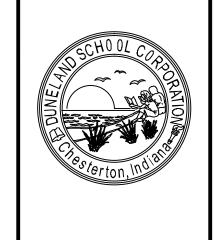












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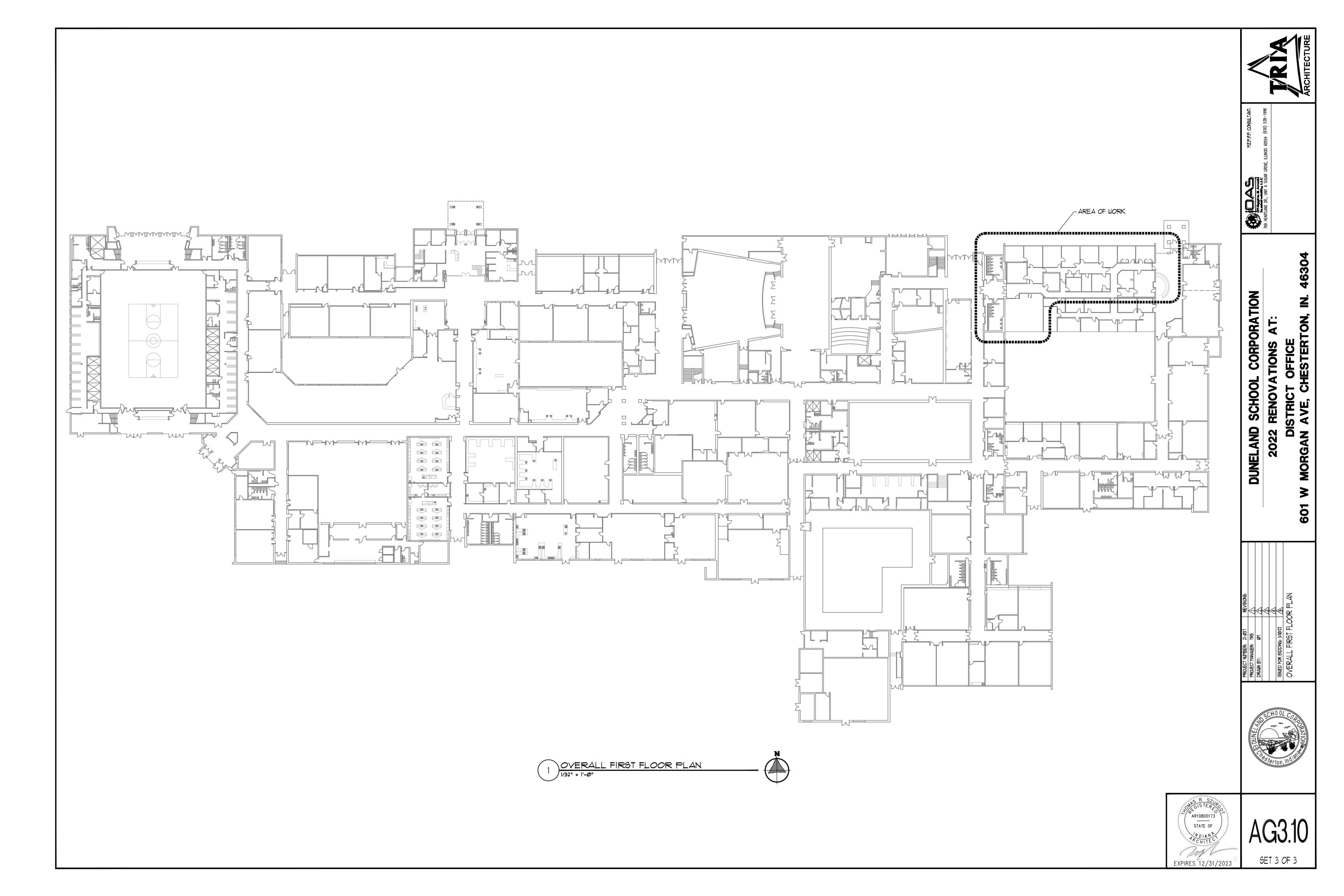
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SET 3 OF 3



EXISTING REFLECTED CEILING PLAN REFERENCED NOTES

EXISTING MECHANICAL UNIT TO BE REMOVED - REFER TO MECHANICAL PLANS.

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EXISTING REFLECTED CEILING PLAN GENERAL NOTES

- ALL EXISTING CEILING SYSTEMS, LIGHTS, EQUIPMENT AND CEILING MOUNTED SPEAKERS TO BE REMOVED IN THEIR ENTIRETY WHERE INDICATED - REFER TO MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS.
- REFER TO ELECTRICAL PLANS FOR ADDITIONAL CEILING MOUNTED DEVICES AND EQUIPMENT TO BE REMOVED.
- CONTRACTOR TO VERIFY ALL EXISTING CEILING HEIGHTS PRIOR TO BEGINNING WORK ON ANY CEILING SCHEDULED TO RECEIVE WORK
- FIELD YERIFY ALL EXISTING CONDITIONS. IN THE EVENT THAT AN ITEM NOT SHOWN ON THE DRAWINGS CONFLICTS WITH WORK UNDER THIS CONTRACT, CONTACT THE ARCHITECT PRIOR TO REMOVAL OF THAT ITEM. ITEMS SHOWN ARE INDICATED TO GIVE A GENERAL SCOPE OF WORK. ANY ITEMS REQUIRING REMOVAL/DEMOLITION TO PROPERLY PERFORM CONTRACT WORK BUT NOT SPECIFICALLY SHOWN, SHALL BE REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST, PROVIDING THE CONDITION WAS YISIBLE DURING BIDDING.
- 5. SHORE OR BRACE ALL EXISTING CONSTRUCTION AS REQUIRED TO PERFORM DEMOLITION WORK.
- 6. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING, CUTTING, PATCHING, INFILLING, REPAIRING, REFINISHING, AND REMOVAL/ REPLACEMENT OF BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OR REMOVAL OF THEIR WORK. ALL PATCHING, REPAIRING, AND REFINISHING SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE ADJACENT CONSTRUCTION.
- PROTECT ALL EXISTING FINISHES, EQUIPMENT, AND ADJACENT WORK NOT SCHEDULED TO BE REMOVED FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGED FINISHES, EQUIPMENT, OR ADJACENT SURFACES SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
- THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ANY MATERIAL OR EQUIPMENT REMOVED.



EXISTING SUSPENDED ACOUSTICAL TILE CEILING SYSTEM TO REMAIN - PROTECT DURING CONSTRUCTION. EXISTING SUSPENDED ACOUSTICAL TILE CEILING TO BE

LOUVERS, AND OTHER DEVICES.

EXISTING LIGHT FIXTURE TO REMAIN - REFER TO ELECTRICAL DRAWINGS

REMOVED IN IT'S ENTIRETY. REMOVE ALL LIGHTS,

EXISTING LIGHT FIXTURE TO BE REMOVED - REFER TO ELECTRICAL DRAWINGS

> EXISTING LIGHT FIXTURE TO BE REMOVED - REFER TO MECHANICAL DRAWINGS

> > EXISTING MECHANICAL SUPPLY DIFFUSER TO REMAIN -REFER TO MECHANICAL DRAWINGS

EXISTING RETURN GRILLE TO REMAIN - REFER TO MECHANICAL DRAWINGS

REFER TO MECHANICAL DRAWINGS EXISTING MECHANICAL RETURN GRILLE TO BE REMOVED -

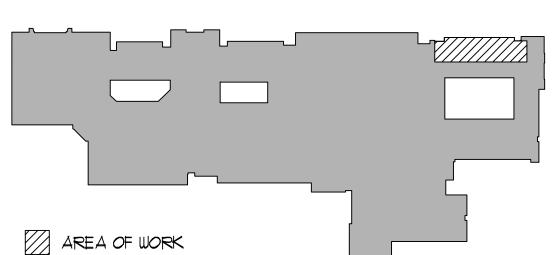
EXISTING MECHANICAL SUPPLY DIFFUSER TO BE REMOVED -

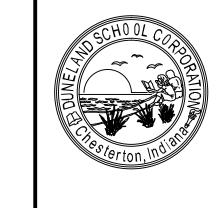
REFER TO MECHANICAL DRAWINGS

EXISTING CONSTRUCTION TO BE REMOVED

EXISTING CONSTRUCTION TO REMAIN

AREA OF EXISTING SUSPENDED CEILING SYSTEM TO BE REMOVED AND REINSTALLED AS REQUIRED FOR NEW CONSTRUCTION.





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SCHOOL

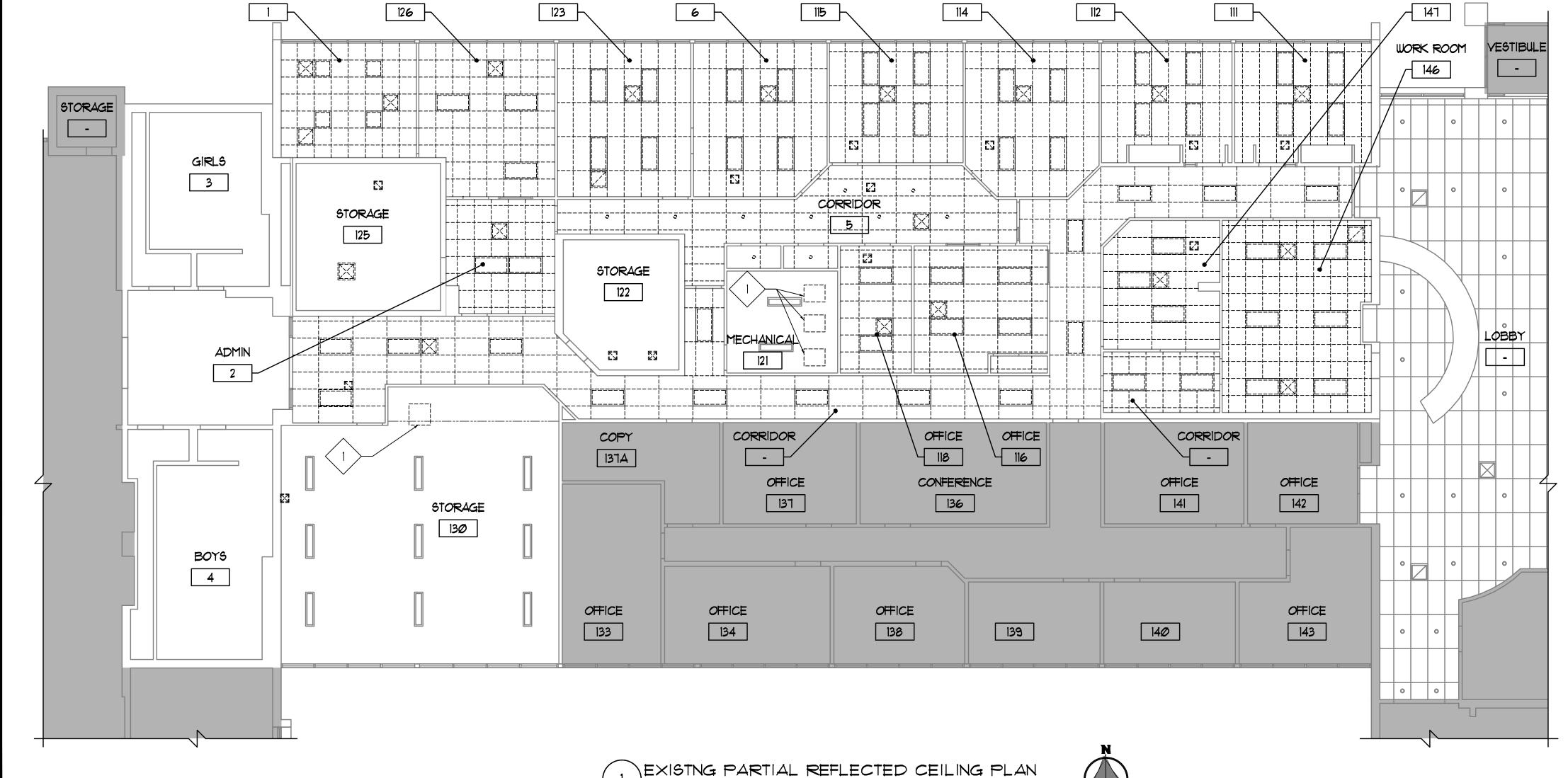
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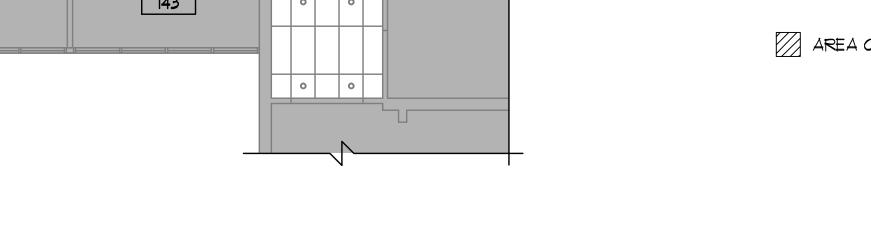


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FACULTY LOUNGE

REFLECTED CEILING PLAN REFERENCED NOTES

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FACULTY LOUNGE

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WORK ROOM

146

MECHANICAL EQUIPMENT - REFER TO MECHANICAL DRAWINGS. INTAKE / RELIEF HOOD - REFER TO MECHANICAL DRAWINGS.

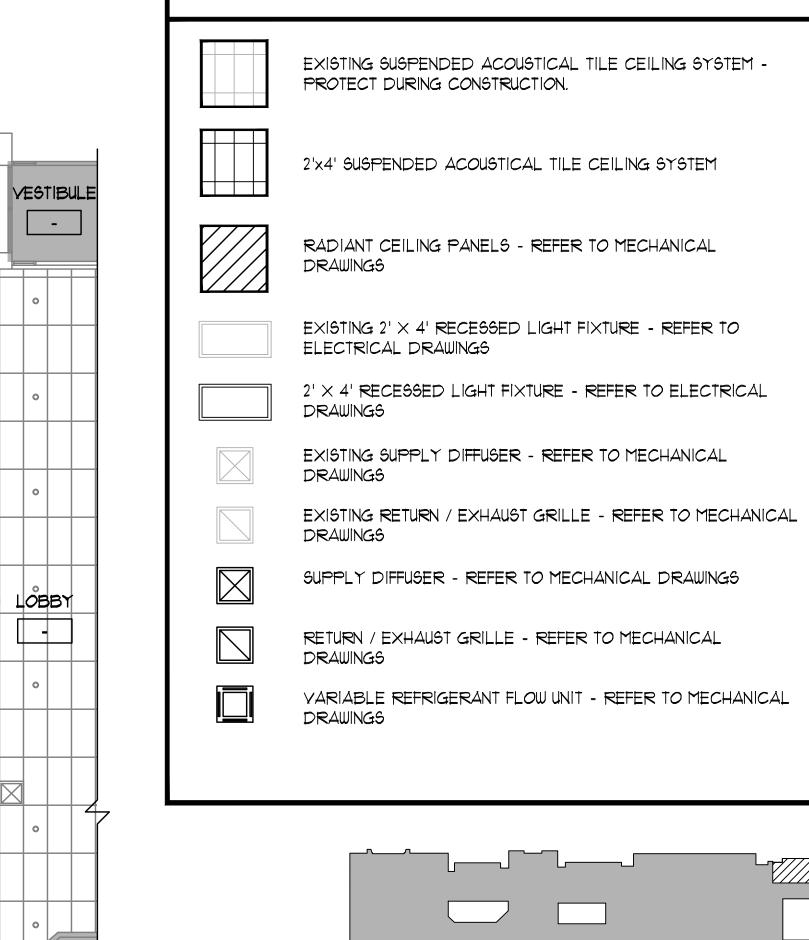
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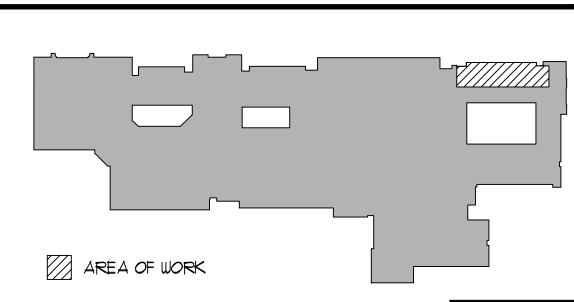
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MECHANICAL EQUIPMENT ABOYE - REFER TO MECHANICAL DRAWINGS (UNIT WEIGHT = 650 POUNDS).

REFLECTED CEILING PLAN GENERAL NOTES

- REFER TO MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR ADDITIONAL AREAS OF ABOVE CEILING WORK, REMOVE AND PATCH OR REINSTALL EXISTING CEILINGS IN THESE LOCATIONS ONLY AS REQUIRED TO PROVIDE WORK INDICATED.
- CONTRACTOR TO VERIFY ALL EXISTING CEILING HEIGHTS PRIOR TO BEGINNING WORK ON ANY CEILING SCHEDULED TO RECEIVE WORK.
- FIELD VERIFY ALL EXISTING CONDITIONS. IN THE EVENT THAT AN ITEM NOT SHOWN ON THE DRAWINGS CONFLICTS WITH WORK UNDER THIS CONTRACT, CONTACT THE ARCHITECT PRIOR TO REMOVAL OF THAT ITEM. ITEMS SHOWN ARE INDICATED TO INDICATE THE SCOPE OF WORK., ANY ITEMS REQUIRING REMOVAL TO PROPERLY PERFORM CONTRACT WORK, BUT NOT SPECIFICALLY SHOWN, SHALL BE REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST, PROVIDING THE CONDITION WAS YISIBLE DURING BIDDING.
- SHORE OR BRACE ALL EXISTING CONSTRUCTION AS REQUIRED TO PERFORM WORK. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING, CUTTING, PATCHING, INFILLING, REPAIRING, REFINISHING, AND REMOVAL/REPLACEMENT OF BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OR REMOVAL OF THEIR WORK. ALL PATCHING, REPAIRING, AND REFINISHING SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE ADJACENT CONSTRUCTION.
- PROTECT ALL EXISTING FINISHES, EQUIPMENT, AND ADJACENT WORK NOT SCHEDULED TO BE REMOVED FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGED FINISHES, EQUIPMENT, OR ADJACENT SURFACES SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
- THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ANY MATERIAL OR EQUIPMENT REMOVED.







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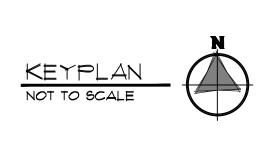
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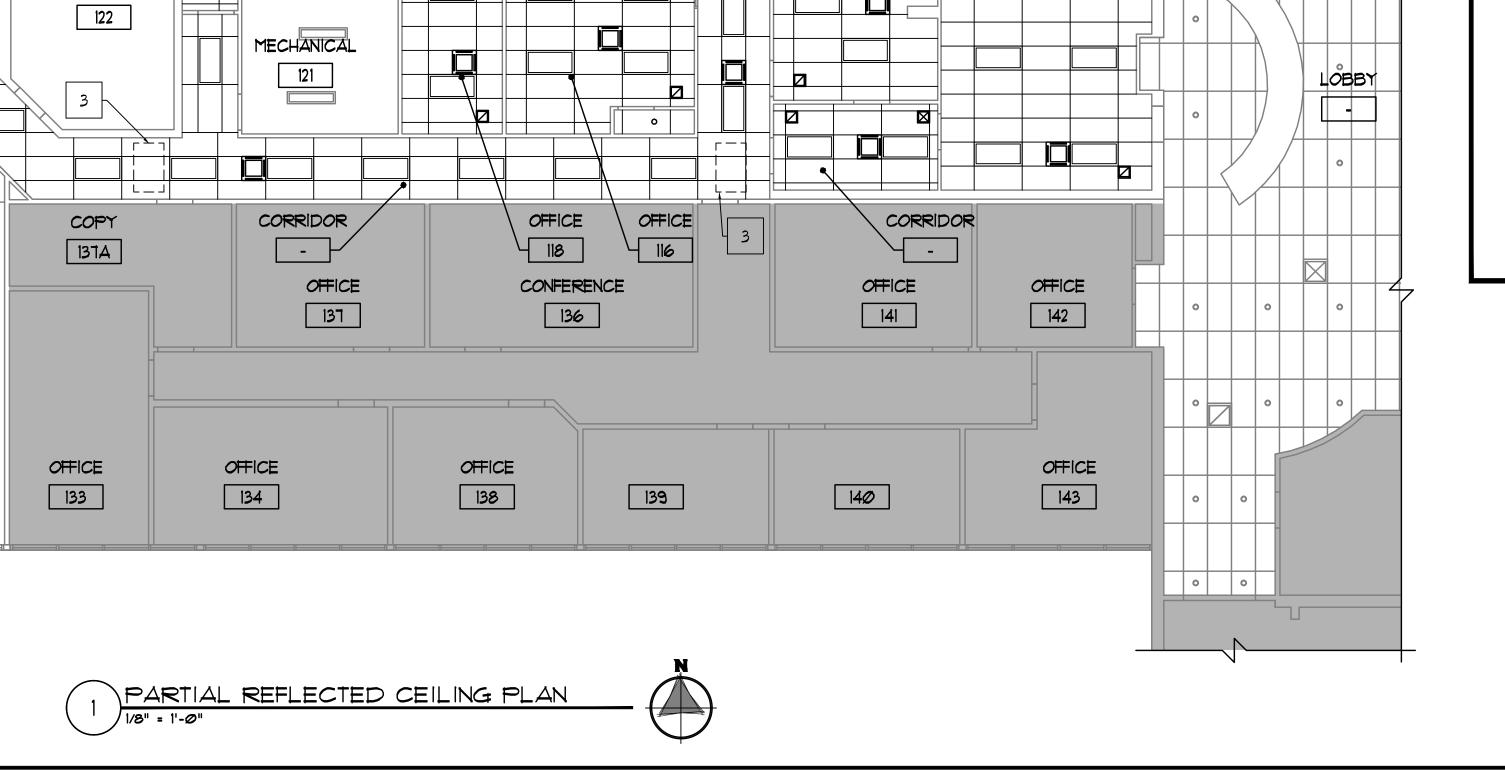
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CONFERENCE

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CONFERENCE

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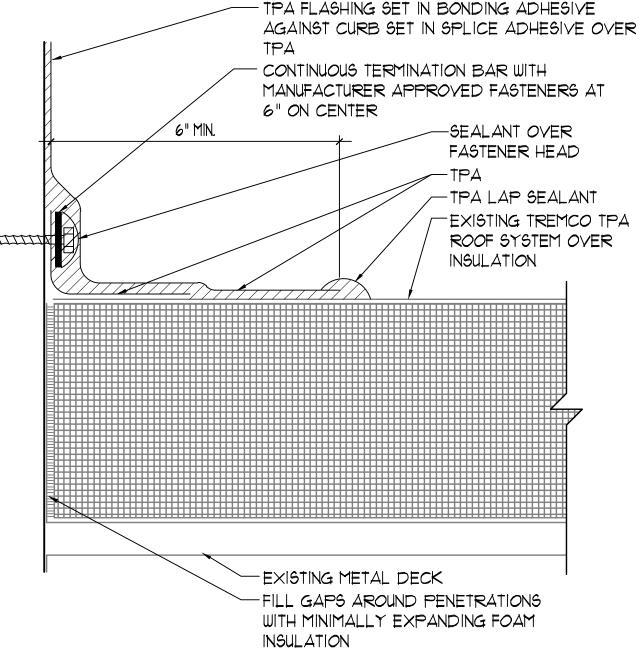
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LEGEND

FULLY SOLDERED 20 GA. STAINLESS STEEL CURB CAP - FASTEN WITH STAINLESS STEEL SCREW FASTENERS WITH NEOPRENE WASHERS AT 1'-O" ON CENTER -COVER W/ SEALANT. 2 LAYERS OF 3/4" TREATED PLYWOOD 2X6 WOOD STUD FRAMING AT 24" ON CENTER - SPAN SHORT DIMENSION TPA FLASHING SET IN BONDING ADHESIVE AGAINST CURB AND IN SPLICE ADHESIVE OVER TPA (DI.8A) 2X4 WOOD STUD FRAMING AT 16" ON CENTER WITH R-13 BATT INSULATION - SCREW TO METAL DECK 3/4" TREATED PLYWOOD SHEATHING - COATED WOOD SCREWS EVERY 8" PERIMETER AND 12" INTERIOR EXISTING RIGID INSULATION EXISTING TREMCO TPA ROOF SYSTEM OVER INSULATION-FILL GAPS AROUND PENETRATIONS WITH MINIMALLY EXPANDING FOAM INSULATION CONTINUOUS TREATED 2X TOP AND BOTTOM PLATES -EXISTING METAL DECK

1. ALL WOOD BLOCKING TO BE TREATED WITH JOINTS STAGGERED, MITERED, AND

PLATFORM CURB DETAIL



TYPICAL SPM ANCHOR STRIP DETAIL

GENERAL NOTES

- ALL INSULATION JOINTS ARE TO BE STAGGERED.
- ALL GAPS IN INSULATION JOINTS GREATER THAN 1/4" ARE TO BE FILLED WITH INSULATION STRIPS.
- FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO SUBMITTING SHOP DRAWINGS. ALL COUNTER FLASHING, COPING, AND MISCELLANEOUS METAL FLASHING PIECES
- ALL EXPOSED FASTENERS TO BE CORROSION RESISTIVE, HAVE NEOPRENE
- AND REPAIRED BACK TO ORIGINAL CONDITION PRIOR TO SUBSTANTIAL COMPLETION DATE - AT ALL GRASS AREAS DAMAGED DURING CONSTRUCTION, PROVIDE NEW SOD TO MATCH EXISTING SPECIES.
- EXTEND ALL PIPE PENETRATIONS AS REQUIRED TO PROVIDE WORK INDICATED.

AT ALL ROOF PENETRATIONS TO BE REMOVED - PATCH DECK, FILL OPENING WITH INSULATION TO MATCH EXISTING AND PATCH MEMBRANE PER MANUFACTURER'S REQUIREMENTS TO MAINTAIN EXISTING ROOF WARRANTY.

- FOLLOWING INSTALLATION OF THE FLASHING, APPLY SEALANT TO ALL EXPOSED LEADING EDGES.

- TYPE #A' POINT SCREWS.
- TYPE #A' POINT 304 SERIES.
- WITH CLIMASEAL CORROSION RESISTIVE COATING AND NEOPRENE WASHERS. 10. EXPOSED SCREW FASTENERS INTO SHEET METAL TO BE 3/4" X 1/4" TEKS WITH
- ALL EXPOSED SCREW FASTENERS ARE TO BE COVERED WITH SEALANT.

ROOF CONSTRUCTION NOTES

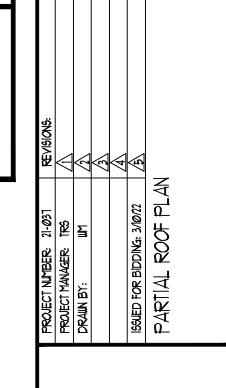
ROOF AREA #1:

EXISTING ROOF AREA - EXISTING METAL DECK, INSULATION AND TREMCO TPA ROOF SYSTEM - AT AREAS TO PATCH, MATCH EXISTING ADJACENT CONSTRUCTION.

CONTACT GLUTH BROTHERS ROOFING COMPANY (219-844-5536) OR THE SCHOOL'S TREMCO ROOFING REPRESENTATIVE, DOUG COPLEY (260-312-0483). TREMCO CERTIFIES ALL ROOFING FOR THE DUNELAND SCHOOL CORPORATION.

LEGEND

- CONDENSING UNIT AND PLATFORM CURB REFER TO DETAIL 2/48.10 AND MECHANICAL DRAWINGS.
- INTAKE HOOD REFER TO MECHANICAL DRAWINGS.
- RELIEF HOOD REFER TO MECHANICAL DRAWINGS.



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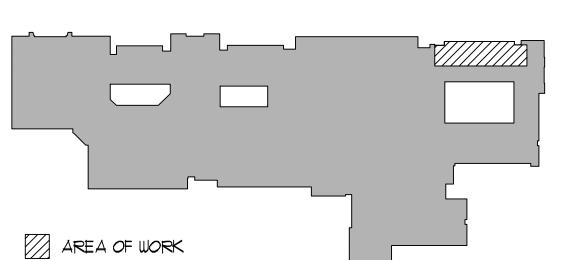
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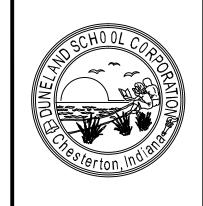
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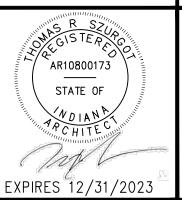
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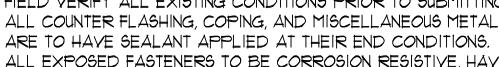
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WASHERS, AND BE COVERED WITH SEALANT.

ALL AREAS OF EXISTING SITE USED TO ACCESS AREA OF WORK SHALL BE PROTECTED

PROVIDE TAPERED INSULATION SADDLES AT ALL ROOF CURBS.

FLASHING NOTES

ALL FLASHING FLANGES ARE TO BE SET IN SEALANT.

FIELD VERIFY ALL CONDITIONS PRIOR TO SUBMITTING SHOP DRAWINGS.

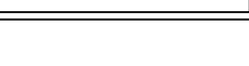
4. ALL SCREW ANCHOR LOCATIONS TO HAVE PRE-DRILLED 5/16" PILOT HOLES.

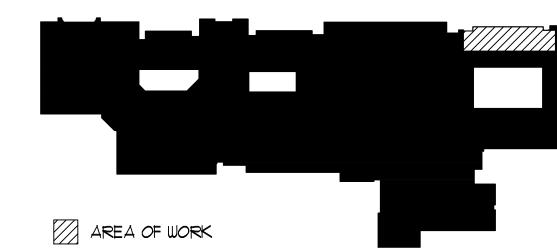
- 5. NON-EXPOSED NAIL FASTENERS TO BE 1-1/2" RING SHANK GALVANIZED ROOFING
- 6. NON-EXPOSED SCREW ANCHORS INTO WOOD TO BE 1-1/4" X 3/16" HHA ATLAS
- EXPOSED SCREW ANCHORS INTO WOOD ARE TO BE 1-1/4" X 3/16" HHA ATLAS
- 8. NON-EXPOSED SCREW ANCHORS INTO MASONRY ARE TO BE 1-1/4" X 3/16"
- EXPOSED SCREW ANCHORS INTO MASONRY ARE TO BE 1-1/4" X 3/16" TAPCONS
- NEOPRENE WASHERS.

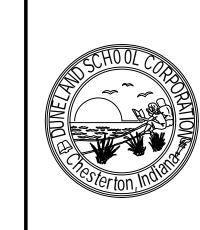
DEMOLITION NOTES

- D-1 REMOVE DIFFUSER/REGISTER.
- D-2 REMOVE DUCTWORK AND HANGERS.
- D-3 REMOVE VERTICAL AIR HANDLERS TO INCLUDE ALL HW AND R PIPING, REFRIGERANT PIPING, DRAIN PIPING, CONTROLS ETC.
- D-4 REMOVE HWS AND R PIPING BACK TO MAIN IN HALL.
- D-5 EXISTING HWS AND R TO REMAIN.
- D-6 REMOVE CONDENSING UNIT. SEAL REFRIGERANT PIPING ROOF PENETRATIONS.
- D-7 EXISTING DUCT TO REMAIN
- D-8 EXISTING AIR HANDLER TO REMAIN

D-9 REMOVE ALL EXISTING THERMOSTATS







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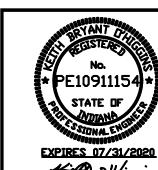
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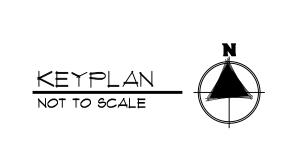
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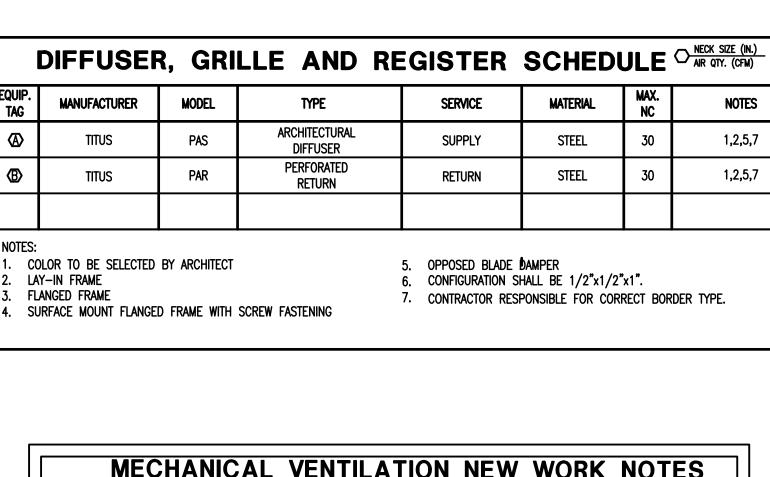
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MECHANICAL VENTILATION NEW WORK NOTES

- A PROVIDE AND INSTALL INTAKE/RELIEF HOOD. SEE ARCHITECTURAL DRAWINGS ADDITIONAL REQUIREMENTS.
- (B) INSULATED SUPPLY AIR DUCT. COORDINATE DUCTWORK ROUTING WITH CEILING REMOVAL/REPLACEMENT. RUN DUCTWORK THROUGH JOIST WEBS AND IN JOIST SPACE. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

WORK ROOM

146

OFFICE

OFFICE

143

142

OFFICE

140

REQUIRED BY FIELD CONDITIONS. COORDINATE ERV WITH EXISTING BUILDING STRUCTURE. REMOVE/REINSTALL JOIST BRIDGING AS REQUIRED TO INSTALL ERV. FIELD VERIFY REQUIREMENTS. SEE SPECIFICATIONS ADDITIONAL REQUIREMENTS.

PARTIAL FLOOR PLAN - MECHANICAL - VENTILATION

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OFFICE

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B 4"Ø NK 20 CFM

OFFICE

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CORRIDOR

CONFERENCE

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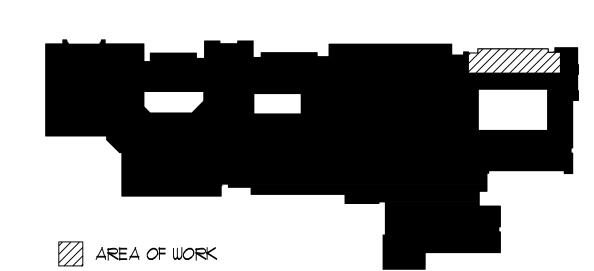
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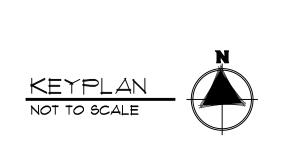
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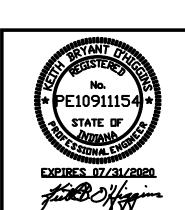
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- 1 PROVIDE NEW CONNECTION TO EXISTING HOT WATER SUPPLY/RETURN PIPING. FIELD VERIFY SIZE/LOCATION. EXTEND AS SHOWN ON DRAWINGS.
- 2 EXISTING HOT WATER SUPPLY/RETURN PIPING.
- 3 PROVIDE AND INSTALL ROOF MOUNTED CONDENSING UNIT ON PLATFORM CURB WITH THREE LAYERS OF HIGH DENSITY INSULATION AND PIPE CURB. SEE LARGE SCALE DETAILS M4.20 FOR ADDITIONAL REQUIREMENTS. PLATFORM CURB TO BE 6" LARGER IN ALL DIRECTIONS THAN EQUIPMENT. PROVIDE NEW REFRIGERANT PIPING TO RUN TO/FROM AIR COOLED CONDENSER AND INDOOR VRF UNITS. PROVIDE ROOF PIPE SUPPORTS 4'-0" O.C. EXTERIOR PIPING TO BE INSULATED AND PROVIDED WITH AN ALUMINUM JACKET PER THE SPECIFICATIONS. SEE LARGE SCALE DETAIL 11/M3.10 FOR ADDITIONAL REQUIREMENTS. FIELD VERIFY ROUTING AND PIPE SIZE WITH VRF UNIT MANUFACTURER.
- 4 PROVIDE 3/4" HOT WATER SUPPLY/RETURN PIPES TO/FROM RADIANT CEILING PANEL.
- 5 1-1/2" INSULATED CONDENSATE DROP AT WALL TO FLOOR DRAIN. REPLACE FLOOR DRAIN COVER WITH FUNNEL TOP. REWORK CONDENSATE DRAIN ON REMAINING FAN COIL TO RUN TO FUNNEL.
- OVER UNIT: PROVIDE REFRIGERANT PIPING TO RUN TO/FROM HR UNITS AND INDOOR VRF UNITS. PROVIDE 1" INSULATED CONDENSATE PIPE FROM VRF UNIT. RISE CONDENSATE OFF OF VRF UNIT AND RUN CONDENSATE PIPE IN JOIST SPACE AS HIGH AS POSSIBLE. COORDINATE LOCATION OF VRF UNITS WITH CEILING GRID AND EXISTING BUILDING STRUCTURE. HANG VRF UNIT FROM EXISTING STRUCTURE (BEAM/JOIST) WITH ISOLATORS, PROVIDE ADDITIONAL SUPPORTS AS REQUIRED BY FIELD CONDITIONS. COORDINATE ERV WITH EXISTING BUILDING STRUCTURE. REMOVE/REINSTALL JOIST BRIDGING AS REQUIRED TO INSTALL VRF UNITS. FIELD VERIFY REQUIREMENTS. FIELD VERIFY PIPE ROUTING AND PIPE SIZE WITH VRF UNIT MANUFACTURER. COORDINATE PIPE RUNS WITH CEILING REMOVAL/REPLACEMENT. PIPING TO RUN IN/THRU EXISTING JOIST SPACE. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- RUN INSULATED CONDENSATE AS HIGH AS POSSIBLE THROUGH EXISTING JOISTS AND JOIST WEBBING. SEE PLANS FOR PIPE SIZES.
- 8 HR UNIT: PROVIDE REFRIGERANT PIPING TO RUN TO/FROM AIR COOLED CONDENSER AND/OR INDOOR VRF UNITS. COORDINATE LOCATION OF HR UNITS WITH CEILING GRID AND EXISTING BUILDING STRUCTURE. HANG HR UNIT FROM EXISTING STRUCTURE (BEAM/JOIST), PROVIDE ADDITIONAL SUPPORTS AS REQUIRED BY FIELD CONDITIONS. COORDINATE HR UNITS WITH EXISTING BUILDING STRUCTURE. REMOVE/REINSTALL JOIST BRIDGING AS REQUIRED TO INSTALL HR UNITS. FIELD VERIFY REQUIREMENTS. FIELD VERIFY PIPE ROUTING AND PIPE SIZE WITH VRF UNIT MANUFACTURER. COORDINATE PIPE RUNS WITH CEILING REMOVAL/REPLACEMENT. PIPING TO RUN IN/THRU EXISTING JOIST SPACE. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- (9) THERMOSTAT/SENSOR FOR RCP. CUT/PATCH NEW/EXISTING WALL AS REQUIRED TO INSTALL RECESSED IN WALL. PAINT WALL TO MATCH EXISTING.
- PROVIDE REFRIGERANT PIPING TO RUN TO/FROM AIR COOLED CONDENSER UNIT AND/OR INDOOR HR/VRF UNITS.
 FIELD VERIFY REQUIREMENTS. FIELD VERIFY PIPE ROUTING AND PIPE SIZE WITH VRF UNIT MANUFACTURER. COORDINATE PIPE RUNS WITH CEILING REMOVAL/REPLACEMENT. PIPING TO RUN IN/THRU EXISTING JOIST SPACE. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- 11) DROP CONDENSATE DRAIN INTO EXISTING FLOOR DRAIN
- 12 CLEANOUT TYPICAL ON ALL DRAINS AT VRF

PROJECT NUMBER: 21-065 REV PROJECT MANAGER. TRS
PROJECT MANAGER: TRS
PROJECT NUMBER: 21-065 REV

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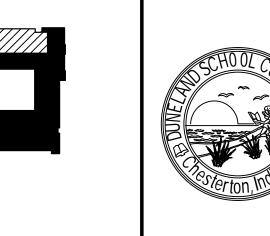
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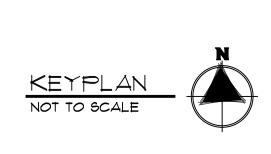
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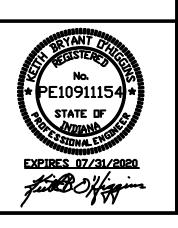
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AREA OF WORK



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										√ VR	VARIAB	LE REFRIC	BER/	NT F	LOW	UNIT A	ND C	ONDENS	ING UNI	T SCHEDULE -	CONTR	ACTOR	PROVIDED	CU											
TAG	LOCATION	AREA SERVED	MANUFACTURER	MODEL NUMBER	TYPE	CAPACITY COOLING (MBH)	CAPACITY HEATING (MBH)	CORRECTED COOLING TOTAL (MBH)	CORRECTED COOLING SENSIBLE (MBH)	CORRECTED HEATING (MBH)	CFM (LOWEST TO HIGHEST)	MOUNTING	EAT D.B. (°F)	EAT W.B. (*F)	RATED AMPS	MOP VOLT	T/PH [DIMENSIONS HxWxD (IN.)	NOTES		TAG	MANUFACTUR	RER MODEL NUMBER	WEIGHT (LB)	CAPACITY COOLING (MBH)	CAPACITY HEATING (MBH)	CORRECTED COOLING (MBH)	CORRECTED HEATING (MBH)	AMBIENT AIR SUMMER/WINTER (°F)	MCA	МОР	VOLT/PH	COOLING EFFICIENCY IEER (SEER)	HEATING COP	NOTES
VRF 1	OFFICE 133	OFFICE 133	LG	ARNU153	4-WAY Cassette	15.3		13.0	9.9	13.0	388/353/328	CEILING	75.0	63.0	0.2	15 208/2	230/1 10	D.6x22.6x22.6	1,2,5,6,7,8, 10,11,13		CU 7	LG	ARUM168 BTE3	639	16.8	18.9	13.6	13.5	95.0/-22.0	54	70	208/230/3	25.4	3.6	1,2,3,4,7,9,10, 11,13
VRF 2	OFFICE 133	OFFICE 133	LG	ARNU153	4-WAY Cassette	15.3		13.0	9.9	13.0	388/353/328	CEILING	75.0	63.0	0.2	15 208/2	230/1 10	D.6x22.6x22.6	1,2,5,6,7,8, 10,11,13		CU 8	LG	ARUM168 BTE3	639	16.8	18.9	13.6	13.5	95.0/-22.0	54	70	208/230/3	25.4	3.8	1,2,3,4,7,9,10, 11,13
VRF 3	OFFICE 134	OFFICE 134	LG	ARNU153	4-WAY CASSETTE	15.3		13.0	9.9	13.0	388/353/328	CEILING	75.0	63.0	0.2	15 208/2	230/1 10	D.6x22.6x22.6	1,2,5,6,7,8, 10,11,13																
VRF 4	OFFICE 134	OFFICE 134	LG	ARNU153	4-WAY CASSETTE	15.3		13.0	9.9	13.0	388/353/328	CEILING	75.0	63.0	0.2	15 208/2	230/1 10	D.6x22.6x22.6	1,2,5,6,7,8, 10,11,13																
VRF 5	OFFICE 138	OFFICE 138	LG	ARNU153	4-WAY CASSETTE	15.3		13.0	9.9	13.0	388/353/328	CEILING	75.0	63.0	0.2	15 208/2	230/1 10	D.6x22.6x22.6	1,2,5,6,7,8, 10,11,13																
VRF 6	OFFICE 139	OFFICE 139	LG	ARNU153	4-WAY CASSETTE	15.3		13.0	9.9	13.0	388/353/328	CEILING	75.0	63.0	0.2	15 208/2	230/1 10	D.6x22.6x22.6	1,2,5,6,7,8, 10,11,13																
VRF 7	OFFICE 140	OFFICE 140	LG	ARNU153	4-WAY CASSETTE	15.3		12.9	9.9	13.7	388/353/328	CEILING	75.0	63.0	0.2	15 208/2	230/1 10	D.6x22.6x22.6	1,2,5,6,7,8, 10,11,13																
VRF 8	OFFICE 143	OFFICE 143	LG	ARNU153	4-WAY Cassette	15.3		12.9	9.9	13.7	388/353/328	CEILING	75.0	63.0	0.2	15 208/2	230/1 10	D.6x22.6x22.6	1,2,5,6,7,8, 10,11,13	OUTDOOR SECTION															
VRF 9	CORRIDOR	LOBBY 110	LG	ARNU093	DUCTED	9.3		8.1	6.2	8.5	283/265/251	RECESS DUCTED	75.0	63.0	2.3	15 208/2	230/1 10	D.6x22.6x22.6	1,2,5,6,7,8, 10,11,13																
VRF 10	CORRIDOR	OFFICE 142	LG	ARNU123	4-WAY Cassette	12.3		10.4	7.9	10.4	307/283/247	CEILING	75.0	63.0	0.2	15 208/2	230/1 10	D.6x22.6x22.6	1,2,5,6,7,8, 10,11,13																
VRF 11	CORRIDOR	OFFICE 141	LG	ARNU093	4-WAY Cassette	9.3		8.1	6.2	8.1	283/265/251	CEILING	75.0	63.0	0.2	15 208/2	230/1 10	D.6x22.6x22.6	1,2,5,6,7,8, 10,11,13																
VRF 12	CORRIDOR	OFFICE 136	LG	ARNU093	4-WAY Cassette	9.3		8.1	6.2	8.5	283/265/251	CEILING		63.0		·			1,2,5,6,7,8, 10,11,13																
VRF 13	CORRIDOR	OFFICE 136	LG	ARNU093	4-WAY CASSETTE	9.3		8.1	6.2	8.1	283/265/251	CEILING	75.0	63.0				D.6x22.6x22.6																	
\(\frac{\forall \text{VRF}}{14}\)	CORRIDOR	OFFICE 137	LG	ARNU093	4-WAY CASSETTE	9.3		8.1	6.2	8.1	283/265/251	CEILING	75.0	63.0				D.6x22.6x22.6																	
VRF 15	ADMIN	COPY 137A	LG	ARNU123	4-WAY Cassette	12.3		10.4	7.9	10.4	307/283/247	CEILING	75.0	63.0				D.6x22.6x22.6																	
1 (4)	OFFICE 118	HALLWAY	LG	ARNU093	4-WAY CASSETTE	9.3		8.1	6.2	8.5	283/265/251	CEILING	75.0	63.0				D.6x22.6x22.6																	
1 \''/	OFFICE 116	HALLWAY	LG	ARNU153	4-WAY Cassette	15.3		12.9	9.9	13.7	388/353/328	CEILING	75.0	63.0	0.2	15 208/2	230/1 10	D.6x22.6x22.6	1,2,5,6,7,8, 10,11,13																
1 /10/ 1	OFFICE 147	HALLWAY	LG	ARNU153	4-WAY Cassette	15.3		12.9	9.9	13.7	388/353/328	CEILING	75.0	63.0				D.6x22.6x22.6																	
1 44	OFFICE 148	HALLWAY	LG	ARNU093	4-WAY Cassette	9.3		8.1	6.2	8.5	283/265/251	CEILING	75.0	63.0	0.2	15 208/2	230/1 10	D.6x22.6x22.6	1,2,5,6,7,8, 10,11,13																
VRF 20	OFFICE 146	HALLWAY	LG	ARNU153	4-WAY Cassette	15.3		12.9	9.9	13.7	388/353/328	CEILING	75.0	63.0				D.6x22.6x22.6	10,11,10																
ا کتا ا	OFFICE 146	HALLWAY	LG	ARNU153	4-WAY Cassette	15.3		12.9	9.9	13.7	388/353/328	CEILING	75.0	63.0	0.2	15 208/2	230/1 10	D.6x22.6x22.6	1,2,5,6,7,8, 10,11,13																
	OFFICE 130	HALLWAY	LG	ARNU153	4-WAY CASSETTE	15.3		13.0	9.9	13.0	388/353/328	CEILING	75.0	63.0	0.2	15 208/2	230/1 10	D.6x22.6x22.6	1,2,5,6,7,8, 10,11,13																

1. INCLUDE LOW AMBIENT CONTROL (-22.0° F), ANTI-CYCLING TIME DELAY, CRANKCASE HEATER AND AUTOMATIC OPERATING HOT GAS BYPASS. (VRF MANF.)

2. DISCONNECT SWITCH FOR EACH VRF UNIT BY ELECTRICAL CONTRACTOR.

3. MOUNT ON 18" HIGH PLATFORM CURB AND VIBRATION ISOLATORS PER MANUFACTURERS RECOMMENDATIONS. PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. 4. PROVIDE WIND BAFFLE. PROVIDED BY VRF MANF. INSTALLED BY MECHANICAL CONTRACTOR.

5. PROVIDE GASKET, GRILLE AND AUTOMATIC FAN SPEED CONTROL FOR EACH INDOOR UNIT. (VRF MANF.)

6. PROVIDE CONDENSATE PUMP AND CONDENSATE DRAIN PAN FLOAT ALARM AND SHUT DOWN OF EACH UNIT. (VRF MANF.)

7. SYSTEM DESIGNED FOR SIMULTANEOUS HEATING/COOLING OPERATION. (VRF MANF.)

8. PROVIDE THERMOSTAT WITH PER VRF UNIT. PROVIDED BY VRF MANF. INSTALLED BY MECHANICAL CONTRACTOR.

9. PROVIDE BAS CONTROLLER AND INTERFACE PER THE SPECIFICATIONS. INSTALLED BY MECHANICAL CONTRACTOR.

10. REFRIGERANT PIPING TO BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR.

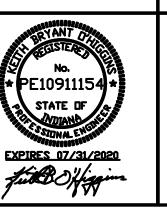
11. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

12. NOT USED. 13. MECHANICAL CONTRACTOR IS REQUIRED TO TAKE MANUFACTURES FREE "CERTIFIED INSTALLER TRAINING CLASS". CORPORATION

D SCHOOL CORPORATIONS AT: DISTRICT OFFICE AVE, CHESTERTON,

PROJECT MANAGER: TRS	igotimes
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- SETINCEHOS	
MECHANICAL	







	RCP		RA	DIANT C	EILING	PAN	EL S	3CH	EDULE				
TAG	LOCATION	MANUFACTURER	MODEL NUMBER	PANEL LENGTH (FT.)	PANEL WIDTH (FT.)	AWT (°F)	EWT (°F)	LWT (°F)	CAPACITY (BTUH/LIN. FT.)	NUMBER OF TUBES	TOTAL MBH	GPM	NOTES
RCP 1	OFFICE 126	AERO TECH	AXO	15'-10"	24"	170	180	160	456	8	7.0	1.0	1,2,3,4,5
RCP 2	OFFICE 124	AERO TECH	AXO	16'-0"	24"	170	180	160	456	8	7.2	1.0	1,2,3,4,5
RCP 3	OFFICE 123	AERO TECH	AXO	15'-8"	24"	170	180	160	456	8	7.0	1.0	1,2,3,4,5
RCP 4	OFFICE 121	AERO TECH	AXO	15'-8"	24"	170	180	160	456	8	7.0	1.0	1,2,3,4,5
RCP 5	OFFICE 115	AERO TECH	AXO	15'-8"	24"	170	180	160	456	8	7.0	1.0	1,2,3,4,5
RCP 6	OFFICE 114	AERO TECH	AXO	15'-8"	24"	170	180	160	456	8	7.0	1.0	1,2,3,4,5
RCP 7	OFFICE 112	AERO TECH	AXO	15'-4"	24"	170	180	160	456	8	7.0	1.0	1,2,3,4,5
RCP 8	OFFICE 111	AERO TECH	AXO	15'-11"	24"	170	180	160	456	8	7.2	1.0	1,2,3,4,5

. FIELD MEASURE ALL LENGTHS PRIOR TO FABRICATION. PANELS ARE WALL TO WALL. FIELD CUT PANELS TO MATCH WALLS. COLOR TO BE SELECTED BY ARCHITECT

ALL PANELS ARE TO BE MADE OF MULTIPLES OF 6" EXTRUSIONS. LONG RUNS OF PANELS TO BE MADE OF MULTIPLE MAXIMUM 12'-0" LENGTHS.

3. PROVIDE PANEL SUPPORTS, EDGE SUPPORTS, ETC. FOR LAY-IN CEILING. LAY-IN CEILING BY GENERAL CONTRACTOR. 4. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

5. PANELS TO BE INSTALLED BY OTHERS. PIPING TO PANELS BY THIS CONTRACTOR.

		MULTI VHR	BOXES	HR			
			ELE	ECTRICAL	DATA		
TAG	LOCATION	MODEL NAME	VOLT	PH	HZ	RLA	NOTES
HR 1	CU-7	PRHR083A	208	1	60	0.2	1
HR 2	CU-7	PRHR043A	208	1	60	0.2	-
HR 3	CU-8	PRHR083A	208	1	60	0.2	ı
HR 4	CU-7	PRHR043A	208	1	60	0.2	-
NOTES:							

				EL	ECTRIC	DUC	T HE	ATER	SCHED		}				
	(GENERAL DATA	1					COIL	DATA			ELEC	TRICAL DA	ATA	
TAG	LOCATION	AREA SERVED	MANUF.	MODEL NUMBER	SIZE (IN.)	CFM	EAT (°F)	LAT (°F)	SP (IN.)	STAGES	TYPE	KW	VOLT	PH	NOTES
(EDH)	RECORDS 130	OFFICES	RENEWAIRE	RH-D	12 " ø	400	-10.0	52.9	0.25	SCR	INLINE OPEN COIL	11.5	208	3	1,2

. OVER-TEMPERATURE PROTECTION, TRANSFORMER, SCR CONTROLLER, AIRFLOW SWITCH, ROUND DUCT COLLARS, DUCT TEMPERATURE SENSOR AND MOUNTING FLANGES.

INTERLOCK WITH ERV. SCR CONTROLLER TO BE CONTROLLED BY BAS CONTRACTOR TO MAINTAIN 50°F DURING OCCUPIED HEATING SEASON.

MECHANICAL / ELECTRICAL COORDINATION SCHEDULE

1. EQUIPMENT FURNISHED BY THE ELECTRICAL CONTRACTOR (MARK 'E'), HEATING CONTRACTOR (MARK 'H'), VENTILATING CONTRACTOR (MARK 'V').

2. ALL CONDUIT AND WIRING FOR TEMPERATURE CONTROL AND EQUIPMENT INTERLOCK SHALL BE BY BAS CONTRACTOR. OTHER CONTROLS AND CONTROL CONDUITS/WIRING BY TRADE FURNISHING RESPECTIVE EQUIPMENT.

3. E.C. SHALL COORD. & REVIEW THE ELECTRICAL CHARACTERISTICS, AMPACITY & OTHER REQUIREMENTS OF COMPONENTS BEFORE INSTALLATION OF WORK. ALL OTHER CONTRACTORS SHALL ADVISE E.C. OF ANY MOTOR/DEVICE CHANGES.

4. ALL LOOSE STARTERS SHALL INCLUDE HOA SWITCH, PILOT LIGHT MOUNTED IN COVER, CONTROL TRANSFORMER, AND ONE N.O. AND ONE N.C. AUXILIARY CONTACTS.

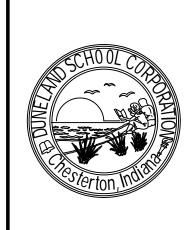
5. SEE SPECIFICATIONS AND DRAWINGS FOR TYPES AND LOCATIONS OF DEVICES SCHEDULED BELOW.

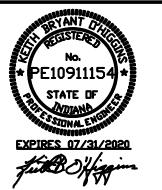
			UNIT MOU	nted devices			LOOSE DEVICES	3	
TAG	EQUIPMENT DESCRIPTION	STARTER	DISCONNECT	OVERCURRENT PROTECTION	SINGLE POINT CONNECTION	STARTER	DISCONNECT	OVERCURRENT PROTECTION	REMARKS
	VARIABLE REFRIGERANT FLOW UNIT	-	-	-	YES	-	E	E	
CU	CONDENSING UNIT	-	-	1	YES	ı	E	E	
HR	VRF REFRIGERANT BOX	-	-	-	YES	-	E	E	
	ELECTRIC DUCT HEATER	-	-	1	YES	ı	E	E	
ERV	ENERGY RECOVERY VENTILATOR	_	_	-	YES	ı	E	E	

NOTES: 1. VERIFY FINAL LOADS AND REQUIREMENTS WITH FINAL MECHANICAL DRAWINGS.

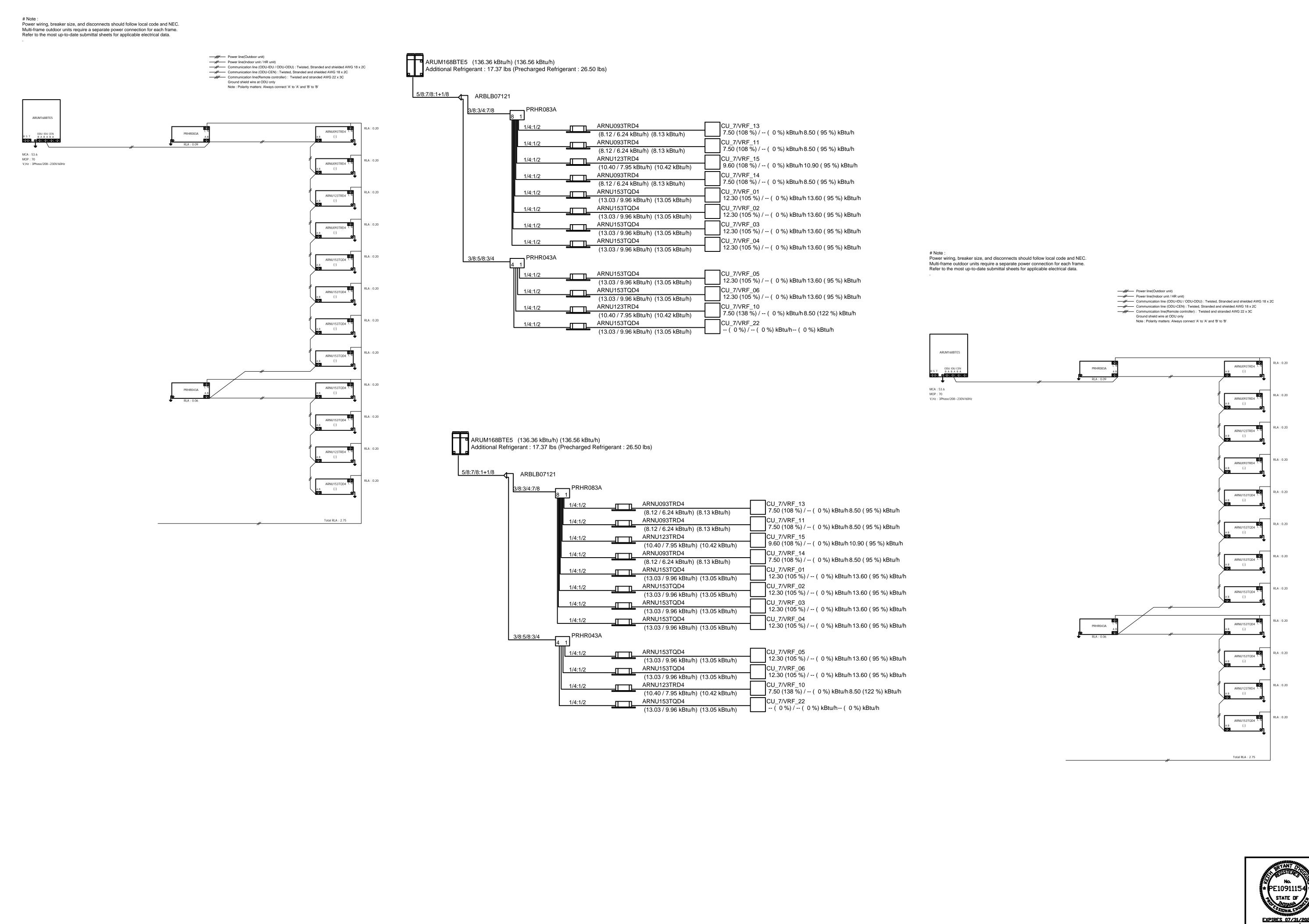


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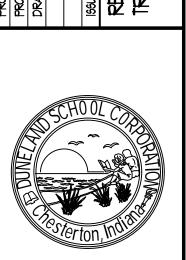


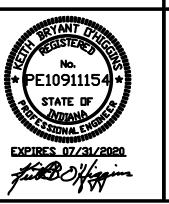




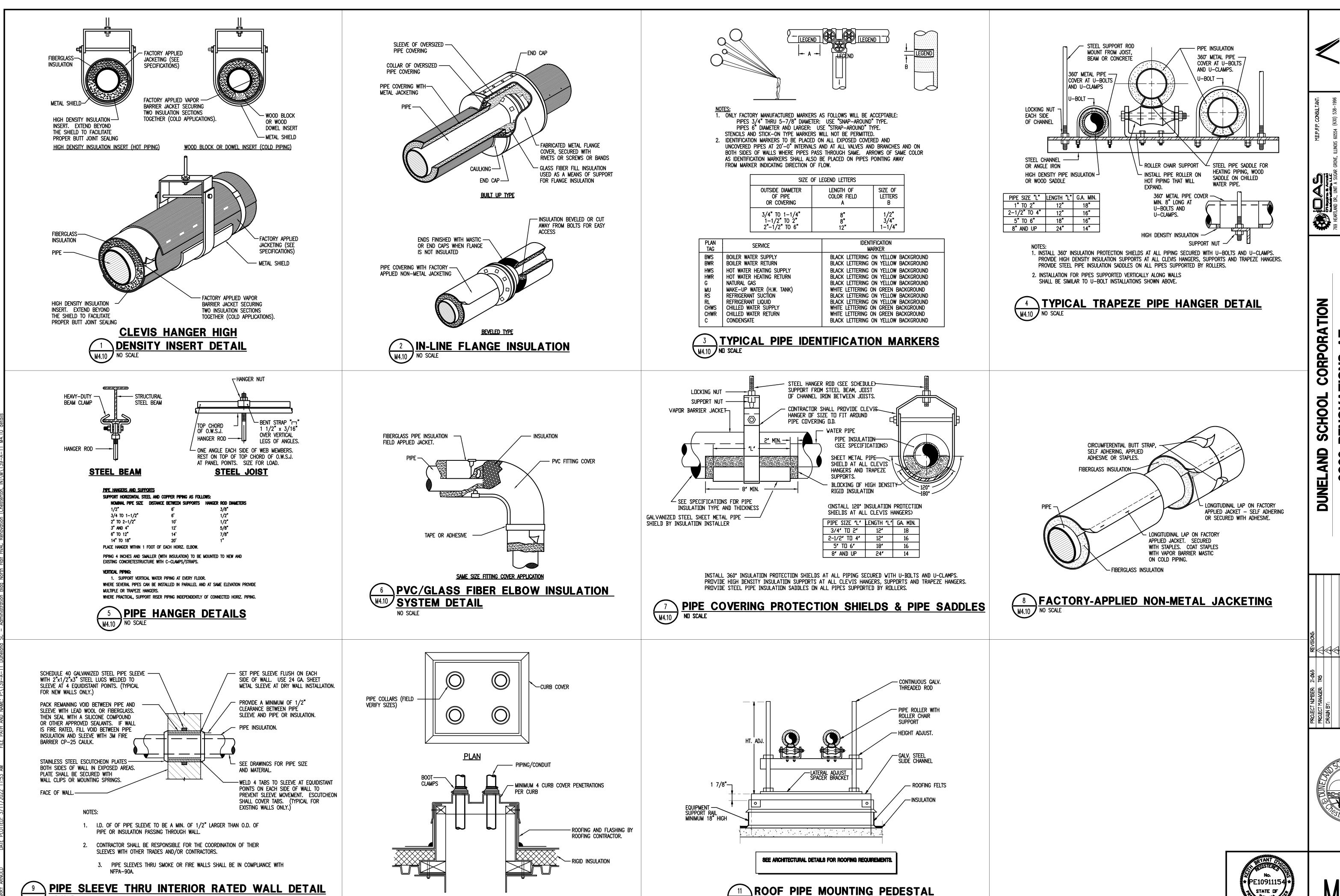


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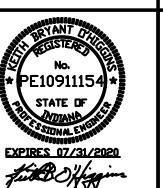
PIPE CURB ASSEMBLY DETAIL

M4.10 NO SCALE

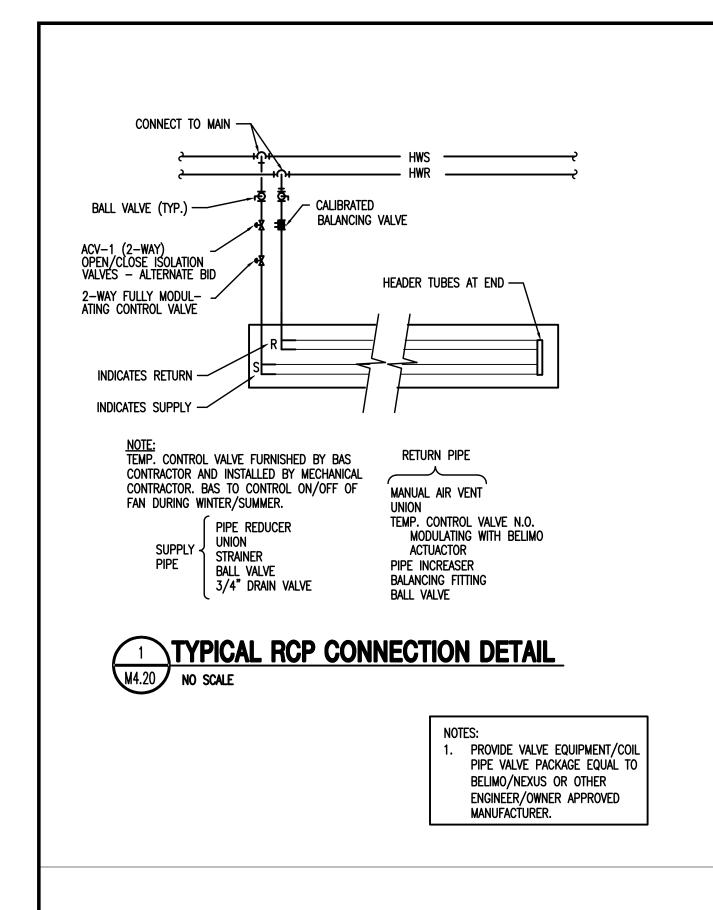
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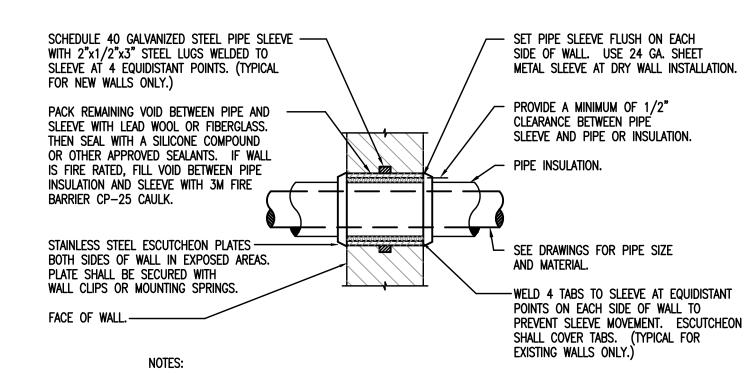
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SET 3 OF 3



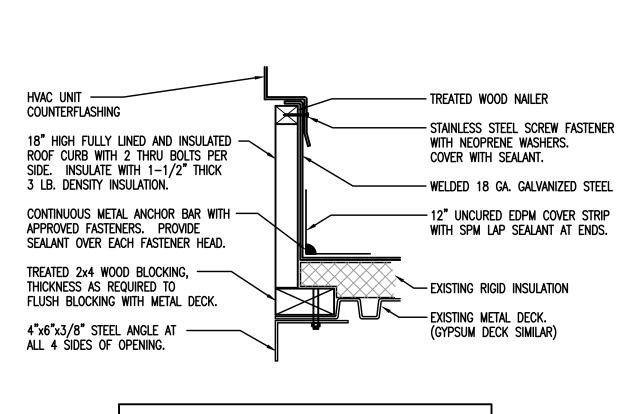


1. I.D. OF OF PIPE SLEEVE TO BE A MIN. OF 1/2" LARGER THAN O.D. OF PIPE OR INSULATION PASSING THROUGH WALL.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THEIR SLEEVES WITH OTHER TRADES AND/OR CONTRACTORS. 3. PIPE SLEEVES THRU SMOKE OR FIRE WALLS SHALL BE IN COMPLIANCE WITH

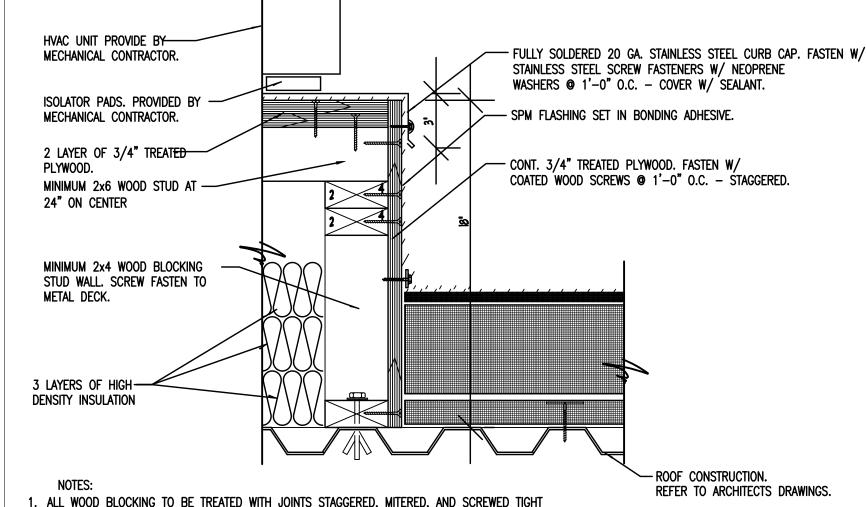
NFPA-90A. PIPE SLEEVE THRU INTERIOR RATED WALL DETAIL

NO SCALE



THIS DETAIL TYPICAL FOR ALL ROOF EXHAUSTERS, INTAKE/RELIEF HOODS, EQUIPMENT SUPPORT, AND PIPE PENETRATION CURBS.

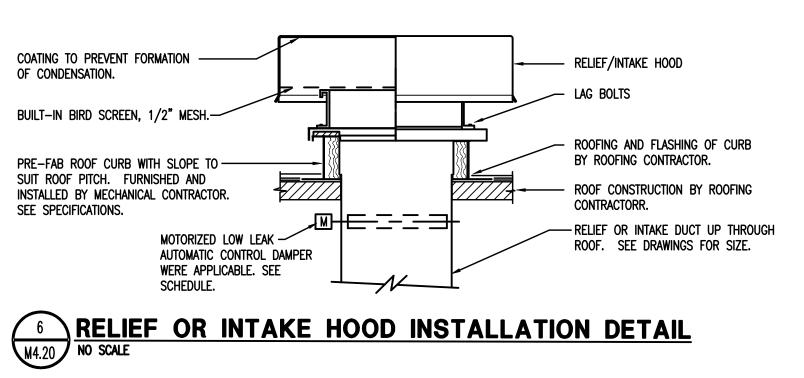
4 VENTILATION EQUIPMENT ROOF CURB DETAIL
NO SCALE

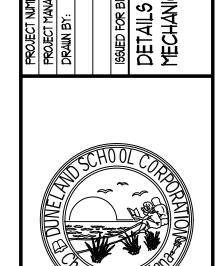


1. ALL WOOD BLOCKING TO BE TREATED WITH JOINTS STAGGERED, MITERED, AND SCREWED TIGHT 2. CURB TO BE EQUAL TO THYCURB MODEL TC-3 WITH INSULATED PLATFORM STYLE BASE. CURB TO HAVE FLAT TOP, MINIMUM 14 GAUGE GALVANIZED STEEL CONSTRUCTION, BOTTOM FLOOR AND REMOVABLE PLYWOOD TOP (2 LAYERS AT 3/4") WITH 20 GAUGE COVER. CONTRACTOR TO FIELD PROVIDE AND INSTALL 3 LAYERS OF HIGH DENSITY SOUND INSULATION IN CURB CAVITY FOR SOUND BREAK, CURB TO BE FACTORY ENGINEERED TO MATCH HVAC UNIT BEING SUPPORTED AND SUBMITTED TO ENGINEER FOR APPROVAL.

NAC PLATFORM CURB DETAIL M4.20 NO SCALE

SEE ARCHITECTURAL DETAILS FOR ROOFING REQUIREMENTS.





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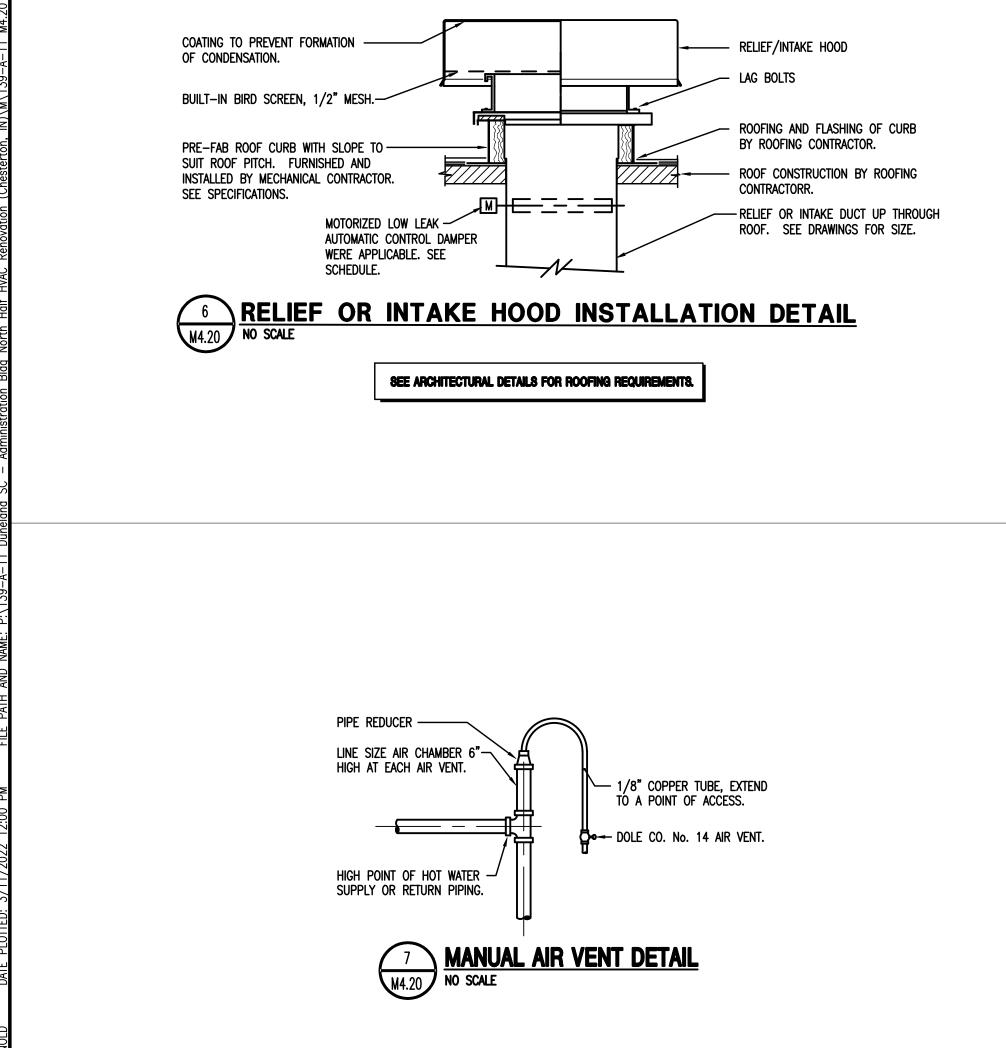
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CORPORATION

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GENERAL NOTES FOR MECHANICAL WORK

- DRAWINGS ARE GENERALLY DIAGRAMMATIC. ROUTING OF PIPING AND DUCTWORK AS SHOWN, DOES NOT INTEND TO SHOW EVERY RISE, DROP, OFFSET, FITTING NOR EVERY STRUCTURAL ELEMENT THAT MAY BE ENCOUNTERED DURING THE INSTALLATION OF THIS WORK. EACH CONTRACTOR SHALL MAKE ANY REQUIRED CHANGES FROM THE GENERAL ROUTING SHOWN ON THESE DRAWINGS, SUCH AS OFFSETS, BENDS OR CHANGES IN ELEVATION DUE TO COORDINATION WITH THE WORK OF OTHER TRADES AND BUILDING CONSTRUCTION. ALL CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER OR DELAY IN COMPLETION DATE OF THE PROJECT.
- 2. IT IS INTENDED THAT EQUIPMENT SHALL BE LOCATED SYMMETRICALLY WITH THE ARCHITECTURAL ELEMENTS OF THE BUILDING, NOTWITHSTANDING THE FACT THAT LOCATIONS INDICATED BY THESE DRAWINGS MAY BE DISTORTED FOR CLEARNESS OF PRESENTATION.
- 3. CONTRACTOR SHALL CHECK DRAWINGS OF OTHER TRADES TO VERIFY THAT SPACES IN WHICH THEIR WORK WILL BE INSTALLED ARE CLEAR OF OBSTRUCTIONS. WORK SHALL BE INSTALLED TO MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITION AT ALL POINTS IN THE BUILDING. WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE, CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE INSTALLATION OF THEIR WORK.
- 4. CONTRACTOR SHALL FURNISH OTHER TRADES ADVANCE INFORMATION AND/OR SHOP DRAWINGS ON LOCATIONS AND SIZES OF PIPING, DUCTWORK, EQUIPMENT, FRAMES, BOXES, SLEEVES AND OPENINGS, ETC. NEEDED FOR THEIR WORK TO PERMIT OTHER TRADES AFFECTED TO INSTALL THEIR WORK PROPERLY AND WITHOUT DELAY.
- . WHERE THERE IS EVIDENCE THAT WORK OF ONE TRADE WILL INTERFERE WITH WORK OF OTHER TRADES, ALL TRADES SHALL MEET ON JOB SITE TO WORK OUT SPACE CONDITIONS AND MAKE SATISFACTORY ADJUSTMENTS TO INSTALLATION OF THE NEW WORK. CONTRACTOR SHALL BE RESPONSIBLE, AT THEIR OWN EXPENSE, FOR THE REMOVAL AND REINSTALLATION OF ANY PART OF THEIR WORK IF SAME WAS INSTALLED WITHOUT CONSULTING WITH OTHER TRADES BEFORE INSTALLING THEIR WORK.
- 6. CONTRACTOR SHALL PROVIDE SLEEVES IN FLOORS AND WALLS AS SHOWN ON THE DRAWINGS, AS REQUIRED BY JOB SITE CONDITIONS, AND/OR AS SPECIFIED, WHEN INSTALLING THEIR WORK.
- 7. THE SEQUENCE FOR THE INSTALLATION OF ALL WORK SHALL BE COORDINATED BETWEEN ALL CONTRACTORS ON THE PROJECT AND IN STRICT ACCORDANCE WITH ARCHITECT/ENGINEER AND OWNERS STIPULATION AS CALLED FOR IN THE SPECIFICATION AND/OR AS DIRECTED.
- 8. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL AND STRUCTURAL CONTRACT DRAWINGS (BEFORE SUBMITTING THEIR BIDS) TO FAMILIARIZE THEMSELVES WITH THE EXTENT OF THE OTHER TRADES CONTRACTORS WORK, CEILING HEIGHTS AND CLEARANCE FOR INSTALLING THEIR WORK.
- . CONTRACTOR SHALL BE RESPONSIBLE AND PAY FOR ALL CORING, CUTTING, PATCHING, REPAIRING AND REFINISHING OF BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OF THEIR WORK. ALL PATCHING, REPAIRING AND REFINISHING WORK SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE NEW CONSTRUCTION AS CLOSELY AS POSSIBLE. CARE SHALL BE TAKEN SO AS NOT TO DAMAGE ANY EXISTING BUILDING CONSTRUCTION OR ITEMS THAT ARE TO REMAIN. ANY EXISTING FINISHES THAT ARE DAMAGED DURING THE INSTALLATION OF NEW WORK SHALL BE REPAIRED, REPLACED AND PAID FOR BY THE INSTALLING CONTRACTOR, TO THE SATISFACTION OF THE ARCHITECT AND OWNER. REFER TO ARCHITECTURAL DRAWINGS FOR EXISTING BUILDING CONSTRUCTION THAT IS TO REMAIN AND, THEREFORE, SUBJECT TO PATCHING, REPAIRING, AND REFINISHING.
- 10. CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN CLEAN—UP DURING CONSTRUCTION. IF CONTRACTOR FAILS TO PROVIDE SUCH CLEAN—UP, THE ARCHITECT/ENGINEER WILL DIRECT ANOTHER CONTRACTOR TO PERFORM THE CLEAN—UP AND THE NEGLIGENT CONTRACTOR SHALL PAY THE ASSOCIATED BACK—CHARGES AS DEEMED APPROPRIATE BY THE ARCHITECT/ENGINEER.
- 11. CONTRACTOR SHALL INSTALL ALL AUXILIARY SUPPORTING STEEL AS REQUIRED FOR THE SUPPORTING OF THEIR PIPING, DUCTWORK, CONDUIT, TANKS, EQUIPMENT, ETC. ALL SUPPORTING STEEL FOR ITEMS ABOVE A SUSPENDED CEILING SHALL BE FROM BUILDING STRUCTURAL MEMBERS ONLY.
- 12. ALL PIPING SHALL BE SUSPENDED WITH CLEVIS AND/OR TRAPEZE PIPE HANGERS. INSULATED PIPING SHALL REST ON STEEL OR WOOD (CHILLED WATER PIPING) PIPE COVERING PROTECTION SADDLES OR SHETAL INSULATION SHIELDS AS CALLED FOR IN THE SPECIFICATIONS AND/OR DETAILED ON THE
- 13. ALL WATER SUPPLY AND RETURN PIPING SHALL BE INSULATED, INCLUDING ALL PIPING ABOVE CEILINGS, INSIDE EQUIPMENT, CABINETS, PIPE CHASES AND IN WALLS. SEE SPECIFICATIONS FOR TYPE AND THICKNESS OF INSULATION.
- 14. ALL HOT WATER SUPPLY/RETURNS PIPING SHALL BE INSTALLED TO COMPENSATE FOR EXPANSION OF THE PIPE BY INSTALLING PIPE ANCHORS, GUIDES, EXPANSION JOINTS OR LOOPS AND PIPE OFFSETS AS REQUIRED BY FIELD CONDITIONS OR AS SHOWN ON THE DRAWINGS.
- 15. PITCH ALL SUPPLY AND RETURN WATER LINES TO DRAIN COMPLETELY THROUGH LOWER EQUIPMENT, UNIONS, OR DRAIN VALVES. INSTALL A 1/2" DRAIN VALVE WITH 3/4" HOSE THREAD OUTLET IN ALL MAIN PIPING RUNS WHICH WOULD NOT BE ABLE TO DRAIN THRU A LOWER PIECE OF EQUIPMENT. ALL DRAIN VALVES TO BE BALL VALVES.
- 16. RECESSED AND/OR SEMI-RECESSED CABINET UNIT HEATERS (CUH) SHALL BE MOUNTED A MINIMUM OF 8" ABOVE THE FLOOR AND HAVE A FOUR (4) SIDE FLANGED OVERLAP WALL GUARD FRAME.
- 17. ALL DUCTWORK SIZES SHOWN ON THE DRAWINGS ARE INSIDE DIMENSIONS. WHERE DUCT LINING IS CALLED FOR CONTRACTOR SHALL INCREASE THE SIZE OF THE DUCT TO MAINTAIN THE MINIMUM INSIDE DIMENSIONS CALLED FOR ON THE DRAWINGS.
- 18. MECHANICAL CONTRACTOR SHALL COORDINATE ALL SERVICE POINTS ON HVAC UNITS WITH THE INSTALLATION OF NEW WORK IN THIS PROJECT AND NEW BUILDING CHARACTERISTICS TO MAKE SURE ACCESSIBILITY IS MAINTAINED.
- 19. ALL DUCTWORK CONNECTIONS TO AIR MOVING EQUIPMENT SHALL BE MADE WITH FLEXIBLE DUCT CONNECTIONS ON THE INLET AND DISCHARGE OF ALL SUPPLY, RETURN AND EXHAUST FANS (EXCEPT ROOF MOUNTED EXHAUST FANS).

- 20. INSTALL TURNING VANES IN ALL SQUARE DUCT ELBOWS. INSTALL MANUAL VOLUME DAMPERS IN EACH BRANCH DUCT AT CONNECTION TO MAIN DUCT AND IN EACH DUCT AFTER A BRANCH DUCT SPLIT.
- 21. INSTALL A MINIMUM 12" X 12" ACCESS DOOR (INLET SIDE) AT EACH MOTORIZED DAMPER, FIRE DAMPER, SMOKE DAMPER, INLINE FAN, INTAKE AND EXHAUST PLENUMS AND AN ACCESS DOOR AT AIR SUPPLY UNIT FILTER SECTION.
- 22. THE LOCATIONS SHOWN FOR ALL DIFFUSERS, REGISTERS AND GRILLES, ETC. ARE DIAGRAMMATIC. EXACT LOCATION SHALL BE DETERMINED FROM THE REFLECTED CEILING PLANS AND/OR ON THE JOB SITE BY THE ARCHITECT/ENGINEER REPRESENTATIVES.
- 23. UNLESS INDICATED OTHERWISE, THE ARCHITECT/ENGINEER MAKES NO REPRESENTATION AS TO WHETHER OR NOT ANY HAZARDOUS OR CONTAMINATED MATERIALS (INCLUDING BUT NOT LIMITED TO ASBESTOS, PCB'S, CONTAMINATED SOILS, ETC.) ARE PRESENT WITHIN THE EXISTING BUILDING OR ON THE SITE. WORK SHOWN ON THE DRAWINGS AND/OR INDICATED IN THE SPECIFICATIONS SHALL NOT BE CONSTRUED TO CALL FOR CONTACT WITH ANY OF THESE MATERIALS. IF THESE MATERIALS ARE ENCOUNTERED OR SUSPECTED, THE CONTRACTOR SHALL NOT DISTURB THEM AND SHALL CONTACT THE ARCHITECT/ENGINEER IMMEDIATELY.
- 24. CONTRACTOR SHALL STORE ALL MATERIALS AND EQUIPMENT SHIPPED TO THE SITE IN A PROTECTED AREA. IF MATERIAL IS STORED OUTSIDE OF THE BUILDING, IT MUST BE STORED OFF THE GROUND A MINIMUM OF SIX INCHES (6") SET ON 6 X 6 PLANKS AND/ OR WOOD PALLETS. ALL MATERIAL AND EQUIPMENT MUST BE COMPLETELY COVERED WITH WATERPROOF TARPS OR VISQUIN. ALL PIPING AND DUCTWORK WILL HAVE THE ENDS CLOSED TO KEEP OUT DIRT AND OTHER DEBRIS. NO EQUIPMENT WILL BE ALLOWED TO BE STORED ON THE SITE UNLESS IT IS SITTING ON WOOD PLANKS AND COMPLETELY PROTECTED WITH WEATHERPROOF COVERS.
- 25. SEE LARGE SCALE DRAWINGS (DETAILS) FOR ALL REQUIRED VALVES, FITTINGS, GAUGES, VENTS, THERMOMETERS WHICH ARE CONNECTED TO RADIANT CEILING PANELS (RCP), CABINET UNIT HEATERS (CUH), ETC. ALL WORK SHOWN ON DETAILS SHALL BE BY INSTALLING CONTRACTOR UNLESS OTHERWISE NOTED.
- 26. ALL AUTOMATIC MOTORIZED DAMPERS SHALL BE FURNISHED BY BAS CONTRACTOR (EXCEPT FOR DAMPERS FURNISHED WITH PACKAGED AIR HANDLING UNITS AND PROVIDED WITH POWER ROOF EXHAUST FANS) AND INSTALLED BY MECHANICAL CONTRACTOR. ALL DAMPER MOTORS FURNISHED AND INSTALLED BY BAS CONTRACTOR
- 27. MECHANICAL CONTRACTOR SHALL PROVIDE ON SITE SCHOOLING OF OWNERS OPERATING PERSONNEL FOR ALL SYSTEMS AND EQUIPMENT INSTALLED UNDER HIS CONTRACT.
- 28. BEFORE STARTING ANY SYSTEM INSTALLING CONTRACTOR SHALL CONTACT EQUIPMENT MANUFACTURER TO VERIFY THAT EACH PIECE OF EQUIPMENT OR SYSTEM HAS BEEN CHECKED FOR PROPER LUBRICATION, DRIVE ROTATION, BELT TENSION, CONTROL SEQUENCE OR OTHER CONDITIONS WHICH MAY CAUSE DAMAGE TO THE EQUIPMENT OR SYSTEM.
- 29. MECHANICAL CONTRACTOR SHALL INSTALL ALL WELLS IN PIPING FOR MOUNTING OF BUILDING AUTOMATION SYSTEM CONTROLS AND MECHANICAL CONTRACTOR'S THERMOMETERS AND GAUGES. MECHANICAL CONTRACTOR WILL COORDINATE THE EXACT LOCATION OF BUILDING AUTOMATION SYSTEM CONTRACTOR'S CONTROLS WITH HIM PRIOR TO INSTALLING WELLS.
- 30. MECHANICAL CONTRACTOR SHALL RUN INSULATED DRAIN PIPES FROM ALL VRF UNITS. SEE DRAWINGS AND DETAILS FOR LOCATION OF TERMINATION OF DRAIN PIPING. ALL CONDENSATE DRAIN PIPES MUST BE PITCHED AWAY FROM THE DRAIN PAN. ALL CONDENSATE DRAIN PIPES WILL BE INSULATED FROM UNIT TO TERMINATION POINT.
- 31. MECHANICAL CONTRACTOR TO PROVIDE SCHEDULE OF CURB INSTALLATION/REMOVAL ON EXISTING ROOF AREAS TO CONTRACTOR FIVE (5) WORKING DAYS IN ADVANCE. ANY REVISIONS TO THIS SCHEDULE RESULTING IN UN-PATCHED ROOF TIE-INS AND DAMAGE TO EXISTING CONDITIONS SHALL BE REPAIRED BY MECHANICAL CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- 32. ALL PIPE PASSING THRU WALLS SHALL HAVE A GALVANIZED SHEET METAL OR SCHEDULE 40 STEEL PIPE SLEEVE INSTALLED AROUND THE PIPE AND PIPE INSULATION. SEE SLEEVE DETAILS THESE DRAWINGS.
- 33. INSTALL A SHEET METAL SLEEVE AROUND ANY DUCTWORK WHICH GOES THROUGH WALL CONSTRUCTION, PACK FIBERGLAS INSULATION AROUND SLEEVE AND DUCT AND CAULK WITH FIRE SEAL CAULKING.
- 34. WHEN INSTALLING EXPANSION JOINTS, CONTRACTOR SHALL INSTALL A PIPE ANCHOR AT EACH END OF RUN AND PIPE GUIDES A MINIMUM OF EVERY TWENTY—FIVE (25) FEET OR AS CALLED FOR ON THE DRAWINGS. MOUNT THE FIRST PIPE GUIDE LOCATED ON EACH SIDE OF THE EXPANSION JOINT A MINIMUM OF FOUR (4) PIPE DIAMETERS FROM THE EXPANSION JOINT.
- 35. THE DRAWINGS, SCHEDULES AND SPECIFICATIONS HAVE BEEN PREPARED USING ONE MANUFACTURER FOR EACH PIECE OF EQUIPMENT AS THE BASIS FOR DIMENSIONAL DESIGN. IF THE CONTRACTOR PURCHASES EQUIPMENT LISTED AS A SPECIFIED ACCEPTABLE MANUFACTURER BUT IS NOT THE SCHEDULED MANUFACTURER USED FOR THE BASE DESIGN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL THE DIMENSIONS OF THE EQUIPMENT TO VERIFY THAT IT WILL FIT IN THE SPACE SHOWN ON THE DRAWINGS. MINOR DEVIATIONS IN DIMENSIONS WILL BE PERMITTED, PROVIDED THE RATINGS MEET THOSE SHOWN ON THE DRAWINGS AND EQUIPMENT WILL PHYSICALLY FIT INTO THE SPACE ALLOCATED WITH SUITABLE ACCESS AROUND EQUIPMENT FOR OPERATION AND MAINTENANCE ON THE EQUIPMENT.
- 36. CONTRACTOR AND/OR MANUFACTURER SHALL VERIFY THAT THE CHARACTERISTICS OF THE EQUIPMENT HE SUBMITS FOR REVIEW MEETS THE CAPACITY AND DUTY SPECIFIED.
- 37. WHEN EQUIPMENT IS SUBMITTED FOR REVIEW AND DOES NOT MEET THE PHYSICAL SIZE OR ARRANGEMENT OF THAT SCHEDULED AND SPECIFIED, CONTRACTOR SHALL PAY FOR ALL ALTERATIONS REQUIRED TO ACCOMMODATE SUCH EQUIPMENT AT NO ADDITIONAL COST TO OWNER. CONTRACTOR WILL ALSO PAY ALL COSTS FOR ADDITIONAL WORK REQUIRED BY OTHER CONTRACTORS, OWNER, ARCHITECT OR ENGINEER TO MAKE CHANGES WHICH WOULD ALLOW THE EQUIPMENT TO FIT IN THE SPACE AND FUNCTION AS INTENDED.

GENERAL NOTES - BUILDING AUTOMATION SYSTEM

I. GENERAL

THE CONTROLS CONTRACTOR SHALL BE THE CONTROLS ENGINEER FOR THIS PROJECT: RESPONSIBLE FOR DESIGN AND ENGINEERING OF ALL CONTROL SYSTEMS TO OPERATE AS DESCRIBED IN THE SEQUENCE OF OPERATION, TO CONFORM WITH THE GOVERNING BUILDING CODES AND OPERATE IN A MANNER CONSISTENT WITH KNOWN GOOD CONTROLS ENGINEERING PRACTICE.

THE CONTROLS CONTRACTOR/ENGINEER SHALL IDENTIFY ANY POTENTIAL CONDITIONS THAT COULD BE CONSTRUED TO DEVIATE FROM GOOD CONTROLS ENGINEERING PRACTICE PRIOR TO BIDDING AND INCLUDE ALL ENGINEERING AND INSTALLATION WORK REQUIRED TO MAKE ALL HVAC SYSTEMS COMPLETE AND OPERATIONAL, IN CONFORMANCE WITH GOOD CONTROLS ENGINEERING PRACTICE: PRIOR TO SUBMITTING HIS BID.

THE BAS CONTRACTOR SHALL PROVIDE ALL CONTROL COMPONENTS, WIRING, INTERLOCKS, ELECTRICAL POWER AND ALL OTHER DEVICES REQUIRED TO MAKE ALL HVAC EQUIPMENT INSTALLED UNDER THIS PROJECT COMPLETE AND FULLY OPERATIONAL PER THE SEQUENCE OF OPERATION AND AS REQUIRED FOR SAFE AND ACCURATE CONTROL.

THE BAS CONTRACTOR SHALL PROVIDE ALL CONTROL VALVES AND ACTUATORS TO THE MECHANICAL CONTRACTOR FOR INSTALLATION. THE BAS CONTRACTOR SHALL DIRECT THE MECHANICAL CONTRACTOR AS TO THE PROPER LOCATION AND ORIENTATION OF ALL DEVICES TO ACHIEVE A PROPER AND CORRECT CONTROL SEQUENCE.

THE BAS CONTRACTOR SHALL INCLUDE ADEQUATE TIME IN HIS BID FOR COMPLETE COMMISSIONING OF THE MECHANICAL SYSTEMS, ON SITE IN COORDINATION WITH THE MECHANICAL CONTRACTOR AND OTHER TRADES AS REQUIRED TO MAKE ALL EQUIPMENT COMPLETE AND FULLY OPERATIONAL.

IN THE EVENT THAT ANY PART OF THE MECHANICAL DRAWINGS, SPECIFICATIONS OR NOTES CONFLICT WITH ANY OTHER: THE MOST STRINGENT REQUIREMENT SHALL APPLY, PROVIDING THE GREATEST SAFETY AND/OR AT THE HIGHEST COST OF THE CONFLICTING OPTIONS.

II. ELECTRICAL

THE BAS CONTRACTOR SHALL PROVIDE EMERGENCY POWER FOR ALL ELECTRICAL POWER AND CONTROL WIRING, CONDUIT, JUNCTION BOXES, RACEWAY, TRANSFORMERS, RELAYS AND ALL OTHER ELECTRICAL APPURTENANCES REQUIRED FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. THIS INCLUDES ALL POWER WIRING FROM SPARE CIRCUIT BREAKERS PROVIDED IN BUILDING EMERGENCY POWER PANELS (EM120A-GMA) FOR POWERING OF CONTROLS AND CONTROL PANELS AND ALL OTHER CONTROL SYSTEM COMPONENTS. ALL HVAC EQUIPMENT, I.E AIR HANDLING UNITS, EXHAUST FANS, PUMPS, BOILERS, ETC. ARE TO HAVE THEIR CONTROLS POWERED FROM EMERGENCY POWER PANELS. SEE ELECTRICAL DRAWINGS FOR PANEL LOCATION.

ALL ELECTRICAL WORK SHALL BE IN CONFORMANCE WITH THE CURRENT NATIONAL ELECTRICAL CODE AND APPLICABLE STATE AND LOCAL AMENDMENTS.

THE BAS CONTRACTOR SHALL PROVIDE AND INSTALL ALL HARDWIRED INTERLOCKS BETWEEN STARTERS AS REQUIRED TO ACHIEVE THE SEQUENCE OF OPERATION AND PROPER SYSTEM CONTROLS. PROVIDE RELAYS AS REQUIRED FOR AUTOMATIC START/STOP OF ALL SINGLE PHASE EXHAUST FANS AND INTERLOCK OF AUTOMATIC DAMPERS

III. CONTROL VALVES

ALL CONTROL VALVES SHALL SPRING RETURN TO A FAIL SAFE POSITION. ALL HEATING CONTROL VALVES SHALL FAIL OPEN BY SPRING RETURN TO HEATING AND ALL COOLING CONTROL VALVES SHALL FAIL CLOSED BY SPRING RETURN.

ALL CONTROL VALVES USED FOR POSITIVE SHUT-OFF ISOLATION, SUCH AS HOT/CHILLED WATER ISOLATION OR CHANGEOVER IN A TWO-PIPE SYSTEM, SHALL BE QUARTER TURN TYPE BUTTERFLY OR BALL VALVES RATED FOR 300 PSI, BUBBLE TIGHT SHUT-OFF SERVICE.

THE CONTROLS CONTRACTOR/ENGINEER SHALL SIZE ALL MODULATING TEMPERATURE CONTROL VALVES WITH A CV AND PRESSURE DROP SUCH THAT THERE IS LINEAR CONTROL OF WATER FLOW THROUGHOUT THE ENTIRE STROKE OF THE VALVE. COORDINATE WITH THE MECHANICAL CONTRACTOR TO PROVIDE REDUCERS AS REQUIRED FOR MODULATING VALVES THAT ARE NOT LINE SIZE.

IV. AUTOMATIC CONTROL DAMPERS

ALL CONTROL DAMPERS SHALL BE EXTRUDED ALUMINUM, LOW LEAKAGE AIR FOIL BLADE TYPE WITH ELASTOMER BLADE EDGE SEALS AND STAINLESS STEEL OR ELASTOMER BLADE END SEALS.

ALL CONTROL DAMPERS SHALL SPRING RETURN TO A FAIL SAFE POSITION FOR FREEZE PREVENTION BY SPRING RETURN. FACE AND BYPASS DAMPER SHALL FAIL OPEN, OUTDOOR AIR DAMPERS SHALL FAIL CLOSED, EXHAUST AIR DAMPERS SHALL FAIL CLOSED, AND RETURN AIR DAMPER SHALL FAIL OPEN.

V. THERMOSTAT

THE BAS CONTRACTOR SHALL PROVIDE THERMOSTATS FOR ALL CONTROLLED EQUIPMENT TO OPERATE AS DESCRIBED IN THE SEQUENCE OF OPERATION AND/OR PER MANUFACTURER'S REQUIREMENTS AND KNOWN STANDARDS OF GOOD CONTROL PRACTICE. INCLUDE ALL THERMOSTATS AS REQUIRED FOR EQUIPMENT TO BE COMPLETE AND FULLY OPERATIONAL WHETHER SHOWN SPECIFICALLY ON THE PLANS OR NOT.

ALL TEMPERATURE SENSORS IN DUCTWORK, AIR HANDLING UNITS AND PLENUMS SHALL BE OF AVERAGING TYPE. PROPERLY SUPPORT AVERAGING ELEMENT (MINIMUM TWENTY FEET LENGTH) ACROSS A REPRESENTATIVE AREA TO ACHIEVE A TRUE AVERAGE READING. SUPPORT USING HEAVY CABLE AND/OR HALF INCH CONDUIT WITH NYLON WIRE TIES.

BUILDING/SPACE STATIC PRESSURE SENSORS SHALL BE INSTALLED IN THE CEILING IN A MAIN BUILDING CORRIDOR OPEN TO THE MAIN ENTRANCE OF THE BUILDING. STATIC PRESSURE SENSING TIP SHALL HAVE COVER PLATE TO MATCH CEILING AND AN EMBOSSED LABEL STATING "PRESSURE CONTROL SENSOR — DO NOT PAINT".

THE CONTROLS CONTRACTOR/ENGINEER SHALL SELECT ALL PRESSURE AND TEMPERATURE SENSORS WITH AN APPROPRIATE SPAN AND RANGE FOR THE APPLICATION.

ALL OUTDOOR AIR SENSORS SHALL BE INSTALLED WITH SUN SHIELD AND IN A LOCATION WHERE THEY CANNOT BE WASHED BY EXHAUST AIR OR OTHER SOURCES OF FALSE READINGS.

ALL TEMPERATURE AND PRESSURE SENSORS SHALL BE INSTALLED IN LOCATIONS SUCH THAT THEY DO NOT MAKE FALSE READINGS. BAS CONTRACTOR/ENGINEER SHALL REVIEW THE PLANS AND IDENTIFY ANY SUCH POTENTIAL CAUSES FOR FALSE READINGS AND NOTIFY THE ENGINEER IN WRITING THAT THESE SHOULD BE RELOCATED PRIOR TO ROUGH IN AND CONTROLS INSTALLATION. THE BAS CONTROLS CONTRACTOR SHALL RELOCATE ANY SENSORS INSTALLED IN IMPROPER LOCATIONS AND GIVING FALSE READINGS AT HIS OWN EXPENSE. CONDITIONS TO BE AWARE OF SHALL INCLUDE BUT ARE NOT LIMITED TO LOCATIONS OF THERMOSTATS BEHIND DOORS, OUTDOOR AIR SENSORS NEAR EXHAUST OPENINGS, STATIC PRESSURE SENSORS IN TURBULENT LOCATIONS, THERMOSTATS INSTALLED ADJACENT TO HEAT SOURCES SUCH AS COFFEE POTS, COMPUTERS, VENDING MACHINES AND OTHER APPLIANCES, ETC.

VI. SAFETY DEVICES

THE BAS CONTRACTOR/ENGINEER SHALL FURNISH AND INSTALL MANUAL RESET SAFETY DEVICES FOR ANY AND ALL CONDITIONS THAT COULD DAMAGE THE EQUIPMENT AND/OR REPRESENT A THREAT TO HUMAN SAFETY. ALL WATER COILS SHALL BE PROTECTED BY AN AVERAGING ELEMENT FREEZE—STAT WITH A NON—ADJUSTABLE 40°F SET POINT, MANUAL RESET, AND HARDWIRED INTERLOCK TO SHUT DOWN THE ASSOCIATED FAN ANY TIME THE TEMPERATURE ACROSS ANY 12" LENGTH OF THE AVERAGING ELEMENT FALLS BELOW 40°F. FREEZE STATS SHALL BE INSTALLED DOWNSTREAM OF ALL WATER COILS.

INSTALL A FLOAT SWITCH IN THE DRAIN PAN OF ALL VRF UNITS SHALL BE TO SHUT DOWN THE ASSOCIATED SYSTEM.

/II. RFLAYS

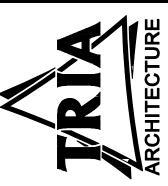
ALL RELAYS ARE TO BE INSTALLED IN CONTROL PANELS. RELAYS IN BOX (RIB'S) ARE NOT ACCEPTABLE. CONTROL RELAYS SHALL BE UL LISTED PLUG-IN TYPE WITH DUST COVER. RELAYS TO BE IDEC RR2P-UL AC24V WITH SR2P-06 BASE.

PROVIDE ALL RELAYS AS REQUIRED BY SITE CONDITIONS TO CONTROL ALL PUMPS, FANS, ETC. PROVIDE DEFINITE PURPOSE CONTRACTOR IF POWER REQUIREMENTS EXCEED RELAY CAPACITY.

VII. TAGGING

SEE EQUIPMENT SCHEDULES FOR EQUIPMENT TAGGING. ALL EQUIPMENT TO BE LABELED AND/OR

REFERENCED ON BAS WITH THE DESIGNATION PER THE EQUIPMENT SCHEDULES.



MEP/F.P. CONSULTANT:

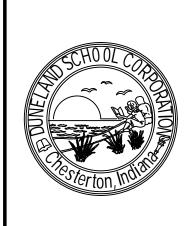
CHECK AND HINT A SIGAR GROV

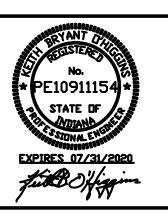
SCHOOL CORPORATION
RENOVATIONS AT:

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DUNELAND SCHOOL (
2022 RENOVAT
DISTRICT OI

PROJECT MANAGER: IRU	
DRAWN BY:	
	(S)
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ISSUED FOR BIDDING: 3/10/12	(S)
NOTES -	





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BUTTERFLY VALVE

3 WAY CONTROL VALVE 2 WAY CONTROL VALVE CIRCUIT BALANCING VALVE W/BALANCING PORTS AUTOMATIC FLOW DEVICE SQUARE HEAD COCK

PRESSURE REDUCING VALVE DRAIN VALVE WITH 3/4" HOSE THREADED OUTLET PRESSURE RELIEF VALVE (PIPE TO FLOOR DRAIN) BACKFLOW PREVENTER

AUTOMATIC BUTTERFLY VALVE PIPE EXPANSION JOINT PIPE FLEXIBLE CONNECTION PIPE ALIGNMENT GUIDE

PRESSURE SWITCH (WITH THREAD OR WELD-0-LET) PRESSURE GAUGE AND NEEDLE VALVE FLOW SWITCH (WITH THREAD OR WELD-O-LET) THERMOMETER (WITH PIPE WELL) SENSOR WELL

HUMIDISTAT WALL MOUNTED THERMOSTAT/SENSOR

REVERSE ACTING THERMOSTAT/SENSOR SWITCH

NEW DUCTWORK

EXISTING TO REMAIN DUCTWORK

EXISTING TO BE REMOVED DUCTWORK

FLEXIBLE DUCT CONNECTION

 $\ensuremath{\mathsf{ACCESS}}$ door on top, bottom or side of duct

SINGLE BLADE OR OPPOSED BLADE MANUAL VOLUME DAMPER.

AUTOMATIC CONTROL DAMPER

EXHAUST DUCT UP TO ROOF MOUNTED EXHAUST FAN OR VENTILATOR.

SQUARE NECK DROP TO SQUARE DIFFUSER (ARROW SHOWS DIRECTION OF THROW)





VERTICAL FIRE DAMPER OR SMOKE DAMPER (IN HORIZONTAL DUCT AT WALL) WITH ACCESS DOOR.

AIR SUPPLY FLOW

EXHAUST OR RETURN AIR FLOW

WALL OR DUCT MOUNTED SUPPLY REGISTER OR GRILLE (TOP NO. = SIZE OF FACE OR NECK, BOTTOM NO. = AMOUNT OF AIR, LETTER INDICATES TYPE).

BOTTOM MOUNTED REGISTER OR GRILLE.

DUCT SIZE FREE AREA (1ST NUMBER IS DUCT WIDTH ON PLAN VIEW, 2ND NUMBER IS DUCT DEPTH IN PLAN VIEW.) 24x12

SUPPLY OR FRESH AIR DUCT UP

RETURN OR EXHAUST AIR DUCT UP

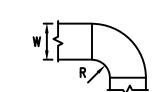
SUPPLY OR FRESH AIR DUCT DOWN

RETURN OR EXHAUST AIR DUCT DOWN

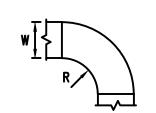
RISE OR DROP IN SUPPLY DUCT (TOP VIEW) ARROW DIRECTION OF FLOW

INCLINED RISE (R) OR DROP (D), ARROW IN DIRECTION OF AIR FLOW

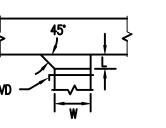
90° ELBOW WITH TURNING VANES



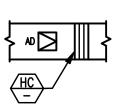
SHORT RADIUS ELBOW (R=1/2 W)



LONG RADIUS ELBOW (R= W)



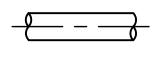
90° BRANCH TAKE-OFF W/45 DEGREE ENTRY (L=1/4 W - 4" MIN.) W/VOLUME DAMPER IN BRANCH DUCT.



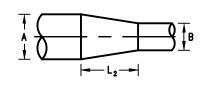
HEATING COIL WITH ACCESS DOOR IN DUCT



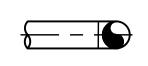
ROUND FLEXIBLE DUCT



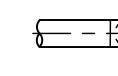
ROUND OR OVAL DUCT (CENTER LINE OF DUCT)



ROUND DUCT TRANSITION $[L_2 = A-B (4" MIN.)]$



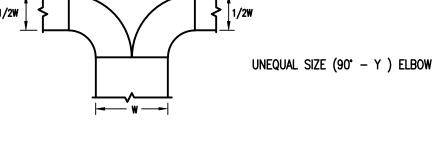
ROUND DUCT UP

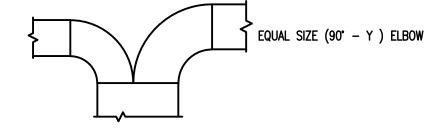


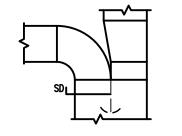
ROUND DUCT DOWN



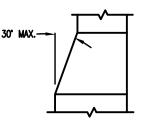
CROSS-SECTION OF ROUND DUCT



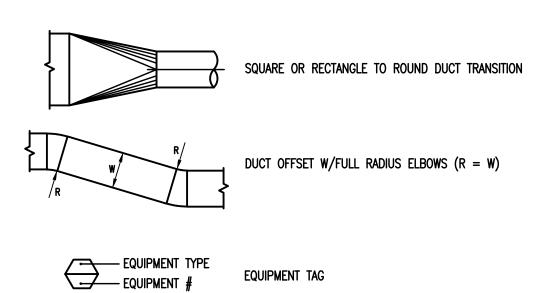




90° BRANCH TAKE-OFF FROM MAIN



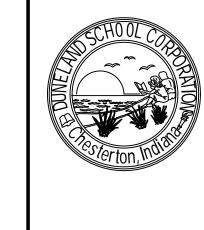
SQUARE OR RECTANGLE DUCT TRANSITION



D-# DEMOLITION NOTE REFERENCE NUMBER	DEMOLITION NOTE TAG
NUMBER	

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Т	Plan Note	
	REFERENCE	
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	MEC	HANIC	CAL ABBREVIATIONS	LIST	
ACV	AUTOMATIC CONTROL VALVE	EXD	EXHAUST DUCT	N.O.	NORMALLY OPEN
AFD	AUTOMATIC FLOW DEVICE	F	FAHRENHEIT	OAD	OUTDOOR AIR DAMPER
BHP	BRAKE HORSE POWER	FC	FLEXIBLE CONNECTION	OUD	OUTSIDE AIR DUCT
BTU	BRITISH THERMAL UNIT	FPF	FINS PER FOOT	PD	PRESSURE DROP
BTUH	BRITISH THERMAL UNIT PER HOUR	FPM	FEET PER MINUTE	PG	PIPE GUIDE
BV	BALL VALVE	FV	FACE VELOCITY	PH	PHASE
CFM	CUBIC FEET PER MINUTE	GPM	GALLONS PER MINUTE	PS	PIPE SLEEVE
CKV	CHECK VALVE	GV	GATE VALVE	PSI	POUNDS PER SQUARE INCH
CU	CONDENSING UNIT	HP	HORSEPOWER	RAD	RETURN AIR DAMPER
CUH	CABINET UNIT HEATER	HWR	HOT WATER RETURN	RED	RETURN AIR DUCT
CWR	CHILLED WATER RETURN	HWS	HOT WATER SUPPLY	RH	RELIEF HOOD
CWS	CHILLED WATER SUPPLY	IH	INTAKE HOOD	RPM	REVOLUTIONS PER MINUTE
D	DRAIN LINE	LAT	LEAVING AIR TEMPERATURE	SP	STATIC PRESSURE
DB	DRY BULB	LWT	LEAVING WATER TEMPERTURE	STR	STRAINER
EAD	EXHAUST AIR DAMPER	MOD	MOTOR OPERATED DAMPER	SUD	SUPPLY DUCT
EAT	ENTERING AIR TEMPERATURE	NC	NEW CONNECTION	TSP	TOTAL STATIC PRESSURE
EDC	ELECTRIC DUCT COIL	NK	NECK	WB	WET BULB
ERV	ENERGY RECOVERY VENTILATOR	N.C.	NORMALLY CLOSED	WC	WATER COLUMN
EWT	ENTERING WATER TEMPERATURE	N.I.C.	NOT IN CONTRACT	WG	WATER GAUGE

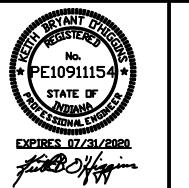


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CORPORATION

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VELAND





EL	ECTRICAL DEMOLITION SYMBOLS
SYMBOL	DESCRIPTION
R	EXISTING ELECTRICAL EQUIPMENT OR OUTLET TO BE REMOVED.
Х	EXISTING ELECTRICAL EQUIPMENT OR OUTLET TO REMAIN.
XDM	MECHANICAL EQUIPMENT DISCONNECTED BY ELECTRICAL CONTRACTOR AND REMOVED BY MECHANICAL CONTRACTOR
XN	EXISTING ELECTRICAL EQUIPMENT OR OUTLET RELOCATED (NEW LOCATION).
XRR	EXISTING ELECTRICAL EQUIPMENT OR OUTLET TO BE REMOVED, RELOCATED AND JUNCTION BOX REMOVED OR CAPPED AS REQUIRED

CONTRACTOR DEMOLITION NOTES

- EXISTING SPEAKER/PA SYSTEM TO REMAIN OPERATIONAL. ANY DAMAGE TO EXISTING SYSTEM WILL BE REPAIRED AND/OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
- 2. EXISTING LIGHT FIXTURES TO BE REMOVED WHERE INDICATED. EXISTING POWER CIRCUITS AND SWITCH LEGS TO BE REUSED. SWITCHES TO BE
- 3. EXISTING FIRE ALARM SYSTEM TO REMAIN ACTIVE DURING CONSTRUCTION. PROTECT WIRING AND DEVICES AS NECESSARY.
- 4. REFER TO MECHANICAL DRAWING FOR EXISTING EQUIPMENT TO BE REMOVED. DISCONNECT POWER WHERE REQUIRED.

GENERAL DEMOLITION NOTES

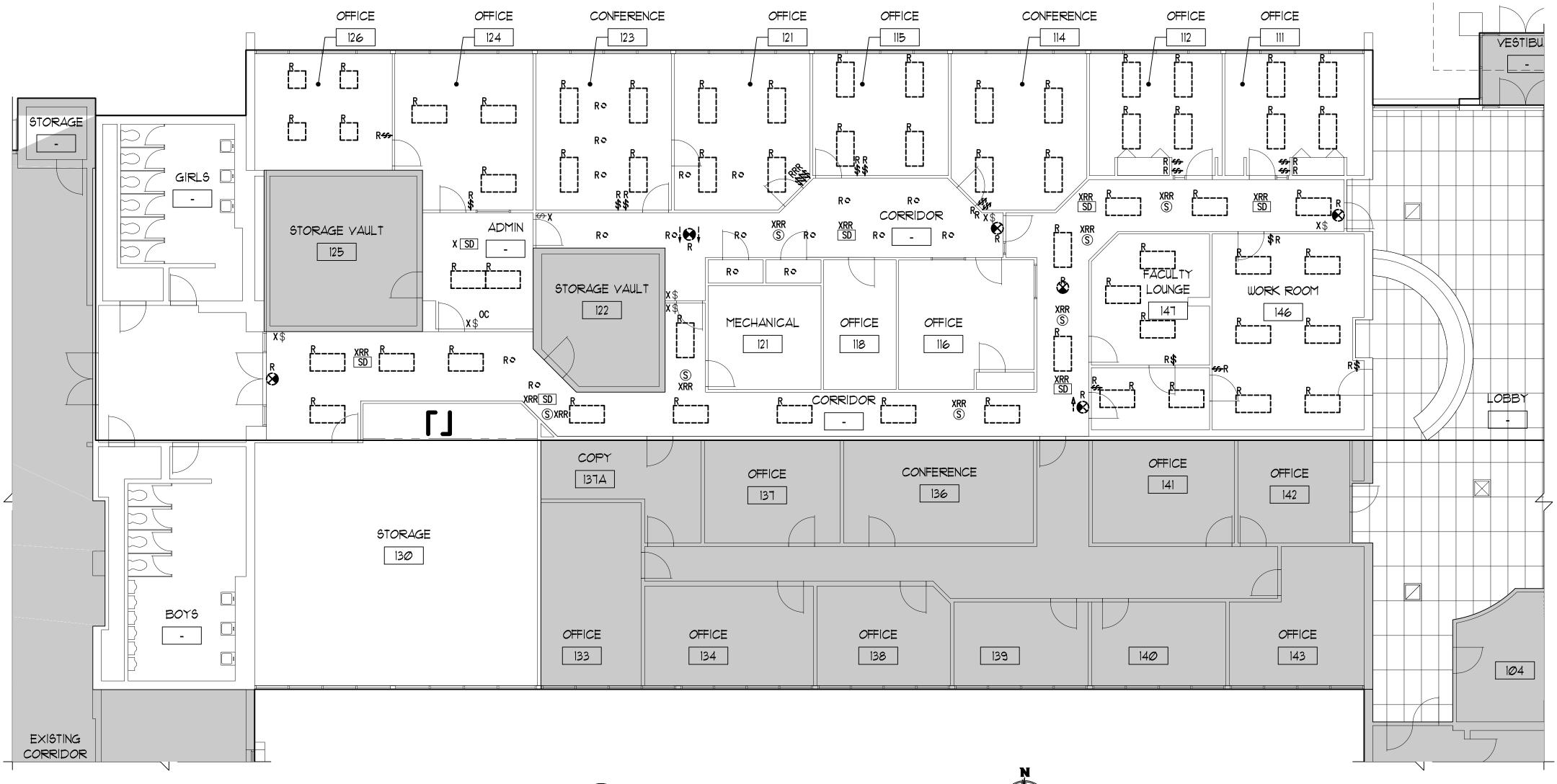
- WHERE WIRING DEVICES, TELEPHONE, INTERCOM, FIXTURE, MOTOR, STARTER, DISCONNECT SWITCH, ETC., IS NOTED TO BE REMOVED, INSTALL BLANK BRUSHED STAINLESS STEEL COVER PLATES ON JUNCTION BOXES RECESSED IN WALLS WHICH ARE TO REMAIN. PROVIDE FOR WIRING CONTINUITY FOR EXISTING CIRCUITS WHICH REMAIN IN JUNCTION BOXES RECESSED OR SURFACE MOUNTED ON WALLS WHICH ARE REMOVED. EXTEND NEW CONDUIT AND WIRE TO BRIDGE REMOVED SECTIONS. VERIFY REQUIREMENTS IN FIELD.
- 2. ALL EQUIPMENT WHICH IS DISCONNECTED AND REMOVED AND NOT REUSED SHALL BE RETURNED TO THE OWNER AS DIRECTED. EQUIPMENT WHICH THE OWNER DOES NOT WISH TO KEEP WILL BECOME PROPERTY OF THE CONTRACTOR AND PROMPTLY REMOVED FROM THE SITE.
- ALL UNUSED CONDUIT AND WIRE WHICH IS EXISTING IN THE REMODELED AREAS AND IS ABANDONED SHALL BE REMOVED ALONG WITH CONDUIT AND WIRE CAUSED TO BE ABANDONED DUE TO THIS REMODELING.
- 4. DUE TO THE SMALL SCALE AND INTERFERENCE OF EXISTING EQUIPMENT, EACH AND EVERY ITEM IS NOT SHOWN. SHOWN INFORMATION IS INTENDED AS A GUIDE. CONTRACTOR SHALL
- 5. THIS CONTRACTOR SHALL COORDINATE ALL HIS WORK WITH THE OTHER CONTRACTORS AT THE JOB SITE BEFORE REMOVING EXISTING ELECTRICAL AND INSTALLING NEW ITEMS.

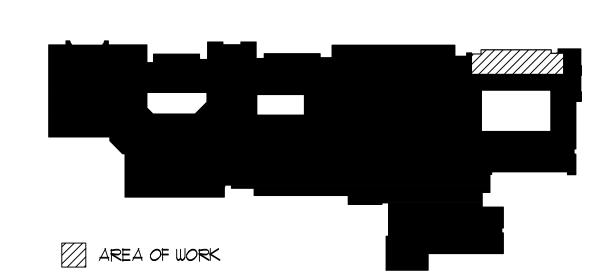
VERIFY INFORMATION AND CONDITIONS IN THE FIELD.

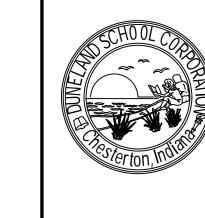
- 6. EXISTING CONDUIT IN GOOD CONDITION, MAY BE REUSED IN PLACE. RELOCATED EXISTING CONDUIT SHALL NOT BE ALLOWED. BONDING CONDUCTORS SHALL BE INSTALLED IN ALL UNUSED CONDUIT TO INSURE PROPER GROUND PATH.
- EQUIPMENT REMOVAL IN CERTAIN LOCATIONS MAY REQUIRE THE INSTALLATION OF A JUNCTION BOX TO RECONNECT CIRCUITS THAT REMAIN IN OPERATION. EXTEND CONDUIT AND WIRING AS REQUIRED TO MAINTAIN POWER TO REMAINING EQUIPMENT.

- 8. CONTRACTOR SHALL REMOVE AND INSTALL ALL CEILING TILES AS REQUIRED FOR THE EXECUTION OF ELECTRICAL WORK THAT IS OUTSIDE THE CONTRACT LIMITS OF CONSTRUCTION. CONTRACTOR SHALL REPLACE CEILING TILES WITH IDENTICAL MATERIAL WHERE DAMAGED BY THIS CONTRACTOR.
- BEFORE DISCONNECTING ANY SERVICE, THE OWNER SHALL BE CONTACTED AND PERMISSION MUST BE OBTAINED IN WRITING.
- 10. REFER TO SPECIFICATIONS FOR ADDITIONAL NOTES.
- 11. ALL DEMOLITION OF THE ELECTRICAL SYSTEM AS NOTED FOR OR SHOWN ON THE DEMOLITION DRAWINGS SHALL BE REMOVED UNDER THE ELECTRICAL CONTRACTORS WORK.
- 12. IT IS THE INTENT OF THE ELECTRICAL DEMOLITION DRAWING(S) TO INDICATE AREAS IN WHICH ELECTRICAL EQUIPMENT, CONDUIT, LIGHTING FIXTURES, DEVICES, ETC. ARE TO BE REMOVED TO ALLOW FOR THE RENOVATION PHASE OF CONSTRUCTION. THE ELECTRICAL DEMOLITION PLAN IS FOR REFERENCE PURPOSES ONLY AND IT IS NOT INTENDED TO BE THE SOLE SOURCE OF EXISTING CONDITIONS.
- 13. ELECTRICAL CONTRACTOR SHALL VISIT THE BUILDING, BEFORE SUBMITTING HIS BID, TO VERIFY THE EXISTING CONDITIONS WHICH WILL AFFECT HIS WORK.
- 14. THE ELECTRICAL CONTRACTOR SHALL REMOVE ALL EXISTING LIGHTING FIXTURES, RECEPTACLES, SWITCHES, EQUIPMENT, SURFACE METAL RACEWAYS, DEVICES, ETC. PULL OUT ALL UNUSED CONDUCTORS AND CABLES AND REMOVE ALL ABANDONED CONDUIT.
- 15. IT SHALL BE THE ELECTRICAL CONTRACTORS RESPONSIBILITY TO RETAIN POWER TO EXISTING ELECTRICAL EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL SCHEDULE ALL REQUIRED "DOWNTIME" WITH THE OWNER'S PERSONNEL AND OTHER PRIME CONTRACTORS IN ADVANCE. ALL DOWNTIME SHALL BE PERFORMED IN MINIMUM TIME WITH ADDITIONAL CONTRACTORS AND/OR SIMULTANEOUS OPERATION AS REQUIRED.

- 16. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN CLEAN-UP THROUGHOUT THE COURSE OF THE DEMOLITION WORK. IN THE EVENT HE FAILS TO PROVIDE SUCH CLEAN-UP THE ARCHITECT/ENGINEER WILL DIRECT THE CLEAN-UP TO BE PERFORMED BY ANOTHER CONTRACTOR AND THE ELECTRICAL CONTRACTOR WILL BE BACK-CHARGED AS DEEMED APPROPRIATE BY ARCHITECT/ENGINEER/OWNER.
- 17. SEQUENCE OF ALL DEMOLITION WORK SHALL BE IN STRICT ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS AND/OR AS DIRECTED BY ARCHITECT/ENGINEER.
- 18. THE CONTRACTOR PERFORMING THE DEMOLITION WORK, SHALL REMOVE NO MORE THAN 8" OF BUILDING MATERIAL AROUND EACH DEVICE BEING DEMOLISHED.
- 19. DISCONNECT ALL ELECTRICAL CONNECTIONS TO MECHANICAL AND PLUMBING EQUIPMENT FOR REMOVAL BY OTHERS. REMOVE ALL STARTERS, DISCONNECT SWITCHES AND RELATED CONDUIT AND WIRING SERVING MECHANICAL AND PLUMBING EQUIPMENT WHICH IS INDICATED TO BE REMOVED. REFER TO MECHANICAL AND PLUMBING DEMOLITION DRAWINGS FOR EXACT REQUIREMENTS.
- 20. IT SHALL BE THE CONTRACTORS OPTION TO REUSE EXISTING CONCEALED CONDUIT AND FLUSH MOUNTED BACKBOXES WHERE APPLICABLE. IF EXISTING CONDUIT AND/OR BACKBOXES ARE UTILIZED IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADDITIONAL SUPPORTS AND FITTINGS REQUIRED TO CONFORM TO THE SPECIFICATIONS.
- 21. ALL EXISTING CEILINGS ARE BEING REMOVED BY THE GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL REMOVE ALL EQUIPMENT, LIGHTING FIXTURES, ETC., WHICH IS SUPPORTED BY THE CEILING BEFORE THE CEILING DEMOLITION CONTRACTOR STARTS HIS WORK.







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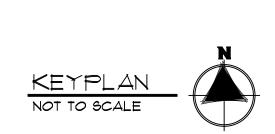
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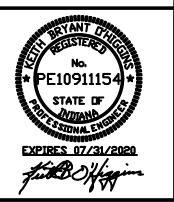
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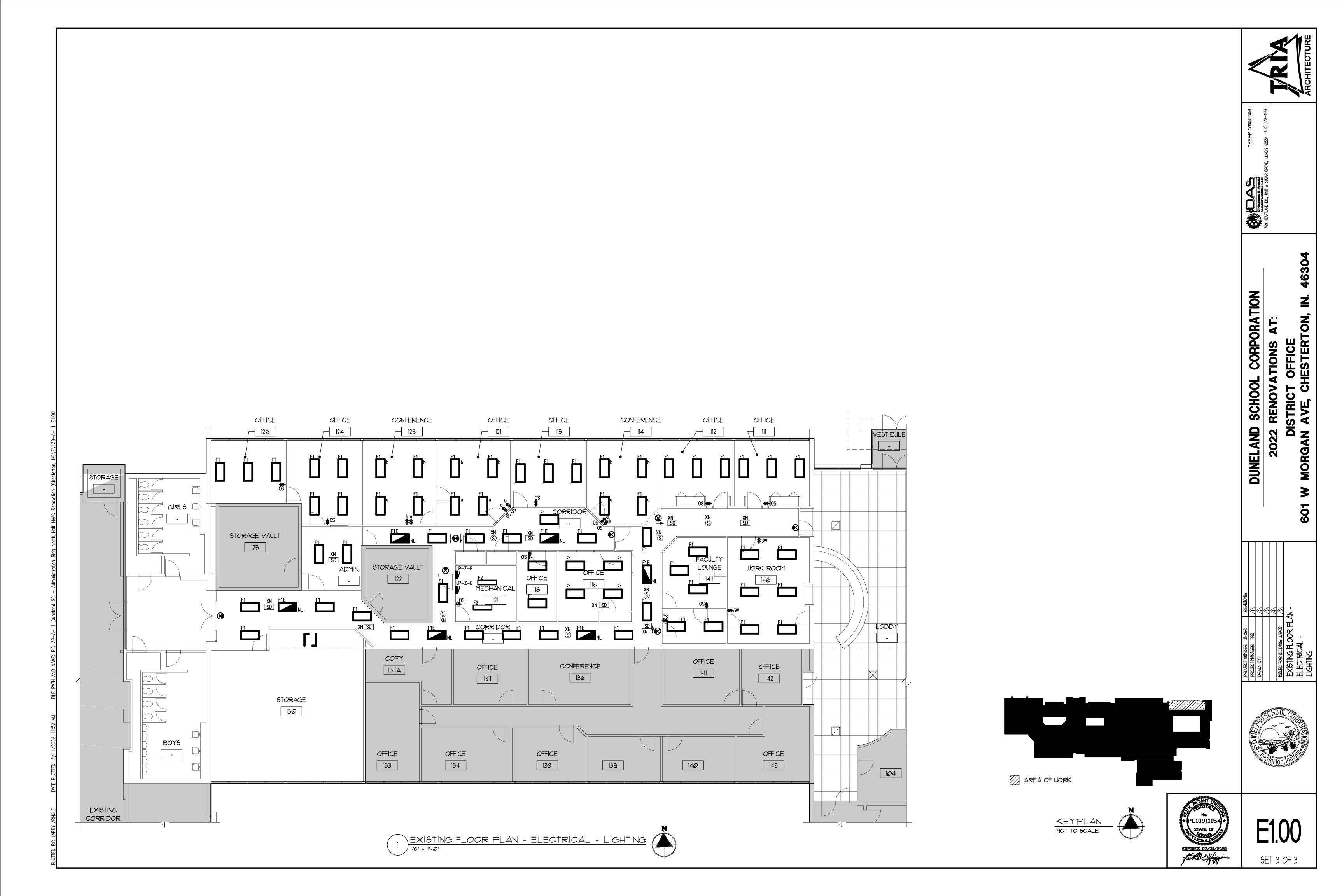












								MOTOR AND EQUIPME	NT SCHE	EDULE						
EQUIP.		SNATED TAG LOCATION LOAD CONDUIT AND					OF POWER	PROTECT	STA	rter	DISCO	NNECT				
TAG	DESIGNATED TAG	LOCATION	VOLTS	PHASE	H.P.	AMP	KVA	CONDUIT AND WIRE SIZE	PANEL	CCT. NO.	(AMPERES)	SIZE	TYPE	SIZE	TYPE	REMARKS
CU 7	CONDENSING UNIT	ON ROOF	208	3	_			3#3 & 1#8G IN 1-1/4°C	ME	1,3,5	70A 3P	ı	_	100A 3P 70A FUSES	NEMA 3R	
(CU 8	CONDENSING UNIT	ON ROOF	208	3	_			3#3 & 1#8G IN 1-1/4"C	ME	2,4,6	70A 3P	1	_	100A 3P 70A FUSES	NEMA 3R	
EDC 1	ELECTRIC DUCT COIL	STORAGE 130	208	3	-			3# & 1#G IN 3/4"C	ME	7,9,11	30A 3P	1	_	40A 3P	NEMA 1	
ERV 1	ENERGY RECOVERY VENTILATOR	STORAGE 130	120	1	-			2#12 & 1#12G IN 3/4"C	ME	20	20A 1P	ı	-	20A 1P	THERMAL OVERLOAD	
ADP 1	VRF REFRIGERANT BOXES	HALLWAY	208	1	-	0.2	0.1	2#12 & 1#12G IN 3/4°C	ME	8,10	20A 2P	ı	-	20A 2P	TOGGLE	
ADP 2	VRF REFRIGERANT BOXES	HALLWAY	208	1	-	0.2	0.1	2#12 & 1#12G IN 3/4°C	ME	8,10	20A 2P	ı	-	20A 2P	TOGGLE	
ADP 3	VRF REFRIGERANT BOXES	HALLWAY	208	1	_	0.2	0.1	2#12 & 1#12G IN 3/4°C	ME	8,10	20A 2P	ı	-	20A 2P	TOGGLE	
VRF	VARIABLE REFRIGERANT FLOW	OFFICE	208	1		0.2	0.1	2#12 & 1#12G IN 3/4°C	ME	12,14	20A 2P	ı	-	20A 2P	TOGGLE	
VRF 2	VARIABLE REFRIGERANT FLOW	OFFICE	208	1		0.2	0.1	2#12 & 1#12G IN 3/4°C	ME	12,14	20A 2P	ı	-	20A 2P	TOGGLE	
VRF 3	VARIABLE REFRIGERANT FLOW	OFFICE	208	1		0.2	0.1	2#12 & 1#12G IN 3/4°C	ME	12,14	20A 2P	ı	-	20A 2P	TOGGLE	
VRF 4	VARIABLE REFRIGERANT FLOW	OFFICE	208	1		0.2	0.1	2#12 & 1#12G IN 3/4°C	ME	12,14	20A 2P	ı	_	20A 2P	TOGGLE	
VRF 5	VARIABLE REFRIGERANT FLOW	OFFICE	208	1		0.2	0.1	2#12 & 1#12G IN 3/4°C	ME	12,14	20A 2P	ı	_	20A 2P	TOGGLE	
VRF 6	VARIABLE REFRIGERANT FLOW	OFFICE	208	1		0.2	0.1	2#12 & 1#12G IN 3/4°C	ME	12,14	20A 2P	ı	_	20A 2P	TOGGLE	
VRF 7	VARIABLE REFRIGERANT FLOW	OFFICE	208	1		0.2	0.1	2#12 & 1#12G IN 3/4°C	ME	16,18	20A 2P	ı	_	20A 2P	TOGGLE	
VRF 8	VARIABLE REFRIGERANT FLOW	OFFICE	208	1		0.2	0.1	2#12 & 1#12G IN 3/4°C	ME	16,18	20A 2P	-	_	20A 2P	TOGGLE	
VRF 9	VARIABLE REFRIGERANT FLOW	CORRIDOR	208	1		2.3	0.1	2#12 & 1#12G IN 3/4°C	ME	16,18	20A 2P	-	_	20A 2P	TOGGLE	
VRF 10	VARIABLE REFRIGERANT FLOW	CORRIDOR	208	1		0.2	0.1	2#12 & 1#12G IN 3/4°C	ME	16,18	20A 2P	-	_	20A 2P	TOGGLE	
VRF 11	VARIABLE REFRIGERANT FLOW	CORRIDOR	208	1		0.2	0.1	2#12 & 1#12G IN 3/4°C	ME	16,18	20A 2P	-	_	20A 2P	TOGGLE	
VRF 12	VARIABLE REFRIGERANT FLOW	CORRIDOR	208	1		0.2	0.1	2#12 & 1#12G IN 3/4°C	ME	16,18	20A 2P	-	_	20A 2P	TOGGLE	
VRF 13	VARIABLE REFRIGERANT FLOW	CORRIDOR	208	1		0.2	0.1	2#12 & 1#12G IN 3/4°C	ME	36,38	20A 2P	-	_	20A 2P	TOGGLE	
VRF 14	VARIABLE REFRIGERANT FLOW	CORRIDOR	208	1		0.2	0.1	2#12 & 1#12G IN 3/4°C	ME	36,38	20A 2P	-	-	20A 2P	TOGGLE	
VRF 15	VARIABLE REFRIGERANT FLOW	ADMIN	208	1		0.2	0.1	2#12 & 1#12G IN 3/4°C	ME	36,38	20A 2P	-	_	20A 2P	TOGGLE	
VRF 16	VARIABLE REFRIGERANT FLOW	OFFICE 118	208	1		0.2	0.1	2#12 & 1#12G IN 3/4°C	ME	36,38	20A 2P	-	-	20A 2P	TOGGLE	
VRF 17	VARIABLE REFRIGERANT FLOW	OFFICE 116	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	36,38	20A 2P	-	_	20A 2P	TOGGLE	
VRF 18	VARIABLE REFRIGERANT FLOW	OFFICE 147	208	1		0.2	0.1	2#12 & 1#12G IN 3/4°C	ME	40,42	20A 2P	-	_	20A 2P	TOGGLE	
VRF 19	VARIABLE REFRIGERANT FLOW	OFFICE 148	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	40,42	20A 2P	-	-	20A 2P	TOGGLE	
VRF 20	VARIABLE REFRIGERANT FLOW	OFFICE 146	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	40,42	20A 2P	-	-	20A 2P	TOGGLE	
VRF 21	VARIABLE REFRIGERANT FLOW	OFFICE 146	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	40,42	20A 2P	ı	_	20A 2P	TOGGLE	
VRF 22	VARIABLE REFRIGERANT FLOW	STORAGE 13	208	1		0.2	0.1	2#12 & 1#12G IN 3/4°C	ME	40,42	20A 2P	-	-	20A 2P	TOGGLE	

MECHANICAL / ELECTRICAL COORDINATION SCHEDULE

1. EQUIPMENT FURNISHED BY THE ELECTRICAL CONTRACTOR (MARK 'E'), HEATING CONTRACTOR (MARK 'H'), VENTILATING CONTRACTOR (MARK 'V').

2. ALL CONDUIT AND WIRING FOR TEMPERATURE CONTROL AND EQUIPMENT INTERLOCK SHALL BE BY BAS CONTRACTOR. OTHER CONTROLS AND CONTROL CONDUITS/WIRING BY TRADE FURNISHING RESPECTIVE

3. E.C. SHALL COORD. & REVIEW THE ELECTRICAL CHARACTERISTICS, AMPACITY & OTHER REQUIREMENTS OF COMPONENTS BEFORE INSTALLATION OF WORK. ALL OTHER CONTRACTORS SHALL ADVISE E.C. OF ANY MOTOR/DEVICE CHANGES.

4. ALL LOOSE STARTERS SHALL INCLUDE HOA SWITCH, PILOT LIGHT MOUNTED IN COVER, CONTROL TRANSFORMER, AND ONE N.O. AND ONE N.C. AUXILIARY CONTACTS.

5. SEE	SPECIFICATIONS AND DRAWII	NGS FOR TYP	ES AND LOCATIONS	OF DEVICES SCH	EDULED BELOW.				
			UNIT MOU	INTED DEVICES			LOOSE DEVICES	S	
TAG	EQUIPMENT DESCRIPTION	STARTER	DISCONNECT	OVERCURRENT PROTECTION	SINGLE POINT CONNECTION	STARTER	DISCONNECT	OVERCURRENT PROTECTION	REMARKS
VRF	VARIABLE REFRIGERANT FLOW UNIT	1	-	-	YES	ı	E	E	
CU	CONDENSING UNIT	ı	-	-	YES	ı	E	E	
HR	VRF REFRIGERANT BOX	_	_	_	YES	-	E	E	

YES

YES

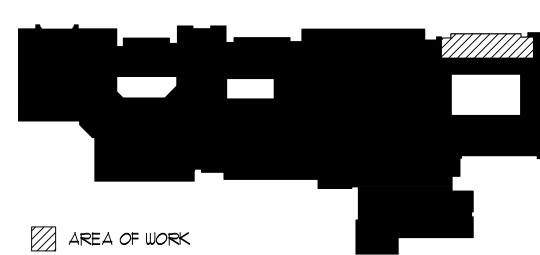
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MOTES:	١.	AEKIL I	FINAL	LUADS	AND	KEQUIKEMEN13	MIII	LIIMAL	MECHANICAL	DRAWINGS.	

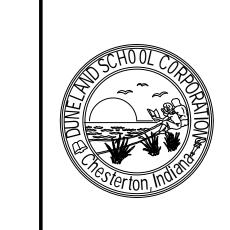
ELECTRIC DUCT HEATER

ENERGY RECOVERY VENTILATOR

KEYED NOTES

- A. REMOVE 50A, 3P CB, CCTS 1,3,5 AND REPLACE WITH NEW 70A, 3P
- CB FOR CU-7. B. REMOVE 50A, 3P CB, CCTS 2,4,6 AND REPLACE WITH NEW 70A, 3P
- CB FOR CU-8. C. TIE NEW ERV-1 TO EXISTING SPARE 20A, 1P CB, CCT 20.
- D. TIE NEW VRF'S AND ADP'S TO NEW 20A, 2P CB IN SPACES WHERE 20A, 1P CB'S REMOVED. CIRCUIT TO EQUIPMENT AS SCHEDULED. REMOVE 20A, 1P CB'S FROM CCTS 8,10,12,14,16,18,36,38,40 &
- F. TIE EDC INTO EXISTING 40A, 3P CB, CCTS 7,9,11.





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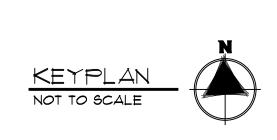
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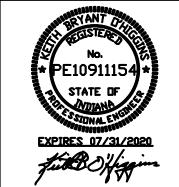
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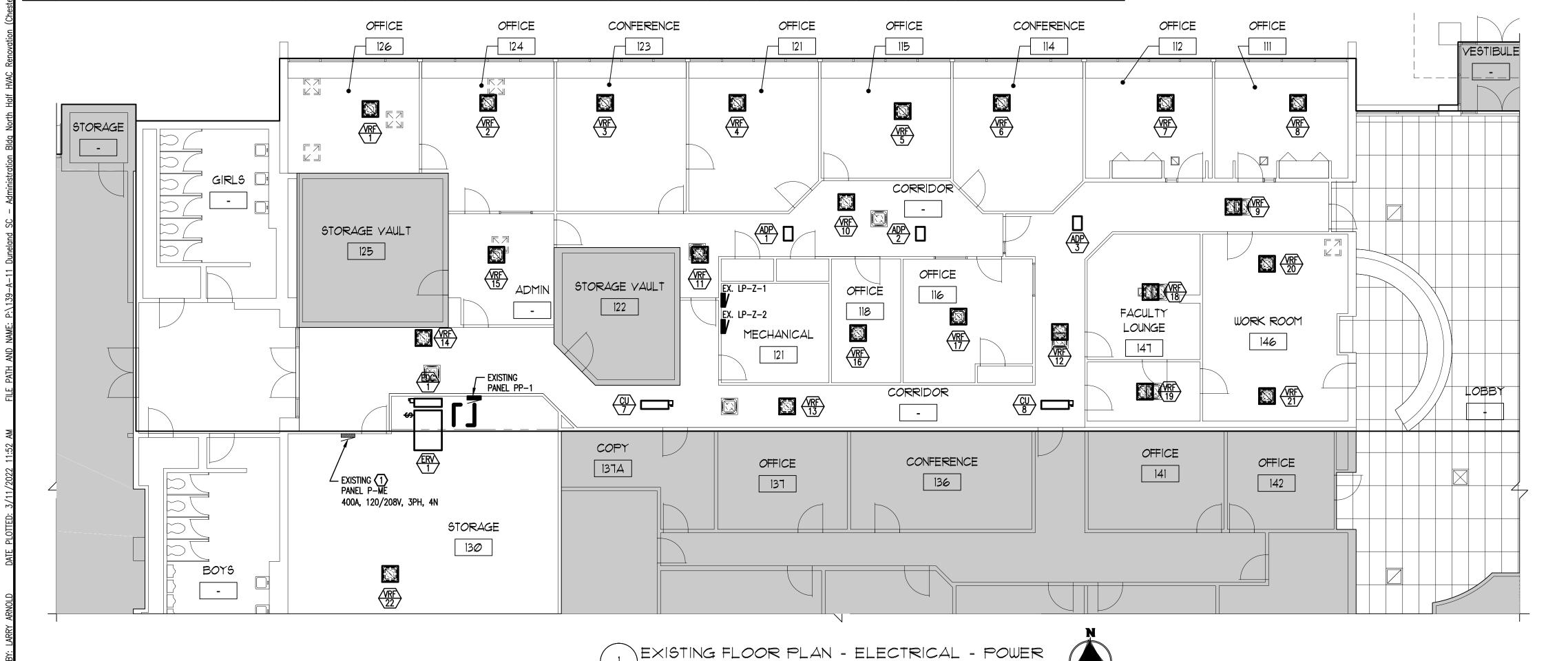
CORPORATION

SCHOOL

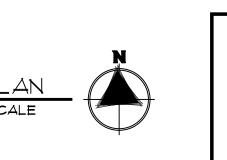
NELAND













GENERAL ELECTRICAL NOTES

- . REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ADDITIONAL GENERAL NOTES WHICH WILL APPLY HERE.
- 2. DO NOT SCALE DRAWINGS.
- 3. NOTES ON DRAWINGS SHALL APPLY TO ALL SIMILAR CONDITIONS WHETHER THEY ARE REPEATED OR NOT.
- 4. BOXES LOCATED ON OPPOSITE SIDES OF NON-FIRE RATED WALLS SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY. BOXES ON OPPOSITE SIDES OF FIRE RATED WALL SHALL BE OFFSET A MINIMUM OF 24" HORIZONTALLY. "THRU THE WALL" BOXES SHALL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
- 5. ELECTRICAL CONTRACTOR SHALL VERIFY TOTAL CONNECTED LOAD/HP WITH ALL OTHER TRADES PRIOR TO WIRING OF ALL OTHER TRADES' EQUIPMENT. MAKE ANY CHANGES TO OVERCURRENT DEVICES AND FEEDER SIZE PER ELECTRICAL CODE AS REQUIRED.
- 6. ELECTRICAL CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION, THIS CONTRACTOR SHALL ADJUST RECEPTACLES, OUTLETS OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
- 7. ALL EXPOSED CABLES IN PLENUM CEILING SHALL BE APPROVED FOR PLENUM APPLICATION.
- 8. PROVIDE SLEEVES/CONDUITS FOR LOW VOLTAGE CABLES WHEN THEY TRAVERSE ABOVE NON ACCESSIBLE CEILING SPACE. ALSO, PROVIDE SLEEVES THROUGH MASONRY WALLS FOR LOW VOLTAGE CABLES. VERIFY SLEEVE/CONDUIT SIZE REQUIREMENTS AND LOCATION WITH THE CONTRACTOR INSTALLING LOW VOLTAGE SYSTEM.
- 9. UNLESS NOTED OTHERWISE, THE CONDUITS AND BACK BOXES SHALL BE CONCEALED WITHIN ALL EXISTING AND NEW MASONRY WALLS. SURFACE METAL RACEWAY SHALL ONLY BE USED IF SPECIFICALLY INDICATED. THE SURFACE METAL RACEWAY SHALL BE ROUTED IN THE CORNER AND/OR ADJACENT TO WINDOW, DOOR FRAMEWORK ETC. SO IT IS AS INCONSPICUOUS AS POSSIBLE. CONDUIT IN UTILITY AREAS MAY BE SURFACE MOUNTED, BUT MUST BE APPROVED PRIOR TO INSTALLATION. ANY SURFACE CONDUIT INSTALLED BY THIS CONTRACTOR THAT IS DEEMED UNSIGHTLY MUST BE HIDDEN WITH THAT WALL ON WHICH IT IS MOUNTED AT NO COST TO THE OWNER.
- 10. WHERE POWER AND LOW VOLTAGE OUTLETS (SUCH AS DATA OUTLETS) ARE SHOWN TOGETHER ON DRAWINGS, PROVIDE THEM ADJACENT TO EACH OTHER.
- 11. PROVIDE CONCRETE PAD FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT. (SUCH AS SWITCHBOARDS, PANELS, TRANSFORMER, ETC.)
- 12. IF A NEW RECEPTACLE IS INDICATED WITHOUT A CIRCUIT NUMBER, PROVIDE A CIRCUIT. COORDINATE SPECIFIC REQUIREMENTS IN FIELD PRIOR TO INSTALLATION.
- 13. CIRCUIT NUMBERS SHOWN FOR EXISTING PANELS ARE FOR REFERENCE ONLY. USE NEXT AVAILABLE
- CIRCUITS AND PROVIDE APPROPRIATE SIZE BREAKERS.

 14. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ELECTRICAL EQUIPMENT & DEVICES.
- THE ELECTRICAL DRAWINGS ARE FOR CONCEPT ONLY.
- 15. EACH 120V CIRCUIT SHALL HAVE ITS OWN NEUTRAL. SHARING OF NEUTRALS IS NOT ALLOWED.
- 16. IN GENERAL, DASHED LINES INDICATE EXISTING ITEMS TO BE REMOVED, LIGHT OR HALF—TONE SOLID LINES INDICATE ITEMS TO REMAIN AND DARK SOLID LINES INDICATE NEW ITEMS.
 17. THE SYSTEMS PROVIDED BY THIS CONTRACTOR SHALL BE COMPLETELY OPERATIONAL REGARDLESS OF
- OMISSION OF MINOR ITEMS, SUCH AS CIRCUIT NUMBER FOR RELAY, A CIRCUIT NUMBER NEXT TO A LIGHTING FIXTURE, POWER FOR CONTROL EQUIPMENT, ETC.
- 18. ALL OUTDOOR DEVICES SUCH AS RECEPTACLES, DISCONNECTS, SPEAKERS, LIGHTING FIXTURES, JUNCTION BOXES, ETC. SHALL BE OUTDOOR TYPE.
- 19. THE EXIT SIGNS ARE PROVIDED FOR BIDDING PURPOSES. FINAL LOCATION SHALL BE AS DETERMINED BY LOCAL FIRE MARSHAL. IF REQUIRED BY FIRE MARSHAL, PROVIDE ADDITIONAL EXIT SIGNS WITHOUT ADDITIONAL COST TO OWNER.
- 20. PROVIDE LOCKING CLIPS ON CIRCUIT BREAKERS SERVING EMERGENCY LIGHTING, FIRE ALARM SYSTEM, PA/INTERCOMM, TELEPHONE SYSTEM AND SECURITY SYSTEM LOAD.
- 21. IN CERTAIN CASES LARGER SIZE CABLES ARE SPECIFIED IN ORDER TO COMPENSATE FOR VOLTAGE DROP. PROVIDE OVERSIZE AND/OR MULTIPLE LUGS AT THE LINE AND LOAD SIDE OF EQUIPMENT TO INCORPORATE LARGER AND ADDITIONAL CABLES. IF REQUIRED, PROVIDE SPLICE BOXES AT EITHER END OF CABLE TO INTERCEPT CHANGE IN THE CABLES.
- 22. UNO, ALL OVERCURRENT PROTECTION DEVICES 800 AMP AND LARGER SHALL BE 100% RATED.
- 23. DUE TO THE SMALL SCALE AND INTERFERENCE OF EXISTING EQUIPMENT, EACH AND EVERY ITEM IS NOT SHOWN. SHOWN INFORMATION IS INTENDED AS A GUIDE. CONTRACTOR SHALL VERIFY INFORMATION AND CONDITIONS IN THE FIELD.
- 24. RECONFIGURE LIGHTING FIXTURES AND OUTLETS IN MECHANICAL ROOMS TO BE COMPATIBLE WITH EQUIPMENT LAYOUT AS REQUIRED.
- 25. COORDINATE THE FINAL LOCATION OF RECEPTACLES IN TELECOMMUNICATION CLOSETS WITH TELECOMMUNICATION EQUIPMENT VENDOR.
- 26. ALL RECEPTACLES LOCATED WITHIN 6' OF SOURCE OF WATER (SUCH AS SINK) AND ALL OUTDOOR RECEPTACLES SHALL BE GFI TYPE, WHETHER SPECIFICALLY INDICATED OR NOT.
- 27. WHERE THE OUTLETS ARE SHOWN ON FURNITURE/DESK THEY SHALL BE PROVIDED EITHER UNDER THE DESK OR AS A PART OF MILLWORK AS INDICATED ON ARCHITECTURAL DRAWINGS. PROVIDE CONDUITS AND WIRING UNDER OR WITHIN THE FURNITURE/DESK. THE QUANTITY AND LOCATION OF INDICATED OUTLETS IS APPROXIMATE. COORDINATE EXACT REQUIREMENTS WITH ARCHITECT AND MILLWORK VENDOR. IF FURNITURE/DESK IS NEXT TO WALL, THE ROUGH-IN SHALL BE PROVIDED FROM WALLS. IF FURNITURE/DESK IS FREE STANDING, THE ROUGH-IN SHALL BE PROVIDED FROM FLOOR. THE POWER POLE IS NOT ALLOWED UNLESS SPECIFICALLY INDICATED.
- 28. PROVIDE EXPANSION FITTINGS FOR ALL ELECTRICAL RACEWAYS AT EVERY EXPANSION JOINT. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR LOCATION OF EXPANSION JOINTS.
- 29. COORDINATE THE INSTALLATION OF ELECTRICAL PANELS, SWITCHBOARD, ETC. WITH OTHER TRADES SUCH THAT NO DUCTWORK, PIPING ETC. IS LOCATED ABOVE THEM.
- 30. VERIFY QUANTITY AND SIZE OF LUGS PROVIDED IN OTHER TRADE'S EQUIPMENT (FOR EXAMPLE, CHILLER, ELEVATOR, FIRE PUMP ETC.) BEFORE STARTING ANY WORK ASSOCIATED WITH SUCH EQUIPMENT. IF THEIR LUGS CANNOT ACCOMMODATE THE CABLES INDICATED IN ELECTRICAL DOCUMENT, PROVIDE LUG FITTINGS TO ACCOMMODATE CHANGE IN THE CABLES. PROVIDE SUCH FITTINGS IN A JUNCTION BOX AS CLOSE AS POSSIBLE TO THEIR EQUIPMENT. IF ALLOWED BY THE EQUIPMENT MANUFACTURER, SUCH FITTINGS MAY BE INSTALLED IN THEIR EQUIPMENT RATHER THAN IN A SEPARATE JUNCTION BOX.
- 31. MAIN SERVICE ENTRANCE EQUIPMENT SHALL HAVE LABEL FOR SERVICE ENTRANCE TYPE, AND SHALL BE GROUNDED PER ELECTRICAL CODE.
- 32. PROVIDE SEPARATE DEDICATED GROUNDING CONDUCTOR IN EACH FEEDER AND BRANCH CIRCUIT WIRING CIRCUIT.
- 33. PROVIDE REMOTE TEST AND INDICATING STATION IN A READILY ACCESSIBLE AND VISIBLE SPACE FOR EACH DUCT SMOKE DETECTOR.
- 34. PROVIDE RED PLASTIC SIGN AT MAIN WATER SERVICE METER INDICATING "MAIN GROUND LOCATION."
- 35. ALL RECEPTACLES FOR VENDING MACHINES, ICE MACHINES AND REFRIGERATORS SHALL BE GFCI TYPE WHETHER SPECIFICALLY INDICATED OR NOT.
- 36. PROVIDE ONE WEATHERPROOF, GFI RECEPTACLE WITHIN 25' OF ROOF MOUNTED OR GRADE MOUNTED HVAC EQUIPMENT, WHETHER SPECIFICALLY INDICATED OR NOT AND FEED FROM NEAREST UNLOADED RECEPTACLE CIRCUIT.

- 37. WHETHER SPECIFICALLY INDICATED OR NOT, PROVIDE MINIMUM OF ONE DUCT SMOKE DETECTOR FOR AIR SUPPLY SYSTEM HAVING A CAPACITY GREATER THAN 2,000 CFM AND TWO DUCT SMOKE DETECTORS FOR AIR SUPPLY SYSTEM HAVING A CAPACITY GREATER THAN 15,000 CFM.
- 38. PERFORM COORDINATION STUDY OF ELECTRICAL DISTRIBUTION SYSTEM AS INDICATED IN POWER SYSTEM STUDY SPECIFICATION. IT SHALL BE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO PROVIDE EQUIPMENT WITH PROPER INTERRUPTING RATING OF EQUIPMENT BASED UPON COORDINATION STUDY. AIC (AVAILABLE INTERRUPTING CAPACITY) OF ALL PANELS AND SWITCHBOARD SHOWN IN DRAWINGS ARE FOR GENERAL INFORMATION ONLY. THE FINAL AIC OF ELECTRICAL EQUIPMENT SHALL BE BASED UPON WORST CONDITION COMED FAULT CURRENT AND THE RECOMMENDATIONS MADE IN COORDINATION STUDY. THE COST TO PROVIDE ALL ELECTRICAL DISTRIBUTION EQUIPMENT WITH PROPER FAULT INTERRUPTING RATING (REGARDLESS OF WHAT IS SHOWN ON DRAWINGS) SHALL BE INCLUDED IN THE BID.
- 39. PROVIDE DEEPER BACK BOX AS REQUIRED FOR EACH DEVICE; FOR EXAMPLE MINIMUM OF 2.5" DEEP FOR WALL BOX TYPE OCCUPANCY SENSOR.
- 40. PROVIDE WEATHERPROOF TYPE WHILE—IN—USE COVER FOR ALL 15 AMP AND 20 AMP 120V. RECEPTACLES LOCATED IN OUTDOOR LOCATIONS WHETHER SPECIFICALLY INDICATED OR NOT.
- 41. PROVIDE SLEEVES THRU FLOOR AND WALLS AS REQUIRED FOR LOW VOLTAGE CABLES. COORDINATE ALL REQUIREMENTS WITH LOW VOLTAGE CONTRACTORS.
- 42. THE PANEL DIRECTORY SHALL HAVE SPECIFIC LIST OF LOAD SERVED. THE GENERIC OR BROAD LIST IS NOT ACCEPTABLE. FOR EXAMPLE LISTING "LIGHTS IN CLASSROOM" IS NOT ADEQUATE. PROVIDE MORE SPECIFIC LIST SUCH AS "LIGHTS IN CLASSROOM 231, 234 AND STORAGE 239" SHALL BE PROVIDED TO REFLECT THE SPECIFIC LOAD SERVED.
- 43. UNLESS NOTED OTHERWISE, ALL WIRING SHALL BE IN CONDUIT EXCEPT LOW VOLTAGE WIRING ABOVE ACCESSIBLE CEILING SPACE. LOW VOLTAGE WIRING EXCEPT FIRE ALARM SYSTEM WIRING ABOVE ACCESSIBLE CEILING SPACE MAY BE EXPOSED. ALL FIRE ALARM SYSTEM WIRING SHALL BE IN CONDUIT
- 44. LOCATE THE OUTLETS FOR LCD PROJECTORS AS DIRECTED BY OWNER'S LCD PROJECTOR VENDOR TO PROVIDE OPTIMUM COVERAGE OF THE PROJECTOR.
- 45. UNLESS SPECIFICALLY INDICATED, ALL CONDUITS OTHER THAN IN ELECTRICAL/ MECHANICAL EQUIPMENT ROOMS AND AUTO/WOOD SHOPS SHALL BE CONCEALED. POWER POLES OR CONDUIT FED FROM CEILING IS STRICTLY PROHIBITED.
- 46. ALL FLOOR MOUNTED RECEPTACLES SHALL BE FLUSH WITH FLOOR AND SHALL HAVE HINGED COVER PLATES. PEDESTAL TYPE RECEPTACLES ARE NOT ALLOWED.
- 47. ALL CONDUITS FOR TELEPHONE AND DATA OUTLETS SHALL BE 1.25" UNLESS NOTED OTHERWISE. ALL BACKBOXES FOR TELEPHONE AND DATA OUTLETS SHALL BE 2 GANG AND SHALL BE MINIMUM OF 2.75" DEEP.
- 48. LOW VOLTAGE SYSTEMS, INCLUDING TELECOMMUNICATIONS, SECURITY, FIRE ALARM, ETC. SHALL BE BY THIS CONTRACTOR, INCLUDING WIRING, CONDUIT, TERMINATIONS, POWER REQUIREMENTS, PROGRAMMING, ETC., UNLESS SPECIFICALLY NOTED OTHERWISE. SMART BOARDS AND VIDEO PROJECTORS SHALL BE FURNISHED BY OWNER, BUT ALL ASSOCIATED POWER AND WIRING REQUIREMENTS SHALL BE BY THIS CONTRACTOR.
- 49. THE CONTRACTOR MUST VISIT THE SITE TO FAMILIARIZE HIMSELF WITH THE EXISTING SITE AND BUILDING CONDITIONS WHICH WILL BE AFFECTED DURING CONSTRUCTION PRIOR TO SUBMITTING HIS BID PROPOSAL. CONTRACTOR IS CAUTIONED THAT THE PROJECT IS A REMODELING JOB AND IT IS ASSUMED THAT HE HAS INCLUDED FUNDS IN HIS BID TO COVER UNFORESEEN ITEMS WHICH MUST BE MOVED, RELOCATED OR ADJUSTED TO FIT HIS WORK. NO EXTRA COMPENSATION WILL BE ALLOWED FOR ANY EXTRA WORK CAUSED BY FAILURE TO VISIT. EXAMINE OR VERIFY.
- 50. ALL EXISTING EQUIPMENT IS TO REMAIN OPERATIONAL DURING CONSTRUCTION PERIOD. ALL TEMPORARY WIRING OR REROUTING OF CIRCUITRY TO ACHIEVE THIS IS BY THE ELECTRICAL CONTRACTOR. SHUTDOWN OF EXISTING SERVICES SHALL ONLY BE PERMITTED UPON WRITTEN APPROVAL FROM THE OWNER AND THEN ONLY FOR THAT DATE AND DURATION AGREED UPON. INCLUDE ALL PREMIUM TIME CHARGES IN THE BASE BID.
- 51. EXISTING CONDUITS IN GOOD CONDITION MAY BE REUSED WHERE POSSIBLE. PULL NEW WIRE AS REQUIRED. ALL UNUSED CONDUIT, WIRE, JUNCTION BOXES, ETC. WILL BE REMOVED. ALL JUNCTION BOXES MUST HAVE COVERS. VERIFY REQUIREMENTS IN FIELD.
- 52. FOR THE AREA TO BE DEMOLISHED, THE DEMOLITION OF LIGHT FIXTURES, OUTLETS OR ANY OTHER ELECTRICAL EQUIPMENT/DEVICES SHALL BE PERFORMED AS REQUIRED. SEE ARCHITECTURAL DRAWINGS AND THE RESPECTIVE FLOOR PLANS IN ELECTRICAL DRAWINGS FOR DEMOLITION. ELECTRICAL CONTRACTOR SHALL REMOVE ALL ASSOCIATED RACEWAYS AND WIRING AS REQUIRED. ELECTRICAL CONTRACTOR SHALL DE-ENERGIZE AND DISCONNECT APPLICABLE WIRING TO FACILITATE SAFE DEMOLITION
- 53. THE EXISTING EQUIPMENT IS SHOWN BASED UPON THE INFORMATION OBTAINED THROUGH BRIEF SURVEY OF THE FACILITY. CONTRACTOR IS TO SURVEY THE EXISTING FACILITY IN ORDER TO DETERMINE THE FULL EXTENT OF WORK AND BE COMPLETELY FAMILIAR WITH ALL THE EXISTING CONDITIONS INCLUDING PLUMBING, HVAC, ELECTRICAL, ETC. THE ARCHITECT/ENGINEER AND OWNER ASSUME NO RESPONSIBILITY IN RESPECT TO THE ACCURACY OF SUCH INFORMATION SHOWN ON THE DRAWINGS. CONTRACTOR SHALL MAKE ADEQUATE ALLOWANCE IN HIS BID FOR SOME DEVIATIONS TO SUCH INFORMATION.
- 54. WHERE EXISTING CONDITIONS PREVENT PROPER INSTALLATION OF PROPOSED WORK, REROUTE, EXTEND OR ALTER EXISTING WORK SO AS TO ACCOMMODATE PROPOSED WORK REQUIREMENTS.
- 55. WHERE A NEW WALL IS TO BE BUILT PERPENDICULAR TO EXISTING WALL AND IF THERE IS AN INTERFERING EXISTING RECEPTACLE ON THE EXISTING WALL, RELOCATE THIS RECEPTACLE AS REQUIRED.
- 56. AS REQUIRED EXTEND EXISTING RECEPTACLES WHERE EXISTING WALLS ARE FURRED OUT. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT OF THIS WORK.
- 57. IN ORDER TO FACILITATE THE REPLACEMENT OF EXISTING OR INSTALLATION OF NEW DUCTWORK AND/OR PIPING, REMOVE EXISTING LIGHTING FIXTURE AND/OR SMOKE/HEAT DETECTORS AS REQUIRED, WHETHER SHOWN ON DRAWINGS OR NOT. THIS NOTE IS GENERALLY APPLICABLE, BUT NOT LIMITED TO, WHERE THERE IS NO DROPPED CEILING (IN EXPOSED CEILING AREA). ONCE THE INSTALLATION OF DUCTWORK, PIPING ETC IS COMPLETED, REINSTALL ELECTRICAL EQUIPMENT/DEVICES. PROVIDE ADEQUATE ALLOWANCE IN THE BID FOR THIS WORK.
- 58. ELECTRICAL CONTRACTOR SHALL VERIFY SIZE OF ALL EXISTING OPENINGS, DOORS, ETC., FOR REMOVING EQUIPMENT AND MATERIAL OUT OF BUILDING. ELECTRICAL CONTRACTOR SHALL PROVIDE ANY NEW OR ENLARGED OPENINGS IN EXISTING BUILDING CONSTRUCTION REQUIRED TO FACILITATE EXITING OF HIS EQUIPMENT/MATERIAL AND RESTORE SUCH OPENINGS TO THEIR ORIGINAL STATE AFTER COMPLETION.
- 59. THE ELECTRICAL DRAWINGS SHOW DIRECT PRINCIPLE WORK WHICH MUST BE ACCOMPLISHED UNDER THIS CONTRACT. INDIRECT AND INCIDENTAL WORK WILL ALSO BE NECESSARY DUE TO CHANGES AFFECTING EXISTING ARCHITECTURAL, MECHANICAL, PLUMBING OR OTHER SYSTEMS. SUCH INCIDENTAL WORK IS ALSO PART OF THIS CONTRACT. INSPECT THOSE AREA, AND ASCERTAIN WORK NEEDED AND DO THAT WORK IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS, AT NO ADDITIONAL COST.
- 60. WHERE LIGHTING FIXTURES ARE TO BE REUSED, CLEAN FIXTURES THOROUGHLY.
- 61. ALL SWITCHBOARDS, DISTRIBUTION PANELS AND PANEL BOARDS SHALL BE FURNISHED WITH FULL RATED COPPER BUS ND BE BRACED FOR AVAILABLE FAULT CURRENT WITH MINIMUM RATINGS AS FOLLOWS: SWITCHBOARDS 100,000 AIC DISTRIBUTION PANELS 55,000 AIC PANELBOARDS 10,000 AIC (120/240V)
- 62. ALL CIRCUIT BREAKERS FOR PANEL BOARDS SHALL BE THE BOLT—ON TYPE, RATED FOR SWITCHING DUTY AND RATED FOR THE AVAILABLE FAULT CURRENT WITH MINIMUM RATING OF 10,000 AIC FOR 120/240V PANELS.
- 63. ALL CIRCUIT BREAKER SIZES AND QUANTITIES INDICATED ON SCHEDULE(S) ARE FOR THE CONVENIENCE OF THE BIDDERS ONLY. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND SUPPLYING ALL REQUIRED BRANCH BREAKERS.
- 64. ALL PANELS RECESSED IN WALLS SHALL HAVE 3-1" CONDUITS STUBBED INTO CEILING CAVITY OR STUBBED OUT OF WALL 12'-0" ABOVE SLAB.

VOLTAGE: 120/208VOLT 3PHASE 4WIRE		MAIN (A) 400A	MCB X	MLO	MOUNT:	IT OFFICE 158 SURFACE
	C/R CIR.	WITH GRO		Х	TYPE:	10,000 A.I.C.
USE AND/OR AREA SERVED	⁰ / ⁰ NO.	A	В	С	NO. C/B	USE AND/OR AREA SERVED
	30 / 1	0			2 50 /	1
STING CU-1 - MARK SPARE	/ 3		0			EXISTING AH—2 (RTU)
STITE OF THE WAR STARLE	/ 5	ļ	0	0	4 /	- ()
	/ 3		•	ŏ	6 / 3	
	40 / 7	0			8 20 1	EXISTING AH-1
RE	9	J	0		20/	SPARE
· -	/ 11		0	0	10 1	
	/ 3		ì	Ö	12 / 1	SPARE
	40 / 13	0			14 20 1	EXISTING AH-5
RE	/ 15	-	0		16 20 1	EXISTING AH-6
	/ 17		0	0	20/	EXISTING AH-7
	25 / 19	0	1	0	18 / 1	
		0		_	20 1	EXISTING AH-4
STING CU-5 - MARK SPARE	/ 21		0		22 20 1	EXISTING RADON FAN
	/ 23		<u> </u>	0	150 /	
	/ 3 35 / 25	0		0	24 /	
		0			26	NEW 150A FEED TO PP-1*
STING CU-6 - MARK SPARE	/ 27		0		28 / 3	
	/ 29			0	40 /	
	30 / 31	0]	0	30 /	<u> </u>
		Ö		1	32	EXISTING SPARE
STING CU-7 - MARK SPARE	33		0		34 / 3	
	35	'	-	0	20/	EXISTING UNLABELED
	20 / 37	0		0	36 1	
STING WOMEN BATH ROOM HEATER		0	0	1	38 / 1	EXISTING WOMEN BATHROOM HEAT
	2 39		0		40 20 1	EXISTING MEN BATHROOM HEAT
TING CH-4	20 41			0	15 1	EXISTING EWC
TOTA!	LOAD PER PHASE	0	0	0	TOTAL KVA:	0.0
TOTAL	20,0 12111102				-	
	NOTE: * REMOV				AMPS:	0.0

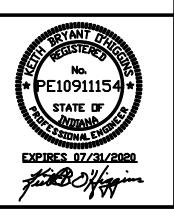
	PANEL	BOARD	SCH	EDUL	E NE	W PA	NEL "PP1"
VOLTAGE	400 /000VOLT 7DUACE 4WDE		MAIN (A)	MCB	MLO	LOCATION:	RECORDS STORAGE 130
VULIAGE:	120/208VOLT 3PHASE 4WIRE		150A WITH GRO	UND BUS	Х	MOUNI:	SURFACE 10,000 A.I.C.
U	SE AND/OR AREA SERVED	C/B CIR. NO.	A	В	C	CIR. C/B	USE AND/OR AREA SERVED
		80 / 1	4160		ļ	40 /	
		3	300	4160	1	2 /	
NEW CU-1				300		4 /	EDH-1
		$\begin{array}{ c c c c c c c c c c c c c c c c c c c$			4160 300	6 3	
		20 / 7	45		300	20/	ERV-1
HR−1		9	1080	45	1	8 1	ERV-1
		2 9		45 45		10 20	 HR-2
		20 / 11			83 45	12 / 2	NK-2
/RF #1,2,3&4		13	83	1	<u> 40</u>	20 /	1
		2 15	201	07	1	14	VRF #9,10,11&16
/DE E 6 7 4 9		20 15		83 201		16 2	
/RF #5,6,7&8		17			83	20 /	
10. 7		20 / 19	0		83	18	VRF #12,13,14,15&17
HR−3			83		1	20 2	
		2 21		0		20 1	
HR−4		20 / 23			0	20/	
		25	0	l	0	24 1	
		/ 2	Ö			26 / 1	
		20 27		0		28 20 1	
		20 29			0	20/	
		20/31	0	1	0	30 1	
		1	0			32 / 1	
		20 33		0		34 20 1	
		20 35			0	20/	
		20 37	0	1	0	36 1 20	
		/ 1	0		_	38 / 1	
		20 39		0		40 20 1	
		20 41		U	0	20/	
		<u> </u>	5055	40-1	0	42 / 1	155
	TOTAL	LOAD PER PHASE	5952	4834	4754	TOTAL KVA:	15.5
					I	AMPS:	43.1

	LIGHTING FIXTURE SCHEDULE												
TYPE	LAMP TYPE	MOUNTING	ACCEPTABLE MANUFACTURER AND CATALOG NUMBER	VOLTS	INPUT WATTS	DESCRIPTION	REMARKS						
F1	LED		LITHONIA 2BLT440LADPMVOLTGZ10LP840	120	31	2x4 LAY-IN							
⊗	LED		LITHONIA #LQM-S-W-3-R-120/277-ELN	120	3	LED EXIT SIGN, RED LETTERS, NiCad BATTERIES.							
FIE	LED		LITHONIA 2BLT440LADP MVOLTAGE GZ10LP840E	130	31	2x4 LAY-IN	PROVIDE 90 MIN BATTERY PAK						

LIGHTING FIXTURE SCHEDULE NOTES

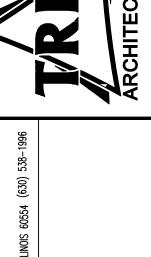
- . ALL LIGHTING FIXTURES SHALL BE RATED FOR BUILDING SYSTEM VOLTAGE. CONTRACTOR MUST VERIFY ALL CONDITIONS.
 . ELECTRICAL CONTRACTOR SHALL PROVIDE EACH LIGHTING FIXTURE COMPLETE WITH PLASTER FRAMES AND ALL OTHER INSTALLATION AND HANGING HARDWARE AS REQUIRED FOR A COMPLETE AND FINISHED INSTALLATION AT EACH FIXTURE LOCATION.
- VERIFY ALL LIGHTING FIXTURE LOCATIONS, FINISHES, VOLTAGE AND CEILING TYPES WITH ARCHITECT PRIOR TO ORDERING.
 ELECTRICAL CONTRACTOR SHALL CHECK AND COORDINATE ALL LIGHTING FIXTURE CATALOG NUMBERS WITH THE INTENT OF FIXTURE DESCRIPTIONS, LISTED ACCESSORIES AND TYPE OF INSTALLATION.
- 5. ALL FIXTURES SHALL BE "U.L." LABELED. ALL LIGHTING FIXTURES EXPOSED TO WEATHER OR MOISTURE SHALL BEAR U.L. "WET LOCATION" LABEL AND LIGHTING FIXTURES EXPOSED TO DAMPNESS SHALL BEAR U.L. "DAMP LOCATION" LABEL.
 6. EXIT/DIRECTIONAL SIGNS SHALL BE CEILING OR WALL MOUNTED AS PER FIELD CONDITION, REGARDLESS OF HOW THEY ARE SHOWN ON FLOOR PLANS. THEY SHALL BE INSTALLED COMPLETE WITH ALL INSTALLATION AND HANGING ACCESSORIES TO PROVIDE AN
- UNOBSTRUCTED VIEW OF EACH SIGN FACE AS REQUIRED. SIGNS SHALL BE ADJUSTED AS NECESSARY WITHOUT ADDITIONAL COST.
 7. SIGNS TO READ "EXIT". SIGNS SHALL BE SINGLE OR DOUBLE FACED WITH OR WITHOUT DIRECTIONAL ARROWS, ALL AS SHOWN ON PLANS. SIGNS IN GENERAL SHALL BE CEILING MOUNTED, LOCATED AND ADJUSTED FOR BEST VIEW. ALL EXIT SIGNS IN HIGH
- CEILING AREAS TO BE MOUNTED ON WALL AT MAXIMUM OF +8"-0" ABOVE FLOOR. NO PENDANTS SHALL BE USED. SHADED PORTION DENOTES ILLUMINATION FACE.

 8. ALL EXIT SIGNS AND BATTERY EMERGENCY UNITS MUST BE APPROVED BY LOCAL CODE.





SET 3 OF 3



769 HEARTAND DR., UNIT A SUGAR GROVE, ILLINOIS

AND SCHOOL CORPORATION
022 RENOVATIONS AT:

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NECT NUMBER: 21-005
NECT MANAGER: TRS

NECT MANAGER

