WRC Decentralization Phase 3 (#9279.30), Fire Alarm Phase 2 (#9294.01) & Chapel Sprinkler (#9279.31)
Iowa Department of Administrative Services

1251 334th St, Woodward, IA 50276

Applicable Codes

2015 International Building Code as adopted by Iowa Administrative Rule 661-201 and 661-301
2015 International Fire Code as adopted by Iowa Administrative Rule 661-201
2012 International Energy Conservation Code as adopted by Iowa Administrative Rule 661-303
2015 International Existing Building Code as adopted by Iowa Administrative Rule 661-301 and 661-350
2012 NFPA 101 Life Safety Code as adopted by Iowa Administrative Rule 661-205
2010 Americans with Disabilities Act as adopted by Iowa Administrative Rule 661-302
Smoke Alarms/Detectors as adopted by Iowa Administrative Rule 661-210 (effective July 1, 2021)
Carbon Monoxide Alarms as adopted by Iowa Administrative Rule 661-211
State Mechanical Code as adopted by the Department of Public Health Iowa Administrative Rule 641-61
State Plumbing Code as adopted by the Department of Public Health Iowa Administrative Rule 641-25
State Electrical Code as adopted by the State Electrical Licensing Board Iowa Administrative Rule 661-504

Administration Building
Occupancy: B (IBC); Business (LSC)

Per CMS licensing, Admin falls under ICF/MR. Although LSC Chapter 19 – Existing Health Care Occupancies includes Intermediate Care Facilities (ICF), section 19.1.1.1.9 states that "Facilities that do not provide housing on a 24-hour basis for their occupants shall be classified as other occupancies and shall be covered by other chapters of this Code." It is our understanding that Admin does not provide sleeping accommodations for occupants, and therefore, it would be classified as an Existing Business Occupancy (Chapter 39 of LSC).
Per LSC 39.3.2.1 for existing Business occupancies: "Hazardous areas, including boiler or furnace rooms, shall be protected in accordance with Section 8.7."
LSC 8.7.1.1 "Protection from any area having a degree of hazard greater than that normal to the general occupancy of the building or structure shall be provided by one of the following: (1) Enclosing the area with a fire barrier without windows that has a 1-hour fire-resistance rating in accordance with Section 8.3 or (2) Protecting the area with automatic extinguishing systems in accordance with Section 9.7."

Admin is not sprinklered, so the Boiler room will be required to be fire rated.

Elmcrest
Occupancy: B (IBC); Business (LSC)

Per CMS licensing, Elmcrest falls under ICF/MR. Although LSC Chapter 19 – Existing Health Care Occupancies includes Intermediate Care Facilities (ICF), section 19.1.1.1.9 states that "Facilities that do not provide housing on a 24-hour basis for their occupants shall be classified as other occupancies and shall be covered by other chapters of this Code." It is our understanding that Elmcrest does not provide sleeping accommodations for occupants, and therefore, it would be classified as an Existing Business Occupancy (Chapter 39 of LSC).
Per LSC 39.3.2.1 for existing Business occupancies: "Hazardous areas, including boiler or furnace rooms, shall be protected in accordance with Section 8.7."
LSC 8.7.1.1 "Protection from any area having a degree of hazard greater than that normal to the general occupancy of the building or structure shall be provided by one of the following: (1) Enclosing the area with a fire barrier without windows that has a 1-hour fire-resistance rating in accordance with Section 8.3 or (2) Protecting the area with automatic extinguishing systems in accordance with Section 9.7."

Elmcrest is sprinklered, so the Boiler room will not be required to be fire rated.

Med Center
Occupancy: I-2 (IBC); Healthcare (LSC)

Per CMS licensing, Med Center falls under ICF/MR. Per LSC section 19.1.1.1.5, "health care facilities regulated by this chapter shall be those that provide sleeping accommodations for their occupants." Because some occupants may need to stay overnight in Med Center, it would be classified as an Existing Health Care Occupancy (Chapter 19 of LSC).
Per LSC 19.3.2.1, "any hazardous areas shall be safe guarded by a fire barrier having a 1-hour fire resistance rating or shall be provided with an automatic extinguishing system in accordance with 8.7.1." However, per LSC 19.3.2.1.2: "where the sprinkler option is used, the areas shall be separated from other spaces by smoke partitions in accordance with Section 8.4."

Med Center is sprinklered, so the boiler room would not need to have a 1-hour fire resistance rating; however, it will need to be separated from other spaces by smoke partitions.

Food Service
Occupancy: A-2 (IBC); Assembly (LSC)

Chapel
Occupancy: A-3 (IBC): Assembly (LSC)

Dispatch
Occupancy: S-2 (IBC); Storage (LSC)

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05-A110	FIRST FLOOR DEMO AND REFLECTED CEILING PLAN
FIRE PROTECTION	
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05-FP101	FIRE PROTECTION PLAN
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12-A111	FIRST FLOOR REFLECTED CEILING PLAN
12-A112	SECOND FLOOR REFLECTED CEILING PLAN
PLUMBING	
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MECHANICAL	
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12-E202	SECOND AND THIRD FLOOR POWER PLAN
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15-E301	FIRST FLOOR AND MEZZANINE LEVEL SYSTEMS PLAN
15-E600	ELECTRICAL SCHEDULES

CERTIFICATIONS

CIVIL ENGINEER

LICENSED PROFESSIONAL ENGINEER
KYLE A. LAWSON
P26414
IOWA

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

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SIGNATURE — DATE

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LICENSED ARCHITECT
CAMERON L. MANLEY
06716
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MECHANICAL ENGINEER

LICENSED PROFESSIONAL ENGINEER
TYSON L SCHEIDECKER
21691
IOWA

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ELECTRICAL ENGINEER

LICENSED PROFESSIONAL ENGINEER
KEVIN J. BRUXVOORT
19927
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Kevin J. Bruxvoort — 1-10-2024
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(#9279.30) WRC Decentralization Phase 3
(#9294.01) WRC Fire Alarm Phase 2
(#9279.31) Chapel Sprinkler
Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

BIDDING
ISSUE DATE: 2024-01-11

PROJECT NUMBER: 2142203394

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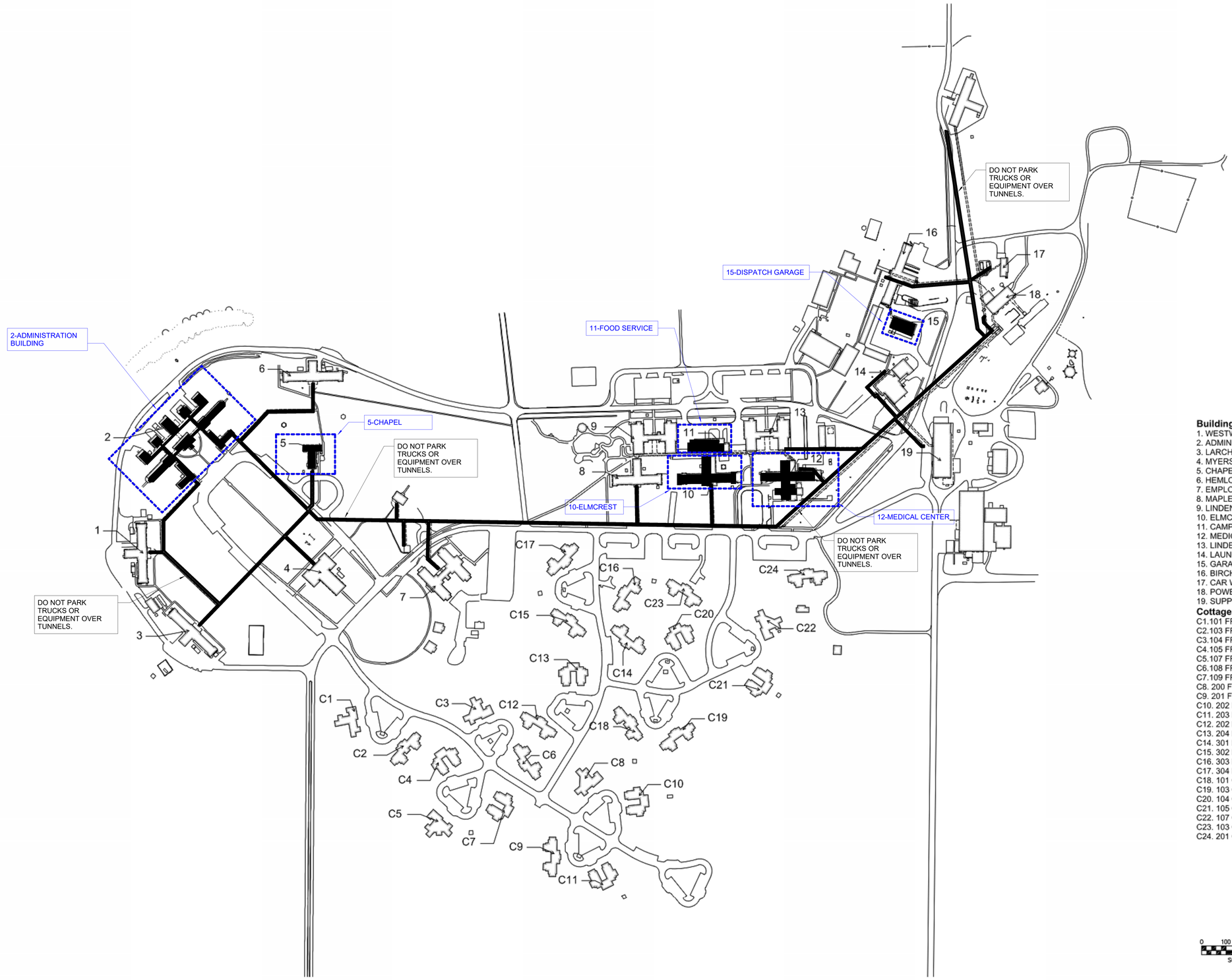

LEGEND

Buildings

1. WESTWOOD
2. ADMINISTRATION
3. LARCHES
4. MYERS HALL
5. CHAPEL
6. HEMLOCK
7. EMPLOYEE HOME
8. MAPLE LODGE
9. LINDEN COURT A/B
10. ELMCREST
11. CAMPUS FOOD SERVICES
12. MEDICAL CENTER
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Cottages

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C23. 103 CEDAR
C24. 201 CEDAR

0 100 200 400
SCALE IN FEET

CAMPUS MAP

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(#9279.31) Chapel Sprinkler

Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

DRAWN BY	LDF
APPROVED BY	TLS
ISSUED FOR	BIDDING
ISSUE DATE	2024-01-11
PROJECT NUMBER	2142203394
FIELD BOOK	

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1/9/2024 8:55:17 AM
Autodesk Revit 2022

GENERAL MECHANICAL NOTES

1. LIGHT LINES INDICATE EXISTING PIPING, DUCTWORK, EQUIPMENT, ETC. TO REMAIN. BOLD LINES INDICATE PIPING, DUCTWORK, EQUIPMENT, ETC. TO BE INSTALLED BY THIS CONTRACT UNLESS NOTED OTHERWISE.
2. COORDINATE ROUGH-IN AND FINAL LOCATION OF DUCTWORK AND PIPING WITH LIGHTING, STRUCTURE, SPRINKLERS, ETC. PROVIDE OFFSETS AND/OR EASEMENTS, OR RELOCATE AS REQUIRED AVOIDING CONFLICTS WITH WORK OF OTHER TRADES.
3. PROVIDE TEMPORARY FILTRATION ON RETURNS DURING CONSTRUCTION TO PREVENT DUST FROM SPREADING TO DUCTWORK, HVAC EQUIPMENT, AND NON-CONSTRUCTION AREAS.
4. PIPING IS SHOWN IN SCHEMATIC FORM. ROUTE AS REQUIRED FOR CLEARANCE. VERIFY ROUTING AND CLEARANCES AND COORDINATE WITH OTHER TRADES PRIOR TO FABRICATION.
5. BREAK CONNECTIONS ARE REQUIRED AT ALL MAJOR EQUIPMENT AND PIPING ITEMS THAT REQUIRE REMOVAL FOR MAINTENANCE.
6. PIPE REDUCTIONS ON HORIZONTAL PIPING GOING FROM LARGER TO SMALLER SHALL BE MADE WITH ECCENTRIC REDUCERS: TOP FLAT FOR LIQUID SYSTEMS, CONCENTRIC REDUCERS MAY BE USED FOR FLOW GOING FROM SMALL TO LARGER SIZE PIPE.
7. FIRE SAFE ALL PIPE PENETRATIONS PER UL AT RATED WALLS.
8. THERMOSTATS SHALL BE MOUNTED 4'-0" ABOVE FINISHED FLOOR.
9. NEW FLOOR/WALL/CEILING PENETRATIONS REQUIRED FOR MECHANICAL PIPING INSTALLATION SHALL BE CLEANLY BORED AT RIGHT ANGLES. AS NEW PIPING IS INSTALLED, NEW PIPING PENETRATIONS SHALL BE NEATLY CAULKED TO FILL VOID. EXPOSED WALL PENETRATIONS SHALL BE FINISHED WITH ESCUTCHEONS.
10. ALL NEW PIPING EXPOSED IN OCCUPIED SPACES SHALL HAVE PVC JACKETS INSTALLED OVER THE PIPING INSULATION. ANY PIPING REQUIRED TO BE EXPOSED SHALL BE INSTALLED VERTICALLY OR HORIZONTALLY IN LEAST VISIBLE LOCATIONS.
11. ALL NEW EQUIPMENT AND ACCESSORIES (CIRCUIT SETTERS, CIRCULATION PUMPS, EXPANSION TANKS, ETC.) SHALL BE INSTALLED TO BE EASILY ACCESSIBLE.
12. ALL CONDENSATE PIPING SHALL BE SLOPED 1/8" PER FOOT MINIMUM.
13. CONTRACTOR SHALL PATCH/REPAIR ALL UNUSED OPENINGS AND MODIFIED FINISH SURFACES. PATCHING SHALL MATCH MATERIALS, FINISH, AND TEXTURE OF ADJACENT SURFACES.
14. PATCH ANY REMAINING OPENINGS AND FILL EXCESSIVE GAPS. REWORK AND REFINISH TO MATCH ADJACENT STRUCTURES. FLASH AND SEAL ALL MECHANICAL AND ELECTRICAL PENETRATIONS THRU WALLS, CEILINGS, AND FLOORS WITH METAL FRAMEWORK OR ESCUTCHEONS. ALL OPENINGS SHALL BE PROPERLY SEALED TO MEET FIRE RATING NEEDS.
15. HEATING AND WATER BRANCH PIPING TO TERMINAL HEATING DEVICES SHALL BE 3/4" PIPE SIZE UNLESS OTHERWISE NOTED.
16. NEW WORK HAS BEEN SHOWN DIAGRAMMATICALLY AND DUE TO THE LIMITED SCALE OF THESE DRAWINGS, THE PLACEMENT AND ROUTING OF ALL DUCTWORK, PIPING, ETC. IS CONSIDERED SCHEMATIC IN NATURE. THEREFORE, THE DRAWINGS MAY NOT SHOW ALL OFFSETS AND TRASITIONS, WHICH MAY BE REQUIRED. THE CONTRACTOR SHALL PROVIDE COMPLETE FULLY FUNCTIONAL SYSTEMS.
17. ALL WORK WITHIN THE CONTRACT DOCUMENTS SHALL BE COMPLETED IN A SAFE MANNER AND IN ACCORDANCE WITH ALL APPLICABLE STATE AND NATIONAL CODES, REGULATIONS, AND ORDINANCES. IF ANY CONFLICTS ARISE BETWEEN THE CONTRACT DOCUMENTS AND THE APPLICABLE CODES, REGULATIONS, OR ORDINANCES, THE CONTRACTOR SHALL BE RESPONSIBLE TO HAVE ALL WORK CONFORM TO THE STRICTER OF SAID REQUIREMENTS.
18. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS AS REQUIRED FOR ELECTRICAL, FIRE PROTECTION, PLUMBING, MECHANICAL, AND BACKFLOW PREVENTION INSTALLATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE BOTH A COMPLETE AND COMPLIANT INSTALLATION AS MAY BE DETERMINED BY THE AUTHORITY/AUTHORITIES HAVING JURISDICTION.
19. CONTRACTOR SHALL NOT PROCURE OR FABRICATE ANY PIPING, DUCTWORK, OR OTHER EQUIPMENT WITHOUT FIRST VERIFYING ALL DIMENSIONS AND CONDITIONS WHETHER CURRENTLY EXISTING OR NOT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK, INCLUDING ANY REQUIRED REWORK.
20. MAINTAIN ALL MANUFACTURER RECOMMENDED EQUIPMENT SERVICE AND SAFETY CLEARANCES. DO NOT LOCATE ANY EQUIPMENT OR RUN MATERIALS ABOVE ANY ELECTRICAL PANELS OR SWITCHGEAR. MAINTAIN ALL NFPA/NEC/CODE REQUIRED CLEARANCES.
21. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING, SCHEDULING, AND SEQUENCING OF THEIR WORK WITH ALL OTHER TRADES. PROVDE OFFSETS, EASEMENTS, OR RELOCATE AS REQUIRED AVOIDING CONFLICTS WITH WORK OF OTHER TRADES. FURNISH SUFFICIENT RESOURCES TO MEET ALL PROJECT MILESTONES AND DEADLINES.
22. PROTECT WORK FROM DAMAGE OR CONTAMINATION. PROVIDE TEMPORARY PROTECTIVE CAPPING OR TAPED POLYETHYLENE ENCLOSURES OVER OPEN DUCTWORK AND PIPING ENDS AND EQUIPMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING MECHANICAL SYSTEMS PRIOR TO PLACING THEM IN SERVICE.
23. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE WATERTIGHT AND WEATHER-PROOF INTEGRITY OF ROOFS, WALLS, AND FLOORS DURING CONSTRUCTION. EACH TRADE SHALL LOCATE/DIMENSION/COORDINATE THEIR ROOF, FLOOR, AND WALL OPENINGS AS NEEDED WITH THE GENERAL CONTRACTOR OR CONSTRUCTION MANGER.

GENERAL PLUMBING NOTES

1. UNLESS NOTED OTHERWISE: LIGHT LINES DENOTE EXISTING PIPING, OR EQUIPMENT WHICH IS TO REMAIN. BOLD LINES INDICATE NEW WORK TO BE INSTALLED UNDER THIS CONTRACT.
2. PLUMBING SHOWN IS IN SCHEMATIC FORM. NOT ALL RISERS AND DROPS ARE SHOWN. PROVIDE OFFSETS AS REQUIRED TO MEET SPACE REQUIREMENTS AND TO AVOID INTERFERENCE WITH OTHER TRADES. THE CONTRACTOR SHALL PROVIDE COMPLETE FULLY FUNCTIONAL SYSTEMS.
3. ALL EQUIPMENT AND ACCESSORIES SHALL BE INSTALLED TO BE EASILY ACCESSIBLE.
4. PLUMBING WORK SHALL BE COORDINATED WITH OTHER TRADES, INCLUDING BUT NOT LIMITED TO DUCTWORK, ELECTRICAL EQUIPMENT, PIPING AND FIRE PROTECTION. SPACE ABOVE CEILING IS LIMITED AND SHALL BE COORDINATED WITH OTHER TRADES.
5. ALL WORK WITHIN THE CONTRACT DOCUMENTS, WHICH INCLUDE THIS DRAWING, SHALL BE COMPLETED IN A SAFE WORKMANLIKE MANNER AND IN ACCORDANCE WITH ALL APPLICABLE STATE AND NATIONAL CODES, REGULATIONS AND ORDINANCES. IF ANY CONFLICTS ARISE BETWEEN THE CONTRACT DOCUMENTS AND THE APPLICABLE CODES, REGULATIONS OR ORDINANCE, THE CONTRACTOR SHALL BE RESPONSIBLE TO HAVE ALL WORK CONFORM TO THE STRICTER OF SAID REQUIREMENTS.
6. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS AS REQUIRED FOR ELECTRICAL, FIRE PROTECTION, PLUMBING, MECHANICAL AND BACKFLOW PREVENTION INSTALLATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE BOTH A COMPLETE AND COMPLIANT INSTALLATION AS MAY BE DETERMINED BY THE AUTHORITY(S) HAVING JURISDICTION.
7. CONTRACTOR SHALL NOT PROCURE OR FABRICATE ANY PIPING, DUCTWORK OR OTHER EQUIPMENT WITHOUT FIRST VERIFYING ALL DIMENSIONS AND CONDITIONS WHETHER CURRENTLY EXISTING OR NOT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK, INCLUDING ANY REQUIRED REWORK.
8. MAINTAIN ALL MANUFACTURER RECOMMENDED EQUIPMENT SERVICE AND SAFETY CLEARANCES. DO NOT LOCATE ANY EQUIPMENT OR RUN MATERIALS ABOVE ANY ELECTRICAL PANELS OR SWITCHGEAR. MAINTAIN ALL NFPA/NEC CODE REQUIRED CLEARANCES.
9. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING, SCHEDULING AND SEQUENCING OF THEIR WORK WITH ALL OTHER TRADES. PROVIDE OFFSETS, EASEMENTS, OR RELOCATE TO AVOID CONFLICTS WITH WORK OF OTHER TRADES. FURNISH SUFFICIENT RESOURCES TO MEET ALL PROJECT MILESTONES AND DEADLINES.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE WATERTIGHT AND WEATHER-PROOF INTEGRITY OF ROOFS, WALLS AND FLOORS DURING CONSTRUCTION. EACH TRADE SHALL LOCATE/DIMENSION/COORDINATE THEIR ROOF, FLOOR AND WALL OPENINGS WITH THE GENERAL CONTRACTOR (GC) OR CONSTRUCTION MANAGER.
11. PROTECT NEW WORK FROM DAMAGE OR DECONTAMINATION. PROVIDE TEMPORARY PROTECTIVE CAPPING OR TAPED POLYETHYLENE ENCLOSURES OVER OPEN DUCTWORK AND PIPING ENDS AND EQUIPMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING MECHANICAL SYSTEMS PRIOR TO PLACING THEM IN SERVICE.
12. IN A NEAT AND WORKMANLIKE MANNER: PATCH ANY REMAINING OPENINGS AND FILL EXCESSIVE GAPS; REWORK AND REFINISH TO MATCH ADJACENT STRUCTURES; FLASH AND SEAL ALL MECHANICAL AND ELECTRICAL PENETRATIONS THRU WALLS, CEILINGS AND FLOORS WITH METAL FRAMEWORK OR ESCUTCHEONS. ALL OPENINGS SHALL BE PROPERLY SEALED SO AS TO MEET FIRE RATING NEEDS.

GENERAL MECHANICAL DEMOLITION NOTES

1. THESE DRAWINGS REPRESENT THE LAYOUT OF EXISTING CONDITIONS OF MAJOR COMPONENTS. THEY ARE NOT INTENDED TO SHOW ACCESSORIES OR INCIDENTALS COMMON TO THE COMPONENTS INDICATED, THOUGH THESE ITEMS ARE TO BE REMOVED. ACCESSIBILITY TO DEMOLITION ITEMS SHALL NOT BE INFERRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF BUILDING AND EXISTING CONDITIONS PRIOR TO BID SUBMISSION.
2. DEMOLITION WORK SHOWN IS BASED ON LIMITED SITE OBSERVATIONS AND CONSTRUCTION/RECORD DOCUMENTS. CONTRACTOR SHALL NOT DEMOLISH ANY MECHANICAL PIPING, DUCTWORK, EQUIPMENT, OR OTHER ITEMS WITHOUT FIRST VERIFYING EXISTING CONDITIONS. CONSULT OWNER'S REPRESENTATIVE OR CONSTRUCTION MANAGER BEFORE START OF WORK.
3. DEMOLITION OF MECHANICAL PIPING, DUCTWORK, AND EQUIPMENT SHALL INCLUDE ALL HANGERS, FITTINGS, DAMPERS, VALVES, ETC.
4. REPAIR ANY INSULATION DAMAGED DURING REMOVAL. REPAIR WORK TO MATCH EXISTING.
5. COORDINATE WALL AND FLOOR PATCHING REQUIREMENTS. PATCHWORK SHALL MATCH MATERIALS, FINISH, AND TEXTURE OF ADJACENT SURFACES.
6. CONTRACTOR SHALL PATCH/REPAIR ALL UNUSED OPENINGS AND MODIFIED FINISH SURFACES. PATCH SHALL MATCH MATERIALS, FINISH, AND TEXTURE OF ADJACENT SURFACES.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER AND TIMELY DISPOSAL OF ALL CONSTRUCTION DEBRIS INCLUDING BUT NOT LIMITED TO EQUIPMENT AND MATERIALS NOT CLAIMED BY OWNER.
8. IT IS ESSENTIAL TO MINIMIZE DISRUPTIONS. COORDINATE ALL DEMOLITION WITH THE OWNER OR CONSTRUCTION MANAGER BEFORE SHUTTING DOWN ANY UTILITY OR SIMILAR SYSTEM. SHUTDOWN OF UTILITIES OR SIMILAR SYSTEMS SHALL BE REQUESTED WELL IN ADVANCE AND PRE-APPROVED BY THE PROPER AUTHORITY AND/OR AUTHORITIES HAVING JURISDICTION BEFORE WORK BEGINS.
9. ALL WORK WITHIN THE CONTRACT DOCUMENTS SHALL BE COMPLETED IN A SAFE MANNER AND IN ACCORDANCE WITH ALL APPLICABLE STATE AND NATIONAL CODES, REGULATIONS, AND ORDINANCES. IF ANY CONFLICTS ARISE BETWEEN THE CONTRACT DOCUMENTS AND THE APPLICABLE CODES, REGULATIONS, OR ORDINANCES, THE CONTRACTOR SHALL BE RESPONSIBLE TO HAVE ALL WORK CONFORM TO THE STRICTER OF SAID REQUIREMENTS.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE WATERTIGHT AND WEATHERPROOF INTEGRITY OF ROOFS, WALLS, AND FLOORS DURING CONSTRUCTION. EACH TRADE SHALL LOCATE/DIMENSION/COORDINATE THEIR ROOF, FLOOR, AND WALL OPENINGS AS NEEDED WITH THE CONSTRUCTION MANAGER.
11. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS AS REQUIRED FOR ELECTRICAL, FIRE PROTECTION, PLUMBING, MECHANICAL, AND BACKFLOW PREVENTION INSTALLATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE BOTH A COMPLETE AND COMPLIANT INSTALLATION AS MAY BE DETERMINED BY THE AUTHORITY AND/OR AUTHORITIES HAVING JURISDICTION.

STATE HISTORICAL PRESERVATION OFFICE REQUIREMENTS

1. FOR FINISHED SPACES (OFFICES, RECEPTION, ETC.) PAINT EXPOSED PIPING WHITE.
2. FOR UNFINISHED SPACES (BASEMENTS, ATTICS, WORKSHOPS, ETC.) PIPING CAN REMAIN UNPAINTED.
3. FOR SPACES WITH WOOD CEILINGS (NATURAL COLOR) PAINT EXPOSED PIPING NEXT TO WOOD CEILINGS BROWN. FOR EXPOSED PIPING IN THE REST OF THE ROOM, PAINT AS DESCRIBED IN FINISHED SPACES

GENERAL PLUMBING DEMOLITION NOTES

1. THIS DRAWING DIAGRAMMATICALLY REPRESENTS THE LAYOUT OF EXISTING CONDITIONS WITH MAJOR PLUMBING COMPONENTS. THEY ARE NOT INTENDED TO SHOW ACCESSORIES OR INCIDENTALS COMMON TO EQUIPMENT INDICATED, THOUGH THESE ITEMS ARE TO BE REMOVED, ACCESSIBILITY TO DEMOLITION ITEMS SHALL NOT BE INFERRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF BUILDING AND EXISTING CONDITIONS, PRIOR TO BID SUBMISSION.

2. EXISTING PIPING PENETRATIONS VACATED/REVEALED DURING DEMOLITION AND REMODEL SHALL BE INFILLED AND FINISHED TO MATCH EXISTING. IF MATERIALS FOR REPAIR TO MATCH EXISTING ARE NOT AVAILABLE (IE GLAZED WALL TILE), GROUT ABANDONED PENETRATION FULL AND FINISH FLUSH. PRIOR APPROVAL OF THE OWNER MUST BE OBTAINED BEFORE ANY PROPOSED NON-SIMILAR FINISH WORK BEGINS.

3. DISCONNECT AND REMOVE ALL PREVIOUSLY ABANDONED PIPING WITHIN THE PROJECT AREA. REMOVE EXISTING/ABANDONED HANGERS AND SUPPORTS IF DEEMED NOT REUSABLE.

4. ALL PIPING SHOWN IS BASED ON ORIGINAL DRAWINGS AND LIMITED SITE OBSERVATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO COMMENCING WORK.

5. ALL PIPING ASSOCIATED WITH EXISTING SYSTEMS SHALL BE DEMOLISHED. NO PIPING SHALL BE ABANDONED.

6. CONTRACTOR SHALL BE RESPONSIBLE FOR DRAINING PIPING SYSTEMS TO BE CUT, CAPPED OR REMOVED. DISCHARGE FROM SUCH SYSTEMS SHALL BE APPROPRIATELY DISPOSED OF PER FEDERAL, STATE AND LOCAL REQUIREMENTS.

7. COORDINATE WITH CONSTRUCTION MANAGER FOR FLOOR, WALL AND ROOF PATCHING REQUIRED DUE TO PENETRATIONS RESULTING FROM DEMOLITION OF EXISTING AND INSTALLATION OF NEW EQUIPMENT AND COMPONENTS.

8. CONTRACTOR IS RESPONSIBLE TO VERIFY ACTUAL NUMBER AND LOCATION OF SYSTEMS AND COMPONENTS TO BE DEMOLISHED AND REMOVED.

9. TO MINIMIZE DISRUPTIONS, COORDINATE ALL DEMOLITION WITH CONSTRUCTION MANAGER BEFORE SHUTTING DOWN ANY UTILITY OR SIMILAR SYSTEM. SHUTDOWNS FOR UTILITIES OR SIMILAR SYSTEMS SHALL BE REQUESTED WELL IN ADVANCE PER THE SPECIFICATION.

10. ALL WORK WITHIN THE CONTRACT DOCUMENTS, WHICH INCLUDE THIS DRAWING, SHALL BE COMPLETED IN A SAFE WORKMANLIKE MANNER AND IN ACCORDANCE WITH ALL APPLICABLE STATE AND NATIONAL CODES, REGULATIONS AND ORDINANCES. IF ANY CONFLICTS ARISE BETWEEN THE CONTRACT DOCUMENTS AND THE APPLICABLE CODES, REGULATIONS OR ORDINANCE, THE CONTRACTOR SHALL BE RESPONSIBLE TO HAVE ALL WORK CONFORM TO THE STRICTER OF SAID REQUIREMENTS.

11. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS AS REQUIRED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE BOTH A COMPLETE AND COMPLIANT INSTALLATION AS MAY BE DETERMINED BY THE AUTHORITY(S) HAVING JURISDICTION.

12. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE WATERTIGHT AND WEATHER-PROOF INTEGRITY OF ROOFS, WALLS AND FLOORS DURING CONSTRUCTION. EACH TRADE SHALL LOCATE/DIMENSION/COORDINATE THEIR ROOF, FLOOR AND WALL OPENINGS WITH THE CONSTRUCTION MANAGER.

GENERAL MECHANICAL ABBREVIATIONS

SYMBOLS	
&	AND
@	AT
#	NUMBER or POUND
A	
A/E	ARCHITECT/ENGINEER
AD	ACCESS DOOR
ADJ	ADJUSTABLE/ADJACENT
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
AP	ACCESS PANEL
APPROX	APPROXIMATE(LY)
AS	AIR SEPARATOR
AVG	AVERAGE
B	
BAS	BUILDING AUTOMATION SYSTEM
BFF	BELOW FINISHED FLOOR
BFBP	BOILER FEED BOOSTER PUMP
BHP	BRAKE HORSEPOWER
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
C	
CAP	CAPACITY
CFM	CUBIC FEET PER MINUTE
CFH	CUBIC FEET PER HOUR
CH	CHILLER
CHP	CHILLED WATER PUMP
CHSP	CHILLED WATER SECONDARY PUMP
CIRC	CIRCULATING
CLG	CEILING
CONT	CONTINUATION
CONTR	CONTRACTOR
CONV	CONVECTOR
COORD	COORDINATE
CTRL	CONTROL
CU	COPPER
CUH	CABINET UNIT HEATER
D	
°/DEG	DEGREE
°C	DEGREES CELSIUS
°F	DEGREES FAHRENHEIT
DB	DRY BULB
DDC	DIRECT DIGITAL CONTROLS
DEMO	DEMOLITION
DIA	DIAMETER
DIAG	DIAGRAM
DWG	DRAWING
E	
EAT	ENTERING AIR TEMPERATURE
ELEC	ELECTRICAL
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ET	EXPANSION TANK
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
EX	EXISTING
F	
FS	FLOW SWITCH
FT	FINNED TUBE RADIATION
FTHD	FOOT HEAD OR PRESSURE DROP
G	
GA	GAUGE
GAL	GALLON
GC	GENERAL CONTRACTOR
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
H	
HP	HORSEPOWER
HPR	HIGH PRESSURE STEAM RETURN
HPS	HIGH PRESSURE STEAM SUPPLY
HTG	HEATING
HVAC	HEATING, VENTILATION, AIR CONDITIONING
HX	HEAT EXCHANGER
HZ	HERTZ (FREQUENCY)
I	
ID	INSIDE DIAMETER
IN	INCHES
IN WC	INCHES (WATER COLUMN)
INS	INSULATION
INSTR	INSTRUMENT
ISO	ISOMETRIC
K	
KW	KILOWATT
KWH	KILOWATT HOUR
L	
LAT	LEAVING AIR TEMPERATURE
LB(S)	POUND(S)
LDB	LEAVING DRY BULB (TEMP)
LWB	LEAVING WET BULB (TEMP)
LWT	LEAVING WATER TEMPERATURE
M	
MAINT	MAINTENANCE
MAX	MAXIMUM
MBH	BRITISH THERMAL UNIT (1000/HR)
MC	MECHANICAL CONTRACTOR
MCC	MOTOR CONTROL CENTER
MCA	MINIMUM CIRCUIT AMPS
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM OR MINUTE
MISC	MISCELLANEOUS
N	
NA	NOT APPLICABLE
NC	NORMALLY CLOSED OR NOISE CRITERIA
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NOM	NOMINAL
O	
OD	OUTER DIAMETER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
P	
PG	PRESSURE GAUGE
PH	PHASE
PSIG	POUNDS PER SQUARE INCH GAUGE
R	
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
RPM	REVOLUTIONS PER MINUTE
S	
SCH	SCHEDULE
SCHM	SCHEMATIC
SHT	SHEET
SPEC	SPECIFICATION(S)
SQ IN	SQUARE INCH
SV	SAFETY VALVE
SYS	SYSTEM
SRV	SAFETY RELIEF VALVE
T	
T	THERMOSTAT
TCC	TEMPERATURE CONTROL CONTRACTOR
TEMP	TEMPERATURE OR TEMPORARY
THRU	THROUGH
TP	TOTAL PRESSURE
TYP	TYPICAL
U	
UNO	UNLESS NOTED OTHERWISE
UTIL	UTILITY
V	
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
W	
W/	WITH
W/O	WITHOUT
WB	WET BULB
WPD	WATER PRESSURE DROP
WT	WEIGHT
WTR	WATER

GENERAL PLUMBING ABBREVIATIONS

SYMBOLS	
&	AND
@	AT
#	NUMBER or POUND
A	
ADJ	ADJUSTABLE/ADJACENT
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
AMB	AMBIENT
AP	ACCESS PANEL
APPROX	APPROXIMATE(LY)
AS	AIR SEPARATOR
ASSY	ASSEMBLY
ATM	ATMOSPHERE
AUX	AUXILIARY
AVG	AVERAGE
B	
BAS	BUILDING AUTOMATION SYSTEM
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BMS	BUILDING MANAGEMENT SYSTEM
BOP	BOTTOM OF PIPE
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
C	
C	COMPRESSOR (AIR)
CAL	CALIBRATE
CAP	CAPACITY
CCW	COUNTER CLOCKWISE
CIP	CAST IRON PUMP
CIRC	CIRCULATING
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR(ANCE)
CLW	CLOCKWISE
CO	CLEANOUT
COND	CONDENSATE
CONSTR	CONSTRUCTION
CONT	CONTINUATION
CONTR	CONTRACTOR
COORD	COORDINATE
CTRL	CONTROL
CU	COPPER
CU FT	CUBIC FEET
CU IN	CUBIC INCH
D	
°/DEG	DEGREE
°F	DEGREES FAHRENHEIT
DB	DRY BULB
DDC	DIRECT DIGITAL CONTROLS
DEMO	DEMOLITION
DIA	DIAMETER
DIAG	DIAGRAM
DN	DOWN
DR	DRAIN
DV	DRAIN VALVE
DWG	DRAWING
E	
EA	EACH
EER	ENERGY EFFICIENCY RATIO
EF	ENERGY FACTOR
ELEV	ELEVATION
ELEC	ELECTRICAL
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ET	EXPANSION TANK
EWH	ELECTRIC WATER HEATER
EWT	ENTERING WATER TEMPERATURE
EX	EXISTING
F	
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FPT	FEMALE PIPE THREAD
FS	FLOOR SINK
G	
G	GAS
GA	GAUGE
GAL	GALLON
GC	GENERAL CONTRACTOR
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GWH	GAS FIRED WATER HEATER
H	
H&CW	HOT AND COLD WATER
HORIZ	HORIZONTAL
HP	HORSEPOWER
HVAC	HEATING, VENTILATION, AIR CONDITIONING
HZ	HERTZ (FREQUENCY)
I	
ID	INSIDE DIAMETER
IN	INCHES
IN WC	INCHES (WATER COLUMN)
INS	INSULATION
INSTR	INSTRUMENT
IP	IRON PIPE
IPS	IRON PIPE SIZE
ISO	ISOMETRIC
K	
KW	KILOWATT
KWH	KILOWATT HOUR
L	
LAV	LAVATORY
LB(S)	POUND(S)
LWT	LEAVING WATER TEMPERATURE
M	
MAINT	MAINTENANCE
MAX	MAXIMUM
MBH	BRITISH THERMAL UNIT (1000/HR)
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPS
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM OR MINUTE
MISC	MISCELLANEOUS
MPT	MALE PIPE THREAD
N	
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NOM	NOMINAL
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
O	
OD	OUTER DIAMETER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
P	
PG	PRESSURE GAUGE OR PROPYLENE GLYCOL
PH	PHASE
PLBG	PLUMBING
PRV	PRESSURE RELIEF VALVE OR PRESSURE REGULATING VALVE
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE
R	
RD	ROOF DRAIN
RECIRC	RECIRCULATE(ING)
REQD	REQUIRED
RHC	REHEAT COIL
RPM	REVOLUTIONS PER MINUTE
S	
SCH	SCHEDULE
SCHM	SCHEMATIC
SF	SQUARE FEET
SHT	SHEET
SK	SINK
SP	SUMP PUMP OR STATIC PRESSURE
SPEC	SPECIFICATION(S)
SQ IN	SQUARE INCH
SS	STAINLESS STEEL
STBY	STANDBY
STD	STANDARD
STL	STEEL
SUCT	SUCTION
SV	SAFETY VALVE
SYS	SYSTEM
SRV	SAFETY RELIEF VALVE
T	
T	THERMOSTAT
TD	TRENCH DRAIN
TEMP	TEMPERATURE OR TEMPORARY
THRU	THROUGH
TOP	TOP OF PIPE
TYP	TYPICAL
U	
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
UTIL	UTILITY
V	
VAC	VACUUM
VBX	VALVE BOX
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VTR	VENT THRU ROOF
W	
W/	WITH
W/O	WITHOUT
WB	WET BULB
WC	WATER CLOSET
WH	WATER HEATER OR WALL HYDRANT
WHA	WATER HAMMER ARRESTOR
WPD	WATER PRESSURE DROP
WT	WEIGHT
WTR	WATER

MECHANICAL SYMBOLS LIST

SYMBOL	DESCRIPTION
8" CHWS	PIPE SIZE, SYSTEM, AND FLOW TAG (DIAMETER)
CHWS	EXISTING TO REMAIN
CHWS	TO BE DEMOLISHED
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
HPC	HIGH PRESSURE CONDENSATE
HPS	HIGH PRESSURE STEAM
LPC	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
FW	BOILER FEED WATER
RHG	REFRIGERANT-HOT GAS
RL	REFRIGERANT-LIQUID
	BALANCING VALVE
	BALL VALVE
	CHECK VALVE
	THREE WAY VALVE
	MOTORIZED CONTROL VALVE
	THREE WAY MOTORIZED CONTROL VALVE
	PRESSURE REDUCING VALVE
	SOLENOID VALVE
	BUTTERFLY VALVE
	ELBOW UP
	ELBOW DOWN
	PIPE OFFSET UP
	PIPE OFFSET DOWN
	PIPE TEE TURNED UP
	PIPE TEE TURNED DOWN
	PIPE TEE
	PIPE CAP
	PIPE UNION
	PIPE TRANSITION
	KEYNOTE
	CAP EXISTING PIPE OR DUCT
	NEW CONNECTION INTO EXISTING PIPE OR DUCT
T	THERMOSTAT
	DETAIL NUMBER / SHEET NUMBER ON WHICH THE DETAIL RESIDES
12x12	DUCT SIZE TAG (SQ. OR RECT.)
12ø	DUCT SIZE TAG (ROUND)
	EXISTING TO REMAIN
	TO BE DEMOLISHED
	SUPPLY DUCT (SA)
	RETURN DUCT (RA)
12x12 SA UP	SQ. OR RECT. ELBOW TURNED UP W/ TAG
12x12 SA DN	SQ. OR RECT. ELBOW TURNED DOWN W/ TAG
12ø SA UP	ROUND ELBOW TURNED UP W/ TAG
12ø SA DN	ROUND ELBOW TURNED DOWN
	FLEXIBLE DUCT
	45° TAP BRANCH TAKE-OFF
	CONICAL TAP ROUND BRANCH TAKE-OFF
	CONICAL TAP ROUND BRANCH TAKE-OFF W/ MANUAL VOLUME DAMPER
	DOUBLE SIDED TRANSITION
	SINGLE SIDED TRANSITION
	SQ. OR RECT. ELBOW WITH TURNING VANES (45° AND 90°)
	RADIUS ELBOW (45° AND 90°)
	MANUAL VOLUME DAMPER

- TYPE - SEE BELOW
- ID. NO. - SEE SCHEDULE
- NECK SIZE IN INCHES (ROUND SHOWN)
- AIR FLOW (CFM)

DIFFUSER, GRILLE, REGISTER NOTATIONS

CD = CEILING DIFFUSER	RR = RETURN REGISTER
EG = EXHAUST DIFFUSER	SG = SUPPLY GRILLE
ER = EXHAUST REGISTER	SR = SUPPLY REGISTER
LD = LINEAR DIFFUSER	TG = TRANSFER GRILLE
RG = RETURN GRILLE	

PLUMBING SYMBOLS LIST

SYMBOL	DESCRIPTION
SAN	EXISTING TO REMAIN
SAN	TO BE DEMOLISHED
CW	DOMESTIC COLD WATER
HW	DOMESTIC HOT WATER
HWC	DOMESTIC HOT WATER-CIRCULATING
NG	NATURAL GAS
SAN	SANITARY SEWER
V	SANITARY VENT
	KEYNOTE
	CAP EXISTING PIPE
	NEW CONNECTION INTO EXISTING PIPE
	DETAIL NUMBER / SHEET NUMBER ON WHICH THE DETAIL RESIDES
	BALANCING VALVE
	BALL VALVE
6" CW UP	ELBOW UP
6" HW DN	ELBOW DOWN
	PIPE OFFSET UP
	PIPE OFFSET DOWN
	PIPE TEE TURNED UP
	PIPE TEE TURNED DOWN
	PIPE TEE
	PIPE CAP
	PIPE UNION
	PIPE TRANSITION

UNIT PRICING

1) PROVIDE UNIT PRICING TO DEMO GROUT AROUND EXISTING PIPE PENETRATIONS GOING TO EXISTING STEAM RADIATORS. DEMOLITION OF GROUT IS REQUIRED TO REMOVE THE EXISTING PIPING AND INSTALL NEW HEATING WATER PIPE. ASSUME THE FOLLOWING QUANTITY OF LOCATIONS WHERE GROUT IS TO BE REMOVED AND PROVIDE A UNIT PRICE TO ADD OR REMOVE LOCATIONS.

- ADMIN BUILDING: 100
- ELMCREST: 75
- MEDICAL CENTER: 50

NOTE:

BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.

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(#9279.30) WRC Decentralization Phase 3
(#9294.01) WRC Fire Alarm Phase 2
(#9279.31) Chapel Sprinkler

Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

DRAWN BY	CAS
APPROVED BY	TLS
ISSUED FOR	BIDDING
ISSUE DATE	2024-01-11
PROJECT NUMBER	2142203394
FIELD BOOK	

MECHANICAL & PLUMBING GENERAL INFORMATION

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ELECTRICAL SYMBOL LEGEND

HT AFF	SYMBOL	DESCRIPTION
	X	SURFACE LIGHT (TYPE DENOTED)
	X	RECESSED LIGHT (TYPE DENOTED)
PER SCHED	X	WALL MOUNTED LIGHT (TYPE DENOTED)
PER SCHED	X	WALL MOUNTED FLOOD LIGHT (TYPE DENOTED)
		SURFACE LIGHT (TYPE DENOTED)
		SUSPENDED OR PENDANT LIGHT (TYPE DENOTED)
		RECESSED LIGHT (TYPE DENOTED)
PER SCHED	X	SITE POLE MOUNTED LIGHT (TYPE DENOTED)
PER SCHED	X	SITE BOLLARD LIGHT (TYPE DENOTED)
AS NOTED		TRACK AND TRACK LIGHT (TYPE DENOTED)
96"	EM	EMERGENCY BATTER LIGHT (TYPE DENOTED)
	E E	EXIT SIGN (TYPE DENOTED)
AS NOTED		LIGHT FIXTURE ON EMERGENCY CIRCUIT
	1	LIGHTING CONTROL DENOTATION
48"	$	SINGLE POLE SWITCH
48"	$3	3-WAY SWITCH
48"	$4	4-WAY SWITCH
48"	$K	KEYED SWITCH
48"	$D	DIMMER SWITCH
48"	$OS	OCCUPANCY SENSOR SWITCH
48"	$MS	MOMENTARY CONTACT SWITCH
48"	$T	TIMER SWITCH
48"	$SP	FAN SPEED CONTROL
48"	$M	MOTOR HORSEPOWER RATED SWITCH
48"		PUSH BUTTON
48"	UC	DURESS PUSH BUTTON, UNDER COUNTER
18" UNO		DUPLEX RECEPTACLE
18" UNO		FOURPLEX RECEPTACLE
	FB 1	FLOOR BOX (TYPE DENOTED)
	CLG	CEILING MOUNTED DUPLEX RECEPTACLE

HT AFF	SYMBOL	DESCRIPTION
18"	A	SURFACE RACEWAY (TYPE DENOTED)
	A	CLOCK (TYPE DENOTED)
	P	POWER POLE (OPEN OFFICE STYLE)
	E	ELECTRICAL CONNECTION (SEE SCHEDULE)
AS NOTED		JUNCTION BOX
72"**		CIRCUIT BREAKER PANEL
72"**		POWER OR DISTRIBUTION PANEL
72"**		SPECIAL CABINET (TYPE DENOTED)
	T	TRANSFORMER (TYPE DENOTED)
	25 KVA	GENERATOR (KVA DENOTED)
	1 SF-1	MOTOR (SEE SCHEDULE)
	M*****	MOTORIZED DAMPER
72"**		SAFETY DISCONNECTION SWITCH
	ASD	ADJUSTABLE SPEED DRIVE
72"**	R	RELAY
	OS IR	OCCUPANCY SENSOR (TYPE DENOTED)
	LS A	LIGHT LEVEL SENSOR (TYPE DENOTED)
AS NOTED	PC	PHOTOCELL
AS NOTED		CCTV CAMERA (TYPE DENOTED)
	SM	SURVEILLANCE MONITOR
48"	$V	VOLUME CONTROL
48"	IC	INTERCOM STATION
	ICM	INTERCOM MASTER
	E#	KEYED NOTE (SEE SCHEDULE)
	FS	SPRINKLER FLOW SWITCH
	TS	SPRINKLER VALVE TAMPER SWITCH
	CT	CONTACT SENSING CONTROL MODULE
	CR	RELAY OUTPUT CONTROL MODULE
	VFD	VARIABLE FREQUENCY DRIVE
	DDC	DIRECT DIGITAL CONTROL PANEL

HT AFF	SYMBOL	DESCRIPTION
		CONDUIT CONCEALED IN WALL OR OVERHEAD
		CONDUIT CONCEALED BELOW FLOOR
		CONDUIT TRANSITION UP
		CONDUIT TRANSITION DOWN
		CONDUIT STUBBED OUT
		BRANCH CIRCUIT HOME RUN
		CABLE TRAY (TYPE DENOTED)
		CONDUIT SLEEVE (SIZE DENOTED)
48"****	W	WALL TELEPHONE OUTLET (TYPE DENOTED)
18" UNO		TELEPHONE OUTLET (TYPE DENOTED)
18" UNO	X	DATA OUTLET (INDICATED QTY CABLES)
18" UNO		VOICE/DATA OUTLET (TYPE DENOTED)
		WIRELESS ACCESS POINT
18" UNO	TV	TELEVISION OUTLET
	TV	CEILING MOUNTED TELEVISION OUTLET
84"		SPEAKER (WALL OR CEILING MOUNT)
84"		HORN TYPE SPEAKER
		SURFACE MOUNT SPEAKER SUSPENDED FROM CEILING
60"		NURSE CALL SINGLE PATIENT STATION
60"		37 PIN BED INTERFACE RECEPTACLE
60"		AUXILIARY ALARM STATION, TWO JACK
36" UNO		EMERGENCY PULL CORD STATION
60"		STAFF TERMINAL, TOUCHSCREEN
60"		DUTY STATION
60"		NURSE CALL STAFF STATION
60"		STAFF ASSIST
48"		CODE BLUE STATION
12"*	N1 N1	NURSE CALL DOME LIGHT
48"****	NCM	NURSE CALL MASTER STATION
48"****	NCC	NURSE CALL EQUIPMENT CABINET
72"****	NC ANNUN	NURSE CALL ANNUNCIATOR PANEL

HT AFF	SYMBOL	DESCRIPTION
	F	MANUAL PULL STATION (46" ABOVE FLOOR)
	B	AUDIO NOTIFICATION DEVICE - CEILING MOUNTED B = BELL C = CHIME H = HORN S = SPEAKER
	B	AUDIO NOTIFICATION DEVICE - CEILING MOUNTED 80" ABOVE FLOOR OR AS NOTED B = BELL C = CHIME H = HORN S = SPEAKER
	L	VISUAL NOTIFICATION DEVICE - CEILING MOUNTED
	L	VISUAL NOTIFICATION DEVICE - WALL MOUNTED 80" ABOVE FLOOR OR AS NOTED
		AUDIO/VISUAL NOTIFICATION DEVICE - CEILING MOUNTED B = BELL C = CHIME H = HORN S = SPEAKER
		AUDIO/VISUAL NOTIFICATION DEVICE - WALL MOUNTED 80" ABOVE FLOOR OR AS NOTED B = BELL C = CHIME H = HORN S = SPEAKER
72"**	FACP	FIRE ALARM REMOTE ANNUNCIATOR
72"**	FARP	FIRE ALARM CONTROL PANEL
72"**	ANN	FIRE ALARM RELAY PANEL
8"*****	P P	SMOKE DETECTOR (TYPE DENOTED)
	R/F135 R/F135	HEAT DETECTOR (TYPE AND TEMP DENOTED)
		LINEAR HEAT DETECTOR
		DUCT SMOKE DETECTOR (TYPE DENOTED)
	DH	DOOR HOLDER
	CH	DOOR CLOSER/HOLD OPEN
	DR	SMOKE DAMPER RELEASE
	FR	FIRE ALARM SHUT DOWN RELAY

ALL DISTANCES ARE TO CENTER OF DEVICE OR EQUIPMENT UNLESS OTHERWISE NOTED. DEVICES INDICATED AT 48" MAY NOT BE INSTALLED WITH ANY OPERABLE PART HIGHER THAN 48". DEVICES MAY BE INSTALLED IN CONCRETE MASONRY UNITS WITH THE TOP OF THE DEVICE AT 48".

* DISTANCE ABOVE DOOR FRAME ** DISTANCE TO TOP OF EQUIPMENT OR DEVICE *** DISTANCE TO HIGHEST OPERABLE POINT OF EQUIPMENT **** DISTANCE BELOW CEILING ***** DISTANCE TO BOTTOM OF DEVICE

ELECTRICAL ABBREVIATIONS LIST

1P	1 POLE (2P, 3P, 4P, ETC.)	DCP	DOMESTIC WATER CIRCULATING PUMP	HT	HEIGHT	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION	SWBD	SWITCHBOARD
A	AMPERE	DEPT	DEPARTMENT	HTG	HEATING			SYM	SYMMETRICAL
AC	ABOVE COUNTER	DET	DETAIL	HTR	HEATER			SYS	SYSTEM
ACLG	ABOVE CEILING	DIA	DIAMETER	HV	HIGH VOLTAGE	NFDS	NON-FUSED SAFETY DISCONNECT SWITCH	TEL	TELEPHONE
ADO	AUTOMATIC DOOR OPENER	DISC	DISCONNECT	HVAC	HEATING, VENTILATING AND AIR CONDITIONING			TEL/DATA	TELEPHONE/DATA
AF	AMP FRAME	DIST	DISTRIBUTION	HWP	HYDRONIC WATER PUMP	NIC	NOT IN CONTRACT	TERM	TERMINAL
AFF	ABOVE FINISHED FLOOR	DN	DOWN			NL	NIGHT LIGHT	TL	TWIST LOCK
AFG	ABOVE FINISHED GRADE	DPR	DAMPER	IC	INTERRUPTING CAPACITY	N.O.	NORMALLY OPEN	TR	TAMPER RESISTANT
AFI	ARC FAULT CIRCUIT INTERRUPTER	DS	SAFETY DISCONNECT SWITCH	IG	ISOLATED GROUND	NPF	NORMAL POWER FACTOR	T-STAT	THERMOSTAT
		DT	DOUBLE THROW	IMC	INTERMEDIATE METAL CONDUIT	NTS	NOT TO SCALE	TTC	TELEPHONE TERMINAL CABINET
AHU	AIR HANDLING UNIT	DWG	DRAWING	INCAND	INCANDESCENT	OH	OVERHEAD	TV	TELEVISION
AL	ALUMINUM			IR	INFRARED	OL	OVERLOADS	TVTC	TELEVISION TERMINAL CABINET
ALT	ALTERNATE	EC	ELECTRICAL CONTRACTOR	IW	INTERLOCK WITH				
AMP	AMPERE	ELEC	ELECTRIC, ELECTRICAL			PA	PUBLIC ADDRESS	TYP	TYPICAL
AMPL	AMPLIFIER	ELEV	ELEVATOR	J-BOX	JUNCTION BOX	PB	PULL BOX OR PUSHBUTTON		
ANNUN	ANNUNCIATOR	EM	EMERGENCY			PE	PNEUMATIC ELECTRIC	UC	UNDER COUNTER
APPROX	APPROXIMATELY	EMS	ENERGY MANAGEMENT SYSTEM	KV	KILOVOLT	PED	PEDESTAL	UE	UNDERGROUND ELECTRICAL
AQ-STAT	AQUASTAT	EMT	ELECTRICAL METALLIC TUBING	KVA	KILOVOLT-AMPERE	PF	POWER FACTOR	UG	UNDERGROUND
ARCH	ARCHITECT, ARCHITECTURAL	EP	ELECTRIC PNEUMATIC	KVAR	KILOVOLT-AMPERE REACTIVE	PH	PHASE	UH	UNIT HEATER
AS	AMP SWITCH	EQUIP	EQUIPMENT	KW	KILOWATT	PIV	POST INDICATING VALVE	UNO	UNLESS NOTED OTHERWISE
AT	AMP TRIP	EWC	ELECTRIC WATER COOLER	KWH	KILOWATT HOUR	PNL	PANEL	UT	UNDERGROUND TELEPHONE
ATS	AUTOMATIC TRANSFER SWITCH	EXIST	EXISTING			PP	POWER POLE	UTIL	UTILITY
AUTO	AUTOMATIC	EXH	EXHAUST	LOC	LOCATE OR LOCATION	PR	PAIR	UV	UNIT VENTILATOR OR ULTRAVIOLET
AUX	AUXILIARY	EXP	EXPLOSION PROOF	LT	LIGHT	PRI	PRIMARY		
AV	AUDIO VISUAL			LTG	LIGHTING	PROJ	PROJECTION		
AWG	AMERICAN WIRE GAUGE	FA	FIRE ALARM	LTNG	LIGHTNING	PRV	POWER ROOF VENTILATOR	V	VOLT
		FABP	FIRE ALARM BOOSTER POWER SUPPLY PANEL	LV	LOW VOLTAGE	PT	POTENTIAL TRANSFORMER	VA	VOLT-AMPERES
BATT	BATTERY					PVC	POLYVINYL CHLORIDE (CONDUIT)	VDT	VIDEO DISPLAY TERMINAL
BD	BOARD	FACP	FIRE ALARM CONTROL PANEL	MAX	MAXIMUM			VERT	VERTICAL
BLDG	BUILDING	FCU	FAN COIL UNIT	MAG.S	MAGNETIC STARTER	PWR	POWER	VFD	VARIABLE FREQUENCY DRIVE
BMS	BUILDING MANAGEMENT SYSTEM	FIXT	FIXTURE	M/C	MOMENTARY CONTACT			VOL	VOLUME
		FLR	FLOOR	MC	MECHANICAL CONTRACTOR	QUAN	QUANTITY		
		FLUOR	FLUORESCENT	MCB	MAIN CIRCUIT BREAKER			W	WATT
C	CONDUIT	FU	FUSE	MCC	MOTOR CONTROL CENTER	RCPT	RECEPTACLE	W/	WITH
CAB	CABINET	FUDS	FUSED SAFETY DISCONNECT SWITCH	MDC	MAIN DISTRIBUTION CENTER	REQD	REQUIRED	WG	WIRE GUARD
CAT	CATALOG			MDP	MAIN DISTRIBUTION PANEL	RM	ROOM	WH	WATER HEATER
CATV	CABLE TELEVISION			MFR	MANUFACTURER	RSC	RIGID STEEL CONDUIT	W/O	WITHOUT
CB	CIRCUIT BREAKER	GA	GAUGE	MFS	MAIN FUSED DISCONNECT SWITCH	RTU	ROOF TOP UNIT	WP	WEATHERPROOF
CCTV	CLOSED CIRCUIT TELEVISION	GAL	GALLON						
CKT	CIRCUIT	GALV	GALVANIZED	MH	MANHOLE	SC	SURFACE CONDUIT	XFMR	TRANSFORMER
CLG	CEILING	GC	GENERAL CONTRACTOR	MIC	MICROPHONE	SEC	SECONDARY	XFR	TRANSFER
COMB	COMBINATION	GEN	GENERATOR	MIN	MINIMUM	SHT	SHEET		
CMPR	COMPRESSOR	GFI	GROUND FAULT CIRCUIT INTERRUPTER	MISC	MISCELLANEOUS	SIM	SIMILAR		
CONN	CONNECTION			MLO	MAIN LUGS ONLY	S/N	SOLID NEUTRAL		
CONST	CONSTRUCTION	GFP	GROUND FAULT PROTECTOR	MMS	MANUAL MOTOR STARTER	SPEC	SPECIFICATION	∠	ANGLE
CONT	CONTINUATION OR CONTINUOUS	GND	GROUND	MOA	MULTIOUTLET ASSEMBLY	SPKR	SPEAKER	@	AT
		GRS	GALVANIZED RIGID STEEL (CONDUIT)	MSP	MOTOR STARTER PANELBOARD	SP	SPARE	Δ	DELTA
CONTR	CONTRACTOR			MSBD	MAIN SWITCHBOARD	SR	SURFACE RACEWAY	'	FEET
CONV	CONVECTOR	GYP BD	GYPSUM BOARD	MT	MOUNT	SS	STAINLESS STEEL	"	INCHES
CP	CIRCULATING PUMP			MT.C	EMPTY CONDUIT	SSW	SELECTOR SWITCH	#	NUMBER
CRT	CATHODE-RAY TUBE	HOA	HANDS-OFF-AUTOMATIC SWITCH	MTS	MANUAL TRANSFER SWITCH	S/S	STOP/START PUSHBUTTONS	Ø	PHASE
CT	CURRENT TRANSFORMER			MTR	MOTOR, MOTORIZED	STA	STATION	℄	CENTER LINE
CTR	CENTER	HORIZ	HORIZONTAL			STD	STANDARD	ℇ	PLATE
CU	COPPER	HP	HORSEPOWER	N.C.	NORMALLY CLOSED	SURF	SURFACE MOUNTED		
		HPF	HIGH POWER FACTOR	NEC	NATIONAL ELECTRICAL CODE	SW	SWITCH		

LIGHTING FIXTURE SCHEDULE

CATALOG NUMBER SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND CATALOG NUMBER ONLY. THE DESCRIPTION AND THE SPECIFICATIONS SHALL BE COORDINATED WITH THE CATALOG NUMBER TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE FIRST MANUFACTURER LISTED IS THE BASIS FOR DESIGN. ALL LAMPS/LIGHT SOURCES FOR THIS PROJECT SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED. ALL LIGHT FIXTURES SHALL BE PROVIDED WITH INTEGRAL DISCONNECT(S) FACTORY INSTALLED IN ACCORDANCE WITH NEC. REFER TO SPECIFICATIONS FOR SHOP DRAWING SUBMITTAL REQUIREMENTS AND ADDITIONAL INFORMATION.

MOUNTING STYLES (MTG): RE-A = RECESSED (ACT), RE-G = RECESSED (GYP), RE-W = RECESSED (WALL), CL = CEILING SURFACE, PW = PERIMETER WALL, SP = SUSPENDED (AIR-CRAFT CABLE), ST = STEM, WL = WALL, WL-H = WALL HORIZONTAL, WL-V = WALL VERTICAL, UNV = UNIVERSAL, POLE = POLE, UC = UNDER CABINET, TR = TRACK, GND = GROUND

LED DRIVER TYPES: STND = STANDARD DRIVER, DIM10 = 0-10V 10% DIMMING, DIM1 = 0-10V 1% DIMMING, DIMD = 0-10V DIM TO DARK, STEP = STEP DIMMING, NOND = NON-DIMMING, DALI = DIGITAL ADDRESSABLE LIGHTING INTERFACE, DMX = DIGITAL MULTIPLEX, LUTR = LUTRON HI-LUME, POE = POWER OVER ETHERNET, SDIM = STEP DIMMING

GENERAL NOTES:

A. WHERE "OR APPROVED EQUIVALENT" IS LISTED IN THE MANUFACTURER COLUMN, FIXTURES MUST BE SUBMITTED AS A SUBSTITUTION FOR APPROVAL PRIOR TO BID SUBMISSION.
B. LISTED LUMENS ARE DELIVERED LUMENS. PROVIDE FIXTURE WITHIN +/- 5% OF LISTED LUMENS.
C. LIGHTING PRODUCTS SHALL BE PROVIDED THROUGH THE AUTHORIZED LIGHTING MANUFACTURER'S REPRESENTATIVE RESIDING WITHIN PROJECT LOCATION.
D. SUBMITTALS SHALL BE PRODUCED AND SUBMITTED BY LOCAL AUTHORIZED LIGHTING MANUFACTURER'S REPRESENTATIVE. LETTERHEAD SHALL CONTAIN REPRESENTATIVES' CONTACT INFORMATION, PROJECT NAME, AND PROJECT LOCATION.

TYPE	DESCRIPTION	LENS-LOUVER	MTG	LIGHTING OUTPUT/CCT	DRIVER	VOLT	WATT	BASIS OF DESIGN	APPROVED EQUIVALENT	NOTES
L2	2' X 2' LED PANEL, ALUMINUM FRAME, SWITCHABLE LUMENS, SWITCHABLE CCT	FROSTED ACRYLIC LENS	RE-A	LED, 2600 LUMENS, 4000K	DIM10	120 V	19 W	LITHONIA CPX OR APPROVED EQUIVALENT	ALS LPA, COLUMBIA LIGHTING CBT-LSCS, CREE C-LITE C-TR, TCP DT	N/A
L10	3" W X 4' LONG LED LENSED STRIP, STEEL HOUSING	ACRYLIC SEMI-FROST LENS	SP	LED, 3000 LUMENS, 4000K	DIM10	120 V	19 W	LITHONIA CLX OR APPROVED EQUIVALENT	COLUMBIA MPS, DAY-BRITE FSS, DECO LIGHTING DACH-LED, LSI SDL, METALUX SNLED	N/A

DEMOLITION GENERAL NOTES

1. LIGHT LINES INDICATE EXISTING WALLS AND EQUIPMENT TO REMAIN. DASHED LINES INDICATE WALLS, EQUIPMENT, AND ELECTRICAL ITEMS TO BE REMOVED.
2. COORDINATE PATCHING REQUIREMENTS FOR UNUSED OPENINGS WITH THE CONSTRUCTION MANAGER.
3. FIRE ALARM - REMOVE EXISTING CEILING MOUNTED DEVICES TO PERMIT REMOVAL OF CEILING. WALL MOUNTED NOTIFICATION DEVICES SHALL BE DEMOLISHED. COORDINATE WORK WITH PROJECT PHASING TO MAINTAIN FIRE ALARM SYSTEM PROTECTION OF SPACES AT ALL TIMES.
4. COORDINATE DISPOSAL OF ALL ITEMS NOT REQUESTED AS SALVAGE BY THE OWNER.
5. DISCONNECT OUTLETS, WIRING, AND OTHER NOTED EQUIPMENT TO PERMIT DEMOLITION OF WALLS. VERIFY AND MAINTAIN CONNECTION TO EXISTING OUTLETS THAT WILL NOT BE REMOVED BUT ARE ON COMMON CIRCUITS WITH ITEMS TO BE REMOVED.
6. DRAWINGS DO NOT IDENTIFY ALL OUTLETS, SWITCHES, CABLING, OR EQUIPMENT TO BE REMOVED. CONTRACTOR SHALL BECOME FAMILIAR WITH THE SITE PRIOR TO BIDDING AND INCLUDE LABOR AND MATERIAL NECESSARY FOR REQUIRED DEMOLITION IN THEIR BID.
7. WIRING SHALL BE REMOVED BACK TO SERVING PANEL. INSTALLATION OF NEW CONDUCTORS IN EXISTING CONDUITS WILL BE PERMITTED AS DESCRIBED IN THE DIVISION 26 SPECIFICATIONS.
8. HVAC EQUIPMENT NOTED FOR REMOVAL IS FOR REFERENCE ONLY. THE ELECTRICAL CONTRACTOR SHALL REVIEW THE MECHANICAL SYSTEMS DEMOLITION PLANS AND INCLUDE ALL LABOR AND MATERIAL NECESSARY TO FACILITATE REMOVAL OF EQUIPMENT AS SHOWN ON THOSE DRAWINGS. THIS SHALL INCLUDE ALL ITEMS NOTED ON EITHER THE PLUMBING OR MECHANICAL SERIES OF DRAWINGS.
9. CONTRACTOR TO CONTACT PAT ASTOR AT SIEMENS FOR DECOMMISSIONING AND REPROGRAMMING OF EXISTING SIEMENS SYSTEM. pat.astor-iii@siemens.com 515-661-9688.

STATE HISTORICAL PRESERVATION OFFICE REQUIREMENTS

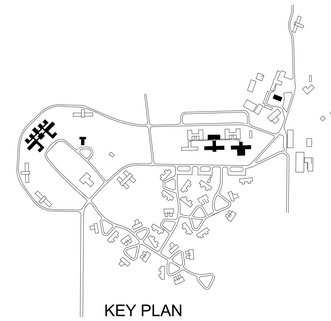
1. FOR FINISHED SPACES (OFFICES, RECEPTION, ETC.), PAINT EXPOSED CONDUIT WHITE.
2. FOR UNFINISHED SPACES (BASEMENTS, ATTICS, WORKSHOPS, ETC.) CONDUIT CAN REMAIN UNPAINTED.
3. FOR SPACES WITH WOOD CEILINGS (NATURAL COLOR) PAINT EXPOSED CONDUIT THAT IS NEXT TO WOOD CEILINGS BROWN. FOR EXPOSED CONDUIT IN THE REST OF THE ROOM, PAINT AS DESCRIBED IN FINISHED SPACES.

NOTE:

BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.

ELECTRICAL GENERAL NOTES

1. ALL WORK SHALL BE IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE - LATEST EDITION ADOPTED BY THE STATE, THE STATE AMENDMENTS, AND THE AUTHORITY HAVING JURISDICTION. THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE ADAAG (AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES).
2. IT IS THE INTENT OF THESE DOCUMENTS TO COMPLY WITH THE APPLICABLE CODES. WHERE DISCREPANCIES OCCUR, NOTIFY THE ENGINEER/ARCHITECT IN WRITING FOR INTERPRETATION. CORRECT ANY INSTALLATION THAT FAILS TO COMPLY WITH THE CODES AND STANDARDS AT NO ADDITIONAL COST TO THE OWNER.
3. CONTRACTOR SHALL PROVIDE ALL WORK NECESSARY INCLUDING ALL LABOR, MATERIALS, PERMITS, TAXES, FEES, INSPECTIONS, HARDWARE, AND COST FOR INSTALLATION FOR A COMPLETE AND OPERATIONAL SYSTEM.
4. ALL MATERIALS FURNISHED BY THE CONTRACTOR SHALL BE NEW, COMPLETE WITH MANUFACTURER'S GUARANTEE OR WARRANTY AND SHALL BE LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL).
5. COORDINATE ELECTRICAL INSTALLATION WITH ALL TRADES PRIOR TO INSTALLATION. IF ELECTRICAL WORK INSTALLED INTERFERES WITH OTHER TRADES AFTER INSTALLATION, THE CONTRACTOR SHALL MAKE ALL NECESSARY CHANGES TO CORRECT THE CONDITION AT NO ADDITIONAL COST TO THE OWNER.
6. DRAWINGS ARE DIAGRAMMATIC. ALL DIMENSIONS SHOWN ARE APPROXIMATE. 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 THE CONTRACTOR SHALL ADJUST CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
7. ALL ELECTRICAL PANELS WITH ANY BRANCH CIRCUIT/LOAD REVISIONS (DEMOLITION OR NEW WORK) SHALL HAVE A NEW TYPED UPDATED CIRCUIT DIRECTORY CARD INSTALLED INSIDE THE DOOR OF THE ELECTRICAL PANEL. THE CONTRACTOR SHALL VERIFY THAT ALL UNUSED CIRCUIT BREAKERS ARE TURNED 'OFF' AND PROPERLY INDICATED AS 'SPARE' ON THE NEW CIRCUIT DIRECTORY CARD. THE CONTRACTOR SHALL INSTALL FILLER PLATES WHERE BREAKERS ARE REMOVED AS PART OF THIS PROJECT OR HAVE BEEN REMOVED PREVIOUSLY.
8. NO ENERGIZED CONDUCTORS SHALL BE EXPOSED AT ANYTIME EXCEPT WHEN THE IMMEDIATE AREA IS UNDER THE SUPERVISION OF A QUALIFIED ELECTRICIAN.
9. WHERE CONDUIT IS SURFACE MOUNTED TO A WALL AND RUN VERTICALLY DOWN TO A SWITCH/OUTLET BOX, UTILIZE 1-HOLE OR 2-HOLE CONDUIT STRAPS.
10. PENETRATIONS THROUGH FIRE RATED WALLS BY OR FOR DIVISION 26 CONTRACTOR SHALL BE SEALED WITH APPROPRIATE FIRE PROOFING MATERIAL TO RESTORE FIRE RATING.
11. THE CONTRACTOR SHALL KEEP THE WORK AREA CLEAN OF ALL DEBRIS ON A DAILY BASIS. ALL NEW MATERIALS AWAITING INSTALLATION SHALL BE KEPT IN AREAS DESIGNATED BY THE OWNER.
12. PERIODIC SITE OBSERVATION BY THE ENGINEER IS SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK OF THE CONTRACTOR IS PROCEEDING IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THIS LIMITED SITE OBSERVATION SHOULD NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS TO CHECK THE QUALITY OR QUANTITY OF THE WORK, BUT RATHER PERIODIC IN AN EFFORT TO GUARD THE OWNER AGAINST DEFECTS OR DEFICIENCIES IN THE WORK OF THE CONTRACTOR.
13. THE INFORMATION CONTAINED ON THE ELECTRICAL DRAWINGS IS IN ITSELF INCOMPLETE AND VOID UNLESS USED IN CONJUNCTION WITH ALL OTHER DISCIPLINE DRAWINGS, THE SPECIFICATIONS, TRADE PRACTICES, OR APPLICABLE STANDARDS, CODES, ETC., AND SHALL BE CONSIDERED THE CONTRACT DOCUMENTS AND WITH ALL THEREIN BY REFERENCE, WHICH THE CONTRACTOR CERTIFIES KNOWLEDGE OF BY SIGNING THE CONTRACT.
14. CONTRACTOR IS TO ASSUME FULL RESPONSIBILITY, UNRELIEVED BY REVIEW OF SHOP DRAWINGS OR PERIODIC OBSERVATION OF CONSTRUCTION, FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS, FOR DIMENSIONS TO BE CONFIRMED AND CORRELATED ON THE JOB SITE AND BETWEEN INDIVIDUAL DRAWINGS OR SETS OF DRAWINGS FOR FABRICATION PROCESSES AND CONSTRUCTION TECHNIQUES (INCLUDING EXCAVATION, SHORING, SCAFFOLDING, BRACING, ERECTION, FORM WORK, ETC.), FOR COORDINATION OF THE VARIOUS TRADES, AND FOR SAFE CONDITIONS ON THE JOB SITE. VARIATIONS IN FIELD CONDITIONS RELATIVE TO THE CONTRACT DOCUMENTS SHALL BE REPORTED TO THE ENGINEER AS SOON AS THEY ARE FOUND. WORK SHALL NOT PROGRESS UNTIL WRITTEN PERMISSION FROM THE ENGINEER IS OBTAINED.



KEY PLAN

SHIVEHATTERY
ARCHITECTURE + ENGINEERING
4125 WESTOWN PKWY, SUITE 100
WEST DES MOINES, IA 50266
515.223.9164 | SHIVEHATTERY.COM

(#9279.30) WRC Decentralization Phase 3
(#9294.01) WRC Fire Alarm Phase 2
(#9279.31) Chapel Sprinkler

Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

DRAWN BY	PJD
APPROVED BY	KJB
ISSUED FOR	BIDDING
ISSUE DATE	2024-01-11
PROJECT NUMBER	2142203394
FIELD BOOK	

ELECTRICAL GENERAL INFORMATION

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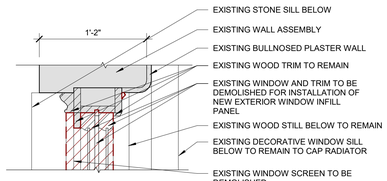
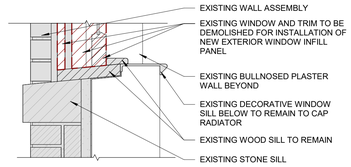
WALL RATING INDICATORS AND CODES

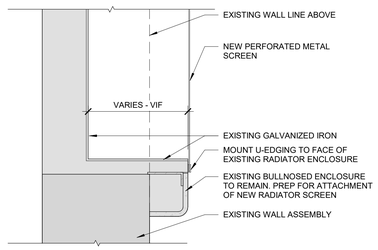
PLAN INDICATOR LINE STYLE	SEPARATION DESIGNATION	RATING	DESCRIPTION	USE	DOORS	HVAC
	FB-1-HP	1 HR	FIRE BARRIER	HAZARD PROTECTION	45 MIN	ALLOWED W/ FIRE DAMPERS



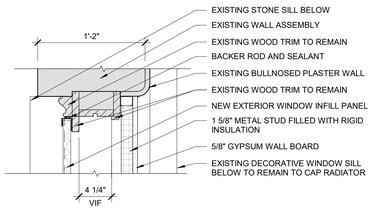
A2 TYPICAL EXISTING WINDOW JAMB
1 1/2" = 1'-0" 0 1'



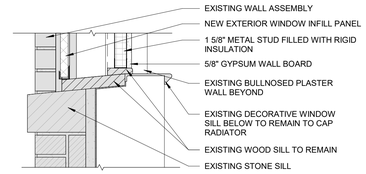
A3 TYPICAL EXISTING WINDOW SILL
1 1/2" = 1'-0" 0 1'



A4 RADIATOR SCREEN PLAN DETAIL
1 1/2" = 1'-0" 0 1'



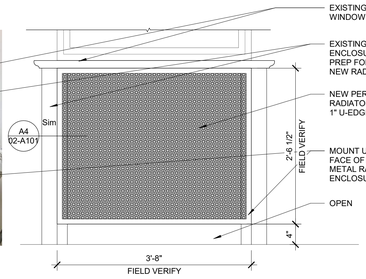
A4B TYPICAL INFILL AT WINDOW JAMB
1 1/2" = 1'-0" 0 1'



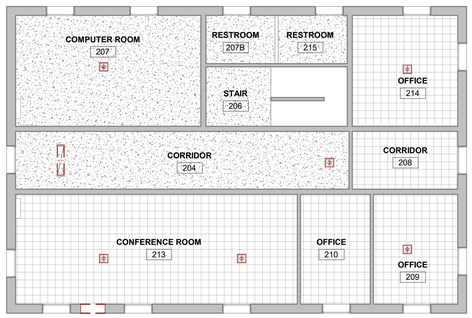
A5 TYPICAL INFILL AT WINDOW SILL
1 1/2" = 1'-0" 0 1'

KEYNOTES

KEY	NOTE
A01	CONFIRM AND MAINTAIN EXISTING FIRE RATING AT FLOOR/CEILING BETWEEN BASEMENT AND FIRST FLOOR. FIRESTOP ALL NEW PENETRATIONS.
A02	PATCH ANY EXISTING HOLES AND FIRESTOP ALL EXISTING AND NEW PENETRATIONS AS REQUIRED TO ACHIEVE A 1 HOUR FIRE RATING (FIRE BARRIER).
A04	TEMPORARILY REMOVE EXISTING ACP, CEILING GRID AND ANY ASSOCIATED FIXTURES OR DEVICES AS NEEDED. REPLACE ANY PANELS DAMAGED DURING CONSTRUCTION.
A06	NEW RADIATOR COVER BELOW WINDOW, TYPICAL. SEE ELEVATION B4/02-A101. SEE MECHANICAL FOR ALL INSTANCES.
A07	PROTECT AND MAINTAIN EXISTING CERAMIC TILE
A08	OWNER TO REMOVE STAIR AND REPLACE WITH RAMP, PER SCOPE OUTSIDE OF PROJECT.
A09	INFILL EXISTING WINDOW WITH NEW EXTERIOR ASSEMBLY AROUND MECHANICAL PENETRATIONS. SEE MECHANICAL DRAWINGS.
A10	INFILL EXISTING WINDOW WITH NEW EXTERIOR ASSEMBLY. SEE DETAILS A4B AND A5.
A11	INFILL WALL ABOVE NEW DOOR FRAME AT EXISTING TRANSOM.
AD03	DEMOLISH PORTION OF EXISTING WINDOW FOR NEW MECHANICAL EQUIPMENT. PREPARE FOR NEW WALL INFILL. SEE MECHANICAL DRAWINGS
AD04	DEMOLITION OF EXISTING DOOR FRAME
AD05	DEMOLISH PORTION OF EXISTING WINDOW, PREPARE FOR NEW EXTERIOR ASSEMBLY INFILL. SEE DETAILS A2 AND A3.



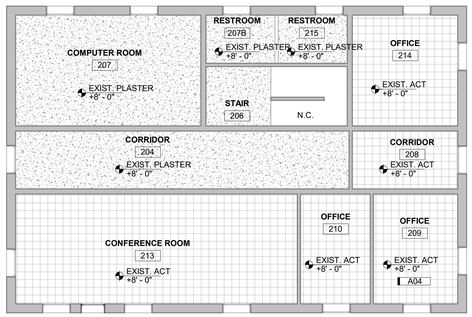
B4 TYPICAL RADIATOR SCREEN
1" = 1'-0" 0 1'-6"



NOTE: EXISTING CEILING TO REMAIN, EXCEPT AS REQUIRED FOR MECHANICAL WORK; REFER TO MECHANICAL DRAWINGS FOR NEW WORK.

PLAN NORTH
TRUE NORTH

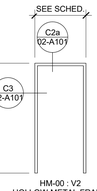
B5 SECOND FLOOR DEMO RCP
1/8" = 1'-0" 0 12'



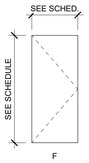
NOTE: EXISTING CEILING TO REMAIN, EXCEPT AS REQUIRED FOR MECHANICAL WORK; REFER TO MECHANICAL DRAWINGS FOR NEW WORK.

PLAN NORTH
TRUE NORTH

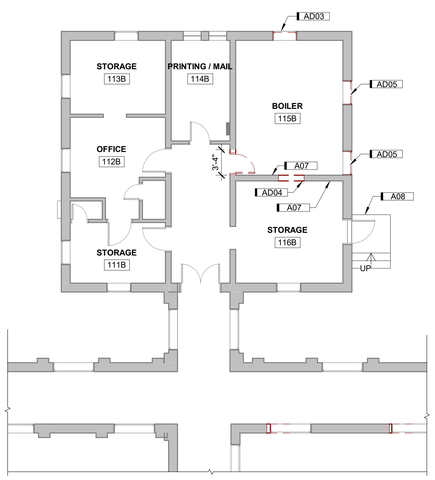
B6 SECOND FLOOR RCP
1/8" = 1'-0" 0 12'



D2 DOOR FRAME ELEVATIONS
1/4" = 1'-0" 0 6'

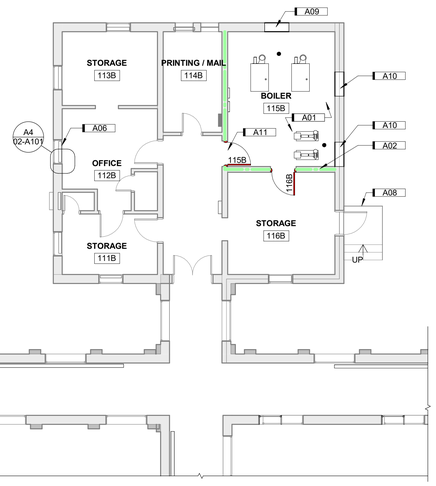


D3 DOOR PANEL ELEVATIONS
1/4" = 1'-0" 0 6'



PLAN NORTH
TRUE NORTH

D4 FIRST FLOOR DEMOLITION PLAN
1/8" = 1'-0" 0 12'



PLAN NORTH
TRUE NORTH

D6 FIRST FLOOR PLAN
1/8" = 1'-0" 0 12'

DOOR AND FRAME SCHEDULE

MARK	ROOM NAME	OPENING SIZE WIDTH	OPENING SIZE HEIGHT	DOOR TYPE	DOOR MATERIAL	DOOR THICKNESS	FRAME TYPE	FRAME MATERIAL	HDWR	FIRE RATING	REMARKS
115B	BOILER	3' - 0"	7' - 0"	F	HM	1 3/4"	HM-00 : F2	HM	02	45 MIN.	
116B	STORAGE	3' - 0"	7' - 0"	F	HM	1 3/4"	HM-00 : F2	HM	02	45 MIN.	

DOOR HARDWARE GROUPS

MANUFACTURERS LISTED ARE BASIS OF DESIGN, SEE SPECIFICATIONS FOR ADDITIONAL MANUFACTURERS.

GROUP 02

SINGLE FIRE RATED DOOR. FOR USE ON DOOR NO. 115B, 116B

3 EA.	HEAVY DUTY HINGES	TA795, 4-1/2"	US26D	MCK
1 EA.	STOREROOM LOCKSET	PROVIDED BY OWNER	-	-
1 EA.	CLOSER	4040XP DEL EDA	AL	LCN
1 EA.	OVERHEAD STOP	599S	US26D	RO
1 EA.	KICKPLATE	8400 30" X 34"	US32D	IV
1 SET	SMOKE GASKET	PK52BL	BL	PE
3 EA.	SILENCERS	608	GR	RO

MANUFACTURER ABBREVIATIONS

IV - IVES
LCN - LCN CLOSERS
MCK - MCKINNEY
PE - PEMKO
RO - ROCKWOOD
SA - SARGENT

FRAME NAMING CONVENTION

HM-12:V2

FRAME MATERIAL
AL ALUMINUM
HM HOLLOW METAL
WD WOOD

FRAME CONFIGURATION
1ST DIGIT TRANSOM (0=NO, 1=YES)
2ND DIGIT NUMBER OF SIDELIGHTS
DE DOUBLE EGRESS
NS NO STOP
F FULL FRAME

FRAME HEAD HEIGHT
2 2" HIGH
4 4" HIGH

FRAME DEPTH
V MATCH WALL WIDTH
F FIXED/ SPECIFIED

ARCHITECTURAL DEMOLITION NOTES

1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO START OF DEMOLITION WORK. NOTIFY ARCHITECT IN WRITING OF DISCREPANCIES BETWEEN WORK SHOWN IN THE DRAWINGS AND FIELD CONDITIONS ENCOUNTERED.
2. TO PROTECT OWNER AND CONTRACTOR, PHOTOGRAPHICALLY DOCUMENT EXISTING CONDITIONS TO REMAIN, PRIOR TO START OF DEMOLITION AND CONSTRUCTION ACTIVITIES. COPY ARCHITECT AND OWNER ON PHOTOGRAPHIC DOCUMENTATION.
3. OPEN FLAME EQUIPMENT IS NOT PERMITTED FOR REMOVAL OF EXISTING WORK WITHOUT SPECIFIC WRITTEN PERMISSION FROM THE OWNER.
4. COORDINATE WITH OWNER ANY ITEMS TO BE SALVAGED.
5. OWNER WILL REMOVE ALL NON-FIXED FURNISHINGS AND EQUIPMENT FROM THE CONSTRUCTION AREA PRIOR TO START OF CONSTRUCTION UNLESS NOTED OTHERWISE.
6. MAINTAIN BUILDING IN A WEATHER-TIGHT CONDITION. DO NOT PERFORM WORK ON EXTERIOR OPENINGS THAT CANNOT BE COMPLETED OR MADE WEATHER-TIGHT WHEN INCLEMENT WEATHER IS POSSIBLE.
7. PROTECT ALL FINISHES (TO REMAIN) IN THE PROJECT AREA. COORDINATE WITH ARCHITECT AND OWNER PRIOR TO DEMOLITION.
8. ENSURE THAT DUST AND DEBRIS ARE PREVENTED FROM ENTERING THE EXISTING HVAC SYSTEM AND ADJOINING SPACES WITH TEMPORARY BARRIERS AS REQUIRED PER THE BUILDING.
9. ALL NEW AND EXISTING PENETRATIONS IN EXISTING INTERIOR AND EXTERIOR WALLS, FLOORS AND CEILING DECKS SHALL RECEIVE UL AND FACILITY APPROVED FIRE SEALANT MATERIALS TO MATCH RATING REQUIREMENT OF AREA BEING PENETRATED. FOR LOCATIONS AND EXTENTS OF NEW PENETRATIONS SEE MECHANICAL AND ELECTRICAL DRAWINGS.
10. COORDINATE WITH OTHER TRADES CUTTING AND PATCHING REQUIRED FOR DEMOLITION OR NEW CONSTRUCTION.
11. ANY DEMOLITION OR REMOVAL INDICATED IS SHOWN IN GENERAL TO PROVIDE THE EXTENT OF DEMOLITION AND IS NOT TO BE CONSIDERED AS A RECORD DRAWING OF EXISTING CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR IN FIELD VERIFICATION AND COORDINATION WITH THE ARCHITECT PRIOR TO COMMENCING WITH STATED WORK.
12. ALL CONSTRUCTION TO REMAIN WHICH IS AFFECTED BY DEMOLITION SHALL BE PATCHED, BE PROPERLY ALIGNED AND FINISHED SO AS TO LEAVE NO EVIDENCE OF PATCHING OR REPAIR. REPAIR OR REPLACE ANY EXISTING CONSTRUCTION, MATERIALS, OR EQUIPMENT DAMAGED DURING DEMOLITION TO LIKE NEW CONDITION.
13. THE CONTRACTOR IS TO RETURN SALVAGEABLE MATERIALS, INCLUDING BUT NOT LIMITED TO DOORS, FRAMES, HARDWARE, MARBLE, EQUIPMENT, AND LIGHTING FIXTURES TO THE OWNER AND STOCKPILE THEM IN AN APPROVED CONSTRUCTION AREA. DISPOSE OF THESE MATERIALS AFTER OWNER'S REVIEW AND APPROVAL.
14. BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.
15. TEMPORARILY REMOVE OR SUPPORT FIXTURES AND OTHER DEVICES, INCLUDING DIFFUSERS, AS NEEDED TO COMPLETE NEW WORK. REINSTALL ONCE MECHANICAL/ELECTRICAL WORK IS COMPLETE.
16. INTENT FOR PERIMETER GRID TO REMAIN TO LIMIT LEAD PAINT ABATEMENT.

DEMOLITION PLAN SYMBOLS LEGEND

- EXISTING WALL PARTITIONS
- EXISTING DOOR
- DEMOLISHED DOOR
- DEMOLISH CEILINGS AND PREPARE FOR NEW CEILINGS. PERIMETER GRID TO REMAIN.
- N.C. NO CEILING IN SPACE

FLOOR PLAN NOTES

1. REFER TO DRAWINGS OF ALL TRADES FOR ADDITIONAL INFORMATION REGARDING ITEMS PENETRATING FLOORS, WALLS, AND CEILINGS.
2. ALL NEW PARTITIONS ARE DIMENSIONED TO FACE OF STUD, MASONRY, OR CONCRETE COMPONENT UNLESS NOTED OTHERWISE. DIMENSIONS TO EXISTING ELEMENTS ARE TO EXPOSED FACE.

FLOOR PLAN SYMBOLS LEGEND

- 101 DOOR MARK
- Room name 101 — ROOM NUMBER
- W WLF1 — WALL FINISH DESIGNATION
- B BF1 — WALL BASE DESIGNATION
- F FLR1 — FLOOR FINISH DESIGNATION

CEILING PLAN NOTES

1. NOTIFY ARCHITECT OF INADEQUATE CLEARANCES FOR CEILING LAYOUT PRIOR TO COMMENCING WORK.
2. LOCATIONS OF LIGHT FIXTURES, DIFFUSERS, ETC. SHALL REMAIN IN PLACE. NOTIFY ARCHITECT OF ANY CONFLICTS PRIOR TO PROCEEDING WITH CONSTRUCTION. REFER TO DRAWINGS AND SPECIFICATIONS OF ALL TRADES FOR SYSTEM DESIGN AND ADDITIONAL INFORMATION.
3. COORDINATE WITH ALL TRADES TO CONFIRM THEIR WORK CAN BE INSTALLED TO ACHIEVE CEILING HEIGHTS AS SHOWN. TRADE PRIORITY SHALL BE AS FOLLOWS UNLESS DIRECTED OTHERWISE BY THE ARCHITECT
   - ELECTRICAL LIGHTING FIXTURES
   - MECHANICAL GRILLES AND DIFFUSERS
   - MECHANICAL DUCTWORK
   - ELECTRICAL CONDUIT
   - PIPING SYSTEMS
4. COORDINATE WITH ALL TRADES TO CONFIRM THE LOCATION OF ACCESS PANELS WITH ASSOCIATED INSTALLED EQUIPMENT. INFORM ARCHITECT OF PROPOSED LOCATIONS PRIOR TO INSTALLATION AND CONSTRUCTION OF NEW WORK.
5. CONTRACTOR TO REPLACE FROM OWNER STOCK CEILING TILES DAMAGED DURING CONSTRUCTION.
6. DESIGN INTENT TO HAVE NEW CEILINGS REMAIN AT ELEVATION OF EXISTING CEILINGS.

CEILING PLAN SYMBOLS LEGEND

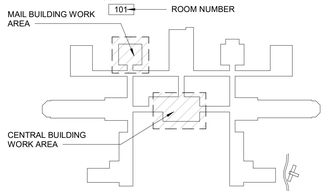
- ACP-1 +8'-0" — CEILING MATERIAL DESIGNATION / CEILING HEIGHT
- PLASTER ON METAL LATH SUBSTRATE CEILING
- 1X1 ACOUSTICAL CEILING PANEL SYSTEM
- N.S. NO CEILING IN SPACE

PROJECT GENERAL INFORMATION

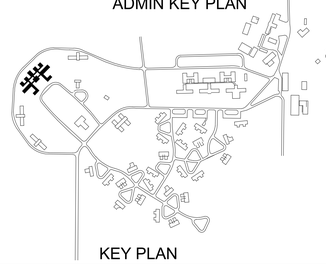
1. COLOR HAS BEEN USED ON THESE DRAWINGS TO ENHANCE UNDERSTANDING. PRINTING IN COLOR IS RECOMMENDED TO ENSURE CLARITY.
2. ANY DAMAGE TO AREAS INSIDE OR OUTSIDE OF THE PROJECT AREA SHALL BE REPAIRED TO THE STATUS PRIOR TO CONSTRUCTION AT NO COST TO OWNER.
3. THE GENERAL CONTRACTOR SHALL BE ULTIMATELY RESPONSIBLE FOR ALL CUTTING, SUPPORTING, AND PATCHING IF NOT COVERED BY A SPECIFIC TRADE.
4. EACH TRADE SHALL PROVIDE TESTED FIRESTOPPING ASSEMBLIES FOR PENETRATIONS OF THEIR WORK THROUGH FIRE-RATED WALLS AND FLOOR/CEILING ASSEMBLIES. FIRESTOPPING ASSEMBLIES ARE TO BE OF DESIGNS THAT PROVIDE THE SCHEDULED FIRE RATINGS WHEN TESTED IN ACCORDANCE WITH ASTM E119, ASTM E814, OR UL 1479, AND ARE TO BE INSTALLED BY INDIVIDUALS TRAINED AND EXPERIENCED WITH INSTALLATION OF SUCH ASSEMBLIES. PROVIDE SUBMITTALS TO LOCAL AUTHORITIES AS REQUESTED
5. IF COMPLIANCE WITH TWO OR MORE STANDARDS IS SPECIFIED AND THE STANDARDS ESTABLISH DIFFERENT OR CONFLICTING REQUIREMENTS FOR MINIMUM QUANTITIES OR QUALITY LEVELS, COMPLY WITH THE MOST STRINGENT REQUIREMENT. REFER UNCERTAINTIES AND REQUIREMENTS THAT ARE DIFFERENT, BUT APPARENTLY EQUAL, TO ARCHITECT FOR A DECISION BEFORE PROCEEDING.
6. ABATEMENT WORK WILL BE UNDER SEPARATE CONTRACT. OBTAIN AND MAINTAIN ON SITE A COMPLETE SET OF ABATEMENT DOCUMENTS, INCLUDING ADDENDA AND CHANGES AFTER START OF CONSTRUCTION, FOR REFERENCE AND COORDINATION BY ALL TRADES. COORDINATE ALL DEMOLITION AND CONSTRUCTION WORK WITH THE ABATEMENT CONTRACTOR.
7. THE INDICATION OF TYPE AND LOCATION OF EXISTING CONDITIONS AND MATERIALS IN THE DRAWINGS IS NOT INTENDED AS EXACT DOCUMENTATION OF IN-PLACE CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS BEFORE SUBMISSION OF BIDS. EXISTING CONDITIONS VARYING FROM THOSE SHOWN IN THE DRAWINGS WILL NOT BE JUSTIFICATION FOR ADDITIONAL ALLOWANCE TO THE CONTRACTOR. NOTIFY THE ARCHITECT IMMEDIATELY IF ANY CONDITIONS CONFLICT WITH THE DRAWINGS.
8. PROTECT ALL BUILDING SYSTEMS, NEW AND EXISTING. COVER SUPPLY, RETURN, AND EXHAUST AIR GRILLES, AND PROTECT OTHER SENSITIVE EQUIPMENT FROM ALL ACTIVITIES RELATED TO THIS CONTRACT. REMOVE PROTECTION AT END OF CONSTRUCTION.
9. ALL DISSIMILAR METALS SHALL BE ISOLATED FROM EACH OTHER EVEN IF NOT SPECIFICALLY IDENTIFIED IN THE CONTRACT DOCUMENTS.
10. ALL CODE-REQUIRED LABELS SUCH AS "UL", "FACTORY MUTUAL", OR ANY EQUIPMENT IDENTIFICATION, PERFORMANCE RATING, NAME, OR NOMENCLATURE PLATES SHALL REMAIN READABLE AND NOT PAINTED OR COVERED BY OTHER CONSTRUCTION.
11. STRUCTURAL INFORMATION ON ARCHITECTURAL DRAWINGS IS FOR REFERENCE ONLY.
12. ARCHITECTURAL DIMENSIONS AND DESIGN INTENT ARE INDICATED ON ARCHITECTURAL DRAWINGS. IF THE INSTALLATION OF EQUIPMENT FROM OTHER TRADES INTERFERES WITH COMPLIANCE OF THE DESIGN INTENT, NOTIFY THE ARCHITECT BEFORE PROCEEDING.
13. DO NOT SCALE DRAWINGS; DIMENSIONS GOVERN LOCATION OF BUILDING ELEMENTS. IF DIMENSIONS ARE NOT AVAILABLE, CONTACT THE ARCHITECT.
14. WHEN DIMENSIONS ON SMALL SCALE DRAWINGS CONFLICT WITH THOSE ON LARGE SCALE DRAWINGS, THE LARGE SCALE DRAWINGS GOVERN.

GENERAL SYMBOLS LEGEND

- A1 VIEW NAME — 1/8" = 1'-0" — VIEW NUMBER; DRAWING SCALE
- PLAN NORTH / TRUE NORTH — NORTH ARROW
- DETAIL SECTION MARK — A1 / A101 — VIEW NUMBER; SHEET NUMBER
- EXTERIOR ELEVATION MARK — A1 / A101 — VIEW NUMBER; SHEET NUMBER
- INTERIOR ELEVATION MARK — A1 A101 A1 / A1 — VIEW NUMBER; SHEET NUMBER
- ENLARGED DETAIL MARK — A1 / A101 — VIEW NUMBER; SHEET NUMBER
- A00 — KEYNOTE VALUE
- ROOM NAME 101 — ROOM NUMBER



ADMIN KEY PLAN



KEY PLAN

SHIVEHATTERY
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4125 WESTOWN PKWY, SUITE 100
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02-Admin

(#9279.30) WRC Decentralization Phase 3

Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

DRAWN BY	TAL
APPROVED BY	CLM
ISSUED FOR	BIDDING
ISSUE DATE	2024-01-11
PROJECT NUMBER	2142203394
FIELD BOOK	

FIRST FLOOR PLANS AND SECOND FLOOR RCP'S

02-A101

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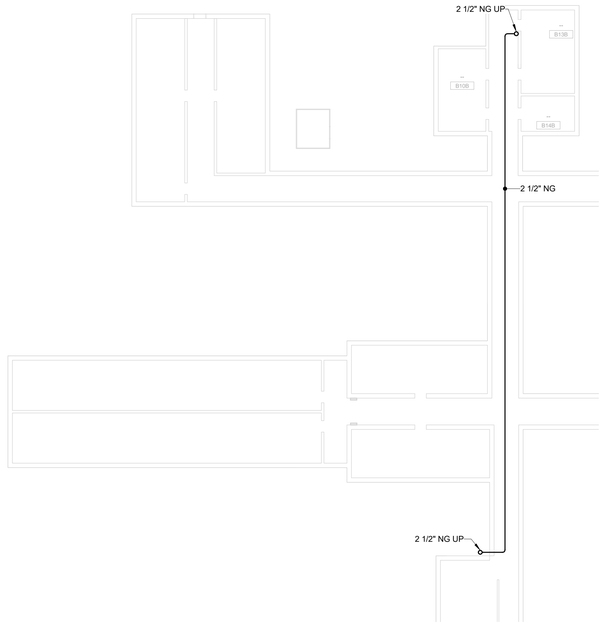
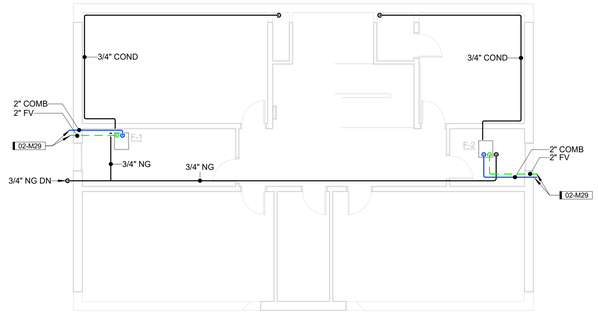


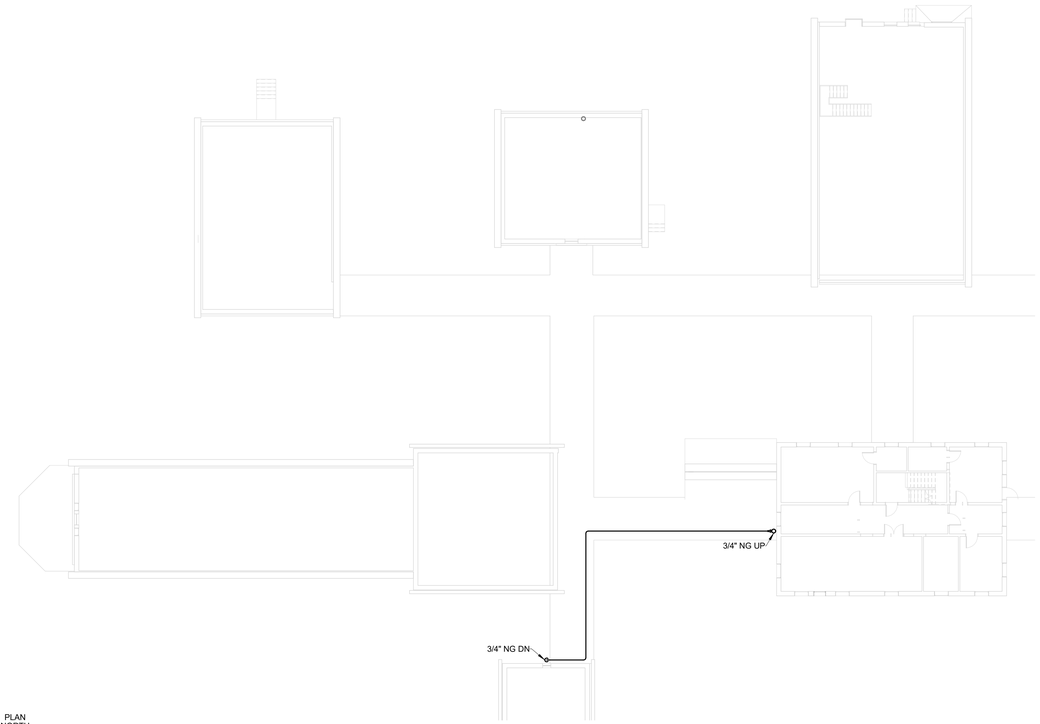
PLAN NORTH
TRUE NORTH

A3 BASEMENT PLUMBING PLAN OVERALL
1/16" = 1'-0" 0' 6'



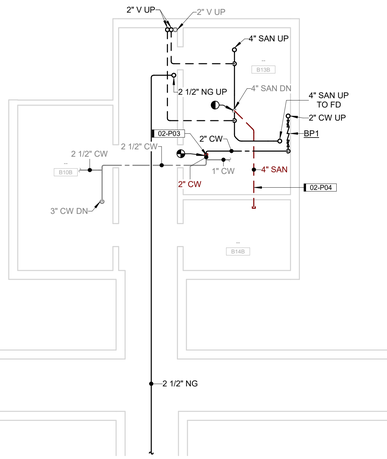
PLAN NORTH
TRUE NORTH

C3 THIRD FLOOR
1/8" = 1'-0" 0' 6'



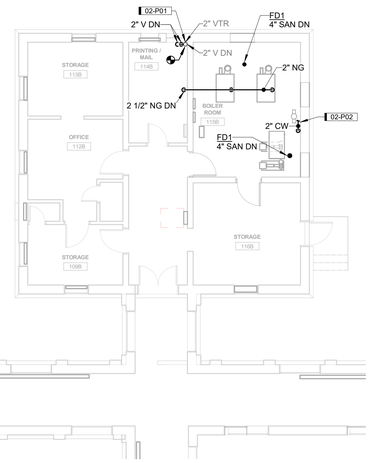
PLAN NORTH
TRUE NORTH

A6 SECOND FLOOR
1/16" = 1'-0" 0' 6'



PLAN NORTH
TRUE NORTH

E4 BASEMENT PLUMBING PLAN
1/8" = 1'-0" 0' 6'



PLAN NORTH
TRUE NORTH

E6 FIRST FLOOR PLUMBING PLAN
1/8" = 1'-0" 0' 6'

KEYNOTES	
KEY	NOTE
02-M29	INSTALL COMBUSTION AND FLUE VENT PIPING THROUGH EXTERIOR WALL.
02-P01	CONNECT NEW VENT PIPES INTO EXISTING VENT RISER.
02-P02	ROUTE NEW DOMESTIC COLD WATER TO HEATING WATER SYSTEM. SEE SHEET 02-M500 FOR DETAIL.
02-P03	DEMO EXISTING CW CAP. CONNECT NEW CW WATER PIPING TO EXISTING WATER PIPING.
02-P04	DEMO EXISTING SANITARY PIPING BACK TO NEW SANITARY PIPING AND CAP.

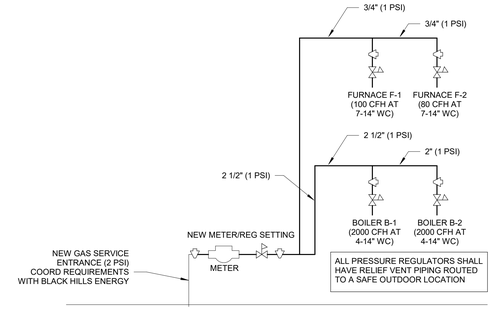
PLUMBING FIXTURE SCHEDULE:

FD1 (FLOOR DRAIN):

FIXTURE: ZURN Z-541 12-1/4" DIAMETER TOP DRAIN WITH 4" OUTLET (OR ENGINEER PRE-APPROVED EQUIVALENT). DURA-COATED CAST IRON BODY WIHT BOTTOM OUTLET, SEEPAGE PAN AND COMBINATION MEMBRANE FLASHING CLAMP AND FRAME WITH INTEGRATED TRAP PRIMER AND PLUG, WITH ANTI-TILT HEAVY-DUTY SLOTTED GRATE AND SUSPENDED CAST IRON SEDIMENT BUCKET.

BP1 (REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER):

FIXTURE: WATTS, LF009 SERIES (OR ENGINEER APPROVED EQUIVALENT). LEAD FREE, FULL LINE SIZE, REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER, TWO INDEPENDENTLY OPERATING CHECK VALVES WITH INTERMEDIATE RELIEF VALVE, BALL VALVE TEST COCKS, COMPLIANT WITH USCFCC MANUAL FOR CROSS CONNECTION CONTROL, ASSE STANDARD 1013, AWWA STANDARD C506-78. PROVIDE WATTS (OR ENGINEER APPROVED EQUIVALENT) DRAIN CONNECTION WITH AIR GAP.



G3 GAS PIPING SCHEMATIC
NOT TO SCALE

NOTE:

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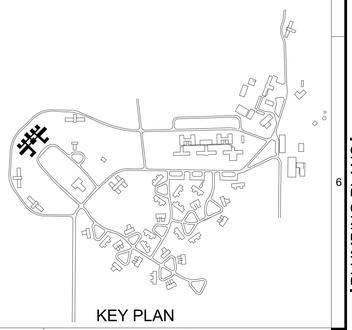

KEY PLAN

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02-Admin

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Iowa Department of Administrative Services
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DRAWN BY	LDF
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ISSUE DATE	2024-01-11
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FIELD BOOK	

PLUMBING PLANS

02-P100

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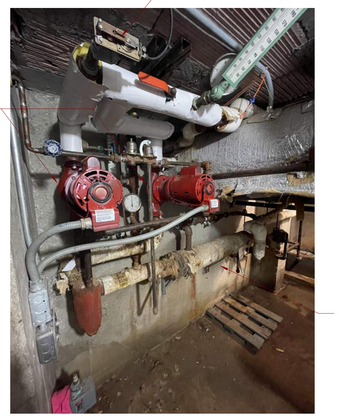

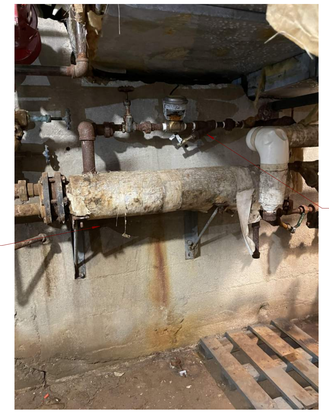

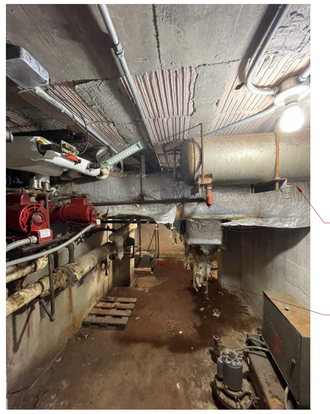

A2 EQUIPMENT DEMO PHOTOS AND DEMO COMMENTS

NOT TO SCALE

KEYNOTES	
KEY	NOTE
02-MD2	REMOVE ALL LOW PRESSURE STEAM PIPING AND RELATED HANGERS AND FITTINGS.
02-MD3	REMOVE ALL LOW PRESSURE STEAM CONDENSATE PIPING AND RELATED HANGERS AND FITTINGS.
02-MD9	ABANDON STEAM PIPING UNDER SLAB IN B11B. PIPING IS INACCESSIBLE FROM BASEMENT.
02-MD15	STEAM PIPING RISERS TO FIRST AND SECOND FLOOR ENCLOSED IN WALLS OR CEILINGS TO BE CAPPED AND ABANDONED IN PLACE.
02-MD16	DEMOLISH MANUAL BALANCING VALVE, PREPARE FOR INSTALLATION OF NEW AUTOMATIC BALANCING VALVE.

NOTE:

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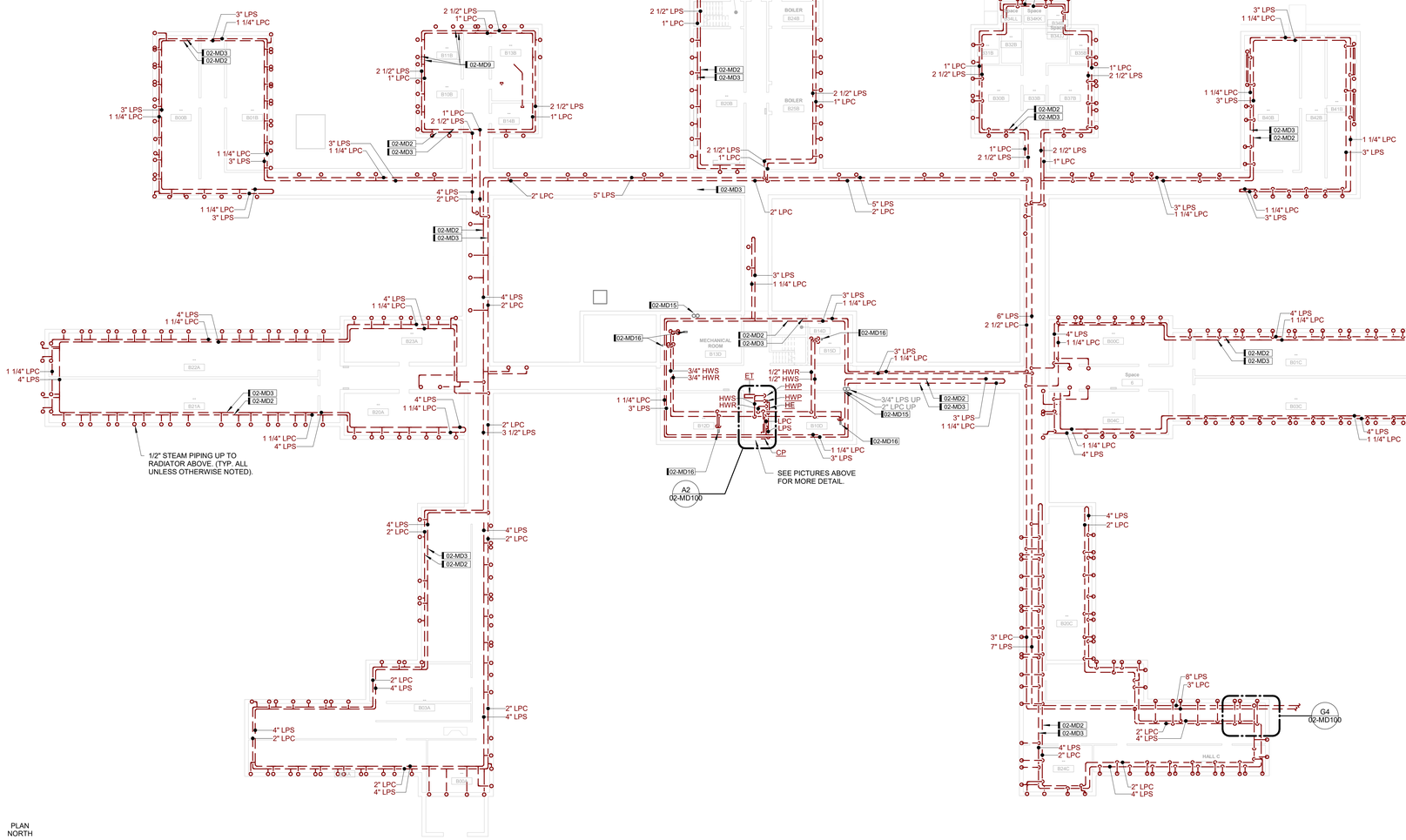


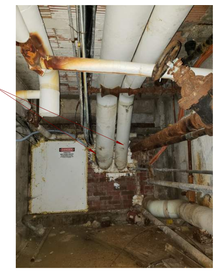
PLAN NORTH

TRUE NORTH

A6 BASEMENT MECHANICAL PIPING DEMOLITION PLAN

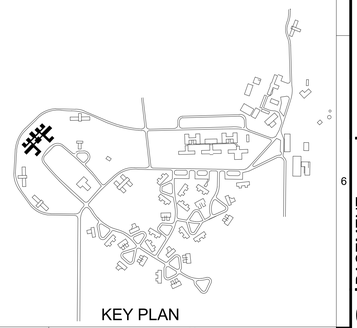
1/16" = 1'-0" 0 24'

CAP PIPE AT ENTRANCE TO TUNNEL



G4 STEAM SHUT OFF LOCATION

NOT TO SCALE



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Iowa Department of Administrative Services
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BASEMENT MECHANICAL PIPING DEMOLITION PLAN

02-MD100

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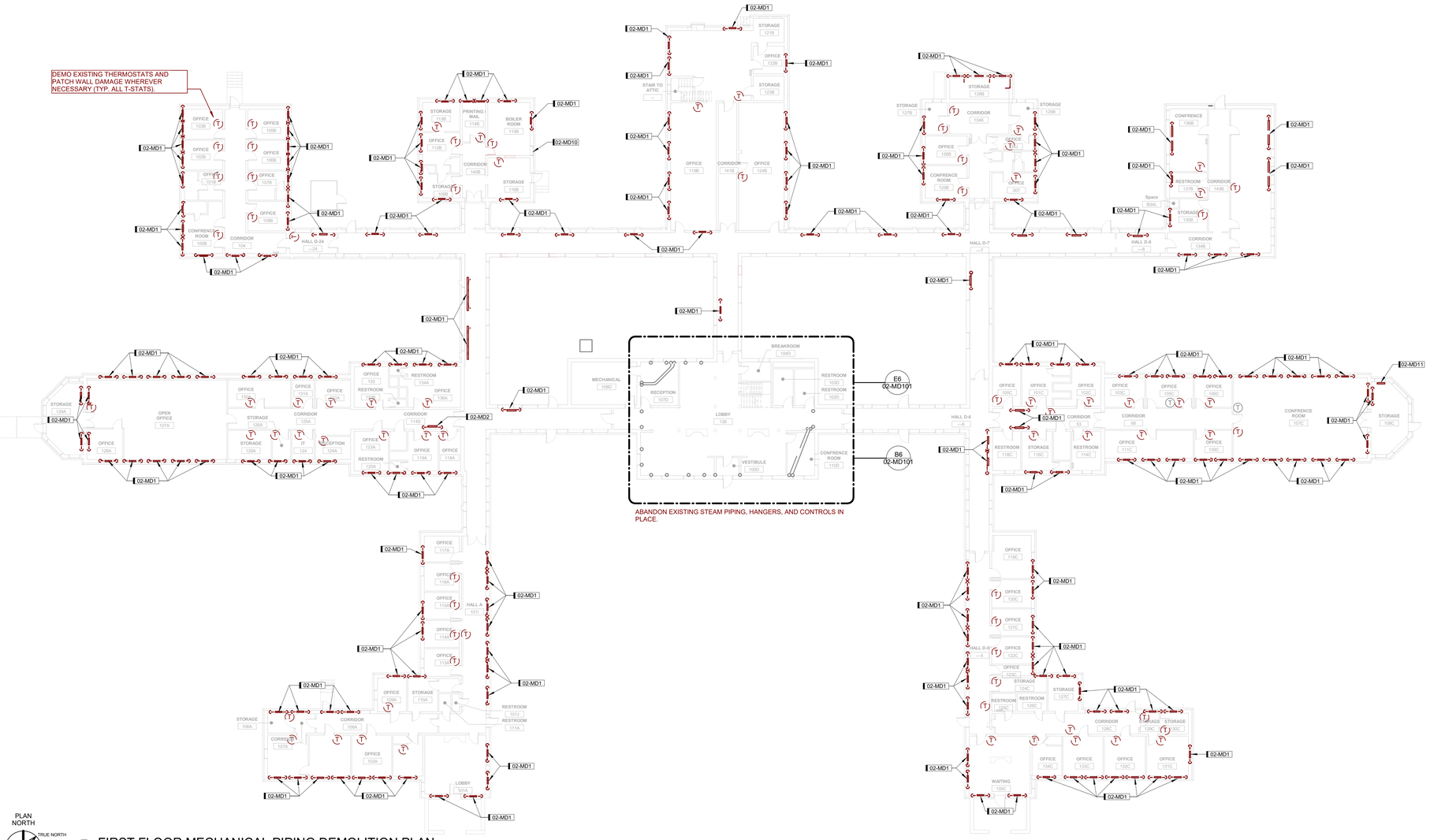
KEYNOTES	
KEY	NOTE
02-MD1	REMOVE EXISTING STEAM RADIATORS AND ASSOCIATED PIPING AND CONTROLS. EXISTING STEAM ENCLOSURE TO BE REUSED WITH NEW HOT WATER FIN TUBE.
02-MD2	REMOVE ALL LOW PRESSURE STEAM PIPING AND RELATED HANGERS AND FITTINGS.
02-MD10	EXISTING STEAM CABINET. STEAM RADIATOR HAS BEEN PREVIOUSLY DEMOLISHED.
02-MD11	ABANDONED STEAM RADIATOR TO BE REMOVED.
02-MD12	EXISTING STEAM RADIATOR AND ASSOCIATED PIPING TO BE ABANDONED IN PLACE.
02-MD13	EXISTING DUCTLESS SPLIT SYSTEM TO REMAIN.
02-MD18	DEMO EXISTING ACCU AND ASSOCIATED MOUNTING PAD, ELECTRICAL WHIP, AND ELECTRICAL DISCONNECT.

NOTE:

BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.

DEMO EXISTING THERMOSTATS AND PATCH WALL DAMAGE WHEREVER NECESSARY (TYP. ALL T-STATS).

ABANDON EXISTING STEAM PIPING, HANGERS, AND CONTROLS IN PLACE.

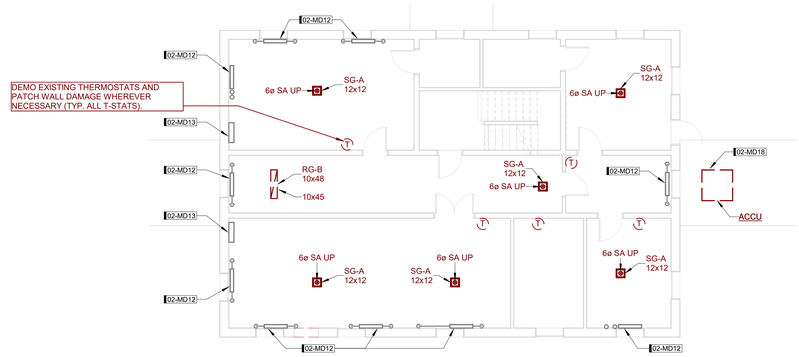


PLAN NORTH — TRUE NORTH

A5 FIRST FLOOR MECHANICAL PIPING DEMOLITION PLAN

1/16" = 1'-0" 0 24'

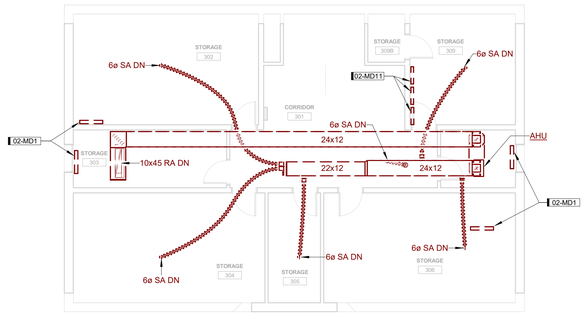
DEMO EXISTING THERMOSTATS AND PATCH WALL DAMAGE WHEREVER NECESSARY (TYP. ALL T-STATS).



PLAN NORTH — TRUE NORTH

B6 SECOND FLOOR DEMOLITION PLANS

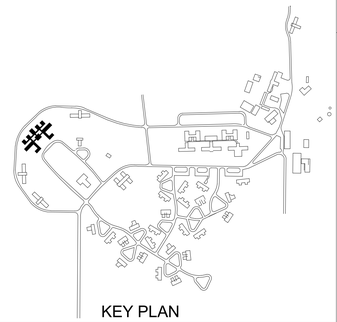
1/8" = 1'-0" 0 12'



PLAN NORTH — TRUE NORTH

E6 THIRD FLOOR DEMOLITION PLANS

1/8" = 1'-0" 0 12'



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MECHANICAL DEMOLITION PLANS

02-MD101

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KEYNOTES	
KEY	NOTE
02-M01	NO EXISTING STEAM CABINET ABOVE, ROUTE PIPING FROM FLOOR INTO NEW FIN TUBE ENCLOSURE ABOVE.
02-M19	INSTALL NEW AUTOMATIC BALANCING VALVE SET TO GPM INDICATED.
02-M21	RECOMMENDED DIFFERENTIAL PRESSURE SENSOR LOCATION.

NOTE:

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EXISTING PIPING IS PARTIALLY EMBEDDED IN EXTERIOR WALL. INTENT IS TO ROUTE NEW PIPING THROUGH EXISTING OPENINGS IN WALL AND FLOOR. RADIUSED SOFT COPPER MAY BE UTILIZED FOR PORTION OF PIPING INSIDE THE WALL AND UP THROUGH THE FLOOR. DO NOT USE PIPE JOINTS WHERE JOINTS WILL NOT BE ACCESSIBLE AFTER INSTALLATION. FIRE CAULK FLOOR PENETRATIONS (TYP).

1/2" PIPING UP TO FIRST FLOOR FIN TUBE. (TYP. ALL PIPE RISERS UNLESS OTHERWISE NOTED).

PLAN NORTH

TRUE NORTH

A6 BASEMENT MECHANICAL PIPING PLAN

1/16" = 1'-0" 0 24'

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BASEMENT MECHANICAL PIPING PLAN

02-M100

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KEYNOTES	
KEY	NOTE
02-M02	FIN TUBE PLACEMENT IS A REFERENCE. PLACE THE FIN TUBE IN A LOCATION ON THE DESIGNATED WALL THAT WILL NOT INTERFERE WITH EXISTING ELECTRICAL OUTLETS.
02-M03	INSTALL CABINET UNIT HEATER IN EXISTING STEAM CABINET.
02-M09	INSTALL FLOOR MOUNTED CABINET UNIT HEATER.
02-M22	PROVIDE SEIHO MODEL SFX 12 (OR ENGINEER PRE-APPROVED EQUIVALENT) ALUMINUM VENT CAP FOR FRESH AIR INTAKE.
02-M23	PROVIDE SEIHO MODEL SFX 8 (OR ENGINEER PRE-APPROVED EQUIVALENT) ALUMINUM VENT CAP FOR FRESH AIR INTAKE.
02-M26	BALANCING DAMPER IN VERTICAL.
02-M27	COMBINE CONDENSATE LINES FROM COOLING COIL AND FURNACE AFTER NEUTRALIZER. ROUTE TO BATHROOM ON SECOND FLOOR AND CONNECT TO SINK WASTE LINE WITH OPEN SIGHT FUNNEL.
02-M28	CONNECT TO SINK WASTE LINE WITH OPEN SIGHT FUNNEL DRAIN WITH P-TRAP.

NOTE:

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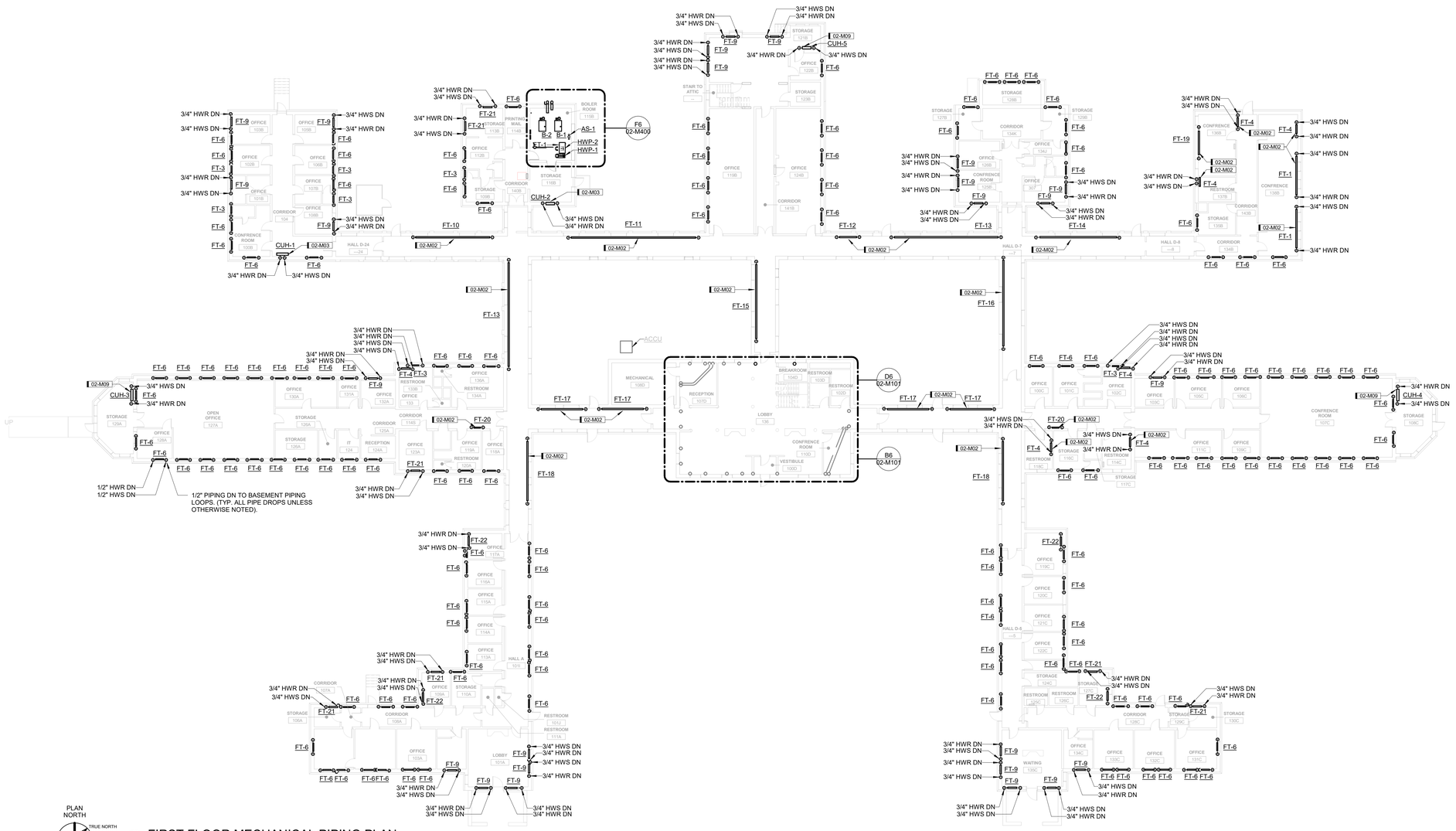
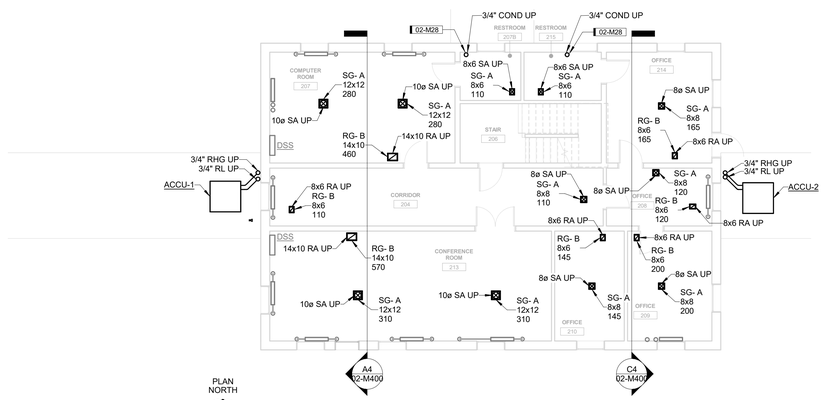
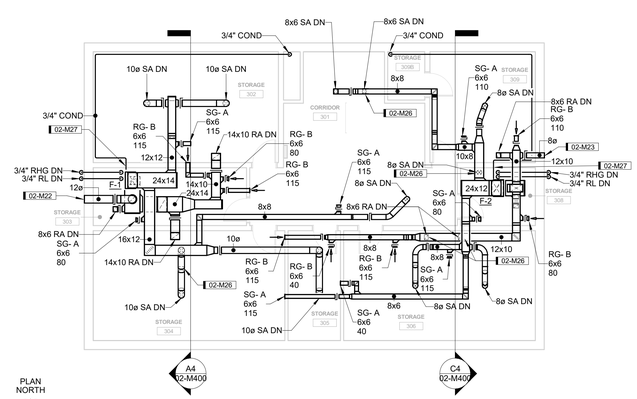


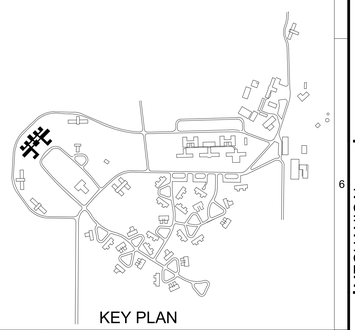
A5 FIRST FLOOR MECHANICAL PIPING PLAN
1/16" = 1'-0" 0 24'



B6 SECOND FLOOR MECHANICAL PLAN
1/8" = 1'-0" 0 12'



D6 THIRD FLOOR MECHANICAL PLAN
1/8" = 1'-0" 0 12'



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MECHANICAL PLANS

02-M101

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KEYNOTES

KEY	NOTE
02-M10	THERMOSTAT SERVING CUH CALLED OUT WITH LEADERS.
02-M11	THERMOSTAT SERVES THE HEATING ZONE OF CONVECTORS CALLED OUT WITH LEADERS.
02-M24	THERMOSTAT SERVING EXISTING AIR HANDLING EQUIPMENT SHALL REMAIN,
02-M30	THERMOSTAT CONTROLLING F-1
02-M31	THERMOSTAT CONTROLLING F-2

NOTE:

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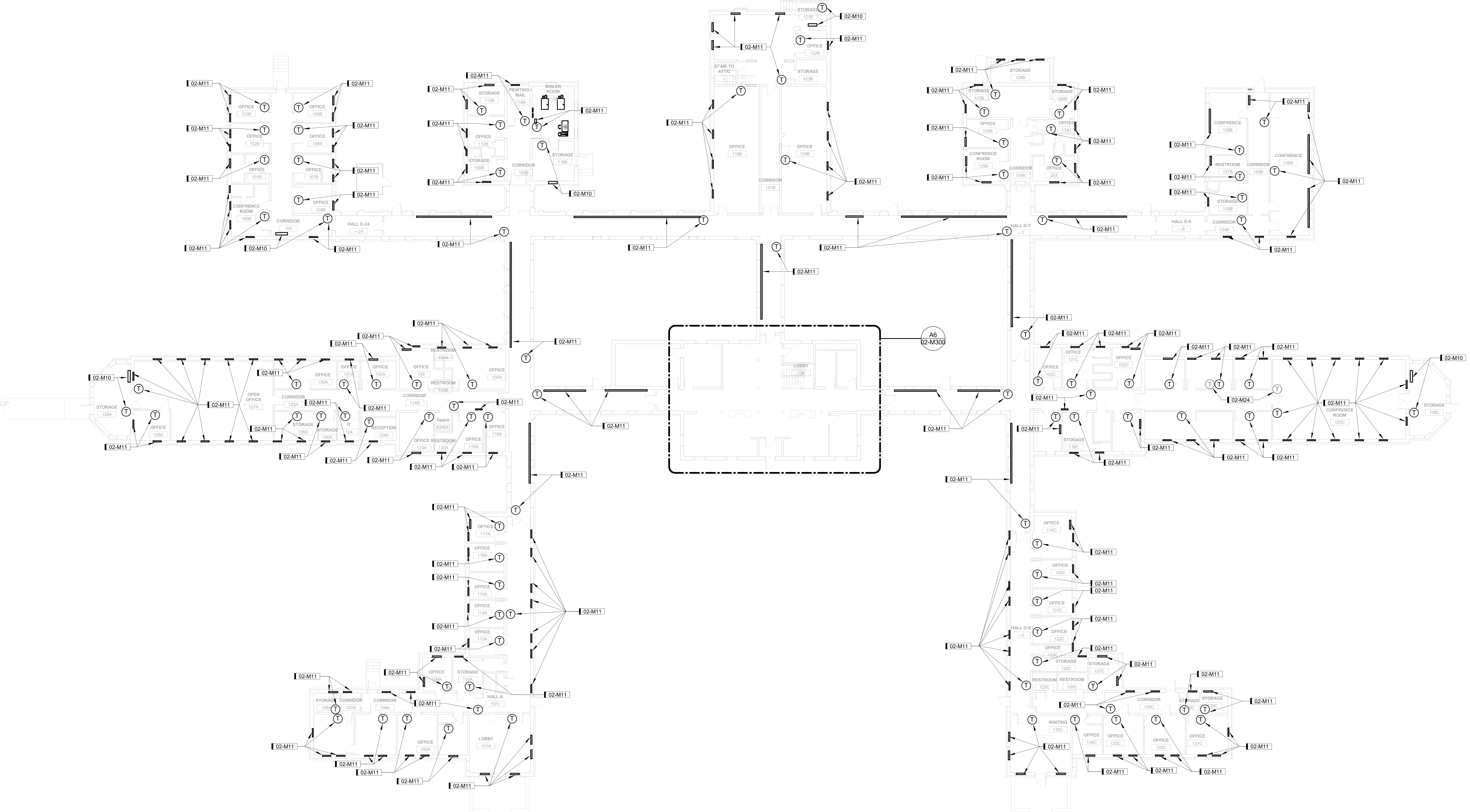
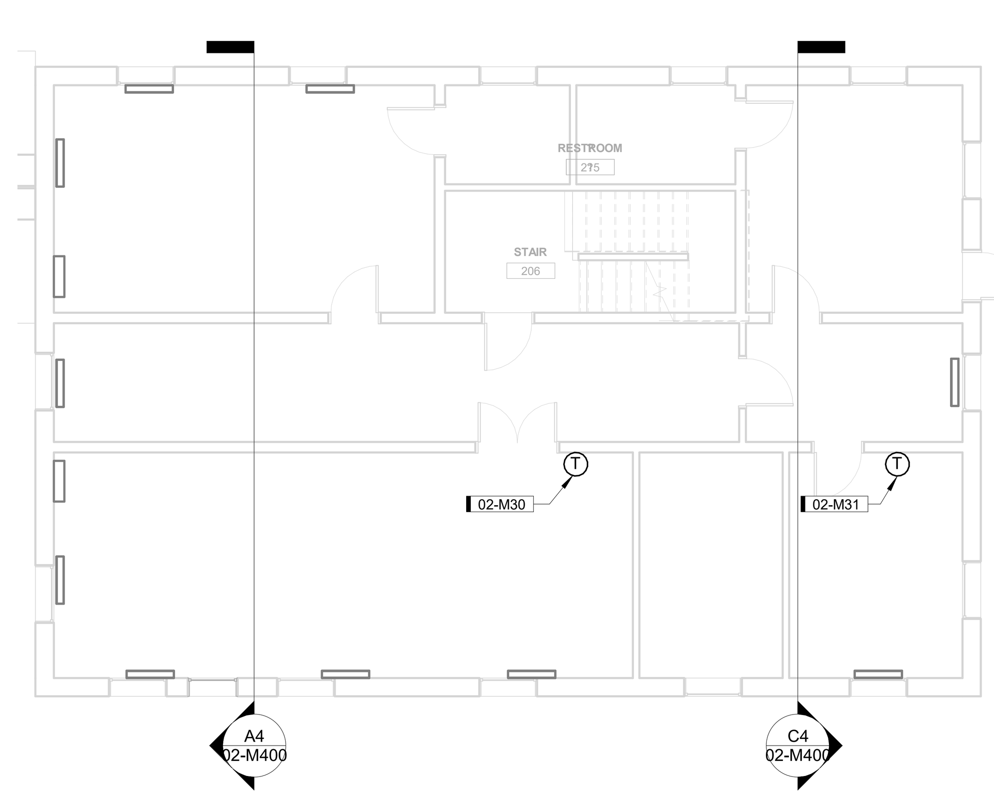
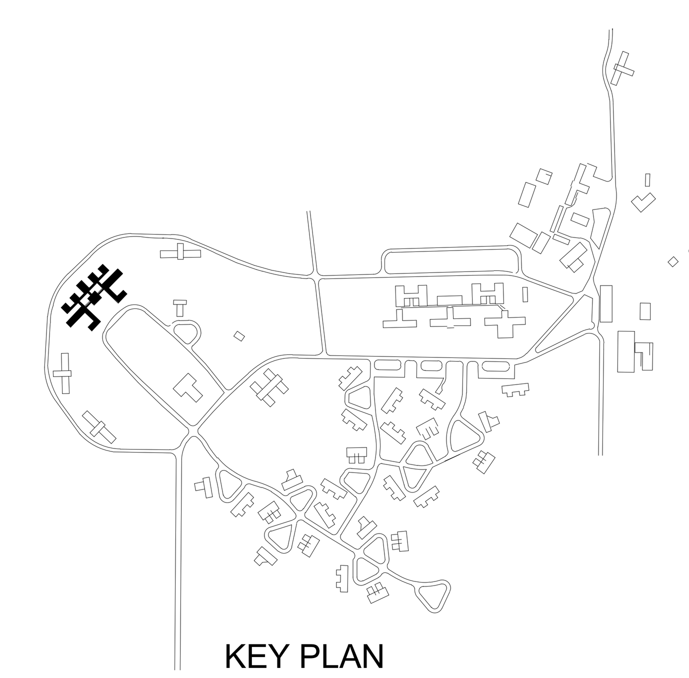


A5 FIRST FLOOR THERMOSTAT PLAN
1/16" = 1'-0" 0 24'



A6 MAIN LOBBY SECOND FLOOR THERMOSTAT PLAN
1/8" = 1'-0" 0 12'



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THERMOSTAT ZONING PLAN

02-M300

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KEYNOTES	
KEY	NOTE
02-M20	ROUTE CONDENSATE PIPING FROM BOILER TO FLOOR DRAIN.
02-M25	PROVIDE CARBON MONOXIDE MONITOR & ALARM. UL 2034 COMPLIANT HARD WIRED CARBON MONOXIDE DETECTOR WITH BATTERY BACKUP. FIREX HARDWIRED CARBON MONOXIDE DETECTOR WITH 9-VOLT BATTERY BACKUP OR ENGINEER PRE-APPROVED EQUIVALENT.
02-M32	ENSURE THAT FITTINGS ARE NOT INSTALLED DIRECTLY ABOVE PANELS.

NOTE:

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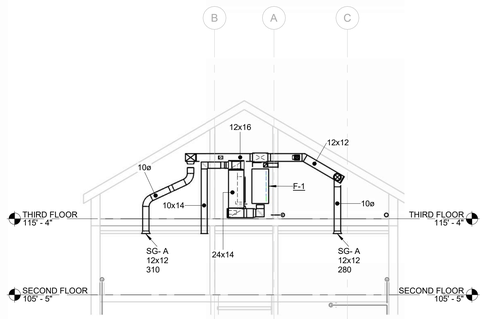
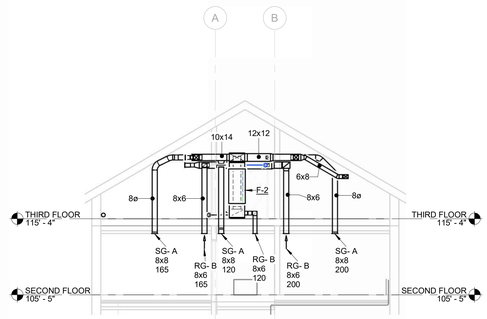
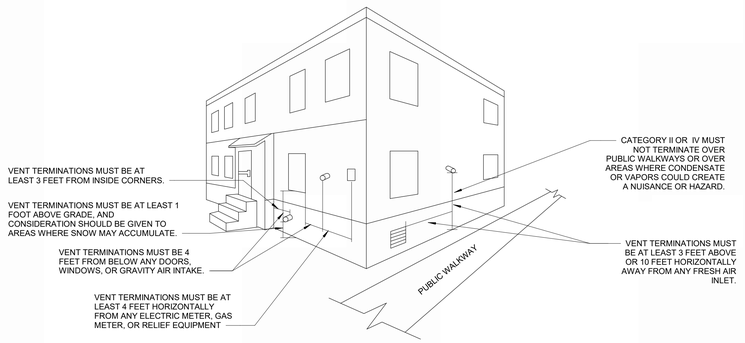


A4 FURNACE F-1 SECTION
1/8" = 1'-0" 0 12'

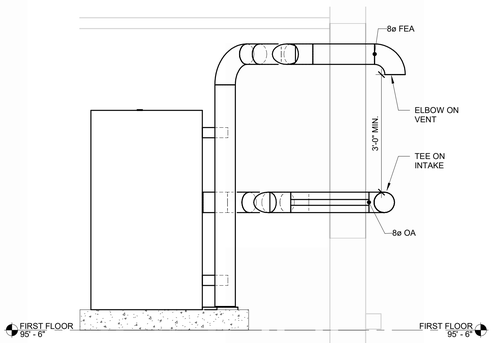


C4 FURNACE F-2 SECTION
1/8" = 1'-0" 0 12'



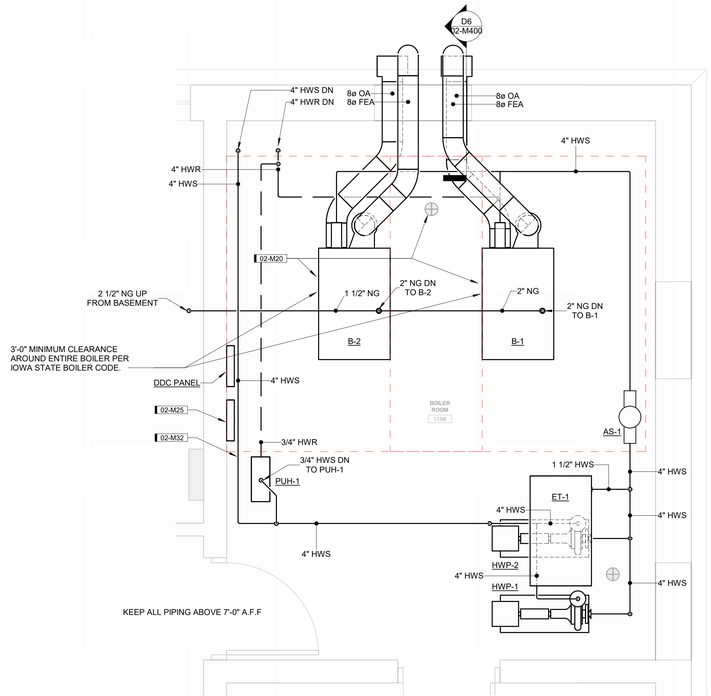
NOTE: VERTICAL TERMINATIONS SHALL EXTEND AT LEAST 3 FEET ABOVE THE HIGHEST POINT WHERE IT PASSES THROUGH A ROOF OF A BUILDING AND AT LEAST 3 FEET HIGHER THAN ANY PORTION OF THE BUILDING WITHIN A HORIZONTAL DISTANCE OF 10 FEET. TERMINATIONS THAT EXTEND MORE THAN 2 FEET ABOVE THE ROOF MUST BE LATERALLY SUPPORTED.

A6 VENT TERMINATION DETAIL
NOT TO SCALE



REFER TO VENT TERMINATION DETAIL #3 AT LEFT AND MANUFACTURER'S INSTRUCTIONS FOR SPECIFICATIONS AND INSTRUCTIONS ON INSTALLING VENT/COMBUSTION PIPING.

D6 BOILER VENT TERMINATION SECTION
1/2" = 1'-0" 0 3'



PLAN NORTH
TRUE NORTH

F6 BOILER ROOM MECHANICAL PLAN
1/2" = 1'-0" 0 3'

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ENLARGED MECHANICAL PLANS & SECTIONS

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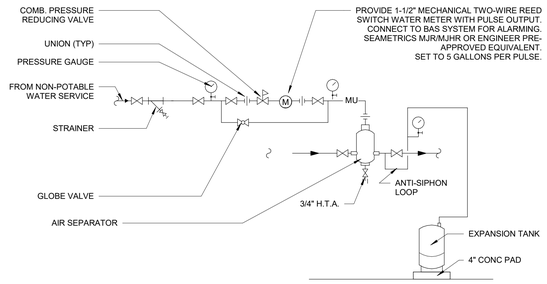
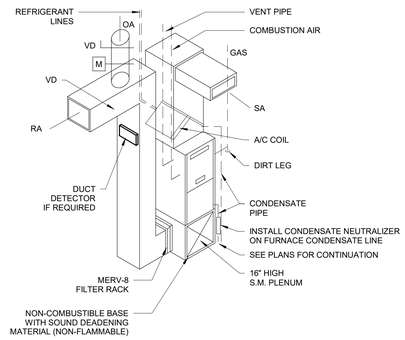
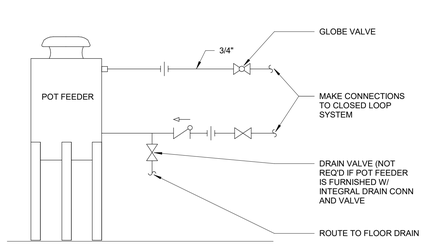


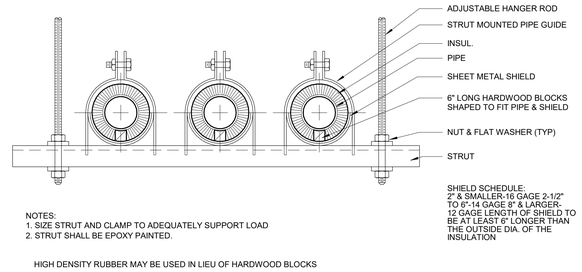
A2 AIR SEPARATOR/BLADDER TYPE EXP. TANK DETAIL
NOT TO SCALE



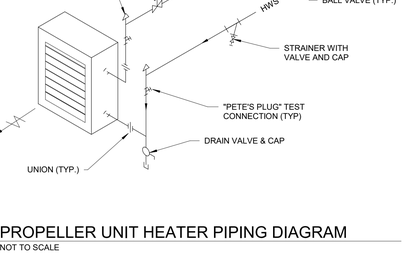
C2 UPFLOW FURNACE DETAIL
NOT TO SCALE



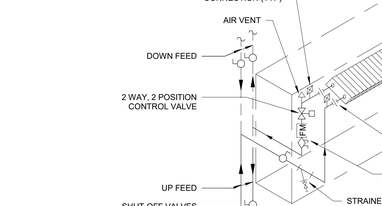
E2 POT FEEDER DETAIL
NOT TO SCALE



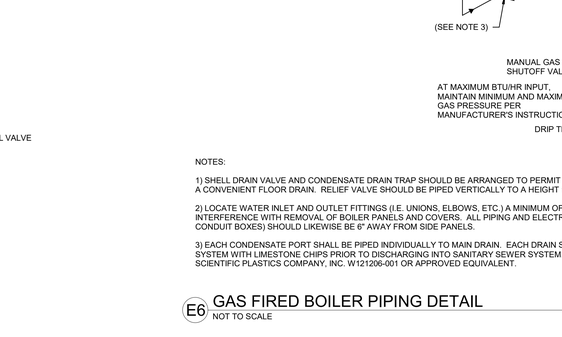
F2 TRAPEZE TYPE HANGER DETAIL
NOT TO SCALE



A4 1 TIER FIN TUBE PIPING DIAGRAM - PIPING IN FLOOR BELOW
NOT TO SCALE



B4 INSULATED PIPE HANGER DETAIL
NOT TO SCALE



D4 End Suction Pump Detail
NOT TO SCALE

F4 3 TIER FIN TUBE PIPING DIAGRAM - PIPING IN FLOOR BELOW
NOT TO SCALE

A5 INTERIOR FIRE RATED WALL PIPE PENETRATION DETAIL
NOT TO SCALE

C5 INTERIOR WALL PIPE PENETRATION DETAIL
NOT TO SCALE

NOTES:

1) SHELL DRAIN VALVE AND CONDENSATE DRAIN TRAP SHOULD BE ARRANGED TO PERMIT THE FLUIDS TO DRAIN FREELY, BY GRAVITY, TO A CONVENIENT FLOOR DRAIN. RELIEF VALVE SHOULD BE PIPED VERTICALLY TO A HEIGHT 18" ABOVE FLOOR.

2) LOCATE WATER INLET AND OUTLET FITTINGS (I.E. UNIONS, ELBOWS, ETC.) A MINIMUM OF 6" FROM BOILER FITTINGS TO PREVENT INTERFERENCE WITH REMOVAL OF BOILER PANELS AND COVERS. ALL PIPING AND ELECTRIC CONNECTIONS (SERVICE SWITCHES, CONDUIT BOXES) SHOULD LIKEWISE BE 6" AWAY FROM SIDE PANELS.

3) EACH CONDENSATE PORT SHALL BE PIPED INDIVIDUALLY TO MAIN DRAIN. EACH DRAIN SHALL ROUTE THROUGH ACID NEUTRALIZATION SYSTEM WITH LIMESTONE CHIPS PRIOR TO DISCHARGING INTO SANITARY SEWER SYSTEM. ACID NEUTRALIZATION TANK SHALL BE SCIENTIFIC PLASTICS COMPANY, INC. W121206-001 OR APPROVED EQUIVALENT.

A6 PROPELLER UNIT HEATER PIPING DIAGRAM
NOT TO SCALE

C6 CABINET UNIT HEATER PIPING DIAGRAM
NOT TO SCALE

E6 GAS FIRED BOILER PIPING DETAIL
NOT TO SCALE

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MECHANICAL DETAILS

02-M500

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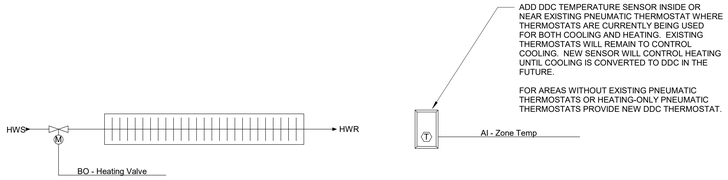


A2 CONTROLS SCHEMATIC - FIN TUBE HEATER
NOT TO SCALE

1. CONVECTIVE / FIN TUBE HEATER (TYPICAL OF 1)

RUN CONDITIONS - CONTINUOUS:
THE UNIT SHALL RUN CONTINUOUSLY AND SHALL MAINTAIN A HEATING SETPOINT OF 70°F (ADJ.).

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- LOW ZONE TEMP: IF THE ZONE TEMPERATURE IS LESS THAN THE HEATING SETPOINT BY 10°F (ADJ.).

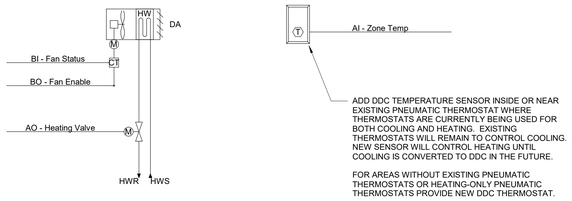
HEATING COIL VALVE:
THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND OPEN OR CLOSE THE HEATING COIL VALVE TO MAINTAIN ITS HEATING SETPOINT.

THE HEATING SHALL BE ENABLED WHENEVER:
- OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.).
- AND THE ZONE TEMPERATURE IS BELOW HEATING SETPOINT.

CREATE A TABLE IN THE BUILDING AUTOMATION GRAPHICS WHICH DISPLAYS EACH FIN TUBE IN THE BUILDING WITH FIN TUBE LOCATION, VALVE POSITION, SPACE TEMPERATURE AND SPACE TEMPERATURE SETPOINT. ONE FIN TUBE PER LINE IN THE TABLE.

POINTS MATRIX - FIN TUBE HEATER

POINT NAME	HARDWARE POINTS				SOFTWARE POINTS						SHOW ON GRAPHIC
	AI	AO	BI	BO	AV	BV	LOOP	SCHED	TREND	ALARM	
ZONE TEMP	x								x		x
HEATING VALVE				x					x		x
HEATING SETPOINT					x				x		x
LOW ZONE TEMP										x	



A4 CONTROLS SCHEMATIC - UNIT HEATER
NOT TO SCALE

1. UNIT HEATER

THE UNIT SHALL MAINTAIN A HEATING SETPOINT OF 70°F (ADJ.).

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- LOW ZONE TEMP: IF THE ZONE TEMPERATURE IS LESS THAN THE HEATING SETPOINT BY 10°F (ADJ.).

FAN:
THE FAN SHALL RUN ANYTIME THE ZONE TEMPERATURE IS BELOW HEATING SETPOINT, UNLESS SHUTDOWN ON SAFETIES.

HEATING COIL VALVE:
THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND MODULATE THE HEATING COIL VALVE TO MAINTAIN ITS HEATING SETPOINT.

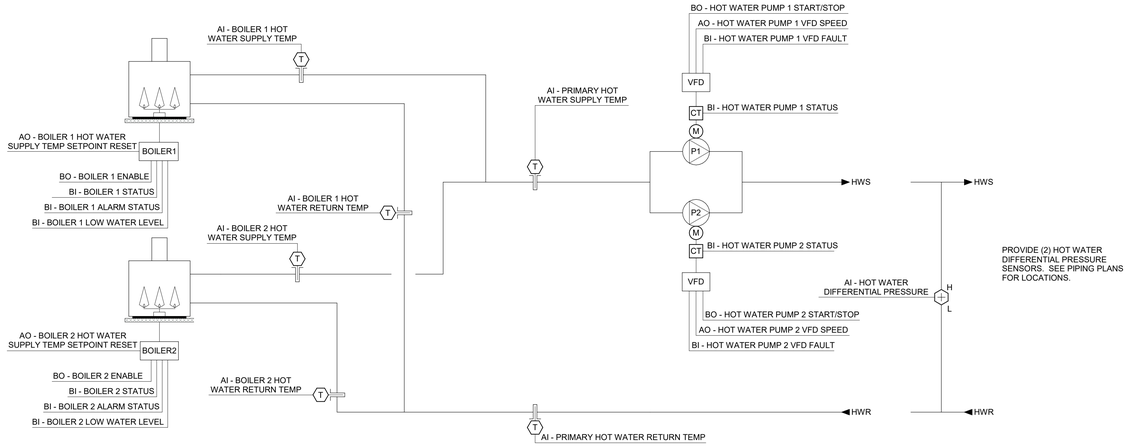
THE HEATING SHALL BE ENABLED WHENEVER:
- OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.).
- AND THE ZONE TEMPERATURE IS BELOW HEATING SETPOINT.
- AND THE FAN IS ON.

FAN STATUS:
THE CONTROLLER SHALL MONITOR THE FAN STATUS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- FAN RUNTIME EXCEEDED: FAN STATUS RUNTIME EXCEEDS 2000 CONTINUOUS HOURS (ADJ.).

POINTS MATRIX - UNIT HEATER

POINT NAME	HARDWARE POINTS				SOFTWARE POINTS						SHOW ON GRAPHIC
	AI	AO	BI	BO	AV	BV	LOOP	SCHED	TREND	ALARM	
ZONE TEMP	x								x		x
HEATING VALVE		x							x		x
FAN STATUS			x						x		x
FAN ENABLE				x							x
HEATING SETPOINT					x				x		x
FAN FAILURE										x	
FAN IN HAND										x	
LOW ZONE TEMP										x	



D3 CONTROLS SCHEMATIC - TWO BOILER SYSTEM
NOT TO SCALE

1. TWO BOILER SYSTEM WITH CONDENSING BOILERS, PRIMARY SECONDARY FLOW.

BOILER SYSTEM RUN CONDITIONS:
THE BOILER SYSTEM SHALL BE ENABLED TO RUN WHENEVER:
- A HOT WATER COIL OR RADIATOR NEED HEATING.
- AND OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.).

TO PREVENT SHORT CYCLING, THE BOILER SYSTEM SHALL RUN FOR AND BE OFF FOR MINIMUM ADJUSTABLE TIMES (BOTH USER DEFINABLE), UNLESS SHUTDOWN ON SAFETIES OR OUTSIDE AIR CONDITIONS.

THE BOILER SHALL RUN SUBJECT TO ITS OWN INTERNAL SAFETIES AND CONTROLS.

THE BOILER SYSTEM SHALL ALSO RUN FOR FREEZE PROTECTION WHENEVER THE OUTSIDE AIR TEMPERATURE IS LESS THAN 38°F (ADJ.).

BOILER 1 SAFETIES:
THE FOLLOWING SAFETIES SHALL BE MONITORED:
- BOILER ALARM.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- BOILER ALARM.

BOILER 2 SAFETIES:
THE FOLLOWING SAFETIES SHALL BE MONITORED:
- BOILER ALARM.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- BOILER ALARM.

HOT WATER PUMP LEAD/LAG OPERATION:
THE TWO HOT WATER PUMPS SHALL OPERATE IN A LEAD/LAG FASHION.
- THE LEAD PUMP SHALL RUN FIRST.
- ON FAILURE OF THE LEAD PUMP, THE LAG PUMP SHALL RUN AND THE LEAD PUMP SHALL TURN OFF.
- ON DECREASING HOT WATER DIFFERENTIAL PRESSURE, THE LAG PUMP SHALL STAGE ON AND RUN IN UNISON WITH THE LEAD PUMP TO MAINTAIN HOT WATER DIFFERENTIAL PRESSURE SETPOINT.

THE DESIGNATED LEAD PUMP SHALL ROTATE UPON ONE OF THE FOLLOWING CONDITIONS (USER SELECTABLE). THE LAG PUMP SHALL BE ENABLED PRIOR TO THE LEAD PUMP BEING DISABLED AND VFD SPEEDS STAGED SUCH THAT BOILER NUISANCE TRIPS DO NOT OCCUR BECAUSE OF LOW FLOW.
- MANUALLY THROUGH A SOFTWARE SWITCH
- IF PUMP RUNTIME (ADJ.) IS EXCEEDED
- DAILY
- WEEKLY
- MONTHLY

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HOT WATER PUMP 1
  - FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
  - RUNNING IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
  - RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER 3000 CONTINOUS HOURS LIMIT.
  - VFD FAULT.
- HOT WATER PUMP 2
  - FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
  - RUNNING IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
  - RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER 3000 CONTINOUS HOURS LIMIT.
  - VFD FAULT.

HOT WATER DIFFERENTIAL PRESSURE CONTROL:
THE CONTROLLER SHALL MEASURE HOT WATER DIFFERENTIAL PRESSURE AND MODULATE THE HOT WATER PUMP VFDS IN SEQUENCE TO MAINTAIN ITS HOT WATER DIFFERENTIAL PRESSURE SETPOINT AT THE WORST CASE SENSOR.

THE FOLLOWING SETPOINTS ARE RECOMMENDED VALUES. ALL SETPOINTS SHALL BE FIELD ADJUSTED DURING THE COMMISSIONING PERIOD TO MEET THE REQUIREMENTS OF ACTUAL FIELD CONDITIONS.

THE CONTROLLER SHALL MODULATE HOT WATER PUMP SPEEDS TO MAINTAIN A HOT WATER DIFFERENTIAL PRESSURE OF 12 PSI (ADJ.). THE VFDS MINIMUM SPEED SHALL NOT DROP BELOW 20% (ADJ.).

ON DROPPING HOT WATER DIFFERENTIAL PRESSURE, THE VFDS SHALL STAGE ON AND RUN TO MAINTAIN SETPOINT AS FOLLOWS:
- THE CONTROLLER SHALL MODULATE THE LEAD VFD TO MAINTAIN SETPOINT.
- IF THE LEAD VFD SPEED IS GREATER THAN A SETPOINT OF 90% (ADJ.), THE LAG VFD SHALL STAGE ON.
- THE LAG VFD SHALL RAMP UP TO MATCH THE LEAD VFD SPEED AND THEN RUN IN UNISON WITH THE LEAD VFD TO MAINTAIN SETPOINT.

ON RISING HOT WATER DIFFERENTIAL PRESSURE, THE VFDS SHALL STAGE OFF AS FOLLOWS:
- IF THE VFDS SPEEDS DROPS BACK TO 60% (ADJ.) BELOW SETPOINT, THE LAG VFD SHALL STAGE OFF.
- THE LEAD VFD SHALL CONTINUE TO RUN TO MAINTAIN SETPOINT.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH HOT WATER DIFFERENTIAL PRESSURE: IF 25% (ADJ.) GREATER THAN SETPOINT.
- LOW HOT WATER DIFFERENTIAL PRESSURE: IF 25% (ADJ.) LESS THAN SETPOINT.

THE PACKAGED BOILER CONTROLS SHALL MANAGE LEAD/LAG CASCADING OPERATION.

HOT WATER SUPPLY TEMPERATURE SETPOINT RESET:
THE HOT WATER SUPPLY TEMPERATURE SETPOINT SHALL RESET BASED ON OUTSIDE AIR TEMPERATURE.

AS OUTSIDE AIR TEMPERATURE RISES FROM 0 F (ADJ.) TO 70 F (ADJ.) THE HOT WATER SUPPLY TEMPERATURE SETPOINT SHALL RESET DOWNWARDS FROM 180 F (ADJ.) TO 90 F (ADJ.) FROM THE CURRENT BOILER SETPOINT.

PRIMARY HOT WATER TEMPERATURE MONITORING:
THE FOLLOWING TEMPERATURES SHALL BE MONITORED:
- PRIMARY HOT WATER SUPPLY.
- PRIMARY HOT WATER RETURN.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH PRIMARY HOT WATER SUPPLY TEMP: IF GREATER THAN 190°F (ADJ.).
- LOW PRIMARY HOT WATER SUPPLY TEMP: IF LESS THAN 80°F (ADJ.).

BOILER 1 HOT WATER TEMPERATURE MONITORING:
THE FOLLOWING TEMPERATURES SHALL BE MONITORED:
- BOILER 1 HOT WATER SUPPLY.
- BOILER 1 HOT WATER RETURN.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH HOT WATER SUPPLY TEMP: IF GREATER THAN 190°F (ADJ.).
- LOW HOT WATER SUPPLY TEMP: IF LESS THAN 80°F (ADJ.).

BOILER 2 HOT WATER TEMPERATURE MONITORING:
THE FOLLOWING TEMPERATURES SHALL BE MONITORED:
- BOILER 2 HOT WATER SUPPLY.
- BOILER 2 HOT WATER RETURN.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH HOT WATER SUPPLY TEMP: IF GREATER THAN 190°F (ADJ.).
- LOW HOT WATER SUPPLY TEMP: IF LESS THAN 80°F (ADJ.).

PROVIDE ALARM FROM MECHANICAL WATER METER ON WATER FILL LINE FOR SYSTEM. ALARM IF WATER METER OUTPUTS ANY PULSE SIGNALS.

POINTS MATRIX - BOILER

POINT NAME	HARDWARE POINTS				SOFTWARE POINTS						SHOW ON GRAPHIC
	AI	AO	BI	BO	AV	BV	LOOP	SCHED	TREND	ALARM	
BOILER 1 HOT WATER RETURN TEMP	x				x				x		x
BOILER 1 HOT WATER SUPPLY TEMP					x				x		x
BOILER 2 HOT WATER RETURN TEMP					x				x		x
BOILER 2 HOT WATER SUPPLY TEMP					x				x		x
HOT WATER DIFFERENTIAL PRESSURE - WEST LOOP	x								x		x
HOT WATER DIFFERENTIAL PRESSURE - EAST LOOP	x								x		x
PRIMARY HOT WATER RETURN TEMP	x								x		x
PRIMARY HOT WATER SUPPLY TEMP	x								x		x
BOILER 1 HOT WATER SUPPLY TEMP SETPOINT RESET					x				x		x
BOILER 2 HOT WATER SUPPLY TEMP SETPOINT RESET					x				x		x
HOT WATER PUMP 1 VFD SPEED		x							x		x
HOT WATER PUMP 2 VFD SPEED		x							x		x
BOILER 1 ALARM STATUS						x			x	x	x
BOILER 1 STATUS						x			x		x
BOILER 2 ALARM STATUS						x			x	x	x
BOILER 2 STATUS						x			x		x
CIRCULATION PUMP 1 STATUS			x						x		x
CIRCULATION PUMP 2 STATUS			x						x		x
HOT WATER PUMP 1 STATUS			x						x		x
HOT WATER PUMP 1 VFD FAULT			x							x	x
HOT WATER PUMP 2 STATUS			x						x		x
HOT WATER PUMP 2 VFD FAULT			x							x	x
BOILER 1 ENABLE							x				x
BOILER 2 ENABLE							x				x
HOT WATER PUMP 1 START/STOP				x							x
HOT WATER PUMP 2 START/STOP				x							x
HOT WATER DIFFERENTIAL PRESSURE SETPOINT									x		x
OUTSIDE AIR TEMP					x						x
BOILER 1 HIGH HOT WATER SUPPLY TEMP										x	
BOILER 1 LOW HOT WATER SUPPLY TEMP										x	
BOILER 2 HIGH HOT WATER SUPPLY TEMP										x	
BOILER 2 LOW HOT WATER SUPPLY TEMP										x	
HIGH HOT WATER DIFFERENTIAL PRESSURE										x	
HIGH PRIMARY HOT WATER SUPPLY TEMP										x	
HOT WATER PUMP 1 FAILURE										x	
HOT WATER PUMP 1 RUNNING IN HAND										x	
HOT WATER PUMP 1 RUNTIME EXCEEDED										x	
HOT WATER PUMP 2 FAILURE										x	
HOT WATER PUMP 2 RUNNING IN HAND										x	
HOT WATER PUMP 2 RUNTIME EXCEEDED										x	
LEAD BOILER FAILURE										x	x
LOW HOT WATER DIFFERENTIAL PRESSURE										x	
LOW PRIMARY HOT WATER SUPPLY TEMP										x	
WATER METER ALARM			x						x	x	x

C6 BOILER & PUMP SEQUENCE OF OPERATION
NOT TO SCALE

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15-Dispatch Garage
(#9279.30) WRC Decentralization Phase 3
Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

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APPROVED BY	
ISSUED FOR	BIDDING
ISSUE DATE	2024-01-11
PROJECT NUMBER	2142203394
FIELD BOOK	

CONTROLS

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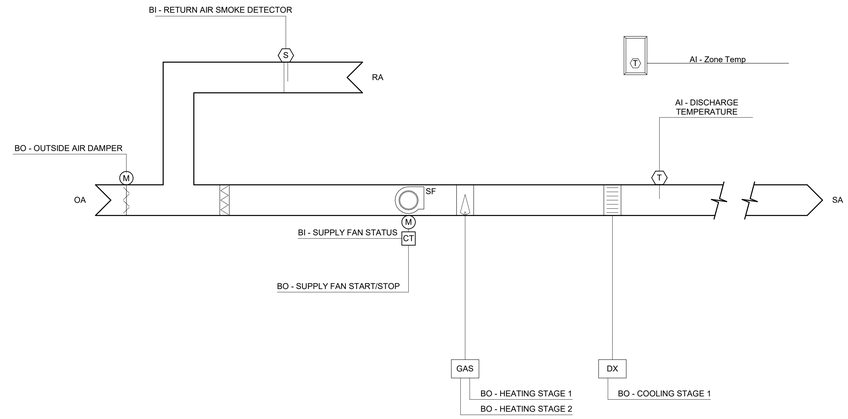

E3 GAS FURNACE WITH DX COOLING SCHEMATIC
NOT TO SCALE

1. GAS FURNACE WITH DX COOLING

RUN CONDITIONS - SCHEDULED:
THE UNIT SHALL RUN BASED UPON AN OPERATOR ADJUSTABLE SCHEDULE.

EMERGENCY SHUTDOWN:
THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING AN EMERGENCY SHUTDOWN SIGNAL.

RETURN AIR SMOKE DETECTION:
THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A RETURN AIR SMOKE DETECTOR STATUS.

OUTSIDE AIR VENTILATION:
WHEN IN THE OCCUPIED MODE, THE CONTROLLER SHALL OPEN THE OUTSIDE AIR DAMPER. THE DAMPER SHALL BE CLOSED DURING UNOCCUPIED MODE.

AHU OPTIMAL START:
THE UNIT SHALL START PRIOR TO SCHEDULED OCCUPANCY BASED ON THE TIME NECESSARY FOR THE ZONES TO REACH THEIR OCCUPIED SETPOINTS. THE START TIME SHALL AUTOMATICALLY ADJUST BASED ON CHANGES IN OUTSIDE AIR TEMPERATURE AND ZONE TEMPERATURES.

SUPPLY FAN:
THE SUPPLY FAN SHALL RUN ANYTIME THE UNIT IS COMMANDED TO RUN, UNLESS SHUTDOWN ON SAFETIES. TO PREVENT SHORT CYCLING, THE SUPPLY FAN SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- SUPPLY FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- SUPPLY FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.

COOLING STAGES:
THE CONTROLLER SHALL STAGE THE COOLING TO MAINTAIN ITS COOLING SETPOINT. TO PREVENT SHORT CYCLING, THERE SHALL BE A USER DEFINABLE (ADJ.) DELAY BETWEEN STAGES, AND EACH STAGE SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME.

THE COOLING SHALL BE ENABLED WHENEVER:
- OUTSIDE AIR TEMPERATURE IS GREATER THAN 60°F (ADJ.).
- AND THE SUPPLY FAN STATUS IS ON.
- AND THE HEATING (IF PRESENT) IS NOT ACTIVE.

GAS HEATING STAGES:
THE CONTROLLER SHALL STAGE THE HEATING TO MAINTAIN ITS HEATING SETPOINT. TO PREVENT SHORT CYCLING, THERE SHALL BE A USER DEFINABLE (ADJ.) DELAY BETWEEN STAGES, AND EACH STAGE SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME.

THE HEATING SHALL BE ENABLED WHENEVER:
- OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.).
- AND THE SUPPLY FAN STATUS IS ON.
- AND THE COOLING (IF PRESENT) IS NOT ACTIVE.

POINTS MATRIX - AHU WITH RF, WH (DX & CW, HW & GAS)

POINT NAME	HARDWARE POINTS				SOFTWARE POINTS						SHOW ON GRAPHIC
	AI	AO	BI	BO	AV	BV	LOOP	SCHED	TREND	ALARM	
HEATING STAGE 1				x					x		x
HEATING STAGE 2				x					x		x
SUPPLY FAN STATUS			x						x		x
COOLING STAGE 1				x					x		x
SUPPLY FAN START/STOP				x					x		x
EMERGENCY SHUTDOWN						x			x	x	x
SCHEDULE								x			
COMPRESSOR RUNTIME EXCEEDED										x	
HIGH ROOM TEMPERATURE										x	
LOW ROOM TEMPERATURE										x	
DISCHARGE TEMPERATURE	x								x		x

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CONTROLS

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DIFFUSERS REGISTERS AND GRILLES SCHEDULE

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT.
2. COORDINATE MOUNTING STYLE WITH CEILING TYPE.

MARK	MATERIAL	DESCRIPTION	FACE SIZE	FACTORY FINISH	DESIGN BASIS	REMARKS
A	ALUMINUM	SIDEWALL/CEILING SUPPLY	SEE PLANS	WHITE	TITUS 272FL	1, 2
B	ALUMINUM	SIDEWALL/CEILING RETURN	SEE PLANS	WHITE	TITUS 350FL	1, 2

MECHANICAL PIPING EXPANSION TANK SCHEDULE

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT.

MARK	SYSTEM SERVED	TYPE	TANK CAPACITY (GAL)	ACCEPTANCE CAPACITY (GAL)	RELIEF VALVE		DESIGN BASIS	REMARKS
					RELIEF AT (PSI)	FILL AT (PSI)		
ET-1	HEATING WATER	BLADDER	53	53	50	12	B&G B200	1

AIR SEPARATOR SCHEDULE

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT.

MARK	SYSTEM SERVED	SIZE (IN)	CAPACITY (GPM)	STRAINER (Y/N)	MAX PD (FT)	MINIMUM AIR REMOVAL (%)	DESIGN BASIS	REMARKS
AS-1	HEATING WATER	4"	240	N	1	99%	SPIROTHERM VSR-400	1

MECHANICAL PUMP SCHEDULE

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT
2. VFD TO BE PROVIDED BY ELECTRICAL CONTRACTOR

MARK	SYSTEM SERVED	TYPE	GPM	HEAD (FT)	SHUTOFF HEAD (FT)	PLEV %	MOTOR DATA					DESIGN BASIS	REMARKS
							BHP	HP	VOLTS	PHASE	RPM		
HWP-1	HEATING WATER	END SUCTION	163	61	71.3	70.1	3.21	5	208	3	1800	B&G e-1510 2BD	1, 2
HWP-2	HEATING WATER	END SUCTION	163	61	71.3	70.1	3.21	5	208	3	1800	B&G e-1510 2BD	1, 2

AIR COOLED CONDENSING UNIT SCHEDULE

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT.
2. DISCONNECT TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
3. PROVIDE MIRO LD MECHANICAL UNIT, OR ENGINEER PRE-APPROVED EQUIVALENT, SUPPORT FOR CONDENSING UNIT. PROVIDE WITH SUPPORT PAD ACCESSORY. COORDINATE SIZE PRIOR TO ORDERING.

MARK	LOCATION	SYSTEM SERVED	CAPACITY (MBH)	COND AMBIENT AIR TEMP (°F)	NUMBER OF COMPRESSORS	SEER	ELECTRICAL DATA					OPERATING WEIGHT	REFRIGERANT TYPE	DESIGN BASIS	REMARKS
							VOLTS	PHASE	MCA	FLA	MOCP				
ACCU-1	COURTYARD	F-1	48	95	1	16	208	1	23.1	18.5 A	40 A	277	R-410A	TRANE 4TTR6048N1	1, 2, 3
ACCU-2	ROOF	F-2	42	95	1	16	208	1	20	16 A	35 A	256	R-410A	TRANE 4TTR4042N1	1, 2, 3

UNIT HEATER SCHEDULE - HOT WATER

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT
2. PROVIDE WITH FACTORY MOUNTED DISCONNECT

MARK	AREA SERVED	CFM	EWT (°F)	LWT (°F)	EAT (°F)	LAT (°F)	MBH	GPM	MAX PD (FT)	MOUNTING HEIGHT (FT)	ORIENTATION	FAN MOTOR DATA			DESIGN BASIS	REMARKS
												HP	VOLTS	PHASE		
CUH-1	CORRIDOR 104	424	190	160	68	118	22.5	1.47	0.2	0"	SLOPED TOP	1/10	120	1	STERLING FS-1005-04	1, 2
CUH-2	STORAGE 116B	227	190	160	68	120	12.5	0.81	0.1	0"	RECESSED WALL	1/15	120	1	STERLING RW-1120-02	1, 2
CUH-3	STORAGE 129A	424	190	160	68	118	22.5	1.47	0.2	0"	SLOPED TOP	1/10	120	1	STERLING FS-1005-04	1, 2
CUH-4	STORAGE 108C	424	190	160	68	118	22.5	1.47	0.2	0"	SLOPED TOP	1/10	120	1	STERLING FS-1005-04	1, 2
CUH-5	STORAGE 121B	227	190	160	68	120	12.5	0.81	0.1	0"	RECESSED WALL	1/15	120	1	STERLING RW-1120-02	1, 2
PUH-1	STORAGE 115B	695	190	170	70	85	18.4	2	0.2	7'-0"	HANGING	1/25	120	1	MODINE HSB/HC 33L	1, 2

FURNACE SCHEDULE - GAS

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT.
2. DISCONNECT TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR
3. TO BE INSTALLED WITH A MERV-8 FILTER BOX

MARK	AREA SERVED	OA CFM	CFM	ESP (IN WC)	AIRFLOW DIRECTION	COOLING COIL DATA					HEATING DATA					ELECTRICAL DATA		DESIGN BASIS	REMARKS
						TOTAL MBH	EAT (°F)		LAT (°F)		EAT (°F)	LAT (°F)	INPUT MBH	THERMAL EFFICIENCY	MINIMUM GAS PRESSURE (IN WC)	VOLTS	PHASE		
							DB	WB	DB	WB									
F-1	LOBBY 2ND FLOOR	250	1600	0.6	UPFLOW	48.3	80	67	58.1	57	54	110	100	96	7	120	1	TRANE S9X2C100	1, 2 ,3
F-2	LOBBY 3RD FLOOR	110	1310	0.6	UPFLOW	41.02	80	67	58.3	56.6	56	110	80	96	7	120	1	TRANE S9X2B080	1, 2 ,3

FIRE TUBE BOILER SCHEDULE - HOT WATER

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT.
2. DISCONNECT TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR

MARK	INPUT (MBH)	OUTPUT (MBH)	GAS PRESSURE RANGE REQUIRED (IN W.C.)	EFFICIENCY	EWT (°F)	LWT (°F)	GPM	MAX PD (FT)	FUEL TYPE	TURNDOWN RATIO	OPERATING PRESSURE (PSIG)	MAX DIMENSIONS			ELECTRICAL DATA					DESIGN BASIS	REMARKS
												MAX HEIGHT	MAX LENGTH	MAX WIDTH	VOLTS	PHASE	FLA	MCA	MOCP		
B-1	2000	1740	4-14	87	170	190	163	7	N.G.	20:1	160	6'-6"	4'-10 13/32"	2'-4"	120	1	16	20	20	AERCO BMK-2000	1, 2
B-2	2000	1740	4-14	87	170	190	163	7	N.G.	20:1	160	6'-6"	4'-10 13/32"	2'-4"	120	1	16	20	20	AERCO BMK-2000	1, 2

FIN TUBE RADIATION SCHEDULE - HYDRONIC

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT
2. PROVIDE WITH 3-WAY VALVE. SEE DETAILS.

MARK	CAPACITY (BTU/FT)	AVERAGE WATER TEMP (°F)	GPM	TUBE SIZE (IN)	NUMBER OF TUBES OR ROWS	ELEMENT LENGTH (FT)	EAT (°F)	HEATING COIL FIN DATA			ENCLOSURE				DESIGN BASIS	REMARKS
								FIN HEIGHT (IN)	FIN WIDTH (IN)	FINS PER FOOT	LENGTH (IN)	DEPTH (IN)	HEIGHT (IN)	MOUNTING HEIGHT		
FT-1	900	180	1.5	0.75	1	15'-0"	68	3 1/4"	3 1/4"	50	15'-3"	4 3/8"	1'-2"	1'-6"	STERLING VERSALINE JVA-S14	1
FT-3	489	180	1	0.75	3	2 1/4"	68	2 1/2"	2 1/4"	50	0"	0"	0"		STERLING BARE TYPE "K"	1
FT-4	2333	180	1.5	0.75	3	3'-0"	68	4 1/4"	4 1/4"	50	3'-3"	4 3/8"	2'-0"	2'-4"	STERLING VERSALINE JVB-S24	1
FT-6	2015	180	0.5	0.75	3	2'-9"	68	4 1/4"	4 1/4"	50	0"	0"	0"	0"	STERLING BARE TYPE "B"	1
FT-9	2100	180	1.5	0.75	3	3'-0"	68	4 1/4"	4 1/4"	50	0"	0"	0"		STERLING BARE TYPE "B"	1, 2
FT-10	2155	180	0.5	0.75	3	25'-0"	68	4 1/4"	4 1/4"	50	25'-3"	4 3/8"	2'-0"	2'-4"	STERLING VERSALINE JVB-S24	1
FT-11	1438	180	0.5	0.75	1	42'-0"	68	4 1/4"	4 1/4"	50	42'-3"	4 3/8"	2'-0"	2'-4"	STERLING VERSALINE JVB-S24	1
FT-12	1438	180	0.5	0.75	1	5'-9"	68	4 1/4"	4 1/4"	50	6'-0"	4 3/8"	2'-0"	2'-4"	STERLING VERSALINE JVB-S24	1
FT-13	1438	180	0.5	0.75	1	35'-0"	68	4 1/4"	4 1/4"	50	35'-3"	4 3/8"	2'-0"	2'-4"	STERLING VERSALINE JVB-S24	1
FT-14	2155	180	0.5	0.75	3	26'-0"	68	4 1/4"	4 1/4"	50	26'-3"	4 3/8"	2'-0"	2'-4"	STERLING VERSALINE JVB-S24	1
FT-15	1438	180	0.5	0.75	1	24'-6"	68	4 1/4"	4 1/4"	50	24'-9"	4 3/8"	2'-0"	2'-4"	STERLING VERSALINE JVB-S24	1
FT-16	1438	180	0.5	0.75	1	27'-0"	68	4 1/4"	4 1/4"	50	27'-3"	4 3/8"	2'-0"	2'-4"	STERLING VERSALINE JVB-S24	1
FT-17	1438	180	0.5	0.75	1	14'-0"	68	4 1/4"	4 1/4"	50	14'-3"	4 3/8"	2'-0"	2'-4"	STERLING VERSALINE JVB-S24	1
FT-18	1438	180	0.5	0.75	1	20'-6"	68	4 1/4"	4 1/4"	50	20'-9"	4 3/8"	2'-0"	2'-4"	STERLING VERSALINE JVB-S24	1
FT-19	2155	180	0.5	0.75	3	8'-6"	68	4 1/4"	4 1/4"	50	8'-9"	4 3/8"	2'-0"	2'-4"	STERLING VERSALINE JVB-S24	1
FT-20	1150	180	0.5	0.75	1	2'-0"	68	4 1/4"	4 1/4"	50	2'-3"	4 3/8"	1'-2"	1'-6"	STERLING VERSALINE JVB-S14	1
FT-21	2233	180	2.1	0.75	3	3'-0"	68	4 1/4"	4 1/4"	50	0"	0"	0"		STERLING BARE TYPE "B"	1
FT-22	1199	180	0.5	0.75	1	3'-6"	68	4 1/4"	4 1/4"	50	3'-9"	4 3/8"	1'-2"	1'-6"	STERLING VERSALINE JVB-S14	1

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Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

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MECHANICAL SCHEDULES

02-M600

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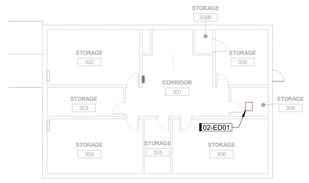
KEYNOTES	
KEY	NOTE
02-ED01	REMOVE ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT.

NOTE:

BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.



PLAN NORTH
TRUE NORTH

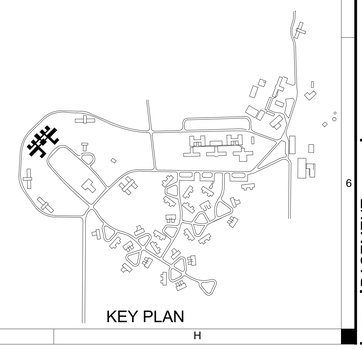
B2 THIRD FLOOR - POWER DEMOLITION PLAN
1/16" = 1'-0" 0 24'

PLAN NORTH
TRUE NORTH

E2 SECOND FLOOR - POWER DEMOLITION PLAN
1/16" = 1'-0" 0 24'

PLAN NORTH
TRUE NORTH

A6 BASEMENT LEVEL - POWER DEMOLITION PLAN
1/16" = 1'-0" 0 24'



KEY PLAN

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BASEMENT LEVEL POWER DEMOLITION PLAN

02-ED200

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NOTE:

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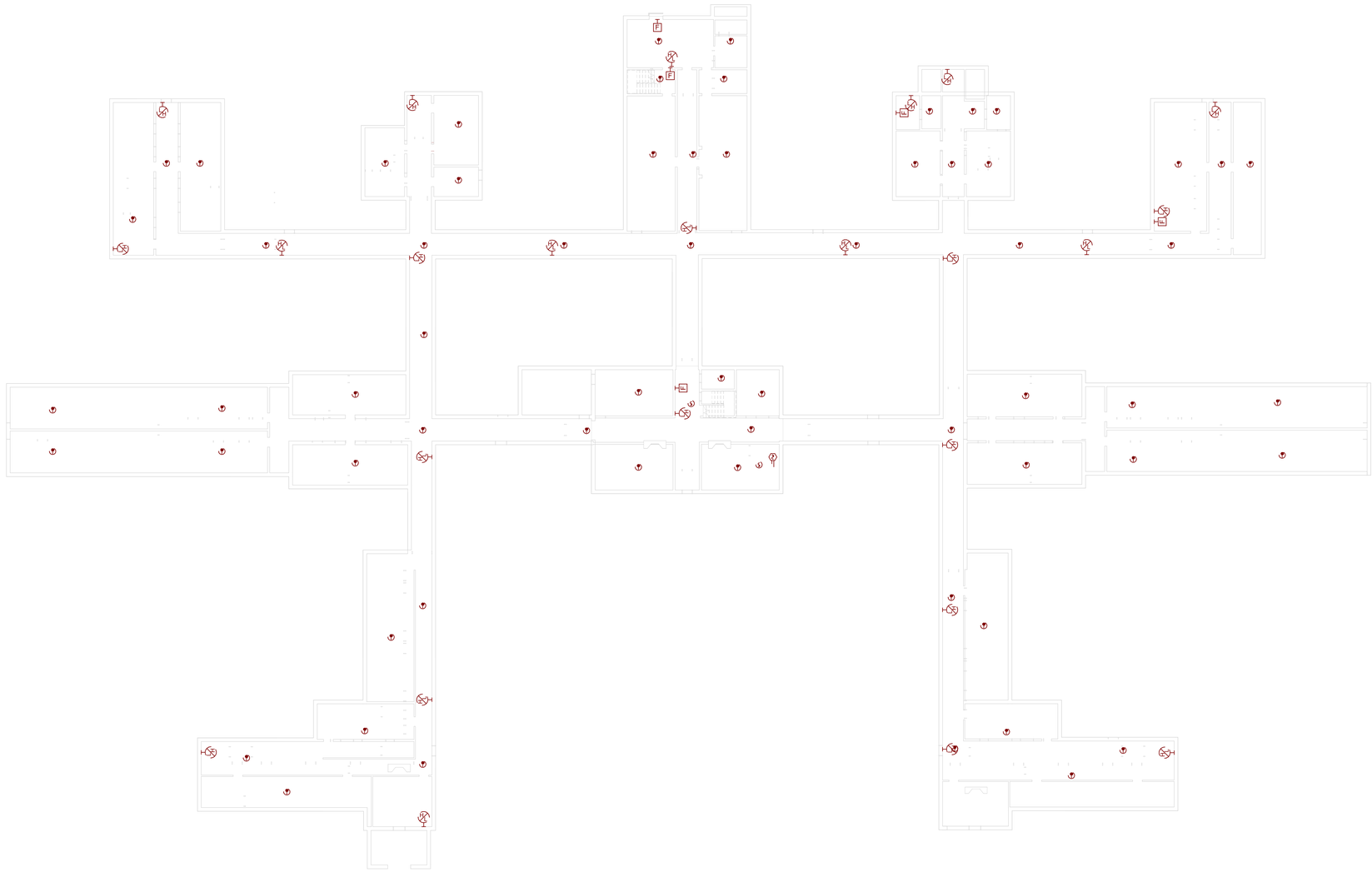
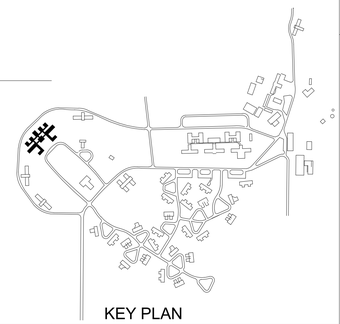


PLAN NORTH

TRUE NORTH

A6 BASEMENT LEVEL - SYSTEMS DEMOLITION PLAN

1/16" = 1'-0" 0 24'



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(#9294.01) WRC Fire Alarm Phase 2

Iowa Department of Administrative Services
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BASEMENT LEVEL SYSTEMS DEMOLITION PLAN

02-ED300

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NOTE:

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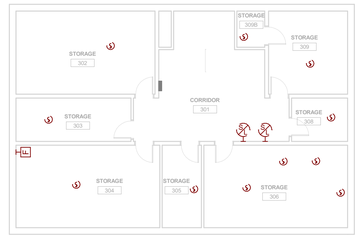
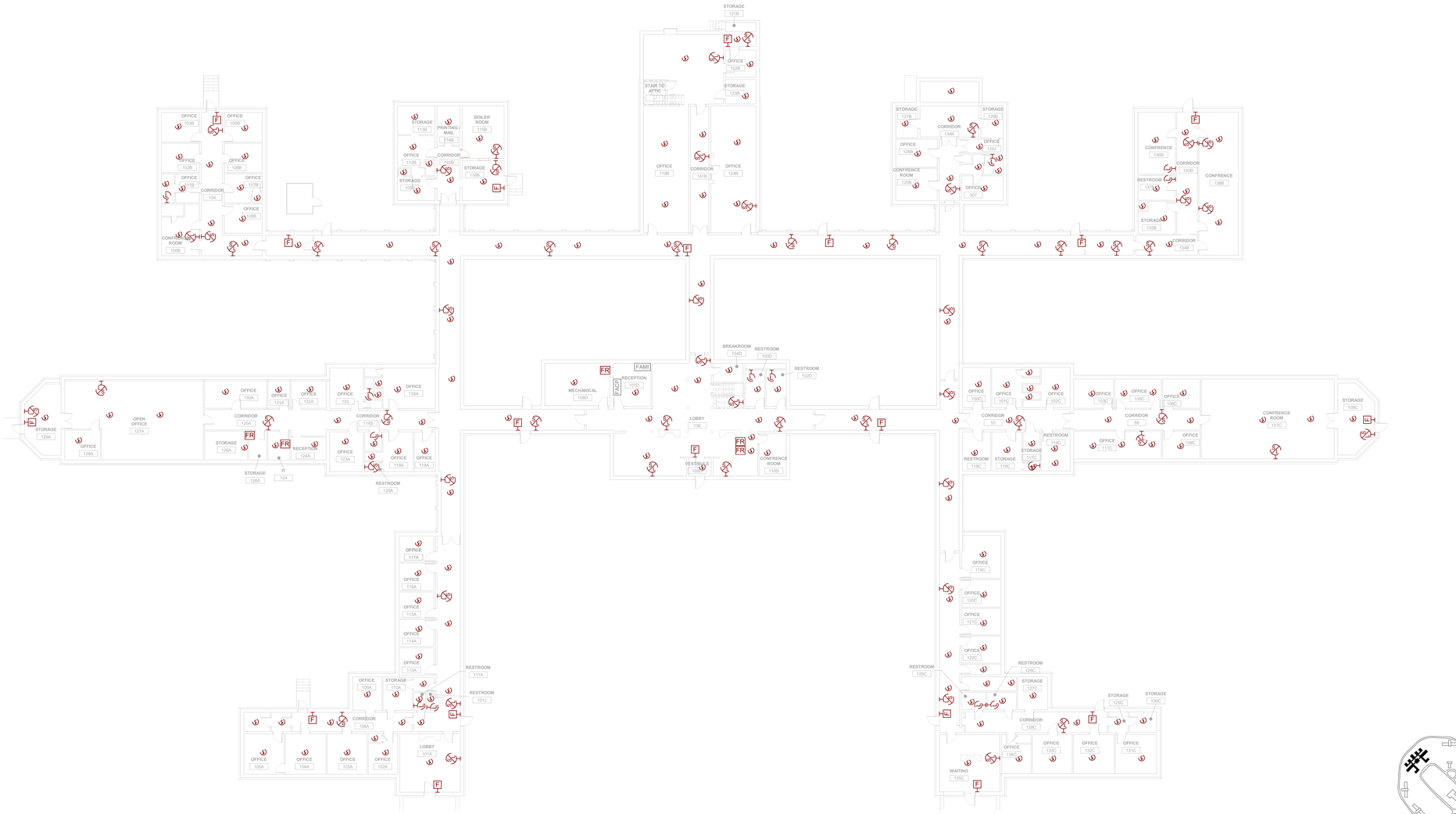
PLAN NORTH
TRUE NORTH

A2 SECOND FLOOR - SYSTEMS DEMOLITION PLAN
3/32" = 1'-0" 0 16'



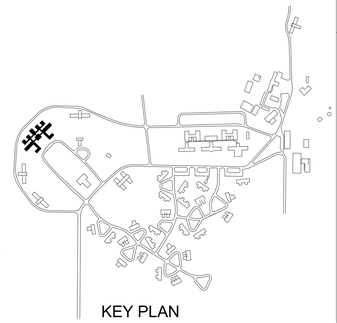
PLAN NORTH
TRUE NORTH

E2 THIRD FLOOR - SYSTEM DEMOLITION PLAN
3/32" = 1'-0" 0 16'



PLAN NORTH
TRUE NORTH

A5 FIRST FLOOR - SYSTEMS DEMOLITION PLAN
1/16" = 1'-0" 0 24'



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FIRST FLOOR, SECOND FLOOR, AND THIRD FLOOR SYSTEMS DEMOLITION PLAN

02-ED301

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ELECTRICAL AND MECHANICAL COORDINATION SCHEDULE

GENERAL NOTES:

MOCP SIZES SHOWN BELOW ARE FOR BIDDING PURPOSES ONLY. VERIFY MOCP WITH EQUIPMENT NAME PLATE DATA PRIOR TO ORDERING EQUIPMENT.
MINIMUM WIRE SIZE SHALL BE #12 AWG AND MINIMUM CONDUIT SIZE SHALL BE 3/4".
INCLUDE A SEPARATE, GREEN, CONDUCTOR IN ALL FEEDER AND BRANCH CIRCUIT CONDUITS.

ABBREVIATIONS:

EC - ELECTRICAL CONTRACTOR
MC - MECHANICAL CONTRACTOR
MFR - MANUFACTURER
TCC - TEMPERATURE CONTROL CONTRACTOR
OWN - OWNER
NF - NON-FUSED DISCONNECT
PWE - PROVIDED WITH EQUIPMENT

REMARKS:

1. VFD FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.

Mark	VOLTAGE	PHASE	FLA	MCA	MOCP	Number of Poles	HP	FUSE	WATTAGE	CONDUIT AND WIRE SIZE	CONTROL OR STARTER	CONTROLLER OR STARTER FURNISHED / INSTALLED	DISCONNECT TYPE	DISCONNECT FURNISHED / INSTALLED	AIC RATING	MATERIAL LIST	REMARKS
ACCU-1	208 V	1	18.5 A	23.1 A	40 A	2	1/5	-	3848 W	2#8, 1#10 GND, 3/4" C	-	EC	NF	EC	-	-	-
ACCU-2	208 V	1	16 A	20 A	35 A	2	1/8	-	3328 W	2#10, 1#10 GND, 3/4" C	-	EC	NF	EC	-	-	-
B-1	120 V	1	16 A	20 A	20 A	1	-	-	1920 W	2#12, 1#12 GND, 3/4" C	-	EC	NF	EC	-	-	-
B-2	120 V	1	16 A	20 A	20 A	1	-	-	1920 W	2#12, 1#12 GND, 3/4" C	-	EC	NF	EC	-	-	-
CUH-1	120 V	1	1.4 A	1.8 A	20 A	1	1/10	-	168 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-	-
CUH-2	120 V	1	0.8 A	1 A	20 A	1	1/15	-	96 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-	-
CUH-3	120 V	1	1.4 A	1.8 A	20 A	1	1/10	-	168 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-	-
CUH-4	120 V	1	1.4 A	1.8 A	20 A	1	1/10	-	168 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-	-
CUH-5	120 V	1	0.8 A	1 A	20 A	1	1/15	-	96 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-	-
F-1	120 V	1	13.3 A	16.6 A	20 A	1	-	-	1596 W	2#12, 1#12 GND, 3/4" C	-	EC	NF	EC	-	-	-
F-2	120 V	1	14.1 A	17.6 A	20 A	1	-	-	1692 W	2#12, 1#12 GND, 3/4" C	-	EC	NF	EC	-	-	-
HWP-1	208 V	3	17.5 A	21.9 A	40 A	3	5	-	6304.66 W	3#8, 1#10 GND, 3/4" C	VFD	EC	VFD	EC	-	-	1
HWP-2	208 V	3	17.5 A	21.9 A	40 A	3	5	-	6304.66 W	3#8, 1#10 GND, 3/4" C	VFD	EC	VFD	EC	-	-	1
PUH-1	120 V	1	1.1 A	1.4 A	20 A	1	1/25	-	132 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-	-

KEYNOTES

KEY	NOTE
02-E001	FURNISH AND INSTALL NEW 100A/3P FUSE IN EXISTING GE GEAR. NEW FUSE TO FEED PANEL AIB2. PANEL FEEDER TO BE 4#2, 1#8 GND, 1-1/2" C.

NOTE:

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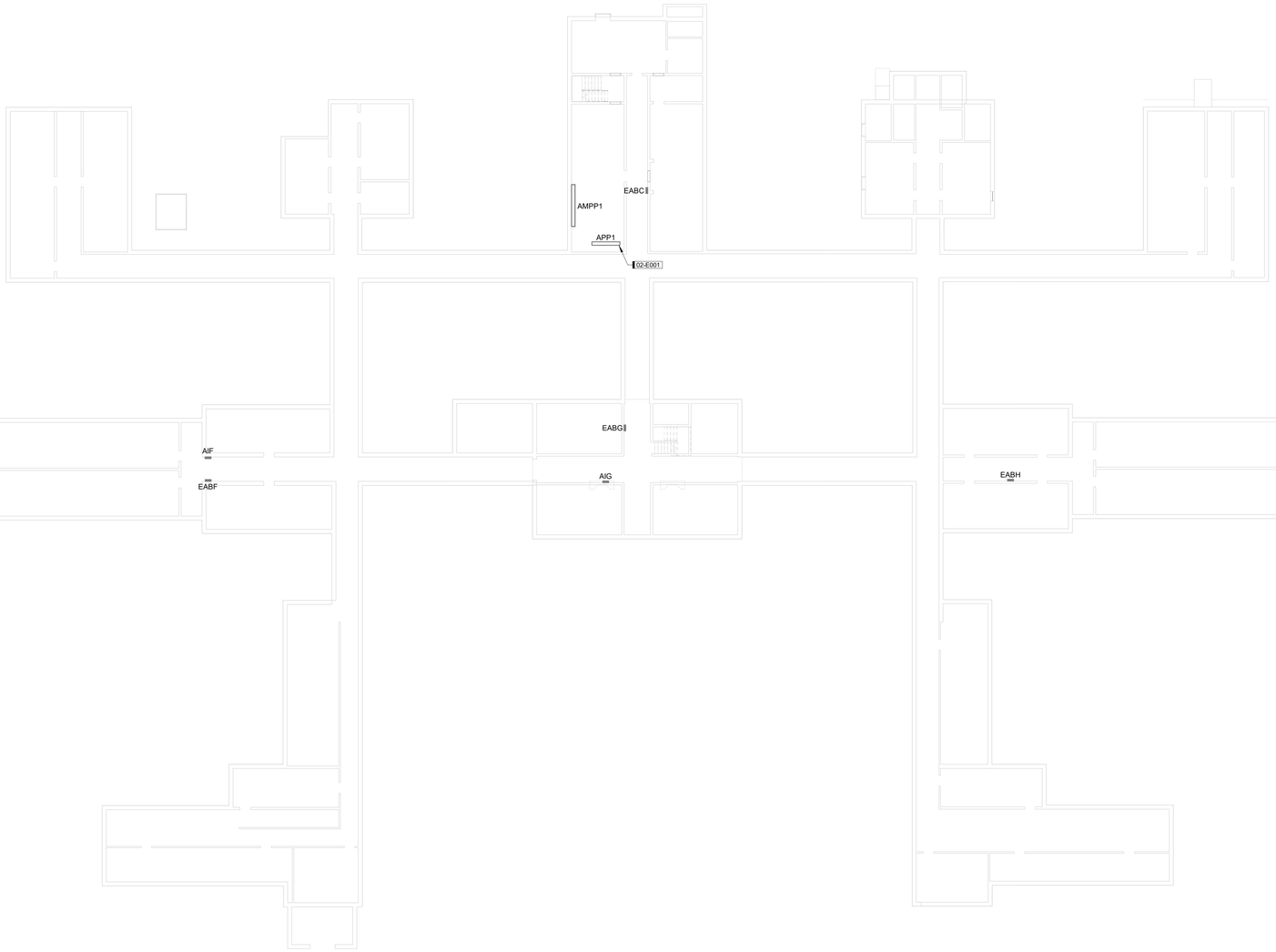
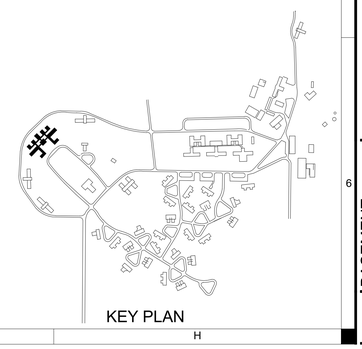


PLAN NORTH
TRUE NORTH

A6 BASEMENT LEVEL - POWER PLAN
1/16" = 1'-0" 0' 24'



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BASEMENT LEVEL POWER PLAN

02-E200

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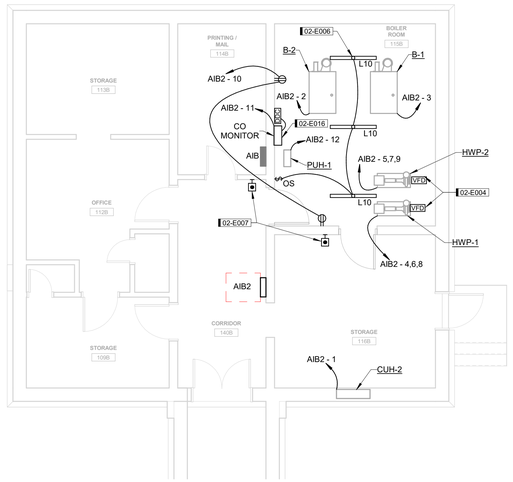
BRANCH PANEL NAME	VOLTAGE	PHASE	WIRE	BUS SIZE	MAIN OCP	AIC RATING
AIB2	**208Y/120**	**3**	**4**	**100 AMPS**	**100 A**	**10,000 AMPS SYMMETRICAL**
	CODE: L=LIGHTING, R=RECEPTACLES, M=MOTORS, K=KITCHEN					MOUNTING: SURFACE
ROOM: HALL D-1 ---1						ENCLOSURE: NEMA 1
FED FROM: APP1						FEED:

LOAD	CODE	POLE	BKR	CKT #	A KVA	B KVA	C KVA	CKT #	BKR	POLE	CODE	LOAD
CUH-2		1	20 A	1	0.1 / 2.4			2	20 A	1		B-2 (ST)
B-1 (ST)		1	20 A	3		2.4 / 2.6		4				
HWP-2		3	40 A	5			2.6 / 2.6	6	40 A	3		HWP-1
				7	2.6 / 2.6			8				
				9		2.6 / 0.2		10	20 A	1		RECEPTACLES, ROOM 115B
CO MONITOR, DDC PANEL		1	20 A	11			0.0 / 0.2	12	20 A	1		PUH-1
SPACE	--	1	--	13	0.0 / 0.0			14	--	1	--	SPACE
SPACE	--	1	--	15		0.0 / 0.0		16	--	1	--	SPACE
SPACE	--	1	--	17			0.0 / 0.0	18	--	1	--	SPACE
SPACE	--	1	--	19	0.0 / 0.0			20	--	1	--	SPACE
SPACE	--	1	--	21		0.0 / 0.0		22	--	1	--	SPACE
SPACE	--	1	--	23			0.0 / 0.0	24	--	1	--	SPACE
SPACE	--	1	--	25	0.0 / 0.0			26	--	1	--	SPACE
SPACE	--	1	--	27		0.0 / 0.0		28	--	1	--	SPACE
SPACE	--	1	--	29			0.0 / 0.0	30	--	1	--	SPACE
SPACE	--	1	--	31	0.0 / 0.0			32	--	1	--	SPACE
SPACE	--	1	--	33		0.0 / 0.0		34	--	1	--	SPACE
SPACE	--	1	--	35			0.0 / 0.0	36	--	1	--	SPACE
SPACE	--	1	--	37	0.0 / 0.0			38	--	1	--	SPACE
SPACE	--	1	--	39		0.0 / 0.0		40	--	1	--	SPACE
SPACE	--	1	--	41			0.0 / 0.0	42	--	1	--	SPACE
			TOTAL LOAD:		7774.9 VA	7834.9 VA	5420.5 VA					
			TOTAL AMPS:		67.8 A	68.3 A	45.2 A					

LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATED DEMAND (VA)
SPEC	20850.4 VA	100%	20850.4 VA

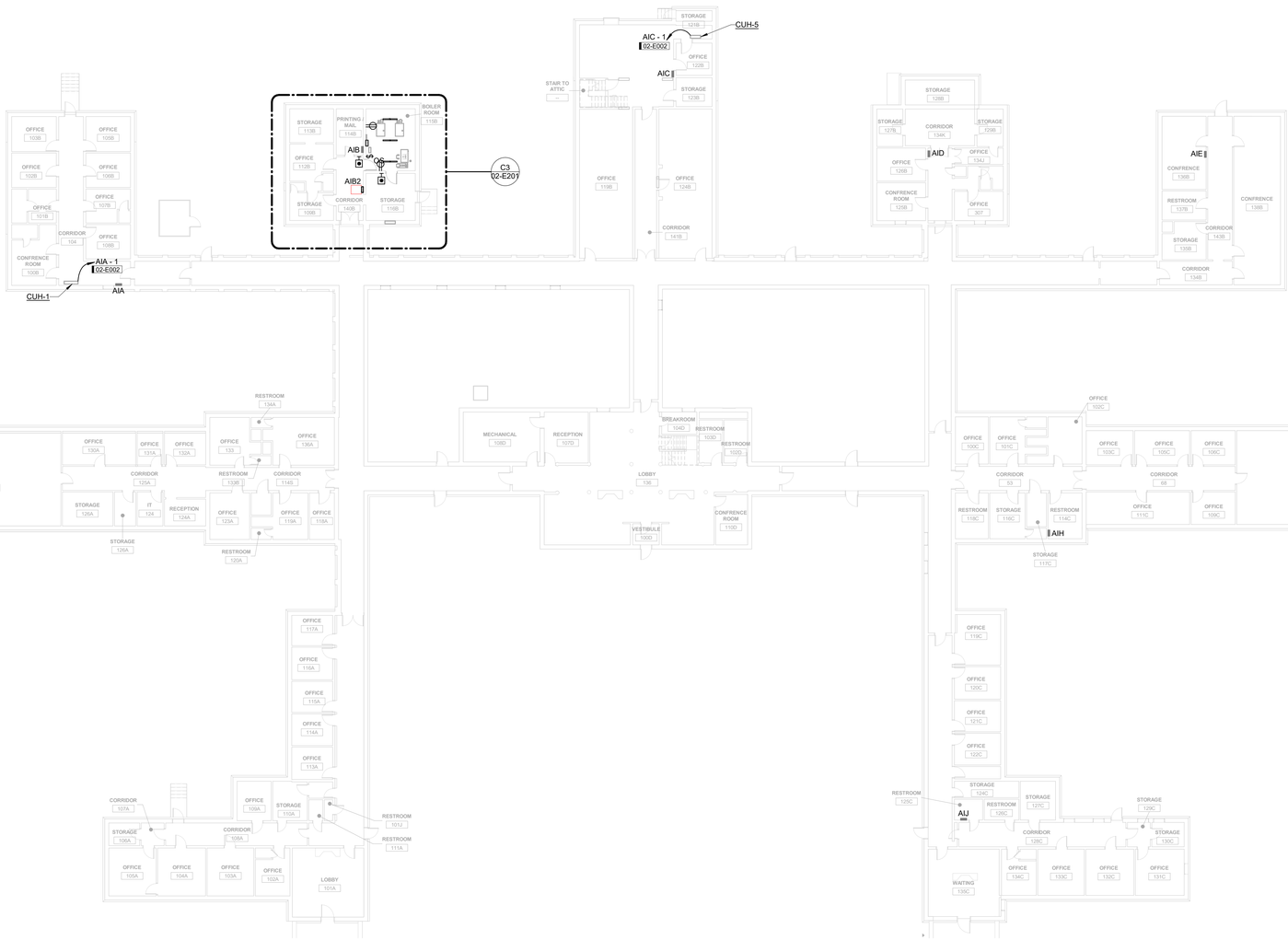
PANEL TOTALS	
TOTAL CONN. LOAD:	21030.4 VA
TOTAL EST. DEMAND:	21030.4 VA
TOTAL CONN. CURRENT:	58.4 A
TOTAL EST. DEMAND CURRENT:	58.4 A

NOTES:
(ST) - SHUNT TRIP BREAKER.



PLAN NORTH
TRUE NORTH

C3 FIRST FLOOR - POWER PLAN - ENLARGED VIEW
3/16" = 1'-0" 0 8'



PLAN NORTH
TRUE NORTH

A6 FIRST FLOOR - POWER PLAN
1/16" = 1'-0" 0 24'

KEY PLAN

KEYNOTES	
KEY	NOTE
02-E002	FURNISH AND INSTALL NEW 20A/1P BREAKER IN EXISTING PANEL. MATCH EXISTING BREAKER CHARACTERISTICS. CIRCUIT THE CUH WITH 2#12 & 1#12 GND IN 3/4" C.
02-E003	PANEL IS LOCATED IN THE BASEMENT.
02-E004	FURNISH AND INSTALL NEW CONDUIT AND WIRE FROM VFD TO PUMP. INSTALL VFD FOR EACH PUMP.
02-E006	REMOVE EXISTING LIGHT FIXTURE IN THE ROOM. CIRCUIT NEW LIGHT FIXTURE TO EXISTING LIGHTING CIRCUIT THAT FED THE ROOM. CIRCUIT WITH (2) #12, 1#12 GND, 3/4" C.
02-E007	BOILER EMERGENCY POWER OFF (EPO) SWITCH. EPO SWITCH TO SHUNT TRIP BOILER BREAKER AND SEND SHUTDOWN SIGNAL TO THE BOILER.
02-E016	CO MONITOR FURNISHED BY MECHANICAL CONTRACTOR INSTALLED BY ELECTRICAL CONTRACTOR.

NOTE:

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Phase 3

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FIRST FLOOR POWER PLAN

02-E201

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KEYNOTES	
KEY	NOTE
02-E005	PANEL IS LOCATED ON THE THIRD FLOOR.
02-E008	CIRCUIT TO NEW 35A/2P BREAKER IN EXISTING GENERAL ELECTRIC PANEL.
02-E009	CIRCUIT TO NEW 20A/1P BREAKER IN EXISTING GENERAL ELECTRIC PANEL.
02-E015	CIRCUIT TO NEW 40A/2P BREAKER IN EXISTING GENERAL ELECTRIC PANEL.
02-E017	CIRCUIT TO NEAREST UN-SWITCHED 120V CIRCUIT.

NOTE:

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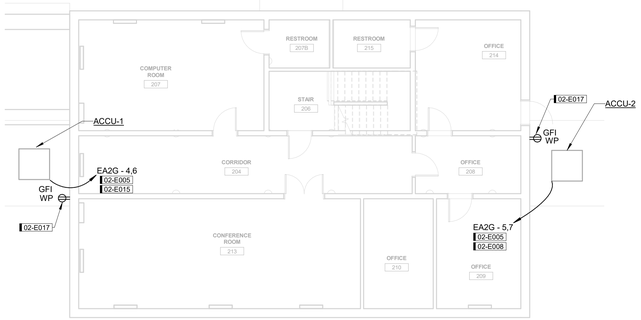
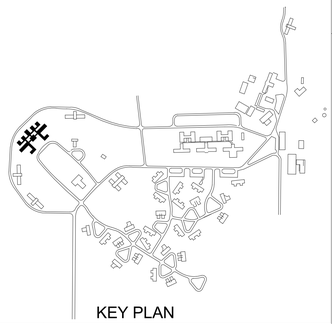


PLAN NORTH
TRUE NORTH

B4 SECOND FLOOR - POWER PLAN
1/8" = 1'-0" 0' 12'

PLAN NORTH
TRUE NORTH

E4 THIRD FLOOR - POWER PLAN
1/8" = 1'-0" 0' 12'



KEY PLAN

SHIVEHATTERY
ARCHITECTURE + ENGINEERING
4125 WESTOWN PKWY, SUITE 100
WEST DES MOINES, IA 50266
515.223.9104 | SHIVE-HATTERY.COM

02-Admin

(#9279.30) WRC Decentralization Phase 3

Iowa Department of Administrative Services
1251 334th St. Woodward, IA 50276

DRAWN BY	PJD
APPROVED BY	KJB
ISSUED FOR	BIDDING
ISSUE DATE	2024-01-11
PROJECT NUMBER	2142203394
FIELD BOOK	

SECOND FLOOR AND THIRD FLOOR POWER PLAN

02-E202

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Autodesk Revit 2022

KEYNOTES	
KEY	NOTE
02-E010	ALL FIRE ALARM CABLING ON THIS FLOOR TO BE INSTALLED IN ALL NEW CONDUIT.
02-E011	AHU SHUTDOWN RELAY.
02-E018	LINEAR HEAT DETECTOR WIRE. INSTALL WITH J-HOOKS ON WALL OR CEILING.
02-E019	TEST SWITCH AND ADDRESSABLE RELAY FOR LINEAR HEAT DETECTOR WIRE.

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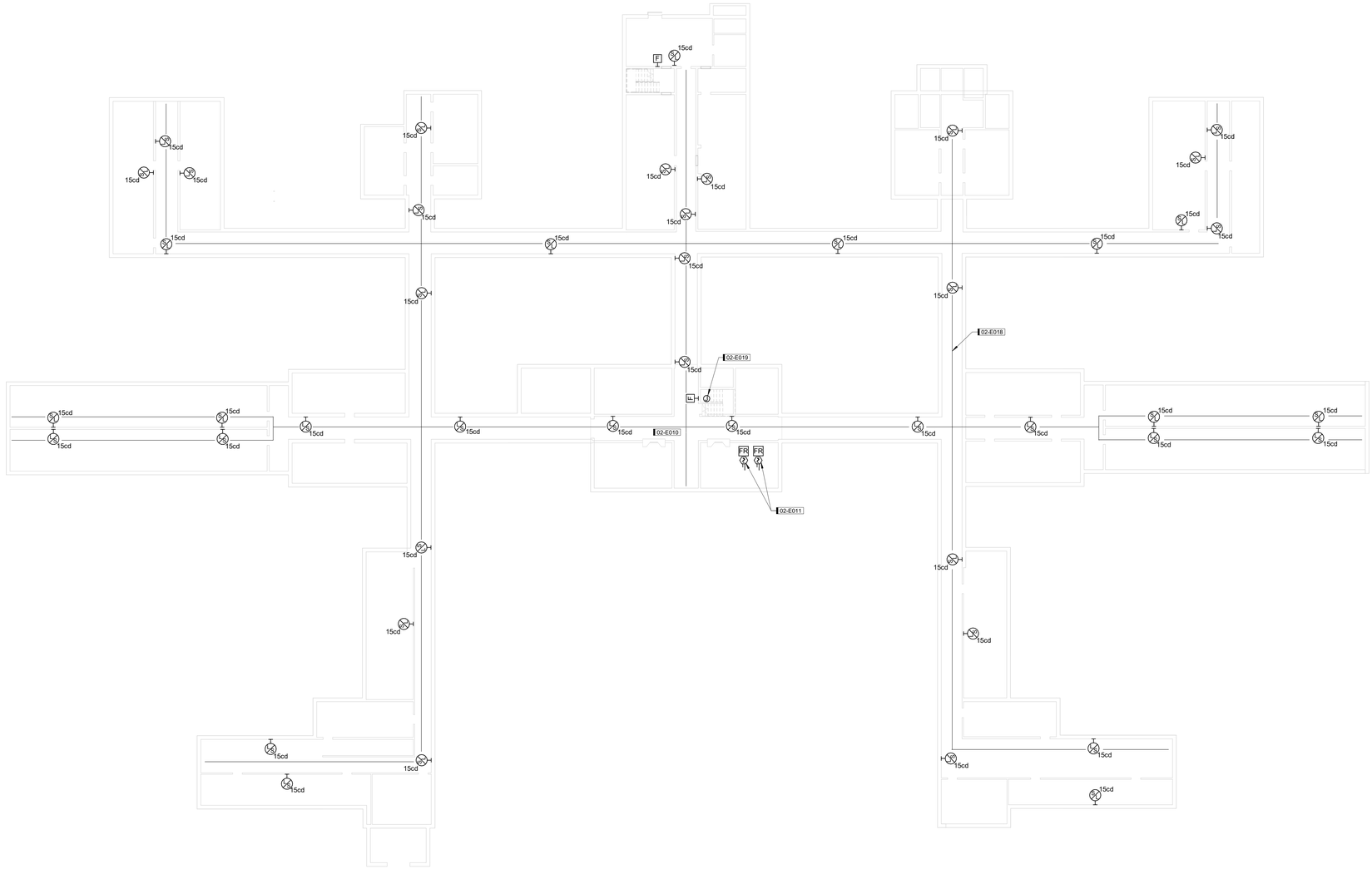
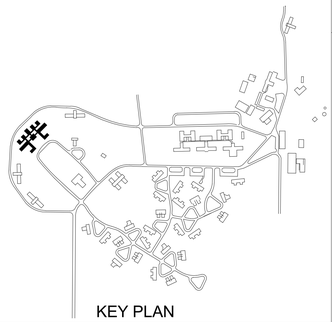


PLAN NORTH
TRUE NORTH

A5 BASEMENT LEVEL - SYSTEMS PLAN
1/16" = 1'-0" 0 24'



KEY PLAN

SHIVEHATTERY
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WEST DES MOINES, IA 50266
515.223.9164 | SHIVE-HATTERY.COM

02-Admin

(#9294.01) WRC Fire Alarm Phase 2

Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

DRAWN BY	PJD
APPROVED BY	KJB
ISSUED FOR	BIDDING
ISSUE DATE	2024-01-11
PROJECT NUMBER	2142203394
FIELD BOOK	

BASEMENT LEVEL SYSTEMS PLAN

02-E300

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KEYNOTES	
KEY	NOTE
02-E012	ROOM HAS 2'X2' LAY-IN CEILING. CONTRACTOR TO REMOVE AND REINSTALL TILES. FIRE ALARM CABLING CAN BE RUN FREE AIR ABOVE THE CEILING IN THIS ROOM. ALL OTHER AREAS ARE OPEN TO STRUCTURE OR HARD LID CEILING. FIRE ALARM CABLING TO BE INSTALLED IN CONDUIT IN ALL AREAS WITHOUT LAY-IN CEILING.
02-E013	FIRE PROTECTION RELAY.
02-E014	REUSE EXISTING CONDUIT, WIREMOLD, AND BACK BOXES FOR NEW FIRE ALARM DEVICES ON FIRST, SECOND, AND THIRD FLOORS IN AREAS WITHOUT LAY-IN CEILING. CONTRACTOR TO REPLACE ANY EXISTING DAMAGED RACEWAY OR BOXES. REMOVE ALL EXISTING FIRE ALARM WIRING. OWNER TO PROVIDE FIRE WATCH FOR THE BUILDING DURING CONSTRUCTION. PROVIDE BLANK COVER PLATES FOR BACK BOXES THAT ARE NOT BEING REUSED.
02-E020	EXTEND CIRCUIT FROM EXISTING FACP TO NEW FACP. RE-USE EXISTING MULTI-MODE FIBER TO CONNECT TO NEW FACP.

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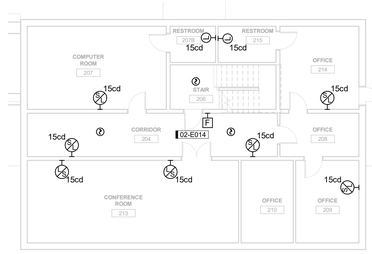
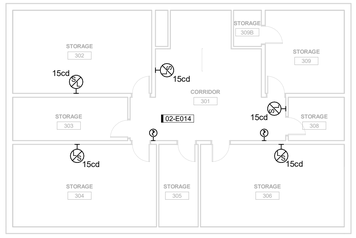


PLAN NORTH

TRUE NORTH

B2 SECOND FLOOR - SYSTEMS PLAN

3/32" = 1'-0" 0 16'

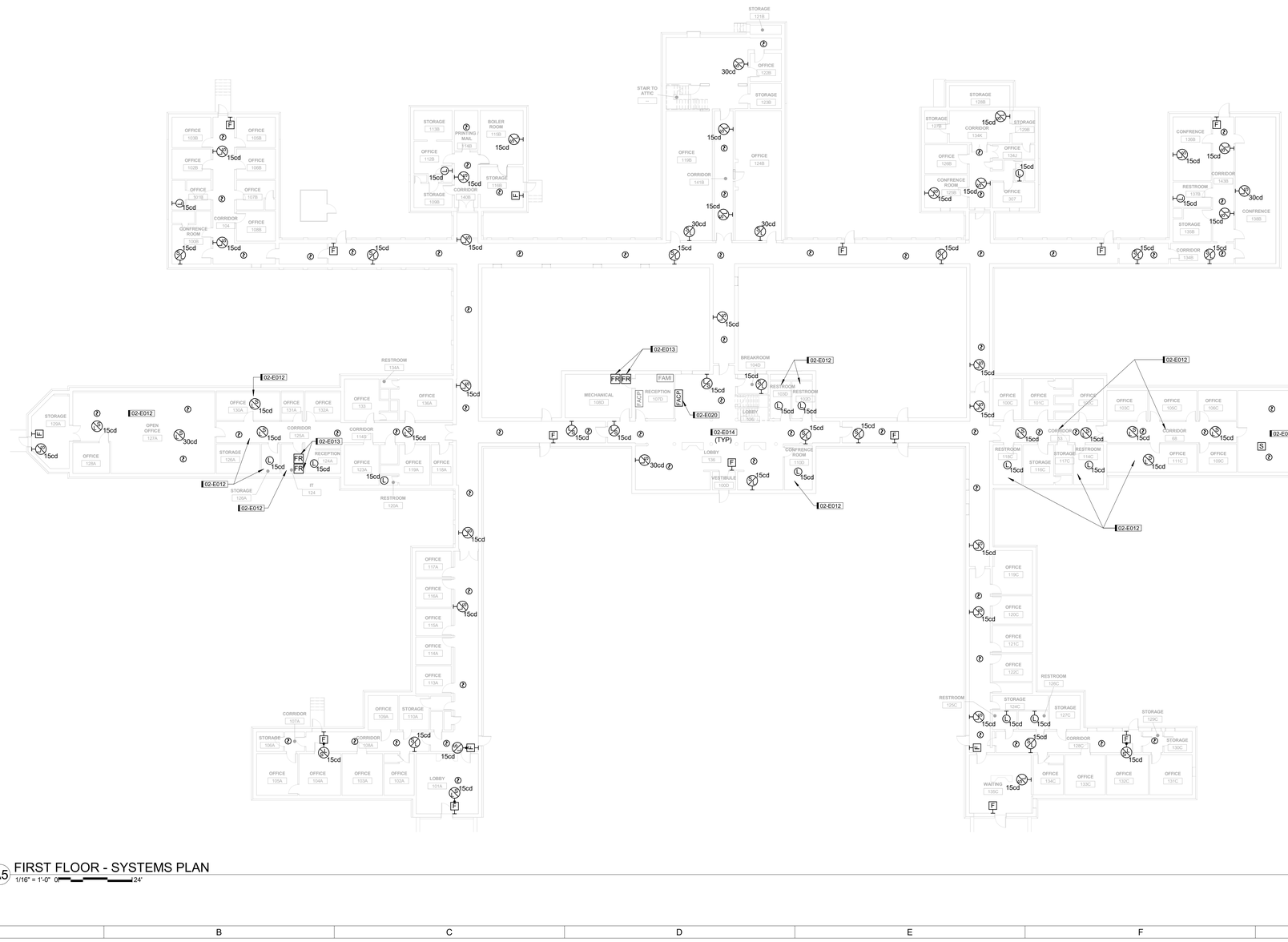


PLAN NORTH

TRUE NORTH

E2 THIRD FLOOR - SYSTEM PLAN

3/32" = 1'-0" 0 16'

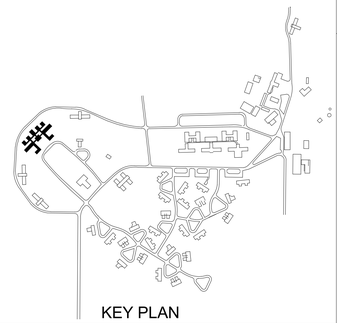


PLAN NORTH

TRUE NORTH

A5 FIRST FLOOR - SYSTEMS PLAN

1/16" = 1'-0" 0 24'



KEY PLAN

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02-Admin

(#9294.01) WRC Fire Alarm Phase 2

Iowa Department of Administrative Services
1251 334th St. Woodward, IA 50276

DRAWN BY	PJD
APPROVED BY	KJB
ISSUED FOR	BIDDING
ISSUE DATE	2024-01-11
PROJECT NUMBER	2142203394
FIELD BOOK	

FIRST FLOOR, SECOND FLOOR, AND THIRD FLOOR SYSTEMS PLAN

02-E301

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GENERAL NOTES

1. THE LOCATIONS OF UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS PLOTTED ON THE DRAWINGS ARE APPROXIMATE ONLY AND WERE OBTAINED FROM RECORDS MADE AVAILABLE TO SHIVE-HATTERY, INC. THERE MAY BE OTHER EXISTING UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS NOT KNOWN TO SHIVE-HATTERY, INC. AND NOT SHOWN ON THE DRAWINGS. THE VERIFICATION OF EXISTENCE OF AND THE DETERMINATION OF THE EXACT LOCATION OF UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR(S).
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES AT CRITICAL LOCATIONS TO VERIFY EXACT HORIZONTAL AND VERTICAL LOCATION.
3. THE FACILITY WILL COMPLETE PRIVATE UTILITY LOCATES OF ALL FACILITY UTILITIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL LOCATES AND CONFIRM THEY ARE COMPLETED PRIOR TO THE START OF CONSTRUCTION.
4. IOWA CODE 480, UNDERGROUND FACILITIES INFORMATION, REQUIRES VERBAL NOTICE TO IOWA ONE-CALL BY CALLING 811 OR 1-800-292-8989 NOT LESS THAN 48 HOURS BEFORE EXCAVATING, EXCLUDING WEEKENDS AND HOLIDAYS.
5. NOTIFY UTILITY COMPANIES WHOSE FACILITIES ARE SHOWN ON THE PLANS OR KNOWN TO BE WITHIN THE CONSTRUCTION LIMITS OF THE SCHEDULE PRIOR TO EACH STAGE OF CONSTRUCTION.
6. UNLESS OTHERWISE SPECIFIED, ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT EDITION OF IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS (SUDAS).
7. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL CITY/COUNTY/STATE REGULATIONS/CODES AND OSHA STANDARDS.
8. THE MEANS OF THE WORK AND THE SAFETY OF THE CONTRACTOR'S EMPLOYEES ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
9. NO WORK SHALL BE PERFORMED BEYOND THE PROJECT LIMITS WITHOUT PRIOR AUTHORIZATION FROM THE OWNER'S REPRESENTATIVE.
10. PROTECT EXISTING UTILITIES DURING CONSTRUCTION.
11. MAINTAIN POSITIVE DRAINAGE ON THE SITE THROUGHOUT THE PROJECT DURATION.
12. SITE CLEAN-UP SHALL BE PERFORMED ON A DAILY BASIS. DRIVES, ROADWAYS, ETC. SHALL BE KEPT CLEAN AT ALL TIMES.
13. ALL OPEN EXCAVATIONS SHALL BE PROTECTED.
14. REPAIR OR REPLACE DAMAGED SITE FEATURES (WALLS, PAVEMENT, UTILITIES, FENCES, ETC.) TO REMAIN AT NO ADDITIONAL EXPENSE TO THE STATE.
15. ANY WORK REQUIRED TO COMPLETE THE SCOPE OF THIS PROJECT BUT NOT SPECIFICALLY CALLED OUT SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. NO ADDITIONAL COMPENSATION TO BE ALLOWED FOR THE COMPLETION OF THIS WORK.
16. WORK WHICH DOES NOT CONFORM TO THE REQUIREMENTS OF THE CONTRACT WILL BE CONSIDERED UNACCEPTABLE. UNACCEPTABLE WORK, WHETHER THE RESULT OF POOR WORKMANSHIP, USE OF DEFECTIVE MATERIALS, DAMAGE THROUGH CARELESSNESS OR ANY OTHER CAUSE FOUND TO EXIST PRIOR TO THE FINAL ACCEPTANCE OF THE WORK SHALL BE REMOVED AND REPLACED IN AN ACCEPTABLE MANNER AS REQUIRED BY THE OWNER'S REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE. WORK DONE CONTRARY TO THE INSTRUCTIONS OF THE OWNER'S REPRESENTATIVE, WORK DONE BEYOND THE LINES SHOWN ON THE PLANS OR ANY EXTRA WORK DONE WITHOUT WRITTEN AUTHORIZATION WILL NOT BE PAID FOR.
17. THE CONTRACTOR SHALL MATCH EXISTING GRADES AT THE CONSTRUCTION LIMITS.
18. NO PONDING OF WATER WILL BE ACCEPTED ON ANY NEW PAVEMENT OR OVERLAY AREAS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY ANY AREAS OF EXISTING OR PROPOSED PAVEMENTS THAT HAVE THE POTENTIAL TO POND WATER AND MAKE ANY ADJUSTMENTS NECESSARY TO ENSURE THAT WATER WILL POSITIVELY DRAIN ACROSS THE PAVING.
19. STAGING LOCATIONS AND CONSTRUCTION ACCESS ROUTES FOR CONSTRUCTION EQUIPMENT AND MATERIALS SHALL BE COORDINATED WITH AND APPROVED BY THE FACILITY AND CONSTRUCTION MANAGER.
20. THE CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES NECESSARY TO PROTECT AGAINST SILTATION, EROSION AND DUST POLLUTION ON THE PROJECT SITE AND ANY OFF-SITE BORROW OR DISPOSAL AREAS USED FOR THIS PROJECT. COMPLY WITH SOIL EROSION CONTROL REQUIREMENTS OF IOWA CODE, FEDERAL REGULATIONS AND LOCAL ORDINANCES.
21. ALL AREAS DISTURBED BY CONSTRUCTION NOT DESIGNATED AS PLANTED SHALL BE SEEDED PER SPECIFICATIONS. 6" OF TOPSOIL SHALL BE PROVIDED PER SPECIFICATIONS.
22. CONTROL DUST SPREADING FROM ALL WORK AND STAGING AREAS.
23. CONTRACTOR TO COORDINATE ANY SITE, UTILITY OR GRADE ADJUSTMENTS WITH THE CONSTRUCTION MANAGER PRIOR TO PROCEEDING WITH THE WORK.
24. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF WORK OF ALL SUBCONTRACTOR(S) INVOLVED ON THE PROJECT.

CONSTRUCTION STAGING NOTES

1. CONTRACTOR SHALL COORDINATE ALL STAGING AREAS WITH THE FACILITY AND CONSTRUCTION MANAGER.
2. CONTRACTOR SHALL REPLACE ALL PAVEMENT DAMAGED BY CONSTRUCTION ACTIVITIES AT THE END OF CONSTRUCTION. CONTRACTOR TO PROVIDE PHOTO DOCUMENTATION OF EXISTING CONDITIONS PRIOR TO BEGINNING WORK.
3. CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS NOT TO BE PAVED TO THEIR ORIGINAL CONDITION AT THE END OF CONSTRUCTION. ALL DISTURBED AREAS SHALL BE SCARIFIED, TILLED AND SEEDED. CONTRACTOR TO PROVIDE PHOTO DOCUMENTATION PRIOR TO BEGINNING WORK.
4. CONTRACTOR SHALL PROVIDE BARRICADES, FENCING OR OTHER DEVICES TO KEEP UNAUTHORIZED PERSONNEL OUT OF PROJECT SITE.

TRAFFIC AND PEDESTRIAN CONTROL NOTES

1. CONTRACTOR IS ALLOWED TO CLOSE DOWN PARKING AND DRIVES DURING CONSTRUCTION. ACCESS TO ADJACENT BUILDINGS, DRIVES, PARKING AND SIDEWALKS ARE TO BE MAINTAINED THROUGHOUT CONSTRUCTION. PHASING OF UTILITY CONSTRUCTION AND ROAD PATCHING WILL BE REQUIRED TO MAINTAIN VEHICULAR AND PEDESTRIAN TRAFFIC TO ALL BUILDINGS AND SHALL BE COORDINATED WITH SCHEDULES OF OTHER TRADES, CONTRACTORS AND UTILITY COMPANIES.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTROL TRAFFIC DURING CONSTRUCTION AND PROVIDE ADEQUATE TRAFFIC AND PEDESTRIAN CONTROL AND SIGNAGE. AT A MINIMUM, CONTRACTOR TO PROVIDE TYPE III BARRICADES AT EACH END OF CLOSED ROADS AND DRIVES.
3. CONTRACTOR TO INSTALL AND MAINTAIN ORANGE CONSTRUCTION FENCE AROUND ALL AREAS OF ACTIVE CONSTRUCTION. CONTRACTOR SHALL ASSUME PEDESTRIAN TRAFFIC WILL BE IN THE AREA THROUGHOUT THE PROJECT DURATION.
4. CONSTRUCTION MANAGER TO INSTALL TEMPORARY GRANULAR SURFACING AND CHAIN LINK FENCE AND GATES AROUND PROPOSED CONSTRUCTION STAGING AREAS. CONTRACTORS TO COORDINATE WITH CONSTRUCTION MANAGER ON PORTIONS OF STAGING AREA THAT ARE REQUIRED FOR THEIR SCOPE OF WORK AND COORDINATE WITH ALL OTHER CONTRACTORS AND TRADES ON SITE.
5. PEDESTRIAN ACCESS MUST BE MAINTAINED TO ALL BUILDINGS THROUGHOUT CONSTRUCTION. COORDINATE WITH FACILITY AND CONSTRUCTION MANAGER ON PHASING AND SHUT DOWN OF ALL DRIVES AND SIDEWALKS. TEMPORARY GRANULAR PATCHES WILL BE REQUIRED FOR ANY DRIVES AND SIDEWALKS WHICH ARE NOT PATCHED WITH CONCRETE IN A TIMELY MANNER TO LIMIT DISRUPTIONS TO CAMPUS TRAFFIC AND PEDESTRIAN FLOW.
6. CONTRACTOR TO COORDINATE CONSTRUCTION ACCESS, STAGING AND PARKING AREAS WITH FACILITY AND CONSTRUCTION MANAGER AND MINIMIZE IMPACTS TO FACILITY'S OPERATIONS.

DEMOLITION NOTES

1. REMOVAL REQUIREMENTS SHOWN ON THE PLANS SHOULD BE CONSIDERED MINIMUM REMOVAL AND REPLACEMENT REQUIREMENTS. CONTRACTORS SHALL ADJUST REMOVAL LIMITS AND DIMENSIONS AS REQUIRED BY CONSTRUCTION MEANS AND METHODS AND ACTUAL SITE CONDITIONS. CONTRACTORS SHOULD FACTOR ADDITIONAL ANTICIPATED REMOVAL AND REPLACEMENT REQUIREMENTS INTO THEIR BIDS AS ADDITIONAL COMPENSATION REQUESTS FOR ADJUSTED OR EXPANDED REMOVAL LIMITS WILL NOT BE APPROVED.
2. CONTRACTOR SHALL REPLACE AT NO COST TO THE STATE ALL DAMAGED STREETS, DRIVES, SIDEWALKS, CURB AND GUTTER, SIGNS, PAVEMENT MARKINGS, LIGHTS, FENCES AND ALL OTHER SURFACE STRUCTURES NOT SCHEDULED TO BE REMOVED DURING THE COURSE OF THE WORK.
3. ALL LANDSCAPING, INCLUDING TREES, SHRUBS AND PERENNIALS NOT CALLED OUT TO BE REMOVED OR APPROVED FOR REMOVAL BY CONSTRUCTION MANAGER, SHALL BE PROTECTED AND REPLACED AT NO COST TO THE STATE IF DAMAGED DURING CONSTRUCTION. REPLACE TREES WITH (1) EQUIVALENT TREE UP TO 6" CALIPER AND (1) ADDITIONAL TREE FOR EVERY 6" CALIPER BEYOND THAT. ALL PLANTS THAT ARE DESTROYED OR DAMAGED SHALL BE REPLACED WITH NEW PLANTS OF THE EQUIVALENT TYPE.
4. WHERE A SECTION OF PAVEMENT, CURB AND GUTTER OR SIDEWALK IS CUT OR OTHERWISE DAMAGED BY THE CONTRACTOR, THE ENTIRE SECTION SHALL BE REMOVED AND REPLACED. PAVEMENT, CURBS AND GUTTERS AND SIDEWALKS SHALL BE REMOVED TO THE NEAREST JOINT A MINIMUM OF TWO FEET BEYOND THE EDGE OF ALL EXCAVATIONS. CONTRACTOR SHALL DOCUMENT (OR PHOTOGRAPH) ALL CRACKED PCC PAVEMENT OR DAMAGED HMA PAVEMENT PRIOR TO CONSTRUCTION. IF NEW CRACKS IN PCC PAVEMENT DEVELOP OR HMA PAVEMENT IS DAMAGED DUE TO CONSTRUCTION TRAFFIC (EXTENDS BEYOND CONSTRUCTION LIMITS), THE CONTRACTOR SHALL REPLACE THE DAMAGED AREA AT NO ADDITIONAL COST TO STATE.
5. FIRE PROTECTION ACCESS AND FIRE HYDRANTS SHALL BE MAINTAINED THROUGHOUT THE PROJECT. ALL EXISTING FIRE HYDRANTS WHICH ARE NOT CALLED OUT TO BE REMOVED SHALL BE PROTECTED AND MAINTAINED.
6. THE CONTRACTOR SHALL COORDINATE ANY DISRUPTION OF EXISTING UTILITIES SERVING THE FACILITY WITH THE FACILITY AND CONSTRUCTION MANAGER.

EXCAVATION NOTES

1. EXCAVATE TRENCH AND PROVIDE PIPE BEDDING AND BACKFILL MATERIAL PER IOWA SUDAS SPECIFICATIONS OR AS SHOWN ON THE DRAWINGS.
2. STRIP, STOCKPILE AND RESPREAD A MINIMUM OF 6" OF TOPSOIL IN ALL SEEDING OR SODDING AREAS DISTURBED BY CONSTRUCTION. DISTURBED AREAS SHALL BE LEFT IN SMOOTH CONDITION READY FOR FINAL SEEDBED PREPARATION. GRADE ALL DISTURBED ARES TO DRAIN, AS PONDING OF WATER WILL NOT BE ACCEPTABLE.
3. CONTRACTOR IS RESPONSIBLE FOR ALL TRENCH AND FILL SETTLEMENT FOR THE PROJECT'S ONE YEAR WARRANTY PERIOD. CONTRACTOR SHALL PROVIDE ADDITIONAL FILL MATERIAL AND IS RESPONSIBLE FOR RESEEDING OF ALL SETTLEMENT AREAS AFTER SITE RESTORATION HAS BEEN COMPLETED.

GRADING AND EROSION CONTROL NOTES

1. BEST MANAGEMENT PRACTICES (BMPs) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER'S REPRESENTATIVE.
2. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
3. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN UP FUEL OR CHEMICAL SPILLS AND LEAKS.
4. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
5. RUBBISH, TRASH, GARBAGE, LITTER OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
6. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE SEEDED OR SODDED. THESE AREAS SHALL BE SEEDED OR SODDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS.
7. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
8. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.
9. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, WATTLES, INLET PROTECTION, ETC.) TO PREVENT EROSION.
11. ALL STORM SEWER INTAKES THAT RECEIVE STORMWATER RUNOFF FROM DISTURBED AREAS SHALL BE PROVIDED WITH INLET PROTECTION.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION, PERIODIC CHECKING AND REINSTALLATION OF EROSION AND SEDIMENTATION CONTROL MEASURES.
13. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE IOWA DNR, US EPA AND LOCAL REGULATIONS DEALING WITH STORMWATER RUNOFF AND EROSION CONTROL.
14. THE DISTURBED CONSTRUCTION AREA IS LESS THAN 1 ACRE, SO AN NPDES GENERAL PERMIT NO. 2 AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) ARE NOT REQUIRED. HOWEVER, THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING EROSION CONTROL THROUGHOUT CONSTRUCTION.

UTILITY NOTES

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXACT LOCATIONS AND DEPTHS OF ALL EXISTING PUBLIC AND PRIVATE UTILITIES AND WHETHER ADDITIONAL UTILITIES EXIST.
2. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR PROTECTION REQUIREMENTS AND SPECIFICATIONS. PROVIDE TEMPORARY SUPPORT OF EXISTING UTILITIES AS REQUIRED FOR CONSTRUCTION.
3. ALL EXISTING AND PROPOSED UTILITY CROSSINGS/CONFLICTS SHALL MEET OR EXCEED IOWA SUDAS HORIZONTAL AND VERTICAL SEPARATION REQUIREMENTS.
4. ALL UNDERGROUND LINES SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.
5. WATER TO BE INSTALLED WITH A MINIMUM COVER OF 5.5 FEET DEEP OR LOWER TO ACCOMMODATE UTILITY CROSSINGS.
6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH IOWA SUDAS STANDARD SPECIFICATIONS AND IOWA DOT SPECIFICATIONS, STANDARD ROAD PLANS AND ROAD DESIGN DETAILS, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
7. ALL OPEN EXCAVATIONS SHALL BE PROTECTED WITH SAFETY FENCE, BARRIERS OR BARRICADES IN ACCORDANCE WITH OSHA.
8. CONTRACTOR TO IMPLEMENT TEMPORARY SHORING OR SUPPORT AT ALL UTILITY CROSSINGS AS REQUIRED BY CONTRACTOR'S MEANS AND METHODS. ALL DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE STATE.

PAVEMENT GENERAL NOTES

1. ALL PROPOSED PAVEMENT PATCHES ARE APPROXIMATE ONLY AND SHOULD BE CONSIDERED MINIMUM REMOVAL EXTENTS. EXTEND AND ADJUST PAVEMENT PATCHES AS REQUIRED WITH PRIOR APPROVAL BY ENGINEER.
2. ALL SLOPES IN PAVEMENT SHALL BE UNIFORM TO AVOID PONDING. ANY PONDING ON PAVEMENT PATCHES OR ADJACENT PATCHES WILL BE CONSIDERED UNACCEPTABLE AND SHALL BE REPLACED.
3. SALVAGE ALL SIGNS WITHIN THE CONSTRUCTION LIMITS AND REINSTALL IN THE SAME LOCATION AND CONDITION AFTER CONSTRUCTION. ANY STREET SIGNS OR POLES DAMAGED DURING THE COURSE OF WORK TO BE REMOVED AND REPLACED AT NO ADDITIONAL COST TO THE STATE.
4. USE TYPE "A" COMPACTION PER IOWA DOT STANDARD SPECIFICATIONS ON SUBGRADE AND SUBBASE.

SPECIFICATIONS

THE MOST RECENT EDITION OF THE IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS (SUDAS) SHALL APPLY TO ALL SITE WORK PERFORMED ON THIS PROJECT EXCEPT AS MODIFIED HEREIN.

A. CONCRETE PAVING

CONCRETE: MATERIALS AND MIXING FOR ALL CONCRETE WORK, UNLESS OTHERWISE SPECIFIED, SHALL CONFORM TO IOWA DOT SPECIFICATIONS FOR AIR-ENTRAINED TYPE C-4 MIX WITH TYPE I CEMENT.

FLY ASH (CONTRACTOR'S OPTION): ASTM C618, TYPE C, NOT TO EXCEED 15% OF CEMENTITIOUS MATERIAL.

COARSE AGGREGATE: DURABILITY SHALL BE CLASS III, 3/4" MAX.

COMPRESSIVE STRENGTH: 2800 PSI @ 7 DAYS AND 4000 PSI @ 28 DAYS
SLUMP: 3" ± 1" or 8" MAXIMUM WITH SUPER PLASTICIZER
AIR CONTENT: 7.0% ± 1.0%
WATER/CEMENT RATIO: NOT TO EXCEED 0.53
FINISH: HEAVY BROOM FINISH

TESTING: ONE SET OF TEST CYLINDERS REQUIRED FOR EACH 100 CY, OR PORTION THEREOF, OF CONCRETE POURED PER WORK LOCATION. CONCRETE TESTING TO BE DONE AND PAID FOR BY OWNER. CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL REQUIRED TESTING AND GEOTECHNICAL WORK WITH CONSTRUCTION MANAGER.

SURFACE CURING: CONTRACTOR SHALL APPLY WHITE PIGMENT LIQUID CURING COMPOUND IN A FINE SPRAY TO FORM CONTINUOUS UNIFORM FILM AFTER FINISHING AND SURFACE MOISTURE HAS DISAPPEARED OR WITHIN 30 MINUTES AFTER FORMS ARE REMOVED.

SUBMIT CONCRETE MIX DESIGN FOR APPROVAL.

COLD WEATHER CONCRETE: WHEN THE ATMOSPHERIC AIR TEMPERATURE MAY BE EXPECTED TO DROP BELOW 40°F AT THE TIME CONCRETE IS DELIVERED TO THE WORK SITE, DURING PLACEMENT OR AT ANY TIME DURING CURING PERIOD, CONCRETE SHALL BE MIXED, PLACED AND PROTECTED IN ACCORDANCE WITH ACI STANDARD 306, "RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING." IT IS THE OWNER'S PREFERENCE TO AVOID COLD WEATHER CONCRETE AND PROVIDE TEMPORARY GRANULAR SURFACING FOR SIDEWALK AND PAVING AS REQUIRED.

B. EXPANSION JOINT FILLER

CLOSED CELL POLYETHYLENE WITH STRIP-OFF CAP FOR SEALANT.

C. JOINT SEALANT

PAVING JOINTS SHALL BE SEALED PER IOWA DOT SPECIFICATIONS. BACKER ROD SHALL NOT BE USED FOR JOINT SEALING.

D. PAVEMENT REINFORCING STEEL

PAVING REINFORCEMENT SHALL BE ASTM C615 GRADE 60 AND SHALL HAVE A PROTECTIVE EPOXY COATING APPLIED BY ELECTROSTATIC SPRAY METHOD IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A775.

E. PAVEMENT JOINTING

PROVIDE IDOT TYPE 'C' JOINTS FOR TRANSVERSE JOINTS. PROVIDE JOINTS AT A MAXIMUM SPACING OF 12 FEET FOR PAVING OR SQUARE PANELS FOR SIDEWALKS.

PROVIDE IDOT TYPE 'L' JOINTS FOR LONGITUDINAL JOINTS.

PROVIDE IDOT TYPE 'RD' OR TYPE 'BT' JOINTS TO TIE INTO EXISTING PAVING.

PROVIDE IDOT TYPE 'DW' JOINTS FOR END OF DAY PAVING.

SAW CUTTING TO BE COMPLETED A MAXIMUM OF 24 HOURS FROM CONCRETE PLACEMENT. RANDOM CRACKING CAUSED BY DELAYED SAW CUTTING MAY REQUIRE REMOVAL AND REPLACEMENT.

CONTRACTOR TO PROVIDE OWNER'S REPRESENTATIVE WITH A POURING SEQUENCE AND JOINTING PLAN FOR APPROVAL PRIOR TO PAVING.

F. TRENCH EXCAVATION AND BACKFILL

BEDDING AND BACKFILL MATERIAL: SHALL COMPLY WITH IOWA SUDAS SECTION 3010.

BACKFILL COMPACTION REQUIREMENTS:
1. AREAS UNDER AND WITHIN FIVE (5) FEET OF PAVEMENT, SIDEWALKS, GRANULAR SURFACING OR OTHER SURFACE IMPROVEMENTS SHALL BE COMPACTED TO 95% OF MAXIMUM STANDARD PROCTOR DENSITY.
2. AREAS UNDER LANDSCAPING AND LAWN AREAS SHALL BE COMPACTED TO 90% OF MAXIMUM STANDARD PROCTOR DENSITY. COMPACTION TESTING SHALL BE COMPLETED ON A FREQUENCY OF ONE TEST PER 100 LINEAR FEET AT APPROXIMATELY EVERY OTHER 8" LIFT OR AT ALTERNATIVE LOCATIONS AND FREQUENCIES AS RECOMMENDED BY TESTING AGENCY. COMPACTION TESTING TO BE DONE BY AN INDEPENDENT TESTING LABORATORY AND PAID FOR BY OWNER. CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL REQUIRED TESTING AND GEOTECHNICAL WORK WITH CONSTRUCTION MANAGER.

CONTRACTOR IS RESPONSIBLE FOR ALL DEWATERING, WHICH MAY BE REQUIRED INCIDENTAL TO THE PIPE INSTALLATION.

H. WATER MAIN, WATER SERVICES, AND APPURTENANCES

ALL WATER MAINS AND WATER SERVICES SHALL BE INSTALLED TO A MINIMUM DEPTH OF COVER OF 5.5 FEET.

WATER MAIN AND WATER SERVICE PIPE MATERIAL: SHALL COMPLY WITH AWWA C900 POLYVINYL CHLORIDE (PVC) PIPE UNLESS OTHERWISE SPECIFIED.

JOINT TYPE: SHALL BE PUSH-ON JOINT TYPE ACCORDING TO AWWA C900 UNLESS OTHERWISE SPECIFIED. ALL WATER SERVICE JOINTS WITHIN THIRTY (30) FEET OF BUILDING TERMINATION POINTS SHALL HAVE RESTRAINED MECHANICAL OR INTEGRAL RESTRAINED JOINTS.

FITTINGS: SHALL COMPLY WITH AWWA C110 OR AWWA C153. MECHANICAL JOINTS AND GASKETS SHALL COMPLY WITH AWWA C111.

THRUST BLOCKS: SHALL USE IOWA DOT CLASS C CONCRETE. SHALL BE USED FOR ALL PIPES ON THE SITE AND SHALL COMPLY WITH IOWA SUDAS FIGURE 5010.101. INSTALL THRUST BLOCKS ON EXISTING MAINS OR SERVICES WHERE ADJUSTMENTS ARE BEING MADE WHICH REQUIRE NEW THRUST BLOCKS TO BE INSTALLED.

TRACER SYSTEM: SHALL COMPLY WITH IOWA SUDAS FIGURE 5010.102. TRACER WIRE, GROUND ROD, GROUND ROD CLAMP, SPLICE KIT AND TRACER WIRE STATION SHALL COMPLY WITH IOWA SUDAS SECTION 5010. CONTRACTOR SHALL COMPLETE FINAL INSPECTION OF THE TRACER SYSTEM TO BE WITNESSED BY THE CONSTRUCTION MANAGER AT THE COMPLETION OF THE PROJECT TO VERIFY ELECTRICAL CONTINUITY OF THE SYSTEM.

WATER MAINS AND WATER SERVICES SHALL BE PRESSURE TESTED AND FLUSHED ACCORDING TO SUDAS SECTION 5030 SPECIFICATIONS AND JURISDICTION REQUIREMENTS. NO DISINFECTION WILL BE REQUIRED.

I. TOPSOIL

STRIP, STOCKPILE AND RESPREAD EXISTING TOPSOIL IN ALL AREAS TO BE SEEDED. THE DEPTH OF TOPSOIL SHALL BE A MINIMUM OF 6" AFTER NATURAL SETTLEMENT AND SHALL CONFORM SMOOTHLY TO THE ADJACENT LINES, GRADES AND ELEVATIONS. PROVIDE ADDITIONAL TOPSOIL IF EXISTING TOPSOIL IS NOT PROPERLY HANDLED AND PROTECTED.

J. SITE RESTORATION

HYDRAULIC SEEDING: ALL DISTURBED AREAS ON THE SITE NOT TO BE PAVED OR LANDSCAPED SHALL RECEIVE HYDRAULIC SEEDING. HYDRAULIC SEEDING MATERIALS AND INSTALLATION SHALL MEET SUDAS SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR PREPARING SEEDBED, APPLYING HYDRAULIC SEEDING AND FIRST AND SECOND APPLICATIONS OF FERTILIZER.

SEED MIXTURE: SUDAS TYPE 1 SEED MIXTURE (PERMANENT LAWN MIXTURE) OR APPROVED EQUAL.

Legend

EXISTING	DESCRIPTION	PROPOSED
	PROPERTY LINE	
	LOT LINE	
	EASEMENT	
	CONTROL POINT/BENCHMARK	
	HANDICAPPED PARKING	
	FLOW ARROW	
	SHRUB	
	DECIDUOUS TREE	
	CONIFEROUS TREE	
	TREE LINE	
	TREE REMOVAL	
	PAVEMENT MARKING	
	LIGHT POLE	
	UTILITY POLE	
	SINGLE POLE SIGN	
	BOLLARD	
	FLAGPOLE	
	FIRE HYDRANT	
	UTILITY END CAP	
	VALVE	
PIV	POST INDICATOR VALVE	PIV
	CLEANOUT	
	CURB INTAKE	
	STORM INTAKE	
	FLARED END SECTION	
MH	MANHOLE	MH
D	DRAINAGE MANHOLE	D
E	ELECTRICAL MANHOLE	E
S	SANITARY MANHOLE	S
T	TELEPHONE MANHOLE	T
A	AC UNIT	A
J	JUNCTION BOX	J
	TRANSFORMER	
V	VAULT BOX	V
W	MONITORING WELL	W
	CURB AND GUTTER (PCC)	
910	MAJOR CONTOUR	910
909	MINOR CONTOUR	909
C	CABLE LINE - UNDERGROUND	C
E	ELECTRICAL LINE - UNDERGROUND	E
OE	ELECTRICAL LINE - OVERHEAD	OE
FO	FIBER OPTIC LINE	FO
G	GAS MAIN	G
	SANITARY SEWER	
	STORM SEWER	
	SUBDRAIN	
T	TELECOM LINE	T
W	WATER MAIN	W
	UTILITY DEMO	
	FENCING	
	SILT FENCE OR FILTER SOCK	
	CONSTRUCTION LIMITS	
	BUILDING	
	PCC PAVING	
	SIDEWALK PAVING	
	GRANULAR SURFACING	
	PCC PAVING DEMO	
	SIDEWALK DEMO	
	GRANULAR SURFACING DEMO	
	BUILDING DEMO	
	RETAINING WALL DEMO	

CONTROL POINTS

NAME	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP1	682131.044	1525049.100	1073.26	CUT X
CP2	682302.101	1525333.117	1077.44	CUT X
CP3	682139.405	1525630.380	1076.89	CUT X
CP4	682065.867	1524705.021	1069.79	CUT X
CP5	682436.764	1524794.931	1073.34	CUT X
CP6	682743.133	1525129.926	1070.50	CUT X
CP7	682651.373	1525759.587	1070.62	CUT X

COORDINATE SYSTEM: IOWA STATE PLANE - SOUTH

THE MOST RECENT EDITION OF THE IOWA STATEWIDE URBAN DESIGN SPECIFICATIONS FOR PUBLIC IMPROVEMENTS SHALL APPLY TO ALL WORK PERFORMED ON THIS PROJECT EXCEPT AS MODIFIED HEREIN.

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WEST DES MOINES, IOWA 50266
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(#9279.31) CHAPEL SPRINKLER

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1251 334TH ST, WOODWARD, IA 50276

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APPROVED BY	KAL
ISSUED FOR	BIDDING
ISSUE DATE	2024-01-11
PROJECT NUMBER	2142203394
FIELD BOOK:	---

CONSTRUCTION NOTES

05-C001

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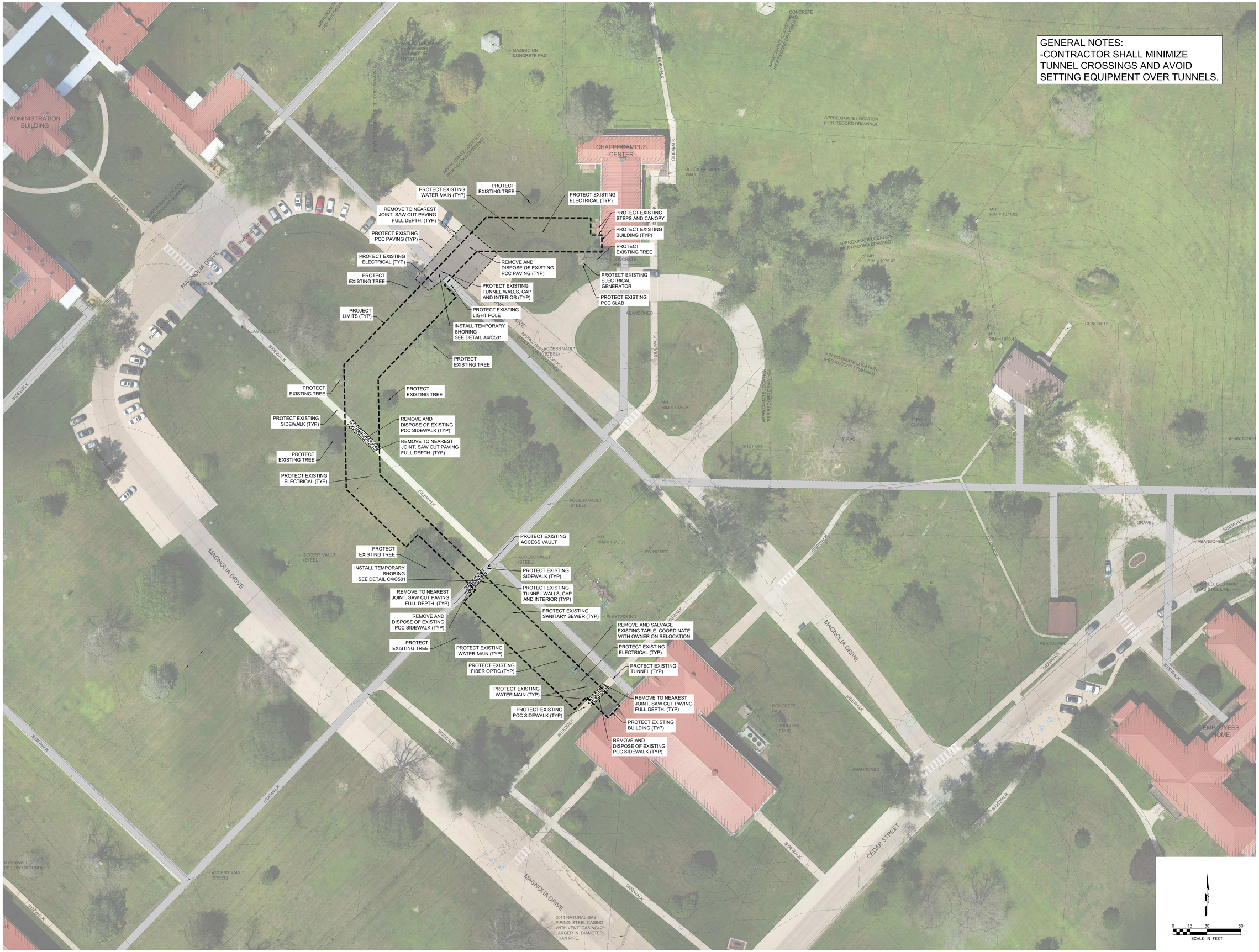

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DEMOLITION PLAN

05-CD01

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SITE PLAN
05-C101

SCALE IN FEET
0 15 30 60

MAGNOLIA DRIVE
CEDAR STREET
CHAPEL/CAMPUS CENTER
ADMINISTRATION BUILDING
MEYERS
EMPLOYEES HOME
GAZEBO ON CONCRETE PAD
PLAYGROUND
STARWELL (BELOW GROUND)
SIDEWALK
CONCRETE
GRAVEL
ABANDONED
ACCESS VAULT (STEEL)
MH RIM = 1071.82
MH RIM = 1070.48
MH RIM = 1075.02
MH RIM = 1076.24
MH RIM = 1073.03
APPROXIMATE LOCATION (PER RECORD DRAWING)
8" PVC SEWER
SHUT OFF
BLOCK RETAINING WALL
CONCRETE PAD
CHAINLINK FENCE
SWINGSET
2" NATURAL GAS PIPING, STEEL CASING WITH VENT CASINGS, 2" HIGH PRESSURE GAS LINE LESS THAN PIPE DIAMETER
TREE PROTECTION
PROJECT LIMITS (TYP)
7" PCC PAVING (TYP)
6" PCC SIDEWALK (TYP)
SEED ALL DISTURBED AREAS NOT TO BE PAVED (TYP)
PARKING
PROJECT LIMITS

GENERAL NOTES:
-CONTRACTOR TO INSTALL WATER MAIN SO IT DOES NOT CONFLICT WITH ANY OTHER EXISTING UTILITIES. MAINTAIN VERTICAL CLEARANCES WITH OTHER UTILITIES AS REQUIRED BY SUDAS.
-CONTRACTOR TO INSTALL WATER MAIN SO THERE IS AT LEAST 5.5' OF COVER OVER THE TOP OF PIPE AT ALL LOCATIONS.

UTILITY CROSSING EXISTING WATER MAIN
WATER CONNECTION IE = 1071.45 REFER TO PLUMBING FOR CONTINUATION
45° BEND
INSTALL AND REMOVE TEMPORARY RISER AND VALVES AS REQUIRED FOR TESTING PRIOR TO CONNECTIONS TO BUILDING
TUNNEL CASING PIPE SEE DETAIL A2/C501
UTILITY CROSSING EXISTING ELECTRICAL
PROVIDE TEMPORARY CAP 5' FROM BUILDING AS REQUIRED BY PHASING OF WORK.
UTILITY CROSSING EXISTING ELECTRICAL
INSTALL THRUST BLOCK AT BEND
PROJECT LIMITS (TYP)
45° BENDS
INSTALL THRUST BLOCKS AT BENDS
UTILITY CROSSING EXISTING ELECTRICAL
664 LF 6" C900 PVC WATER SERVICE LINE
TUNNEL CASING PIPE SEE DETAIL A2/C501
UTILITY CROSSING EXISTING SANITARY SEWER
UTILITY CROSSING EXISTING WATER MAIN
UTILITY CROSSING EXISTING FIBER OPTIC
UTILITY CROSSING EXISTING ELECTRICAL
UTILITY CROSSING EXISTING WATER MAIN
WATER CONNECTION IE = 1068.30 REFER TO PLUMBING FOR CONTINUATION
PROVIDE TEMPORARY CAP 5' FROM BUILDING AS REQUIRED BY PHASING OF WORK.

ADMINISTRATION BUILDING
CHAPEL/CAMPUS CENTER
EMPLOYEES HOME
GAZEBO ON CONCRETE PAD
MAGNOLIA DRIVE
CEDAR STREET
SIDEWALK
ABANDONED
ACCESS VAULT (STEEL)
MH RIM = 1071.82
MH RIM = 1075.02
MH RIM = 1078.48
MH RIM = 1076.29
MH RIM = 1073.03
SWINGSET
GRAVEL
CONCRETE PAD
CHAINLINK FENCE
BLOCK RETAINING WALL
2" POLY SERVICE
8" PVC
SHUT OFF
2014 WATER MAIN REPLACEMENT TAP AND TIE LOCATION
APPROXIMATE LOCATION (PER RECORD DRAWING)
2014 NATURAL GAS PIPING; STEEL CASING WITH VENT. CASING: 2" LARGER IN DIAMETER THAN PIPE
CAPPED, OLD MAIN WAS STILL LIVE
STAIRWELL (BELOW GROUND)
FLAG POLE 25'

0 15 30 60
SCALE IN FEET

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UTILITY PLAN

05-C301

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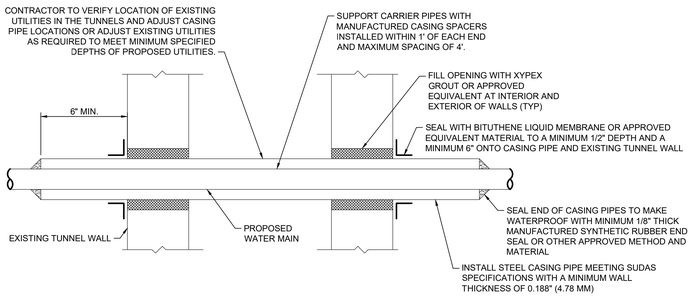
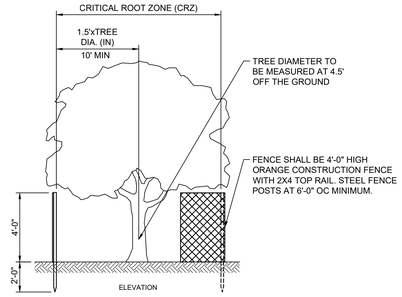


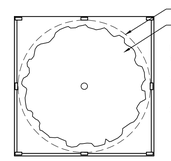
NOTES:
1. CASING PIPE SIZE SHALL BE A MINIMUM OF 4" LARGER THAN THE LARGEST DIAMETER OF THE CARRIER PIPE, INCLUDING PIPE BELLS.

2. PROVIDE SUBMITTALS FOR CASING PIPE, CASING SPACERS/CARRIER PIPE SUPPORTS, CASING PIPE END SEALS, AND WATERPROOFING/SEALANT MATERIALS.

3. CONTRACTOR MAY PROPOSE TO ROUTE WATER MAIN UNDER TUNNEL WITH ENGINEER APPROVAL.

A2 TUNNEL CASING PIPE
NTS



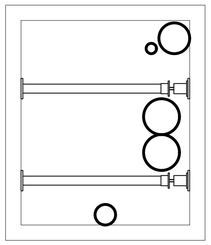


NOTE:
1. TYPICAL ALL TREES INSIDE OR DIRECTLY ADJACENT TO WORK AREA.
2. FENCE LOCATION TO BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
3. THE SOIL WITHIN THE CRZ SHALL NOT BE DISTURBED IN ANY MANNER DURING CONSTRUCTION. NO EQUIPMENT, MATERIALS, SUPPLIES, AND/OR SALVAGE SHALL BE STORED OR PLACED WITHIN THE ZONE. NO VEHICULAR OR EQUIPMENT TRAFFIC SHALL BE PERMITTED WITHIN THE CRZ. NO FILLING OR CURING OF EXISTING SOILS SHALL BE PERMITTED WITHIN THE CRZ. THE OWNER'S REPRESENTATIVE AND/OR LANDSCAPE SERVICES MUST APPROVE ANY DEVIATION FROM THE STANDARD.

E2 TREE PROTECTION
NOT TO SCALE

ADJUST ELEVATION OF SHORES TO MISS CONDUITS AND UTILITIES

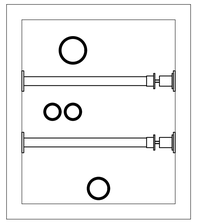
SEE DETAIL D6 FOR TEMPORARY SHORING DETAIL



A4 TUNNEL SECTION - TUNNEL MAINLINE STA 33+50
NTS

ADJUST ELEVATION OF SHORES TO MISS CONDUITS AND UTILITIES

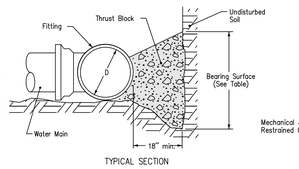
SEE DETAIL D6 FOR TEMPORARY SHORING DETAIL



C4 TUNNEL SECTION - LARCHES TUNNEL STA 1+66
NTS

Diameter of Pipe, D (inches)	MINIMUM BEARING SURFACE (sf)				
	Bends				Tees and Dead Ends
	1 1¼°	22½°	45°	90°	
4	1	1	2	4	3
6	1	2	4	8	6
8	2	4	7	14	10
10	3	6	1 1	21	15
12	4	8	16	29	21
14	5	1 1	21	39	28
16	7	14	27	50	36
18	9	17	34	63	45
20	1 1	21	42	78	55
24	15	31	60	1 1 1	78
30	24	47	92	171	120
36	34	67	132	244	173

Minimum surface area based on water pressure of 150 psi and allowable soil pressure of 1,000 psf.

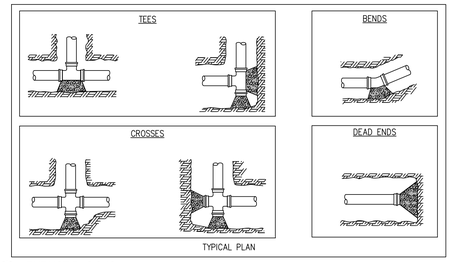


TYPICAL SECTION

Extend thrust blocks to undisturbed soil. Excavation into trench wall may be necessary.

Form vertical surfaces of poured concrete thrust blocks except on bearing surface.

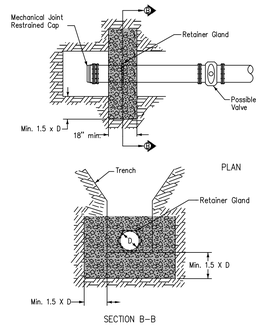
Encase all fittings in polyethylene wrap. Do not allow concrete to directly contact joints or fitting bolts.



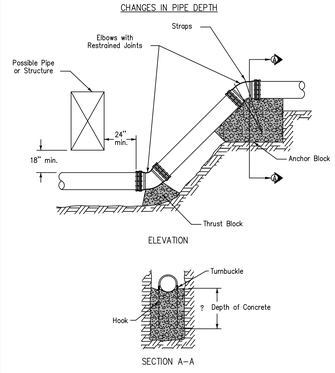
TYPICAL PLAN

DEAD ENDS (ALTERNATE METHOD)

Use only when allowed by the Engineer, or when specified in the contract documents.

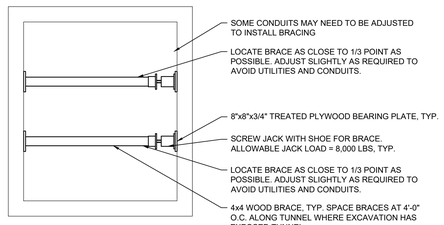


CHANGES IN PIPE DEPTH

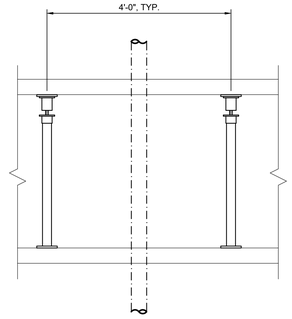


E4 THRUST BLOCKS
NTS

CONTRACTOR MAINTENANCE REQUIREMENTS:
THE FOLLOWING ARE MAINTENANCE ITEMS TO BE PERFORMED BY CONTRACTOR UNTIL PROJECT HAS BEEN ACCEPTED AS FINAL COMPLETION AT WHICH POINT OWNER OR OTHERS WILL TAKE OVER MAINTENANCE RESPONSIBILITY.
1. TIGHTEN JACKS EVERY WEEK WHILE TUNNEL IS EXPOSED.
2. REMOVE SHORING AFTER TUNNEL HAS BEEN BACKFILLED.



PROFILE VIEW



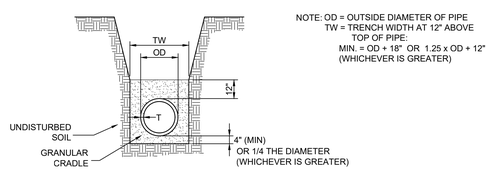
PLAN VIEW

TEMPORARY SHORING GENERAL NOTES:

REQUIRED SUBMITTALS
1. WOOD FRAMING BILL OF MATERIALS
2. SCREW JACK PRODUCT DATA
3. SHOP DRAWING OF ALL SHORING LOCATIONS
4. LAYOUT/FIELD MARKING OF ALL PROPOSED SHORING LOCATIONS TO BE JOINTLY REVIEWED AND APPROVED BY ENGINEER.

SHORING NOTES:
1. REFER TO DETAILS A4 AND C4 TO VERIFY TUNNEL SECTION FOR ALL UTILITY CROSSINGS.
2. DO NOT USE MECHANICAL FASTENERS TO INSTALL SHORING TO CONCRETE.
3. CONTRACTOR SHALL COORDINATE STEAM TUNNEL ACCESS WITH OWNER.
4. DO NOT DAMAGE EXISTING UTILITIES DURING SHORING INSTALLATION.
5. LOCATE SHORING TO MAINTAIN ACCESS TO VALVES, EXPANSION JOINTS, TRAPS, AND ALL OTHER MISCELLANEOUS EQUIPMENT.
6. ALL WOOD SHALL BE TREATED AND MINIMUM #2 GRADE SPF.
7. SPACING OF BRACES AND POSTS MAY NEED TO VARY BASED ON LOCATION OF EXISTING UTILITIES. IF RELOCATION IS MORE THAN 12", CONTACT ENGINEER FOR ADDITIONAL INFORMATION.
8. STEEL SHALL BE COATED WITH A HIGH PERFORMANCE PAINT DESIGNED TO WITHSTAND HIGH TEMPERATURE AND HUMIDITY ENVIRONMENT.
9. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS PRIOR TO FABRICATION OF ANY SHORING.
10. CONTRACTOR TO PROVIDE POWER, LIGHTING, VENTILATION, WELDING EQUIPMENT, AND LADDERS FOR ACCESS AS REQUIRED.
11. ALL UTILITIES ARE LIVE AND WILL REMAIN LIVE DURING CONSTRUCTION. UTILITIES INCLUDE 20 PSI STEAM, CONDENSATE, WATER, ELECTRICAL, AND COMMUNICATION.

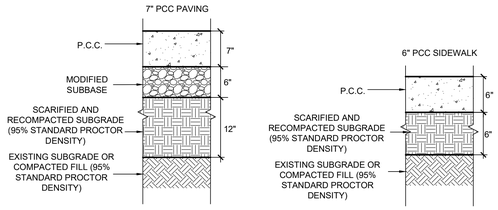
A6 TEMPORARY SHORING
NTS



NOTE: OD = OUTSIDE DIAMETER OF PIPE
TW = TRENCH WIDTH AT 12" ABOVE TOP OF PIPE:
MIN. = OD + 18" OR 1.25 x OD + 12" (WHICHEVER IS GREATER)

SUBGRADE SHOULD BE EXCAVATED OR OVER EXCAVATED, IF NECESSARY, SO A UNIFORM FOUNDATION FREE OF PROTRUDING ROCKS MAY BE PROVIDED.

G5 FLEXIBLE PIPE BEDDING
NTS



G6 PAVEMENT CROSS-SECTION
NTS

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ISSUED FOR	BIDDING
ISSUE DATE	2024-01-11
PROJECT NUMBER	2142203394
FIELD BOOK	---

CONSTRUCTION DETAILS

05-C501

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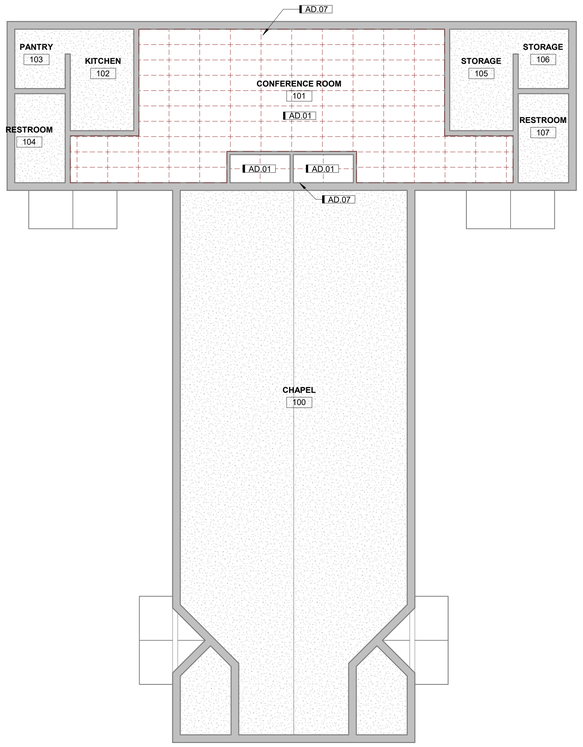
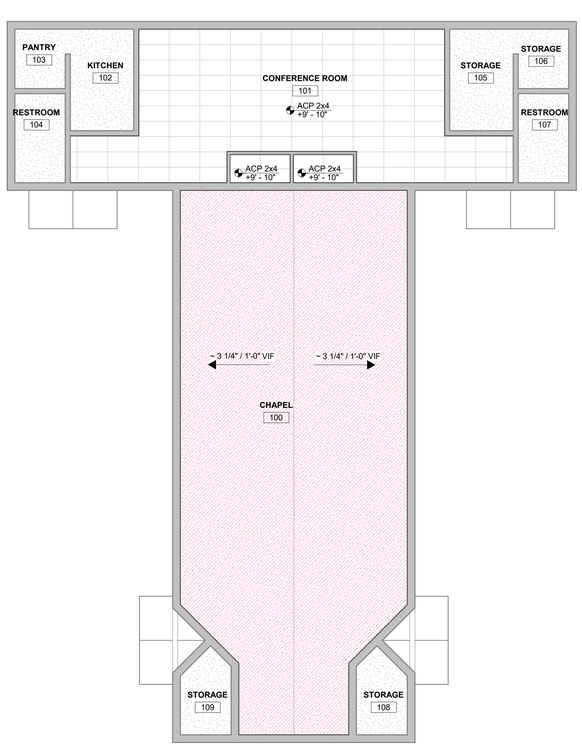


NORTH

C6 FIRST FLOOR REFLECTED CEILING DEMOLITION PLAN
1/8" = 1'-0"



NORTH

E6 FIRST FLOOR REFLECTED CEILING PLAN
1/8" = 1'-0"

SHPO LEGEND

AREA WITH HISTORIC LIGHTING

***NOTE:**
Hatched regions are an approximation of areas, actual extents may vary.

KEYNOTES

KEY	NOTE
AD.01	REMOVE CEILING TILE, GRID, AND INSULATION ABOVE FOR MECHANICAL WORK AND REINSTALL AT SAME HEIGHT AND LOCATION. VERIFY AND DOCUMENT EXISTING CONDITIONS BEFORE DEMOLITION.
AD.07	PERIMETER GRID ANGLE MOLDING TO REMAIN FOR REINSTALLATION OF ACP GRID, TYP.

ARCHITECTURAL DEMOLITION NOTES

1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO START OF DEMOLITION WORK. NOTIFY ARCHITECT IN WRITING OF DISCREPANCIES BETWEEN WORK SHOWN IN THE DRAWINGS AND FIELD CONDITIONS ENCOUNTERED.
2. TO PROTECT OWNER AND CONTRACTOR, PHOTOGRAPHICALLY DOCUMENT EXISTING CONDITIONS TO REMAIN, PRIOR TO START OF DEMOLITION AND CONSTRUCTION ACTIVITIES. COPY ARCHITECT AND OWNER ON PHOTOGRAPHIC DOCUMENTATION.
3. OPEN FLAME EQUIPMENT IS NOT PERMITTED FOR REMOVAL OF EXISTING WORK WITHOUT SPECIFIC WRITTEN PERMISSION FROM THE OWNER.
4. COORDINATE WITH OWNER ANY ITEMS TO BE SALVAGED.
5. OWNER WILL REMOVE ALL NON-FIXED FURNISHINGS AND EQUIPMENT FROM THE CONSTRUCTION AREA PRIOR TO START OF CONSTRUCTION UNLESS NOTED OTHERWISE.
6. MAINTAIN BUILDING IN A WEATHER-TIGHT CONDITION. DO NOT PERFORM WORK ON EXTERIOR OPENINGS THAT CANNOT BE COMPLETED OR MADE WEATHER-TIGHT WHEN INCLEMENT WEATHER IS POSSIBLE.
7. PROTECT ALL FINISHES (TO REMAIN) IN THE PROJECT AREA. COORDINATE WITH ARCHITECT AND OWNER PRIOR TO DEMOLITION.
8. ENSURE THAT DUST AND DEBRIS ARE PREVENTED FROM ENTERING THE EXISTING HVAC SYSTEM AND ADJOINING SPACES WITH TEMPORARY BARRIERS AS REQUIRED PER THE BUILDING.
9. ALL NEW AND EXISTING PENETRATIONS IN EXISTING INTERIOR AND EXTERIOR WALLS, FLOORS AND CEILING DECKS SHALL RECEIVE UL AND FACILITY APPROVED FIRE SEALANT MATERIALS TO MATCH RATING REQUIREMENT OF AREA BEING PENETRATED. FOR LOCATIONS AND EXTENTS OF NEW PENETRATIONS SEE MECHANICAL AND ELECTRICAL DRAWINGS.
10. COORDINATE WITH OTHER TRADES CUTTING AND PATCHING REQUIRED FOR DEMOLITION OR NEW CONSTRUCTION.
11. ANY DEMOLITION OR REMOVAL INDICATED IS SHOWN IN GENERAL TO PROVIDE THE EXTENT OF DEMOLITION AND IS NOT TO BE CONSIDERED AS A RECORD DRAWING OF EXISTING CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR IN FIELD VERIFICATION AND COORDINATION WITH THE ARCHITECT PRIOR TO COMMENCING WITH STATED WORK.
12. ALL CONSTRUCTION TO REMAIN WHICH IS AFFECTED BY DEMOLITION SHALL BE PATCHED, BE PROPERLY ALIGNED AND FINISHED SO AS TO LEAVE NO EVIDENCE OF PATCHING OR REPAIR. REPAIR OR REPLACE ANY EXISTING CONSTRUCTION, MATERIALS, OR EQUIPMENT DAMAGED DURING DEMOLITION TO LIKE NEW CONDITION.
13. THE CONTRACTOR IS TO RETURN SALVAGEABLE MATERIALS, INCLUDING BUT NOT LIMITED TO DOORS, FRAMES, HARDWARE, MARBLE, EQUIPMENT, AND LIGHTING FIXTURES TO THE OWNER AND STOCKPILE THEM IN AN APPROVED CONSTRUCTION AREA. DISPOSE OF THESE MATERIALS AFTER OWNER'S REVIEW AND APPROVAL.
14. BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.
15. TEMPORARILY REMOVE FIXTURES AND OTHER DEVICES, INCLUDING DIFFUSERS, AS NEEDED TO COMPLETE NEW WORK. REINSTALL ONCE MECHANICAL/ELECTRICAL WORK IS COMPLETE.
16. INTENT FOR PERIMETER GRID TO REMAIN TO LIMIT LEAD PAINT ABATEMENT.

DEMOLITION PLAN SYMBOLS LEGEND

- EXISTING WALL PARTITIONS
- EXISTING DOOR
- DEMOLISH DOOR
- DEMOLISH CEILINGS AND PREPARE FOR NEW CEILINGS. PERIMETER GRID TO REMAIN.
- DEMOLISH CEILINGS AND PREPARE FOR NEW CEILINGS
- N.C. — NO CEILING IN SPACE

CEILING PLAN NOTES

1. NOTIFY ARCHITECT OF INADEQUATE CLEARANCES FOR CEILING LAYOUT PRIOR TO COMMENCING WORK.
2. LOCATIONS OF LIGHT FIXTURES, DIFFUSERS, ETC. SHALL REMAIN IN PLACE. SUPPORT EXISTING DIFFUSERS AND LIGHTING. NOTIFY ARCHITECT OF ANY CONFLICTS PRIOR TO PROCEEDING WITH CONSTRUCTION. REFER TO DRAWINGS AND SPECIFICATIONS OF ALL TRADES FOR SYSTEM DESIGN AND ADDITIONAL INFORMATION.
3. COORDINATE WITH ALL TRADES TO CONFIRM THEIR WORK CAN BE INSTALLED TO ACHIEVE CEILING HEIGHTS AS SHOWN. TRADE PRIORITY SHALL BE AS FOLLOWS UNLESS DIRECTED OTHERWISE BY THE ARCHITECT.
   - ELECTRICAL LIGHTING FIXTURES
   - MECHANICAL GRILLES AND DIFFUSERS
   - MECHANICAL DUCTWORK
   - ELECTRICAL CONDUIT
   - PIPING SYSTEMS
4. COORDINATE WITH ALL TRADES TO CONFIRM THE LOCATION OF ACCESS PANELS WITH ASSOCIATED INSTALLED EQUIPMENT. INFORM ARCHITECT OF PROPOSED LOCATIONS PRIOR TO INSTALLATION AND CONSTRUCTION OF NEW WORK.
5. CONTRACTOR TO REPLACE FROM OWNER STOCK CEILING TILES DAMAGED DURING CONSTRUCTION.
6. DESIGN INTENT TO HAVE NEW CEILINGS REMAIN AT ELEVATION OF EXISTING CEILINGS.

CEILING PLAN SYMBOLS LEGEND

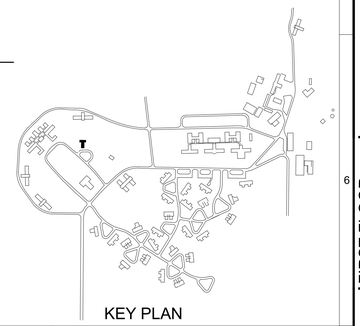
- ACP-1 / +8'-0" — CEILING MATERIAL DESIGNATION / CEILING HEIGHT
- PLASTER ON METAL LATH SUBSTRATE CEILING
- 2X2 ACOUSTICAL CEILING PANEL SYSTEM
- 2X4 ACOUSTICAL CEILING PANEL SYSTEM
- ETS — EXPOSED TO STRUCTURE

PROJECT GENERAL INFORMATION

1. COLOR HAS BEEN USED ON THESE DRAWINGS TO ENHANCE UNDERSTANDING. PRINTING IN COLOR IS RECOMMENDED TO ENSURE CLARITY.
2. ANY DAMAGE TO AREAS INSIDE OR OUTSIDE OF THE PROJECT AREA SHALL BE REPAIRED TO THE STATUS PRIOR TO CONSTRUCTION AT NO COST TO OWNER.
3. THE GENERAL CONTRACTOR SHALL BE ULTIMATELY RESPONSIBLE FOR ALL CUTTING, SUPPORTING, AND PATCHING IF NOT COVERED BY A SPECIFIC TRADE.
4. EACH TRADE SHALL PROVIDE TESTED FIRESTOPPING ASSEMBLIES FOR PENETRATIONS OF THEIR WORK THROUGH FIRE-RATED WALLS AND FLOOR/CEILING ASSEMBLIES. FIRESTOPPING ASSEMBLIES ARE TO BE OF DESIGNS THAT PROVIDE THE SCHEDULED FIRE RATINGS WHEN TESTED IN ACCORDANCE WITH ASTM E119, ASTM E814, OR UL 1479, AND ARE TO BE INSTALLED BY INDIVIDUALS TRAINED AND EXPERIENCED WITH INSTALLATION OF SUCH ASSEMBLIES. PROVIDE SUBMITTALS TO LOCAL AUTHORITIES AS REQUESTED
5. IF COMPLIANCE WITH TWO OR MORE STANDARDS IS SPECIFIED AND THE STANDARDS ESTABLISH DIFFERENT OR CONFLICTING REQUIREMENTS FOR MINIMUM QUANTITIES OR QUALITY LEVELS, COMPLY WITH THE MOST STRINGENT REQUIREMENT. REFER UNCERTAINTIES AND REQUIREMENTS THAT ARE DIFFERENT, BUT APPARENTLY EQUAL, TO ARCHITECT FOR A DECISION BEFORE PROCEEDING.
6. ABATEMENT WORK WILL BE UNDER SEPARATE CONTRACT. OBTAIN AND MAINTAIN ON SITE A COMPLETE SET OF ABATEMENT DOCUMENTS, INCLUDING ADDENDA AND CHANGES AFTER START OF CONSTRUCTION, FOR REFERENCE AND COORDINATION BY ALL TRADES. COORDINATE ALL DEMOLITION AND CONSTRUCTION WORK WITH THE ABATEMENT CONTRACTOR.
7. THE INDICATION OF TYPE AND LOCATION OF EXISTING CONDITIONS AND MATERIALS IN THE DRAWINGS IS NOT INTENDED AS EXACT DOCUMENTATION OF IN-PLACE CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS BEFORE SUBMISSION OF BIDS. EXISTING CONDITIONS VARYING FROM THOSE SHOWN IN THE DRAWINGS WILL NOT BE JUSTIFICATION FOR ADDITIONAL ALLOWANCE TO THE CONTRACTOR. NOTIFY THE ARCHITECT IMMEDIATELY IF ANY CONDITIONS CONFLICT WITH THE DRAWINGS.
8. PROTECT ALL BUILDING SYSTEMS, NEW AND EXISTING. COVER SUPPLY, RETURN, AND EXHAUST AIR GRILLES, AND PROTECT OTHER SENSITIVE EQUIPMENT FROM ALL ACTIVITIES RELATED TO THIS CONTRACT. REMOVE PROTECTION AT END OF CONSTRUCTION.
9. ALL DISSIMILAR METALS SHALL BE ISOLATED FROM EACH OTHER EVEN IF NOT SPECIFICALLY IDENTIFIED IN THE CONTRACT DOCUMENTS.
10. ALL CODE-REQUIRED LABELS SUCH AS "UL", "FACTORY MUTUAL", OR ANY EQUIPMENT IDENTIFICATION, PERFORMANCE RATING, NAME, OR NOMENCLATURE PLATES SHALL REMAIN READABLE AND NOT PAINTED OR COVERED BY OTHER CONSTRUCTION.
11. STRUCTURAL INFORMATION ON ARCHITECTURAL DRAWINGS IS FOR REFERENCE ONLY.
12. ARCHITECTURAL DIMENSIONS AND DESIGN INTENT ARE INDICATED ON ARCHITECTURAL DRAWINGS. IF THE INSTALLATION OF EQUIPMENT FROM OTHER TRADES INTERFERES WITH COMPLIANCE OF THE DESIGN INTENT, NOTIFY THE ARCHITECT BEFORE PROCEEDING.
13. DO NOT SCALE DRAWINGS; DIMENSIONS GOVERN LOCATION OF BUILDING ELEMENTS. IF DIMENSIONS ARE NOT AVAILABLE, CONTACT THE ARCHITECT.
14. WHEN DIMENSIONS ON SMALL SCALE DRAWINGS CONFLICT WITH THOSE ON LARGE SCALE DRAWINGS, THE LARGE SCALE DRAWINGS GOVERN.

GENERAL SYMBOLS LEGEND

- VIEW NUMBER / VIEW NAME / 1/8" = 1'-0" / DRAWING SCALE
- NORTH ARROW
- DETAIL SECTION MARK — VIEW NUMBER / SHEET NUMBER
- EXTERIOR ELEVATION MARK — VIEW NUMBER / SHEET NUMBER
- INTERIOR ELEVATION MARK — VIEW NUMBER / SHEET NUMBER
- ENLARGED DETAIL MARK — VIEW NUMBER / SHEET NUMBER
- A00 — KEYNOTE VALUE
- ROOM NAME / 101 — ROOM NUMBER



KEY PLAN

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05-Chapel

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DRAWN BY	TAL
APPROVED BY	CLM
ISSUED FOR	BIDDING
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FIRST FLOOR DEMO AND REFLECTED CEILING PLAN

05-A110

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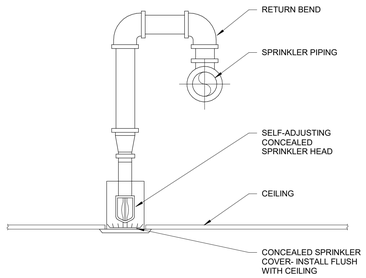
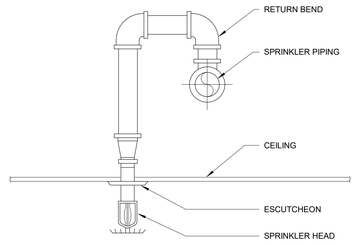
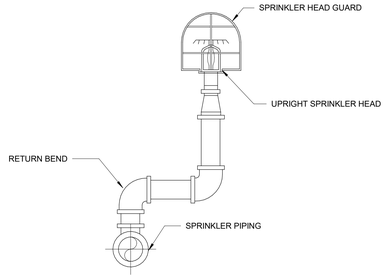


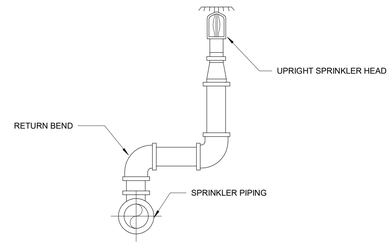
A3 CONCEALED SPRINKLER HEAD INSTALLATION
NOT TO SCALE



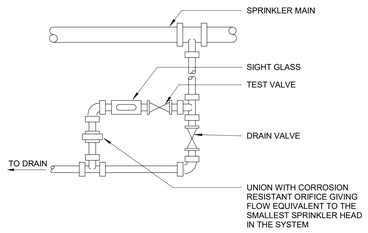
C3 SPRINKLER HEAD INSTALLATION
NOT TO SCALE



A5 UPRIGHT SPRINKLER HEAD WITH GUARD
NOT TO SCALE



C5 UPRIGHT SPRINKLER HEAD
NOT TO SCALE



A6 INSPECTOR TEST AND DRAIN VALVE ASSEMBLY
NOT TO SCALE

PLUMBING SYMBOLS LIST

- 2" CW — PIPE SIZE AND SYSTEM TAG (DIAMETER)
- I.E. 100'-0 27/64" — PIPE INVERT ELEVATION TAG
- SAN — EXISTING TO REMAIN
- SAN — TO BE DEMOLISHED
- CW — DOMESTIC COLD WATER
- HW — DOMESTIC HOT WATER
- HWC — DOMESTIC HOT WATER-CIRCULATING
- FPD — FIRE PROTECTION DRY
- FPO — FIRE PROTECTION OTHER
- FPPA — FIRE PROTECTION PRE-ACTION
- FPW — FIRE PROTECTION WET
- NG — NATURAL GAS
- SAN — SANITARY SEWER
- -V- — SANITARY VENT
- ST — STORM DRAINAGE
- DOMESTIC WATER METER
- BALANCING VALVE
- BALL VALVE
- CHECK VALVE
- THREE WAY VALVE
- PRESSURE REDUCING VALVE
- SOLENOID VALVE
- BUTTERFLY VALVE
- 6" CW UP — ELBOW UP
- 6" HW DN — ELBOW DOWN
- PIPE OFFSET UP
- PIPE OFFSET DOWN
- PIPE TEE TURNED UP
- PIPE TEE TURNED DOWN
- PIPE TEE
- PIPE CAP
- PIPE UNION
- PIPE TRANSITION
- KEYNOTE
- CAP EXISTING PIPE
- NEW CONNECTION INTO EXISTING PIPE
- THERMOMETER
- PRESSURE GAUGE
- DETAIL NUMBER
- SHEET NUMBER ON WHICH THE DETAIL RESIDES

GENERAL PLUMBING ABBREVIATIONS

SYMBOLS

&	AND
@	AT
#	NUMBER or POUND

A

ACU	AIR CONDITIONING UNIT
AD	AREA DRAIN
ADJ	ADJUSTABLE/ADJACENT
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
AMB	AMBIENT
AP	ACCESS PANEL
APPROX	APPROXIMATE(LY)
AR	ACID-RESISTANT
AS	AIR SEPARATOR
ASSY	ASSEMBLY
ATM	ATMOSPHERE
AUX	AUXILIARY
AV	ACID VENT
AVG	AVERAGE
AW	ACID WASTE

B

BAS	BUILDING AUTOMATION SYSTEM
BFF	BELOW FINISHED FLOOR
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BMS	BUILDING MANAGEMENT SYSTEM
BOP	BOTTOM OF PIPE
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR

C

C	COMPRESSOR (AIR)
CAL	CALIBRATE
CAP	CAPACITY
CCR	CONCENTRIC REDUCER
CCW	COUNTER CLOCKWISE
CIP	CAST IRON PUMP
CIRC	CIRCULATING
CISP	CAST IRON SOIL PIPE
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR(ANCE)
CLW	CLOCKWISE
CO	CLEANOUT
COND	CONDENSATE
CONSTR	CONSTRUCTION
CONT	CONTINUATION
CONTR	CONTRACTOR
COORD	COORDINATE
CP	CIRC PUMP
CSS	CLINICAL SERVICE SINK
CT	COOLING TOWER
CTRL	CONTROL
CU	COPPER
CU FT	CUBIC FEET
CU IN	CUBIC INCH

D

°/DEG	DEGREE
°C	DEGREES CELSIUS
°F	DEGREES FAHRENHEIT
DB	DRY BULB
DDC	DIRECT DIGITAL CONTROLS
DEMO	DEMOLITION
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIAG	DIAGRAM
DIP	DUCTILE IRON PIPE
DN	DOWN
DR	DRAIN
DV	DRAIN VALVE
DW	DISHWASHER
DWG	DRAWING
DWV	DRAIN WASTE & VENT

E

EA	EACH
ECCR	ECCENTRIC REDUCER
EER	ENERGY EFFICIENCY RATIO
EEW	EMERGENCY EYE WASH
EF	ENERGY FACTOR
ELEV	ELEVATION
ELEC	ELECTRICAL
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ES	EMERGENCY SHOWER / EYE WASH
ET	EXPANSION TANK
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EWT	ENTERING WATER TEMPERATURE
EX	EXISTING

F

FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FPT	FEMALE PIPE THREAD
FS	FLOOR SINK
FSEC	FOOD SERVICE EQUIPMENT CONTRACTOR
FTHD	FOOT HEAD OR PRESSURE DROP
FW	FEEDWATER
FWP	FIRE WATER PUMP

G

G	GAS
GA	GAUGE
GAL	GALLON
GC	GENERAL CONTRACTOR
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GV	GREASE VENT
GWH	GAS FIRED WATER HEATER

H

H&CW	HOT AND COLD WATER
HB	HOSE BIBB
HG	MERCURY
HORIZ	HORIZONTAL
HP	HORSEPOWER
HVAC	HEATING, VENTILATION, AIR CONDITIONING
HZ	HERTZ (FREQUENCY)

I

ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCHES
IN WC	INCHES (WATER COLUMN)
INS	INSULATION
INSTR	INSTRUMENT
IP	IRON PIPE
IPS	IRON PIPE SIZE
ISO	ISOMETRIC

J

JS	JANITOR'S SINK

K

K	KELVIN
KW	KILOWATT
KWH	KILOWATT HOUR

L

LAV	LAVATORY
LB(S)	POUND(S)
LWT	LEAVING WATER TEMPERATURE

M

MAINT	MAINTENANCE
MAX	MAXIMUM
MBH	BRITISH THERMAL UNIT (1000/HR)
MC	MECHANICAL CONTRACTOR
MCC	MOTOR CONTROL CENTER
MCA	MINIMUM CIRCUIT AMPS
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM OR MINUTE
MISC	MISCELLANEOUS
MOV	MOTOR OPERATED VALVE
MPT	MALE PIPE THREAD

N

NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NOM	NOMINAL
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE

O

OD	OUTER DIAMETER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
ORD	OVERFLOW ROOF DRAIN
OST	OVERFLOW STORM

P

PG	PRESSURE GAUGE OR PROPYLENE GLYCOL
PH	PHASE
PLBG	PLUMBING
PRV	PRESSURE RELIEF VALVE OR PRESSURE REGULATING VALVE
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE

R

RD	ROOF DRAIN
RECIRC	RECIRCULATE(ING)
REFR	REFRIGERATION
REQD	REQUIRED
RHC	REHEAT COIL
RPM	REVOLUTIONS PER MINUTE
RPZ	REDUCED PRESSURE ZONE

S

SCH	SCHEDULE
SCHM	SCHEMATIC
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SF	SQUARE FEET
SHT	SHEET
SK	SINK
SP	SUMP PUMP OR STATIC PRESSURE
SPEC	SPECIFICATION(S)
SQ IN	SQUARE INCH
SS	STAINLESS STEEL
STBY	STANDBY
STD	STANDARD
STL	STEEL
SUCT	SUCTION
SV	SAFETY VALVE
SYS	SYSTEM
SRV	SAFETY RELIEF VALVE

T

T	THERMOSTAT
TCC	TEMPERATURE CONTROL CONTRACTOR
TD	TRENCH DRAIN
TEFC	TOTALLY ENCLOSED FAN COOLED
TEMP	TEMPERATURE OR TEMPORARY
THRU	THROUGH
TOP	TOP OF PIPE
TP	TOTAL PRESSURE
TYP	TYPICAL

U

UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
UTIL	UTILITY

V

VAC	VACUUM
VBX	VALVE BOX
VD	VOLUME DAMPER
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VTR	VENT THRU ROOF

W

W/	WITH
W/O	WITHOUT
WB	WET BULB
WC	WATER CLOSET
WH	WATER HEATER OR WALL HYDRANT
WHA	WATER HAMMER ARRESTOR
WPD	WATER PRESSURE DROP
WT	WEIGHT
WTR	WATER

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05-Chapel

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DRAWN BY	TLS
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FIRE PROTECTION GENERAL INFORMATION

05-FP000

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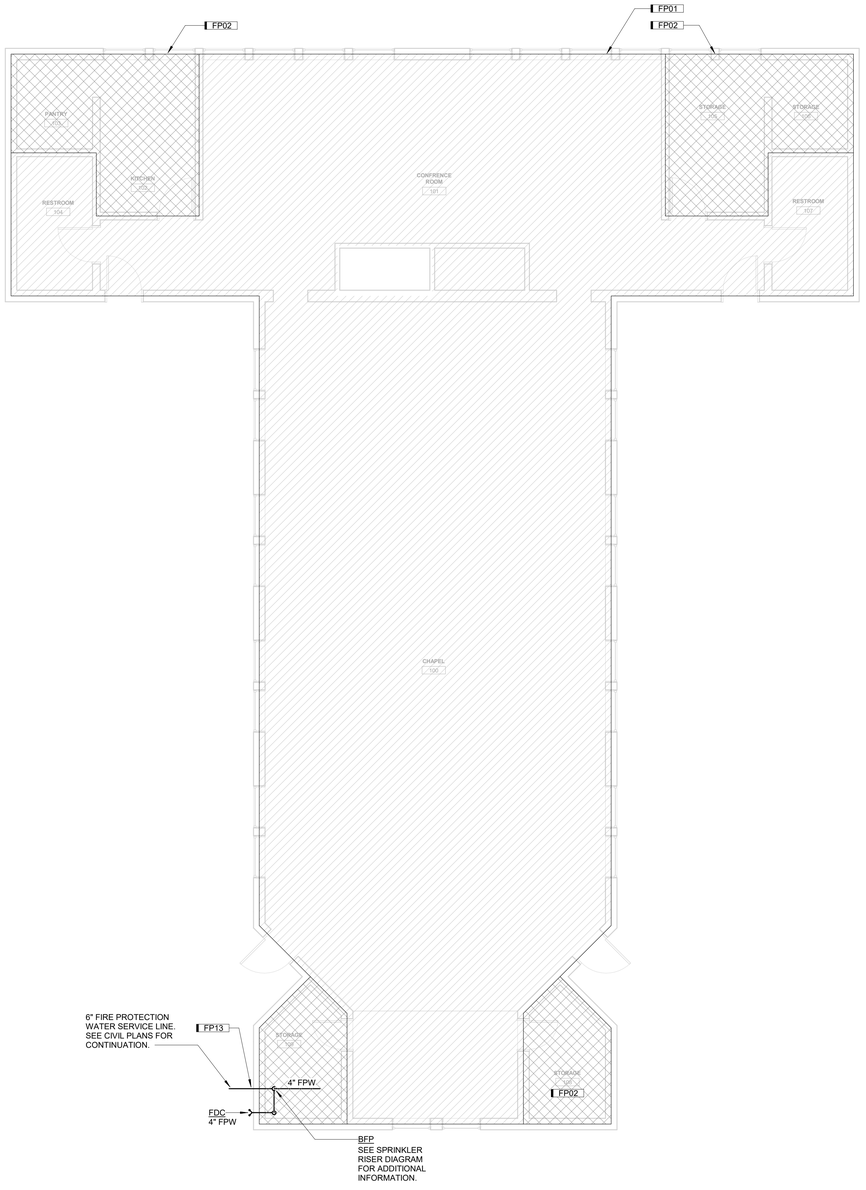
NORTH

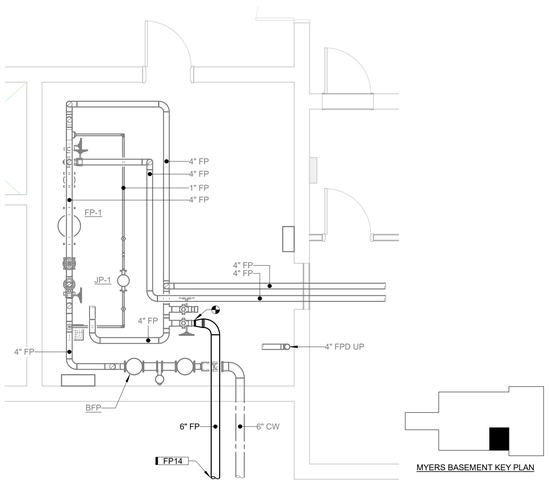
C2 ATTIC FIRE PROTECTION PLAN

3/16" = 1'-0" 0 8'



C6 FIRST FLOOR FIRE PROTECTION PLAN

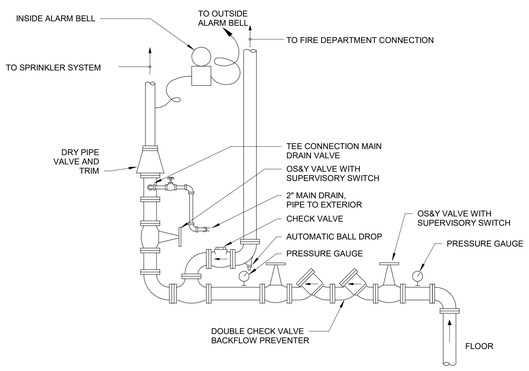
3/16" = 1'-0" 0 8'



MYERS BASEMENT KEY PLAN

A5 PARTIAL MYERS BASEMENT FIRE PROTECTION PLAN

1/4" = 1'-0" 0 6'



A6 Sprinkler Riser Diagram

NOT TO SCALE

NORTH

KEYNOTES

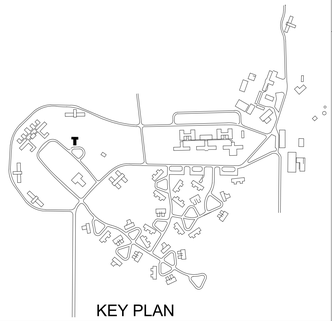
KEY	NOTE
FP01	AREA SHALL BE CONSIDERED LIGHT HAZARD, WITH SPRINKLER PROTECTION DENSITY OF 0.10 GPM/SQFT OVER THE HYDRAULICALLY MOST REMOTE 1500 SF. PROVIDE ALLOWANCE FOR 100 GPM COMBINED INSIDE AND OUTSIDE HOSE STREAM. SYSTEM SHALL BE SERVED BY A DRY TYPE SYSTEM.
FP02	AREA SHALL BE CONSIDERED ORDINARY HAZARD GROUP 1 WITH A DENSITY OF 0.15 GPM OVER THE MOST HYDRAULICALLY REMOTE 1500 SF WITH A 250 GPM COMBINED INSIDE AND OUTSIDE HOSE STREAM ALLOWANCE. SYSTEM SHALL BE SERVED BY A DRY TYPE SYSTEM.
FP13	FIRE PROTECTION WATER SERVICE LINE ENTERS BUILDING AT APPROXIMATELY 8'-0" BELOW FINISHED FLOOR. CONTRACTOR SHALL PROVIDE DEMOLITION OF FLOOR SLAB, EXCAVATION, UNDERPINNING, SHORING AND OTHER MEANS AND METHODS NECESSARY TO COMPLETE INSTALLATION. BACKFILL AND PATCH BACK IN FLOOR SLAB AFTER INSTALLATION OF PIPE. SUBMIT ANY TEMPORARY MEANS OF SUPPORT AND CONSTRUCTION PLAN TO ENGINEER OF RECORD FOR REVIEW PRIOR TO CONSTRUCTION OCCURRING IN THIS AREA.
FP14	FIRE PROTECTION LINE SERVES CHAPEL. SEE CIVIL PLANS FOR CONTINUATION.

NOTE:

BUILDING CONTAINS HAZARDOUD MATERIALS SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.

FIRE PROTECTION

1. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERATE FIRE PROTECTION SYSTEMS AS INDICATED ON DRAWINGS, AS SPECIFIED, AND IN COMPLIANCE WITH THE STANDARDS OF THE NATIONAL FIRE PROTECTION ASSOCIATION, AND ALL STATE REGULATIONS.
2. THE ENTIRE BUILDING SPRINKLER SYSTEM SHALL BE HYDRAULICALLY DESIGNED UNLESS OTHERWISE NOTED ON THE DRAWINGS.
3. FIRE PROTECTION WORK SHALL BE COORDINATED WITH OTHER TRADES INCLUDING BUT NOT LIMITED TO DUCTWORK, PLUMBING, ELECTRICAL EQUIPMENT, AND PIPING. SPACE ABOVE THE CEILING IS LIMITED AND SHALL BE COORDINATED WITH OTHER TRADES.
4. ALL FIRE PROTECTION PIPING MAY NOT BE INSTALLED AT A SINGLE ELEVATION. OFFSETS MAY BE REQUIRED TO ALLOW FOR INSTALLATION OF OTHER WORK. NOT ALL MAIN OR BRANCH LINES SHOWN. INSTALL PIPING TO BE SELF DRAINING BY GRAVITY WHERE POSSIBLE OR PROVIDE DRAIN LEGS AS NEEDED.
5. VERIFY CEILING HEIGHTS AND TYPES WITH ARCHITECTURAL PLANS AND ELEVATIONS.
6. TEST DRAIN LOCATIONS SHALL BE DRAINED INTO FLOOR DRAINS, MOP SINKS, OR THROUGH EXTERIOR WALLS TO SPILL ON CONCRETE PAD SPLASH BLOCKS, MOUNTED ON GRADE. VERIFY ALL LOCATIONS WITH ARCHITECT.
7. ALL EQUIPMENT AND ACCESSORIES SHALL BE INSTALLED TO BE EASILY ACCESSIBLE.
8. ALL WORK WITHIN THE CONTRACT DOCUMENTS, WHICH INCLUDE THIS DRAWING, SHALL BE COMPLETED IN A SAFE WORKMANLIKE MANNER AND IN ACCORDANCE WITH ALL APPLICABLE STATE, AND NATIONAL CODES, REGULATIONS AND ORDINANCES. IF ANY CONFLICTS ARISE BETWEEN THE CONTRACT DOCUMENTS AND THE APPLICABLE CODES, REGULATIONS OR ORDINANCE, THE CONTRACTOR SHALL BE RESPONSIBLE TO HAVE ALL WORK CONFORM TO THE STRICTER OF SAID REQUIREMENTS.
9. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS AS REQUIRED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE BOTH A COMPLETE AND COMPLIANT INSTALLATION AS MAY BE DETERMINED BY THE AUTHORITY(S) HAVING JURISDICTION.
10. CONTRACTOR SHALL NOT PROCURE OR FABRICATE ANY PIPING, DUCTWORK OR OTHER EQUIPMENT WITHOUT FIRST VERIFYING ALL DIMENSIONS AND CONDITIONS WHETHER CURRENTLY EXISTING OR NOT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK, INCLUDING ANY REQUIRED REWORK.
11. MAINTAIN ALL MANUFACTURER RECOMMENDED EQUIPMENT SERVICE AND SAFETY CLEARANCES. DO NOT LOCATE ANY EQUIPMENT OR RUN MATERIALS ABOVE ANY ELECTRICAL PANELS OR SWITCHGEAR. MAINTAIN ALL NFPA/NEC CODE REQUIRED CLEARANCES.
12. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING, SCHEDULING AND SEQUENCING OF THEIR WORK WITH ALL OTHER TRADES. PROVIDE OFFSETS, EASEMENTS OR RELOCATE TO AVOID CONFLICTS WITH WORK OF OTHER TRADES. FURNISH SUFFICIENT RESOURCES TO MEET ALL PROJECT MILESTONES AND DEADLINES.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE WATERTIGHT AND WEATHER-PROOF INTEGRITY OF ROOFS, WALLS AND FLOORS DURING CONSTRUCTION. EACH TRADE SHALL LOCATE/DIMENSION/COORDINATE THEIR ROOF, FLOOR AND WALL OPENINGS WITH THE GENERAL CONTRACTOR (GC) OR CONSTRUCTION MANAGER.
14. PROTECT EXISTING BUILDING FROM DAMAGE OR CONTAMINATION. PROVIDE TEMPORARY PROTECTIVE CAPPING OR TAPED POLYETHYLENE ENCLOSURES OVER PIPING ENDS AND EQUIPMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING MECHANICAL SYSTEMS PRIOR TO PLACING THEM IN SERVICE.
15. IN A NEAT AND WORKMANLIKE MANNER, FLASH AND SEAL ALL MECHANICAL AND ELECTRICAL PENETRATIONS THRU WALLS, CEILINGS AND FLOORS WITH METAL FRAMEWORK OR ESCUTCHEONS. ALL OPENINGS SHALL BE PROPERLY SEALED SO AS TO MEET FIRE RATING NEEDS.
16. CENTER SPRINKLERS IN CEILING TILES IN BOTH DIRECTIONS IN ALL AREAS. IN AREAS WITH 2'X4' CEILING TILES, CENTER USING A 2'X2' CEILING PATTERN IS ACCEPTABLE.
17. FOR EXPOSED SPRINKLER PIPING IN FINISHED AREAS:
    - INSTALL AS TIGHT TO CEILING AS POSSABLE.
    - KEEP PIPING AND HEADS A MINIMUM OF 4FT AWAY FROM WINDOWS. WHERE SPACE DOES NOT ALLOW, SUCH AS CORRIDORS, EXPOSED PIPING WITHIN 4 FT IS ACCEPTABLE.
    - TO PRESERVE HISTORIC BUILDING STATUS, MINIMIZE DISTURBANCE OF ANY DECORATIVE MATERIALS OR DETAILS SUCH AS DECORATIVE PLASTER.
18. BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT TO BE PROVIDED FOR REFERENCE.
19. ANY HAZARDOUS MATERIAL TO BE DISTURBED WILL BE ABATED AND PATCHED BY OWNER IN ADVANCE. COORDINATE EXACT PENETRATIONS OF WALLS, CEILINGS AND FLOORS WITH OWNER PRIOR TO CONSTRUCTION STARTING SO THAT ABATEMENT CAN BE COMPLETED. SEE DRAWINGS AND REPORT FOR FURTHER INFORMATION. ABATEMENT IS EXPECTED TO BE IN LIMITED AREAS.
20. CONTRACTOR TO CAREFULLY REMOVE AND RE-INSTALL LAY-IN CEILING AS REQUIRED TO INSTALL NEW PIPING AND SPRINKLERS. REPLACE ANY TILE DAMAGED. SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
21. WHERE GYPSUM BOARD IS DEMOLISHED AT CEILINGS AND NON-FIRE-RATED WALLS, CUT OPENINGS CLEAN, STRAIGHT, AND AS SMALL AS PRACTICAL TO PERFORM THE WORK REQUIRED. LEAVE READY FOR DRYWALL PATCHING. PATCHING OF CEILINGS AND NON-FIRE-RATED WALLS WILL BE BY OTHERS. PROVIDE TESTED FIRESTOPPING ASSEMBLIES AT PENETRATIONS OF FIRE-RATED WALLS.



KEY PLAN

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05-Chapel

(#9279.31) Chapel Sprinkler

Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

DRAWN BY	TLS
APPROVED BY	TLS
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ISSUE DATE	2024-01-11
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FIELD BOOK	

FIRE PROTECTION PLAN

05-FP101

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GENERAL NOTES

1. THIS DRY AUTOMATIC SPRINKLER SYSTEM IS DESIGNED AND INSTALLED TO MEET THE LATEST REQUIREMENTS OF NFPA 13 2013 EDITION, & LOCAL FIRE MARSHAL
2. BUILDINGS CONSIST OF COMBUSTIBLE AND NON-COMBUSTIBLE CONSTRUCTION WITH METAL ROOF DECKING ON WOOD FRAME; EXTERIOR WALLS ARE WOOD; INTERIOR WALLS ARE WOOD STUD PARTITIONS; CEILINGS ARE GYP. BOARD AND SUSPENDED A.C.T.
3. ALL PIPING FOR SPRINKLER SYSTEM SHALL BE AS FOLLOWS:
   A. PIPE SIZES 2" AND SMALLER SHALL BE BLACK STEEL; SCH 40 AS PER NFPA 13, SEC. 6.3.
   B. PIPE SIZES 2½" AND LARGER SHALL BE BLACK STEEL; SCH 10 GROOVED AS PER NFPA 13, SEC. 6.3.
4. ALL FITTINGS FOR SPRINKLER SYSTEM SHALL BE AS FOLLOWS:
   A. FITTINGS FOR 2" PIPE AND SMALLER SHALL BE DUCTILE OR CAST IRON, UL/FM APPROVED SCREWED TYPE AS PER NFPA 13, SEC. 6.4.
   B. FITTINGS FOR 2½" AND LARGER SHALL BE JOINED BY GROOVED FITTINGS AND COUPLINGS, UL/FM APPROVED FOR ROLLED GROOVED PIPE AS PER NFPA 13, SEC. 6.4.
   C. MAIN OUTLET FITTINGS SHALL BE UL/FM APPROVED, WELDED TYPE FOR THREADED OR ROLLED GROOVED ATTACHMENTS AS PER NFPA 13.
5. ALL VALVES FOR SPRINKLER SYSTEM SHALL BE UL/FM APPROVED, FLANGED, GROOVED, OR WAFER TYPE AS PER NFPA 13.
6. ALL PIPING TO BE FABRICATED WITH WELDING PERFORMED BY CERTIFIED WELDERS IN ACCORDANCE WITH TEXAS STATE BOARD OF INSURANCE WELDING PROCEDURE #FC-01.
7. ALL HANGERS FOR SPRINKLER SYSTEM TO BE AS PER NFPA 13 AND UL/FM APPROVED.
8. OWNER TO PROVIDE SUFFICIENT HEAT TO PREVENT FREEZING OF SYSTEM COMPONENTS.
9. FIRE SPRINKLER SYSTEM DATA:
   ZONE #1 DRY SYSTEM = 3,876 SQFT (147.52 GALLON CAPACITY)
10. TOTAL SPRINKLERS FOR THE ENTIRE PROJECT: 70
11. INSTALL SPRINKLERS UNDER CONTINIOUS OBSTRCTIONS OVER 48" WIDE.
12. SPRINKLER PIPING SHALL NOT BE INSTALLED OVER ELECTRICAL PANELS OR TRANSFORMERS.
13. FURNISH METAL SIGNS IN ACCORDANCE WITH NFPA 13.
14. PROVIDE A SPRINKLER BOX WITH A MINIMUM OF 12 SPARE SPRINKLER HEADS. A MINIMUM OF 2 EACH OF THE DIFFERENT TYPES INSTALLED. INCLUDE A SPRINKLER WRENCH TO FIT EACH TYPE.
15. CEILING MUST FORM A CONTINUOUS MEMBRANE FROM WALL TO WALL BETWEEN FLOOR ABOVE AND OCCUPIED SPACE BELOW WITHOUT OPENINGS OTHER THAN THOSE NORMALLY PROVIDED FOR HVAC.

HYDRAULIC DESIGN CRITERIA:

LIGHT HAZARD .10 DENSITY OVER 1500 SQFT
ORDINARY HAZARD GP1 .15 DENSITY OVER 1500 SQFT
ORDINARY HAZARD GP2 .20 DENSITY OVER 1500 SQFT

Sprinkler Legend

Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temperature
⊠	Victaulic	V2702	V27	43	2.8	Upright	½	Quick	Brass	200 °F
◐	Victaulic	V3606	FL-QR/DRY	27	5.6	Pendent	1	Quick	White	155 °F
				Total = 70						

Flowtest

Static:	32	PSI	Pitot:	12	PSI
Residual:	18	PSI	Flow:	581.22	GPM *

Flowtest Taken on 08/15/2023 by IOWA FIRE EQUIPMENT CO

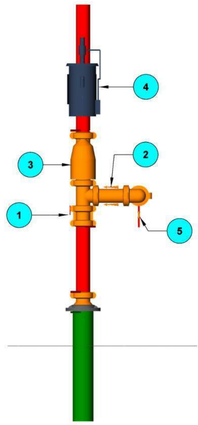
* 0.9 coefficient for State use is applied to flow 645.8 gpm

HYDRAULIC DESIGN NOTE:

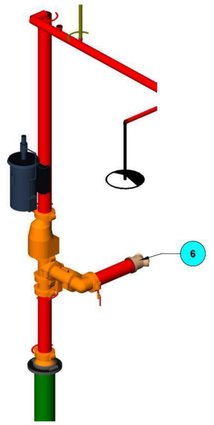
700 FEET OF CPVC C-900 AND (6) 90 DEGREE ELBOWS AND (2) 45 DEGREE ELBOWS IS INCLUDED IN THE HYDRAULIC CALCULATIONS. FLOW TEST TAKEN ON THE DISCHARGE SIDE OF A REMOTE FIRE PUMP. A 10 PSI FRICTION LOSS IS INCLUDED IN THE HYDRAULIC CALCULATIONS FOR THE BACKFLOW IN THE EXISTING FIRE PUMP ROOM.

1. 4" BUTTERFLY VALVE
2. 4" CHECK VALVE
3. 4" VICTAULIC 768X DRY PIPE VALVE
4. RISER MOUNT AIR COMPRESSOR (200 GALLON)
5. 1/2" BALL DRIP
6. 4 X 2½ X 2½ FDC

NOTE: DRY SYSTEM CAPACITY = 147.52 GALLONS



1 FIRE SPRINKLER PUMP ELEVATION
SCALE: 1/4" - 1'-0
5' 0 5'



2 FIRE SPRINKLER PUMP ISOMETRIC VIEW
SCALE: 1/4" - 1'-0
5' 0 5'

3 FIRE SPRINKLER SITE PLAN
SCALE: 1/4" - 1'-0
5' 0 5'

DATE	REVISION	DESCRIPTION

LICENSED PROFESSIONAL ENGINEER
JOHN WOOLE, III
17321
IOWA
1/11/2024

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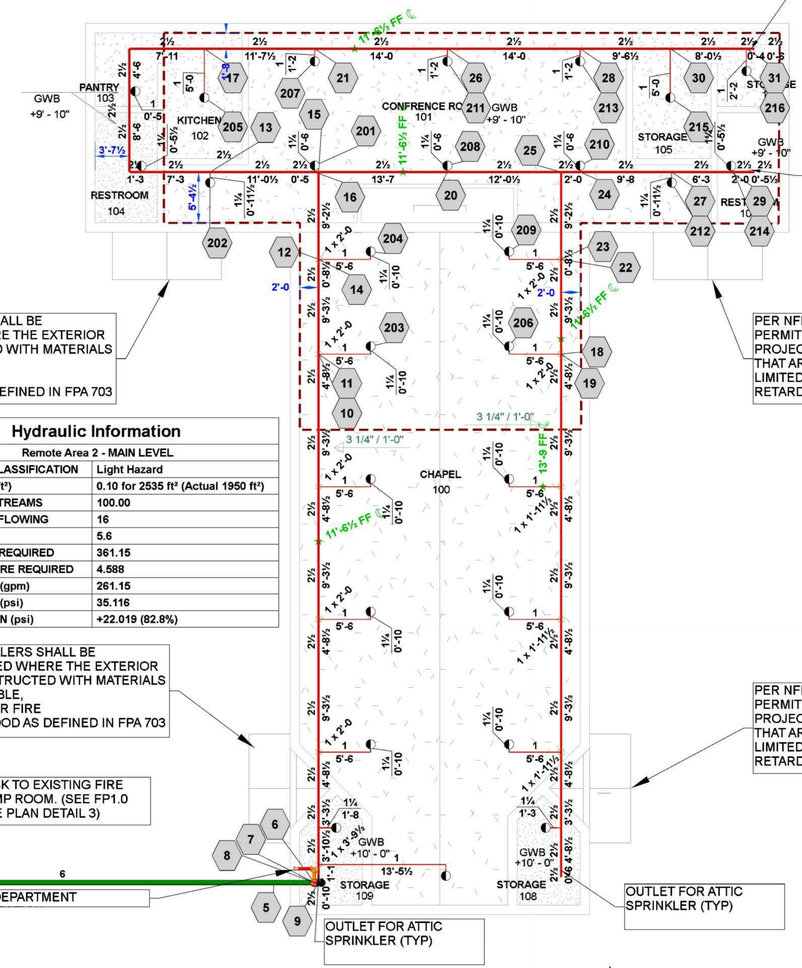
WOODWARD RESOURCE
WOODWARD IA

DRAWN BY: S.D.R
CHECKED BY: J.P.
SCALE: AS NOTED
DATE: 01/11/2024
PROJECT: WO #59

DWG. NO.
FP1.0
SHT. 1 of 2



PER NFPA 8.15.7.2 SPRINKLERS SHALL BE PERMITEED TO BE OMITTED WHERE THE EXTERIOR PROJECTIONS ARE CONSTRUCTED WITH MATERIALS THAT ARE NONCOMBUSTIBLE, LIMITED-COMBUSTIBLE, OR FIRE RETARDANT-TREATED WOOD AS DEFINED IN FPA 703

PER NFPA 8.15.7.2 SPRINKLERS SHALL BE PERMITEED TO BE OMITTED WHERE THE EXTERIOR PROJECTIONS ARE CONSTRUCTED WITH MATERIALS THAT ARE NONCOMBUSTIBLE, LIMITED-COMBUSTIBLE, OR FIRE RETARDANT-TREATED WOOD AS DEFINED IN FPA 703

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BACK TO EXISTING FIRE PUMP ROOM. (SEE FP1.0 SITE PLAN DETAIL 3)

BLACK DASHED PIPE SHOWN FOR CLARITY. RED PIPE ON MAIN LEVEL FEEDS THE SPRINKLERS TO THE DROP CEILING AND FEED THE SPRINKLERS IN THE ATTIC.

Hydraulic Information

Remote Area 2 - MAIN LEVEL	
OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft²)	0.10 for 2535 ft² (Actual 1950 ft²)
TOTAL HOSE STREAMS	100.00
TOTAL HEADS FLOWING	16
K-FACTOR	5.6
TOTAL WATER REQUIRED	361.15
TOTAL PRESSURE REQUIRED	4.588
BASE of RISER (gpm)	261.15
BASE of RISER (psi)	35.116
SAFETY MARGIN (psi)	+22.019 (82.8%)

Hydraulic Information

Remote Area 1 - ATTIC	
OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft²)	0.10 for 2535 ft² (Actual 2553 ft²)
TOTAL HOSE STREAMS	100.00
TOTAL HEADS FLOWING	25
K-FACTOR	2.8
TOTAL WATER REQUIRED	415.67
TOTAL PRESSURE REQUIRED	17.308
BASE of RISER (gpm)	315.67
BASE of RISER (psi)	45.608
SAFETY MARGIN (psi)	+7.697 (30.8%)

1 FIRE SPRINKLER PLAN - MAIN LEVEL
SCALE: 1/8" - 1'-0"
8' 4' 0 8'
N
PLAN

2 FIRE SPRINKLER PLAN - ATTIC LEVEL
SCALE: 1/8" - 1'-0"
8' 4' 0 8'
N
PLAN

DATE	REVISION	DESCRIPTION

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JOHN L. POOLE III
17321
IOWA
01/11/2024

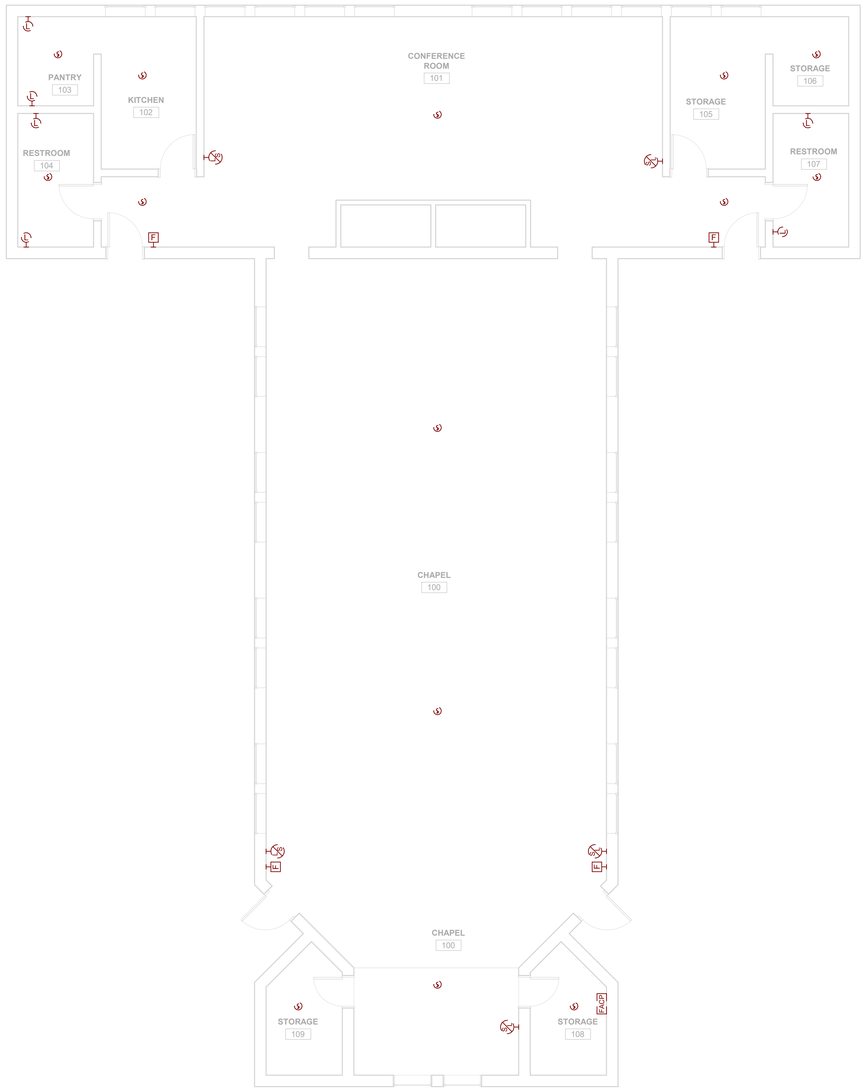
WOODWARD RESOURCE
WOODWARD IA

DRAWN BY:	S.D.R
CHECKED BY:	J.P.
SCALE:	AS NOTED
DATE:	01/11/2024
PROJECT:	WO #59

DWG. NO.
FP1.1
SHT. 2 of 2

NOTE:

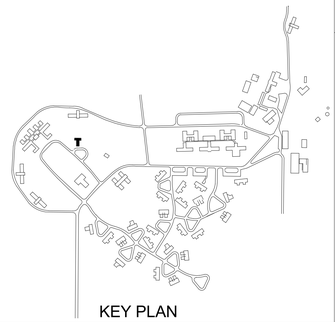
BUILDING CONTAINS HAZARDOUD MATERIALS SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.



NORTH

C6 FIRST FLOOR - SYSTEMS DEMOLITION PLAN

3/16" = 1'-0" 0 8'



KEY PLAN

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05-Chapel

(#9279.31) Chapel Sprinkler

Iowa Department of Administrative Services
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DRAWN BY	PJD
APPROVED BY	KJB
ISSUED FOR	BIDDING
ISSUE DATE	2024-01-11
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FIELD BOOK	

FIRST FLOOR SYSTEMS DEMOLITION PLAN

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KEYNOTES	
KEY	NOTE
05-E001	EXTEND CIRCUIT FROM EXISTING FACP TO NEW FCAP. REUSE EXISTING MULTI-MODE FIBER TO CONNECT NEW FACP.
05-E002	FIRE PROTECTION RELAY.
05-E003	ROUTE CONDUIT FOR FIRE ALARM DEVICES IN ATTIC SPACE ABOVE CHAPEL 100.
05-E004	EXTERIOR STROBE RELAY.

NOTE:

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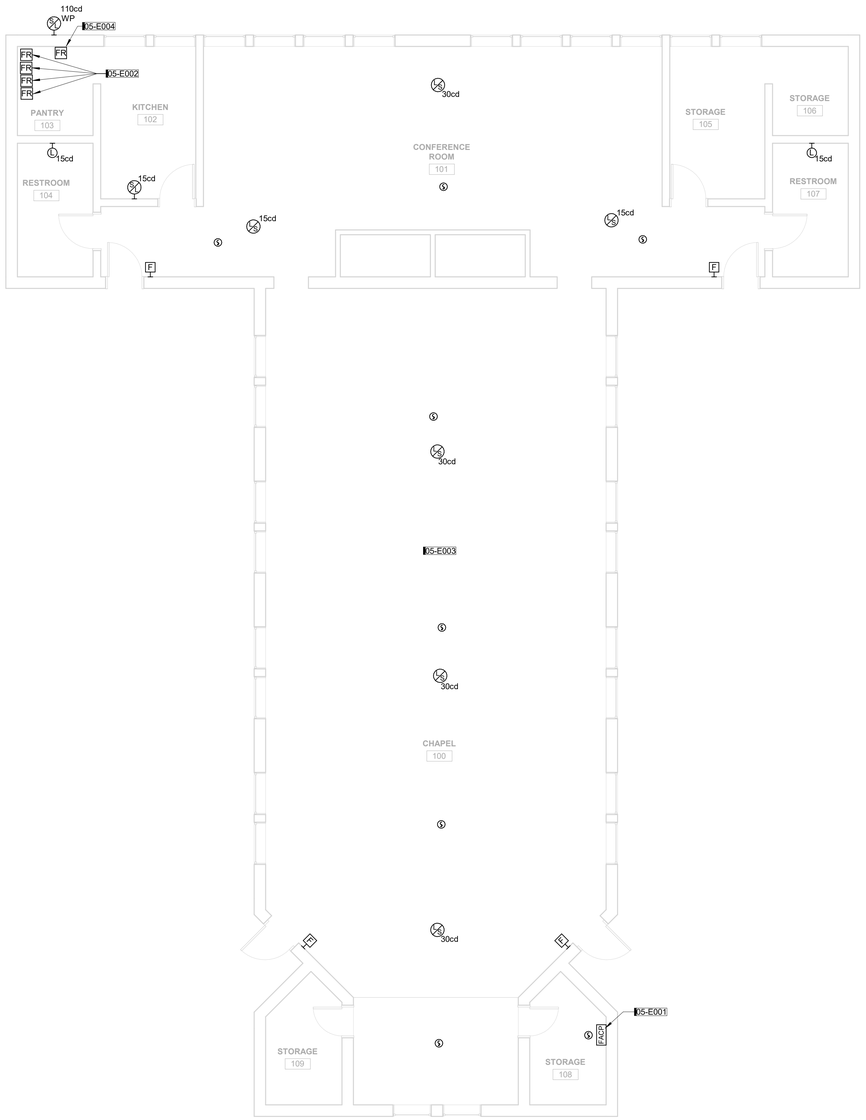
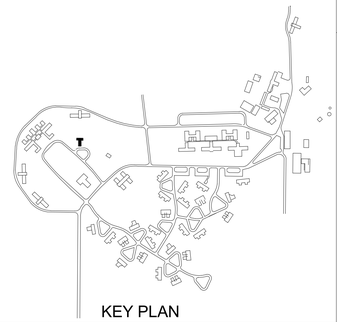


NORTH

C6 FIRST FLOOR - SYSTEMS PLAN
3/16" = 1'-0" 0 4' 8'



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FIRST FLOOR SYSTEMS PLAN

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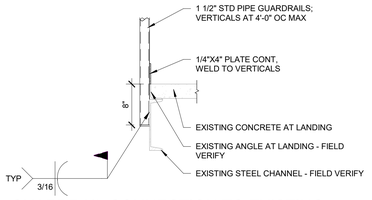
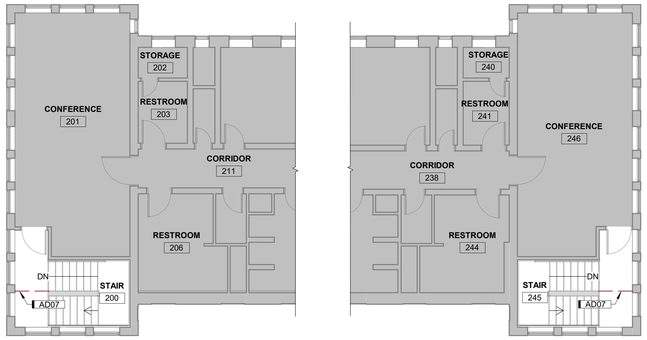
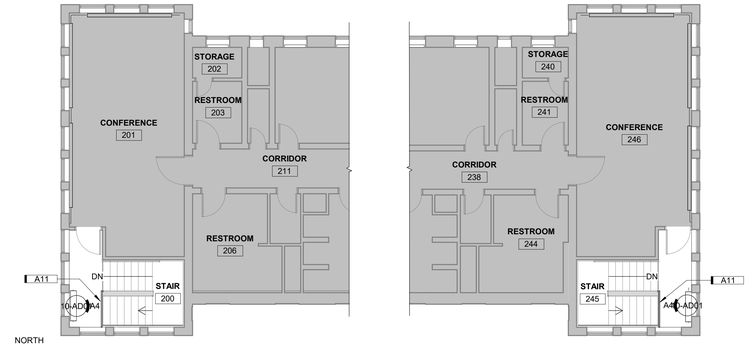


A1 GUARDRAIL CONNECTION TO EXISTING
1" = 1'-0"

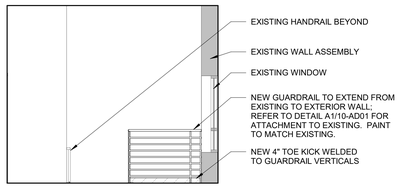


A3 SECOND FLOOR DEMOLITION PLAN
1/8" = 1'-0"

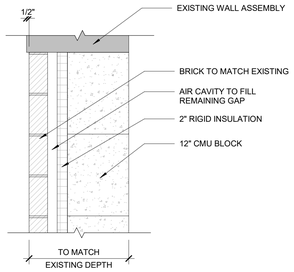


D3 SECOND FLOOR PLAN
1/8" = 1'-0"

GENERAL NOTE: PER IBC REQUIREMENTS, SPACING OF NEW GUARDRAIL INTERMEDIATES SHALL NOT ALLOW PASSAGE OF A 4" SPHERE THROUGH ANY AREA



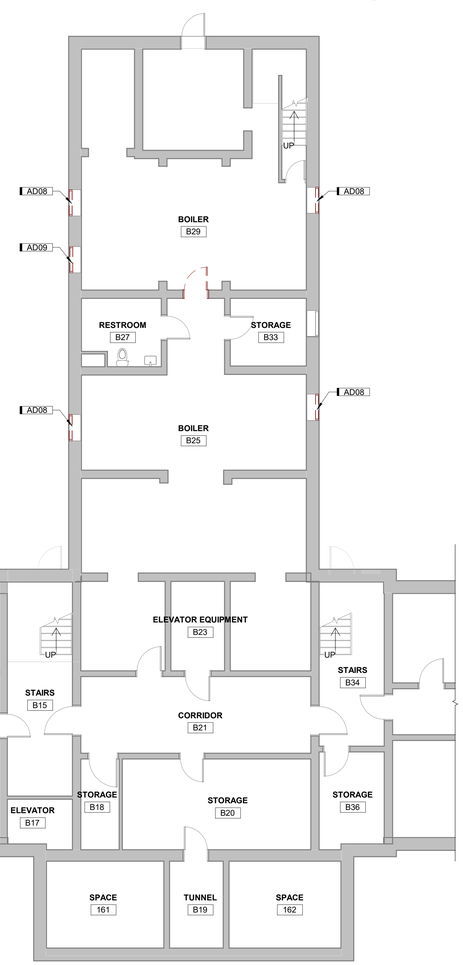
A4 TYPICAL NEW STAIR RAILING
1/4" = 1'-0"



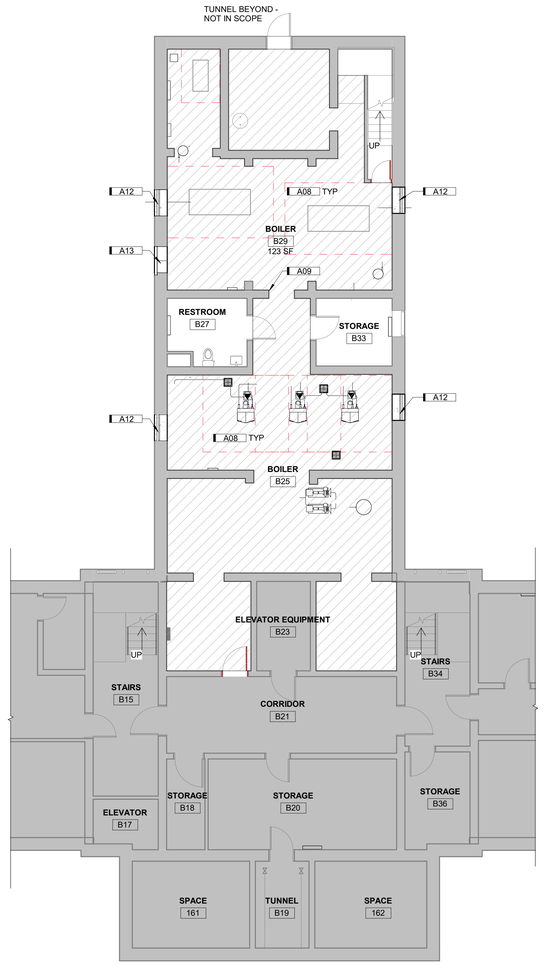
A5 EXTERIOR WALL ASSEMBLY INFILL
1" = 1'-0"

KEYNOTES

KEY	NOTE
A08	NEW PENETRATION THROUGH EXISTING EXTERIOR WALL. SEE GENERAL PLAN AREA HATCH AND MECHANICAL FOR EXTENTS
A09	OPENING TO REMAIN. PATCH AS REQUIRED AFTER REMOVAL OF EXISTING DOOR AND FRAME
A11	ADD NEW PORTION OF RAILING PERPENDICULAR TO EXISTING ALONG EDGE OF LANDING. NEW RAILING TO BE ATTACHED TO EXISTING. FIELD PAINT ALL RAILINGS
A12	INFILL WITH NEW WALL AROUND NEW MECHANICAL FLUES. SEE MECHANICAL FOR PENETRATION LOCATIONS.
A13	INFILL WITH NEW LOUVER TO FULL EXTENT OF EXISTING WINDOW OPENING.
AD07	DEMOLISH PORTION OF EXISTING RAILING THAT EXTENDS INTO LANDING BEYOND STAIR TREADS
AD08	DEMOLISH EXISTING WINDOW AND PREPARE FOR NEW WALL INFILL
AD09	DEMOLISH EXISTING WINDOW AND PREPARE FOR LOUVER INFILL



B6 BASEMENT DEMOLITION PLAN
1/8" = 1'-0"



D6 BASEMENT FLOOR PLAN
1/8" = 1'-0"

ARCHITECTURAL DEMOLITION NOTES

1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO START OF DEMOLITION WORK. NOTIFY ARCHITECT IN WRITING OF DISCREPANCIES BETWEEN WORK SHOWN IN THE DRAWINGS AND FIELD CONDITIONS ENCOUNTERED.
2. TO PROTECT OWNER AND CONTRACTOR, PHOTOGRAPHICALLY DOCUMENT EXISTING CONDITIONS TO REMAIN, PRIOR TO START OF DEMOLITION AND CONSTRUCTION ACTIVITIES. COPY ARCHITECT AND OWNER ON PHOTOGRAPHIC DOCUMENTATION.
3. OPEN FLAME EQUIPMENT IS NOT PERMITTED FOR REMOVAL OF EXISTING WORK WITHOUT SPECIFIC WRITTEN PERMISSION FROM THE OWNER.
4. COORDINATE WITH OWNER ANY ITEMS TO BE SALVAGED.
5. OWNER WILL REMOVE ALL NON-FIXED FURNISHINGS AND EQUIPMENT FROM THE CONSTRUCTION AREA PRIOR TO START OF CONSTRUCTION UNLESS NOTED OTHERWISE.
6. MAINTAIN BUILDING IN A WEATHER-TIGHT CONDITION. DO NOT PERFORM WORK ON EXTERIOR OPENINGS THAT CANNOT BE COMPLETED OR MADE WEATHER-TIGHT WHEN INCLEMENT WEATHER IS POSSIBLE.
7. PROTECT ALL FINISHES (TO REMAIN) IN THE PROJECT AREA. COORDINATE WITH ARCHITECT AND OWNER PRIOR TO DEMOLITION.
8. ENSURE THAT DUST AND DEBRIS ARE PREVENTED FROM ENTERING THE EXISTING HVAC SYSTEM AND ADJOINING SPACES WITH TEMPORARY BARRIERS AS REQUIRED PER THE BUILDING.
9. ALL NEW AND EXISTING PENETRATIONS IN EXISTING INTERIOR AND EXTERIOR WALLS, FLOORS AND CEILING DECKS SHALL RECEIVE UL AND FACILITY APPROVED FIRE SEALANT MATERIALS TO MATCH RATING REQUIREMENT OF AREA BEING PENETRATED. FOR LOCATIONS AND EXTENTS OF NEW PENETRATIONS SEE MECHANICAL AND ELECTRICAL DRAWINGS.
10. COORDINATE WITH OTHER TRADES CUTTING AND PATCHING REQUIRED FOR DEMOLITION OR NEW CONSTRUCTION.
11. ANY DEMOLITION OR REMOVAL INDICATED IS SHOWN IN GENERAL TO PROVIDE THE EXTENT OF DEMOLITION AND IS NOT TO BE CONSIDERED AS A RECORD DRAWING OF EXISTING CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR IN FIELD VERIFICATION AND COORDINATION WITH THE ARCHITECT PRIOR TO COMMENCING WITH STATED WORK.
12. ALL CONSTRUCTION TO REMAIN WHICH IS AFFECTED BY DEMOLITION SHALL BE PATCHED, BE PROPERLY ALIGNED AND FINISHED SO AS TO LEAVE NO EVIDENCE OF PATCHING OR REPAIR. REPAIR OR REPLACE ANY EXISTING CONSTRUCTION, MATERIALS, OR EQUIPMENT DAMAGED DURING DEMOLITION TO LIKE NEW CONDITION.
13. THE CONTRACTOR IS TO RETURN SALVAGEABLE MATERIALS, INCLUDING BUT NOT LIMITED TO DOORS, FRAMES, HARDWARE, MARBLE, EQUIPMENT, AND LIGHTING FIXTURES TO THE OWNER AND STOCKPILE THEM IN AN APPROVED CONSTRUCTION AREA. DISPOSE OF THESE MATERIALS AFTER OWNER'S REVIEW AND APPROVAL.
14. BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.
15. TEMPORARILY REMOVE OR SUPPORT FIXTURES AND OTHER DEVICES, INCLUDING DIFFUSERS, AS NEEDED TO COMPLETE NEW WORK. REINSTALL ONCE MECHANICAL/ELECTRICAL WORK IS COMPLETE.
16. INTENT FOR PERIMETER GRID TO REMAIN TO LIMIT LEAD PAINT ABATEMENT.

DEMOLITION PLAN SYMBOLS LEGEND

- EXISTING WALL PARTITIONS
- EXISTING WALL PARTITIONS, UP TO BOTTOM OF CEILING
- EXISTING DOOR
- DEMOLISH DOOR
- DEMOLISH CEILINGS AND PREPARE FOR NEW CEILINGS. PERIMETER GRID TO REMAIN.
- DEMOLISH CEILINGS AND PREPARE FOR NEW CEILINGS
- N.C. — NO CEILING IN SPACE
- DEMOLITION OF EXISTING AND INSTALLATION OF NEW CEILINGS TO BE PART OF ALTERNATE 2

FLOOR PLAN NOTES

1. REFER TO DRAWINGS OF ALL TRADES FOR ADDITIONAL INFORMATION REGARDING ITEMS PENETRATING FLOORS, WALLS, AND CEILINGS.
2. ALL NEW PARTITIONS ARE DIMENSIONED TO FACE OF STUD, MASONRY, OR CONCRETE COMPONENT UNLESS NOTED OTHERWISE. DIMENSIONS TO EXISTING ELEMENTS ARE TO EXPOSED FACE.

FLOOR PLAN SYMBOLS LEGEND

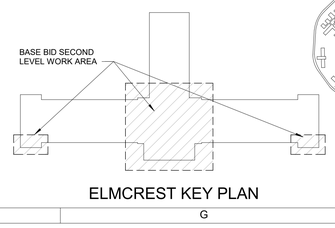
- 101 — DOOR MARK
- Room name / 101 — ROOM NUMBER
- W WLF1 — WALL FINISH DESIGNATION
- B BF1 — WALL BASE DESIGNATION
- F FLR1 — FLOOR FINISH DESIGNATION

PROJECT GENERAL INFORMATION

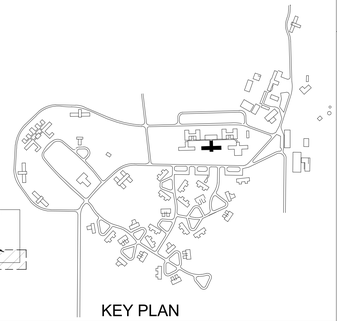
1. COLOR HAS BEEN USED ON THESE DRAWINGS TO ENHANCE UNDERSTANDING. PRINTING IN COLOR IS RECOMMENDED TO ENSURE CLARITY.
2. ANY DAMAGE TO AREAS INSIDE OR OUTSIDE OF THE PROJECT AREA SHALL BE REPAIRED TO THE STATUS PRIOR TO CONSTRUCTION AT NO COST TO OWNER.
3. THE GENERAL CONTRACTOR SHALL BE ULTIMATELY RESPONSIBLE FOR ALL CUTTING, SUPPORTING, AND PATCHING IF NOT COVERED BY A SPECIFIC TRADE.
4. EACH TRADE SHALL PROVIDE TESTED FIRESTOPPING ASSEMBLIES FOR PENETRATIONS OF THEIR WORK THROUGH FIRE-RATED WALLS AND FLOOR/CEILING ASSEMBLIES. FIRESTOPPING ASSEMBLIES ARE TO BE OF DESIGNS THAT PROVIDE THE SCHEDULED FIRE RATINGS WHEN TESTED IN ACCORDANCE WITH ASTM E119, ASTM E814, OR UL 1479, AND ARE TO BE INSTALLED BY INDIVIDUALS TRAINED AND EXPERIENCED WITH INSTALLATION OF SUCH ASSEMBLIES. PROVIDE SUBMITTALS TO LOCAL AUTHORITIES AS REQUESTED
5. IF COMPLIANCE WITH TWO OR MORE STANDARDS IS SPECIFIED AND THE STANDARDS ESTABLISH DIFFERENT OR CONFLICTING REQUIREMENTS FOR MINIMUM QUANTITIES OR QUALITY LEVELS, COMPLY WITH THE MOST STRINGENT REQUIREMENT. REFER UNCERTAINTIES AND REQUIREMENTS THAT ARE DIFFERENT, BUT APPARENTLY EQUAL, TO ARCHITECT FOR A DECISION BEFORE PROCEEDING.
6. ABATEMENT WORK WILL BE UNDER SEPARATE CONTRACT. OBTAIN AND MAINTAIN ON SITE A COMPLETE SET OF ABATEMENT DOCUMENTS, INCLUDING ADDENDA AND CHANGES AFTER START OF CONSTRUCTION, FOR REFERENCE AND COORDINATION BY ALL TRADES. COORDINATE ALL DEMOLITION AND CONSTRUCTION WORK WITH THE ABATEMENT CONTRACTOR.
7. THE INDICATION OF TYPE AND LOCATION OF EXISTING CONDITIONS AND MATERIALS IN THE DRAWINGS IS NOT INTENDED AS EXACT DOCUMENTATION OF IN-PLACE CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS BEFORE SUBMISSION OF BIDS. EXISTING CONDITIONS VARYING FROM THOSE SHOWN IN THE DRAWINGS WILL NOT BE JUSTIFICATION FOR ADDITIONAL ALLOWANCE TO THE CONTRACTOR. NOTIFY THE ARCHITECT IMMEDIATELY IF ANY CONDITIONS CONFLICT WITH THE DRAWINGS.
8. PROTECT ALL BUILDING SYSTEMS, NEW AND EXISTING, COVER SUPPLY, RETURN, AND EXHAUST AIR GRILLES, AND PROTECT OTHER SENSITIVE EQUIPMENT FROM ALL ACTIVITIES RELATED TO THIS CONTRACT. REMOVE PROTECTION AT END OF CONSTRUCTION.
9. ALL DISSIMILAR METALS SHALL BE ISOLATED FROM EACH OTHER EVEN IF NOT SPECIFICALLY IDENTIFIED IN THE CONTRACT DOCUMENTS.
10. ALL CODE-REQUIRED LABELS SUCH AS "UL", "FACTORY MUTUAL", OR ANY EQUIPMENT IDENTIFICATION, PERFORMANCE RATING, NAME, OR NOMENCLATURE PLATES SHALL REMAIN READABLE AND NOT PAINTED OR COVERED BY OTHER CONSTRUCTION.
11. STRUCTURAL INFORMATION ON ARCHITECTURAL DRAWINGS IS FOR REFERENCE ONLY.
12. ARCHITECTURAL DIMENSIONS AND DESIGN INTENT ARE INDICATED ON ARCHITECTURAL DRAWINGS. IF THE INSTALLATION OF EQUIPMENT FROM OTHER TRADES INTERFERES WITH COMPLIANCE OF THE DESIGN INTENT, NOTIFY THE ARCHITECT BEFORE PROCEEDING.
13. DO NOT SCALE DRAWINGS; DIMENSIONS GOVERN LOCATION OF BUILDING ELEMENTS. IF DIMENSIONS ARE NOT AVAILABLE, CONTACT THE ARCHITECT.
14. WHEN DIMENSIONS ON SMALL SCALE DRAWINGS CONFLICT WITH THOSE ON LARGE SCALE DRAWINGS, THE LARGE SCALE DRAWINGS GOVERN.

GENERAL SYMBOLS LEGEND

- A1 VIEW NAME — 1/8" = 1'-0" — Column 1 / Column 2 / Column 3 — VIEW NUMBER; DRAWING SCALE
- NORTH ARROW
- DETAIL SECTION MARK — A1 / A101 — VIEW NUMBER; SHEET NUMBER
- EXTERIOR ELEVATION MARK — A1 / A101 — VIEW NUMBER; SHEET NUMBER
- INTERIOR ELEVATION MARK — A1 / A000 / A1 / A1 — VIEW NUMBER; SHEET NUMBER
- ENLARGED DETAIL MARK — A1 / A101 — VIEW NUMBER; SHEET NUMBER
- A00 — KEYNOTE VALUE
- ROOM NAME / 101 — ROOM NUMBER



ELMCREST KEY PLAN



KEY PLAN

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515.223.8184 | SHIVEHATTERY.COM

10-Elmcrest | (#9279.30) WRC Decentralization Phase 3

Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

DRAWN BY	TAL
APPROVED BY	CLM
ISSUED FOR	BIDDING
ISSUE DATE	2024-01-11
PROJECT NUMBER	2142203394
FIELD BOOK	Field Book

BASEMENT AND SECOND DEMOLITION AND FLOOR PLANS

10-AD01

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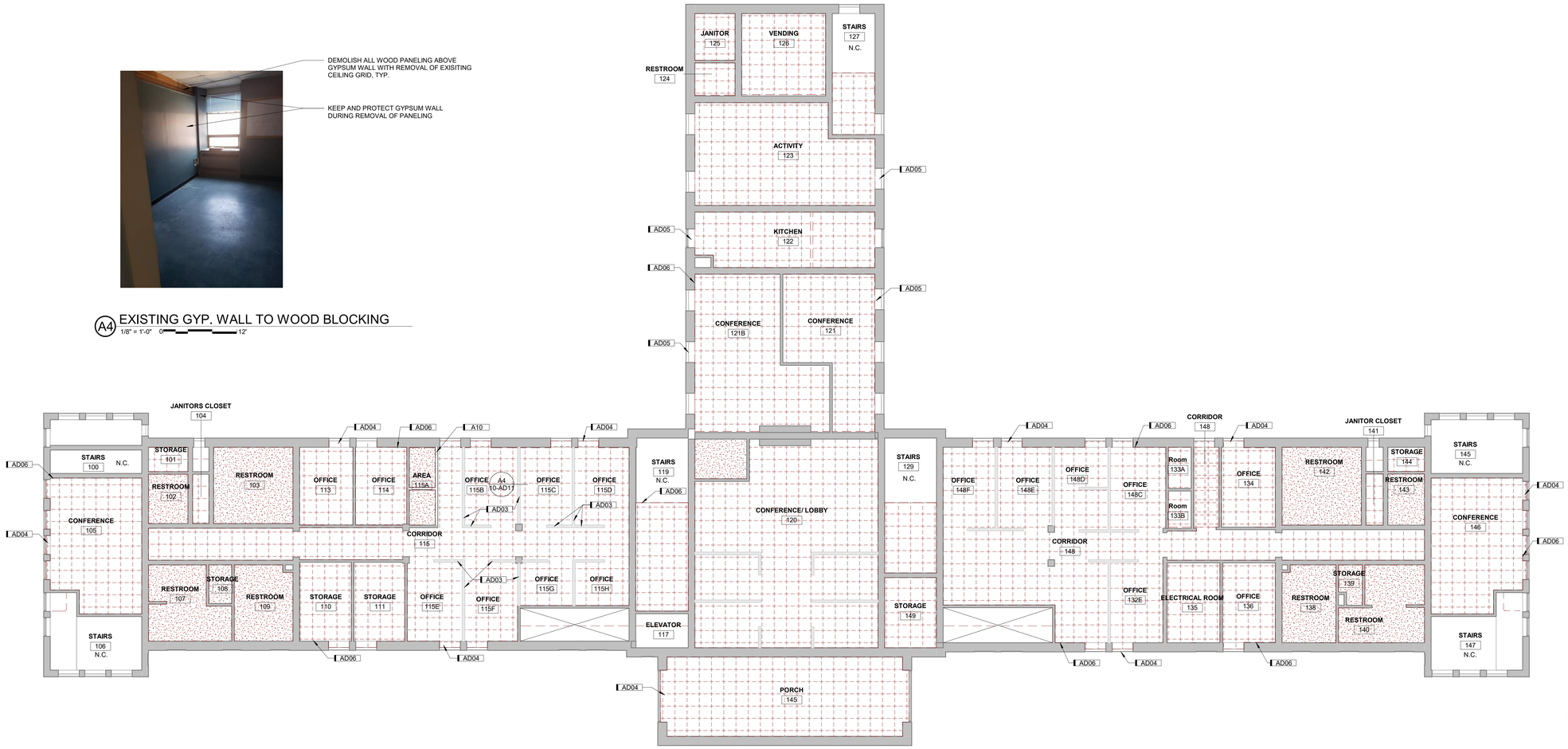
A4 EXISTING GYP. WALL TO WOOD BLOCKING
1/8" = 1'-0" 0 12'



A6 FIRST FLOOR REFLECTED CEILING DEMOLITION PLAN
1/8" = 1'-0" 0 12'

NORTH

KEYNOTES	
KEY	NOTE
A10	EXISTING WALL CONSTRUCTION CONSISTS OF ONLY METAL STUDS
AD03	EXISTING WOOD PANELING TO UNDERSIDE OF ACP CEILING. DEMOLISH WITH CEILING GRID. SEE A4/10-AD11.
AD04	EXISTING ACP CEILING EXTENDS INTO WINDOW CAVITY.
AD05	EXISTING ACP TO END AT EXTERIOR WALL. GYPSUM BULKHEAD TO TURN UP AND MEET TOP OF WINDOW FRAME.
AD06	PERIMETER GRID ANGLE MOLDING TO REMAIN FOR INSTALLATION OF NEW ACP GRID, TYP.

ARCHITECTURAL DEMOLITION NOTES

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DEMOLITION PLAN SYMBOLS LEGEND

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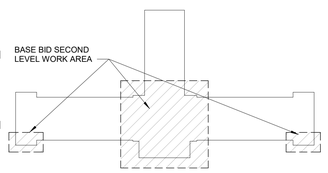
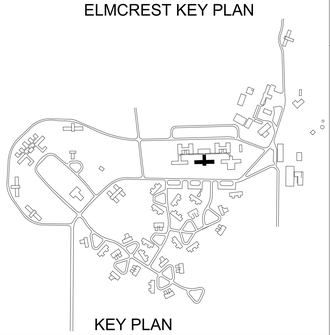


ELMCREST KEY PLAN



KEY PLAN

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10-Elmcrest

(#9279.30) WRC Decentralization Phase 3

Iowa Department of Administrative Services
1251 334th St. Woodward, IA 50276

DRAWN BY	LS, TAL, RMS
APPROVED BY	CLM
ISSUED FOR	BIDDING
ISSUE DATE	2024-01-11
PROJECT NUMBER	2142203394
FIELD BOOK	Field Book

FIRST FLOOR REFLECTED CEILING DEMOLITION PLAN

10-AD11

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KEYNOTES	
KEY	NOTE
AD05	EXISTING ACP TO END AT EXTERIOR WALL. GYPSUM BULKHEAD TO TURN UP AND MEET TOP OF WINDOW FRAME.
AD06	PERIMETER GRID ANGLE MOLDING TO REMAIN FOR INSTALLATION OF NEW ACP GRID, TYP.

ARCHITECTURAL DEMOLITION NOTES

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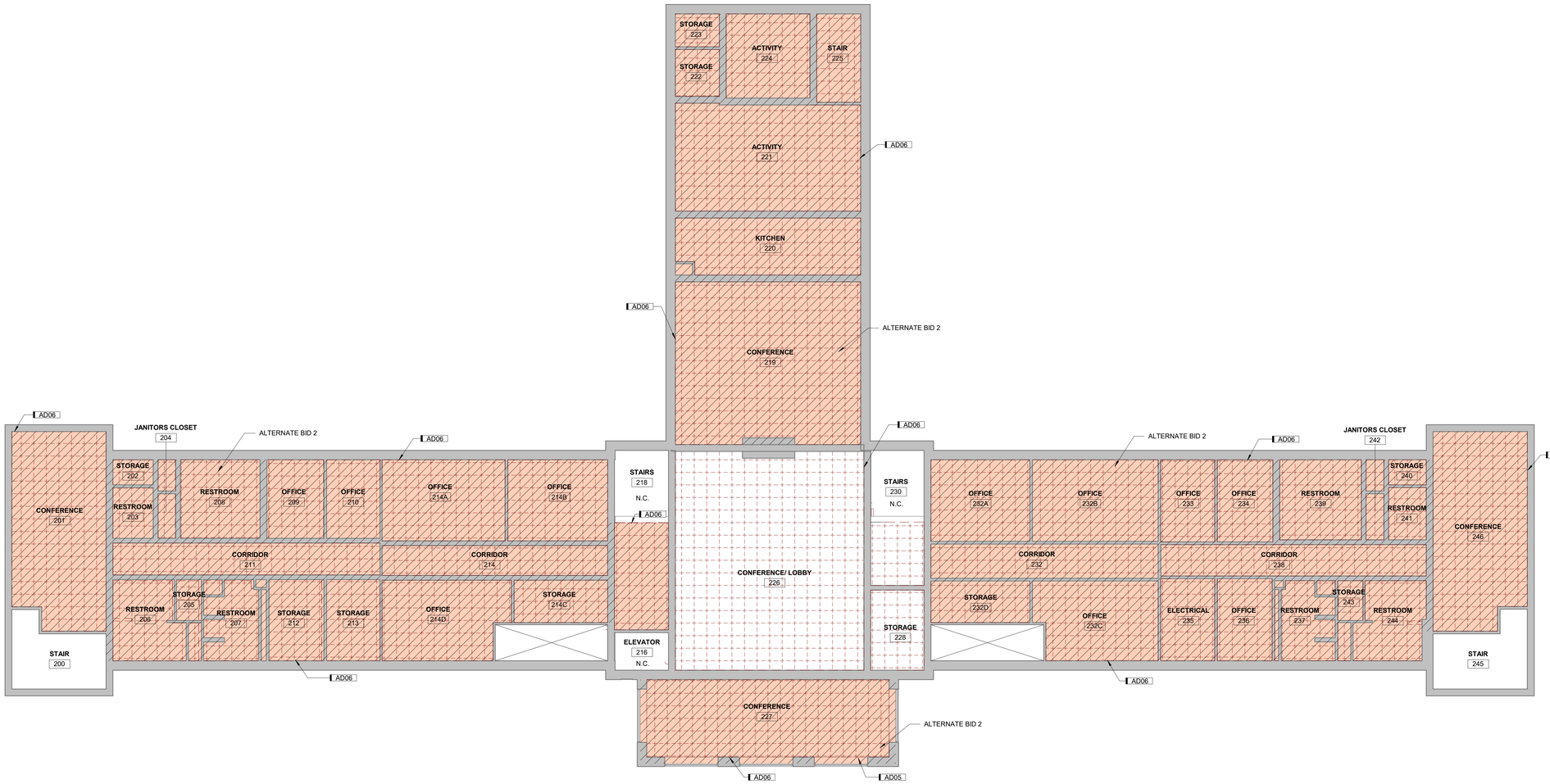
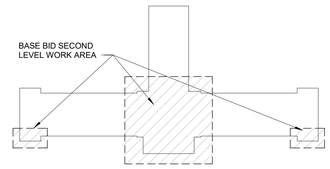
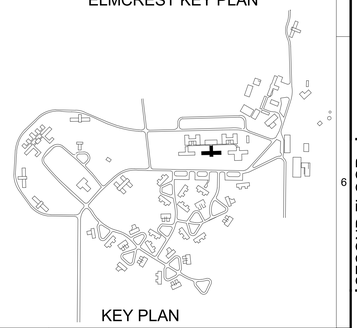


NORTH

A6 SECOND FLOOR REFLECTED CEILING DEMOLITION PLAN
1/8" = 1'-0" 0 12'



ELMCREST KEY PLAN



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FIELD BOOK	Field Book

SECOND FLOOR REFLECTED CEILING DEMOLITION PLAN

10-AD12

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CEILING PLAN NOTES

1. NOTIFY ARCHITECT OF INADEQUATE CLEARANCES FOR CEILING LAYOUT PRIOR TO COMMENCING WORK.
2. LOCATIONS OF LIGHT FIXTURES, DIFFUSERS, ETC. SHALL REMAIN IN PLACE. NOTIFY ARCHITECT OF ANY CONFLICTS PRIOR TO PROCEEDING WITH CONSTRUCTION. REFER TO DRAWINGS AND SPECIFICATIONS OF ALL TRADES FOR SYSTEM DESIGN AND ADDITIONAL INFORMATION.
3. COORDINATE WITH ALL TRADES TO CONFIRM THEIR WORK CAN BE INSTALLED TO ACHIEVE CEILING HEIGHTS AS SHOWN. TRADE PRIORITY SHALL BE AS FOLLOWS UNLESS DIRECTED OTHERWISE BY THE ARCHITECT.
   - ELECTRICAL LIGHTING FIXTURES
   - MECHANICAL GRILLES AND DIFFUSERS
   - MECHANICAL DUCTWORK
   - ELECTRICAL CONDUIT
   - PIPING SYSTEMS
4. CONTRACTOR TO REPLACE FROM OWNER STOCK CEILING TILES DAMAGED DURING CONSTRUCTION.
5. DESIGN INTENT TO HAVE NEW CEILINGS REMAIN AT ELEVATION OF EXISTING CEILINGS.
6. BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.

CEILING PLAN SYMBOLS LEGEND

ACP-1 +8'-0" — CEILING MATERIAL DESIGNATION; CEILING HEIGHT

PLASTER CEILING/ SOFFIT

ACOUSTICAL CEILING PANEL SYSTEM

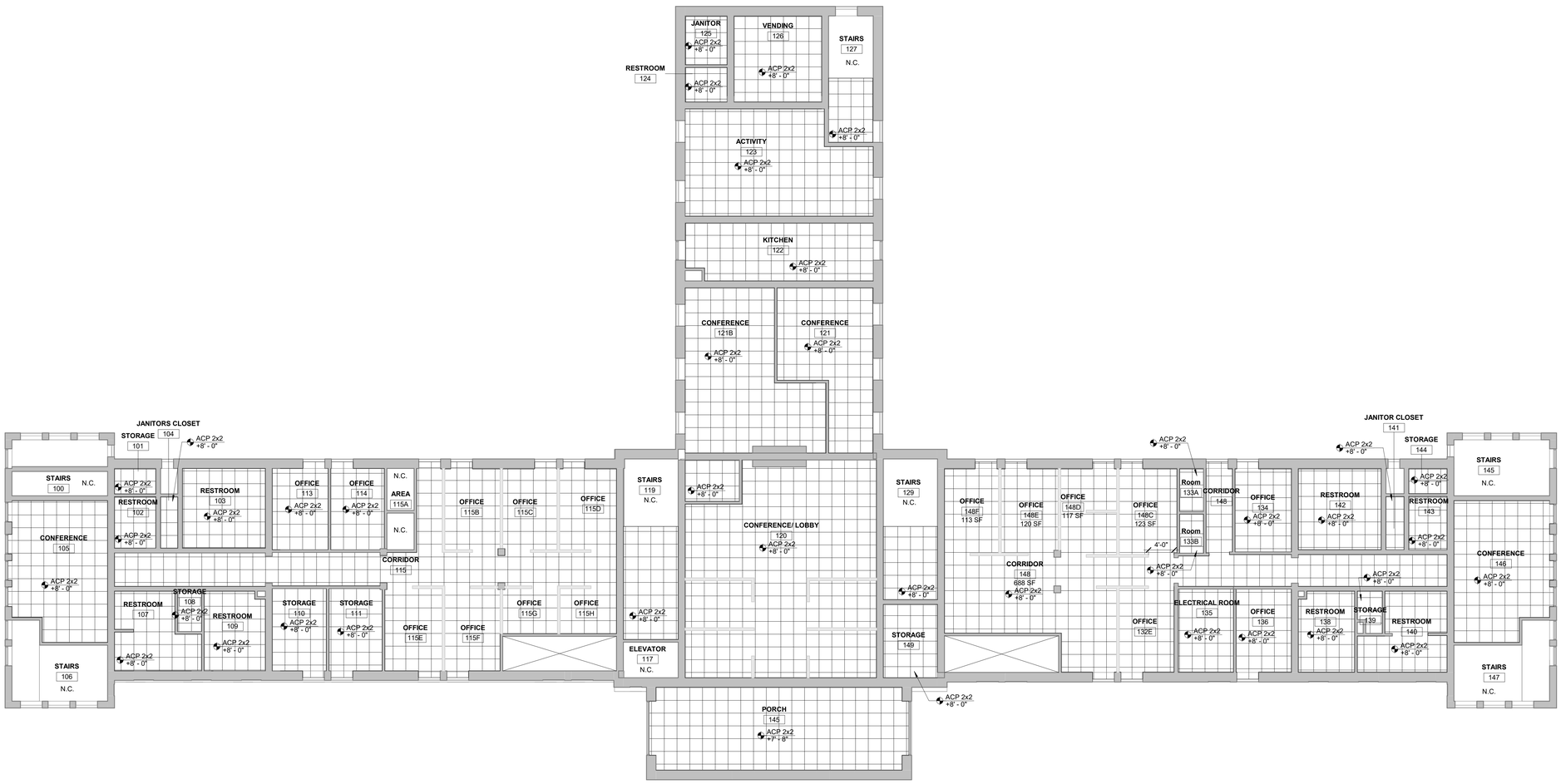
N.C. — NO CEILINGS IN SPACE

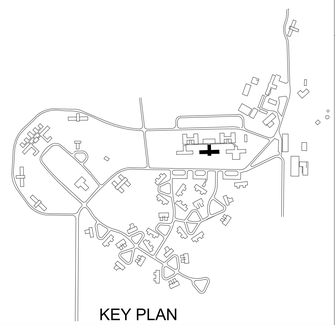
AREA NOT IN SCOPE

DEMOLITION OF EXISTING AND INSTALLATION OF NEW CEILINGS TO BE PART OF ALTERNATE 2

KEYNOTES

KEY	NOTE





NORTH

A6 FIRST FLOOR REFLECTED CEILING PLAN
1/8" = 1'-0" 0 12'

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Iowa Department of Administrative Services
1251 334th St. Woodward, IA 50276

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PROJECT NUMBER	2142203394
FIELD BOOK	Field Book

FIRST FLOOR REFLECTED CEILING PLAN

10-A111

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CEILING PLAN NOTES

1. NOTIFY ARCHITECT OF INADEQUATE CLEARANCES FOR CEILING LAYOUT PRIOR TO COMMENCING WORK.
2. LOCATIONS OF LIGHT FIXTURES, DIFFUSERS, ETC. SHALL REMAIN IN PLACE. NOTIFY ARCHITECT OF ANY CONFLICTS PRIOR TO PROCEEDING WITH CONSTRUCTION. REFER TO DRAWINGS AND SPECIFICATIONS OF ALL TRADES FOR SYSTEM DESIGN AND ADDITIONAL INFORMATION.
3. COORDINATE WITH ALL TRADES TO CONFIRM THEIR WORK CAN BE INSTALLED TO ACHIEVE CEILING HEIGHTS AS SHOWN. TRADE PRIORITY SHALL BE AS FOLLOWS UNLESS DIRECTED OTHERWISE BY THE ARCHITECT.
   - ELECTRICAL LIGHTING FIXTURES
   - MECHANICAL GRILLES AND DIFFUSERS
   - MECHANICAL DUCTWORK
   - ELECTRICAL CONDUIT
   - PIPING SYSTEMS
4. CONTRACTOR TO REPLACE FROM OWNER STOCK CEILING TILES DAMAGED DURING CONSTRUCTION.
5. DESIGN INTENT TO HAVE NEW CEILINGS REMAIN AT ELEVATION OF EXISTING CEILINGS.
6. BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.

CEILING PLAN SYMBOLS LEGEND

- ACP-1 / +8'-0" — CEILING MATERIAL DESIGNATION / CEILING HEIGHT
- PLASTER CEILING/ SOFFIT
- ACOUSTICAL CEILING PANEL SYSTEM
- N.C. — NO CEILINGS IN SPACE
- AREA NOT IN SCOPE
- DEMOLITION OF EXISTING AND INSTALLATION OF NEW CEILINGS TO BE PART OF ALTERNATE 2

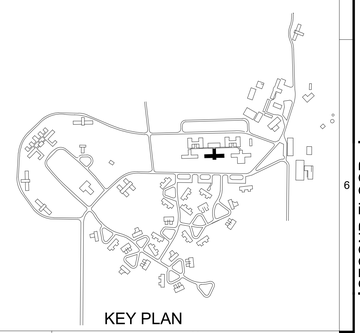
KEYNOTES

KEY	NOTE

ELMCREST KEY PLAN

NORTH

A6 SECOND FLOOR REFLECTED CEILING PLAN
1/8" = 1'-0" 0 1' 2'



KEY PLAN

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FIELD BOOK	Field Book

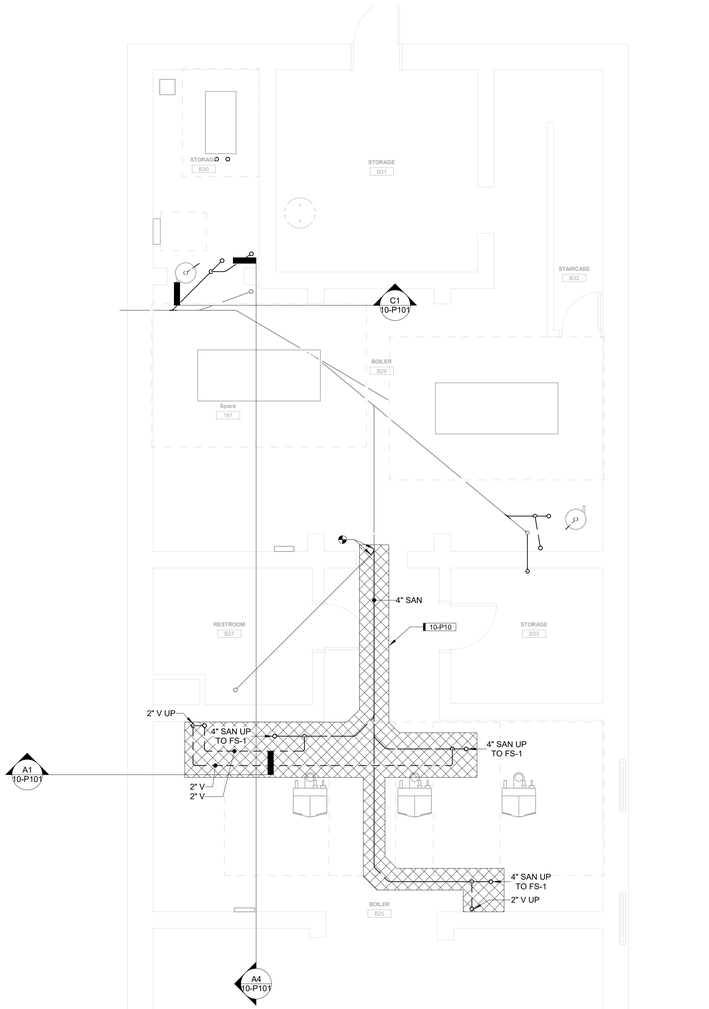
SECOND FLOOR REFLECTED CEILING PLAN

10-A112

Autodesk Docs://A DAS - WRC Phase 3 24_25.rvt
Autodesk Revit 2022

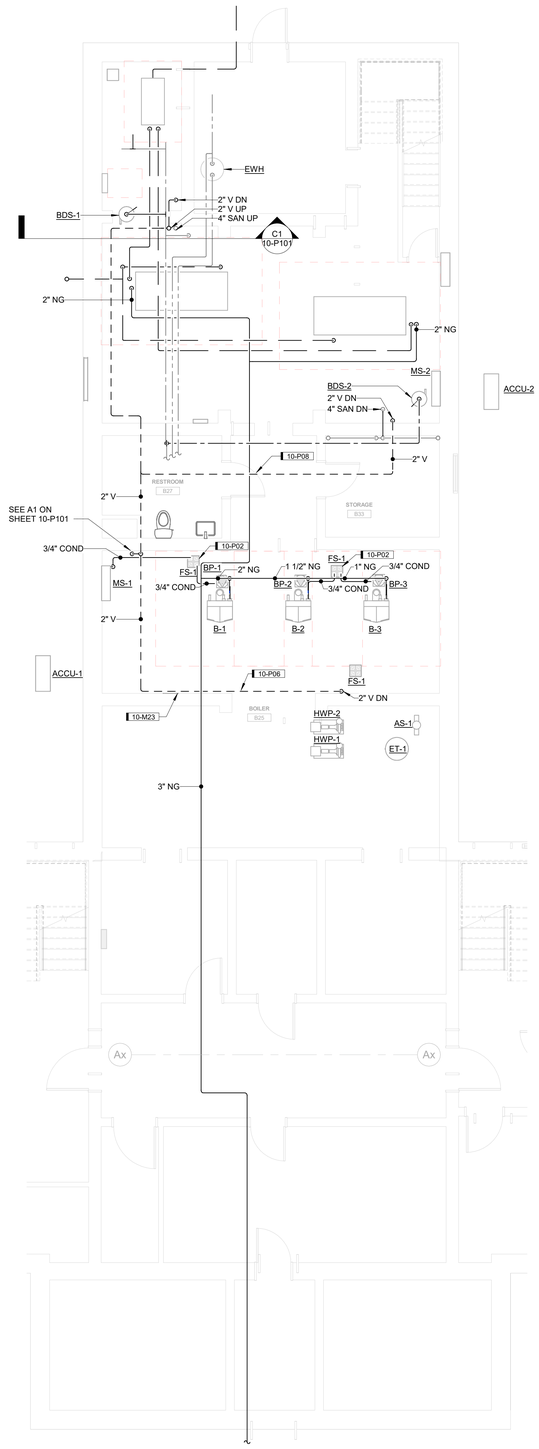
KEYNOTES	
KEY	NOTE
10-M23	PROVIDE CARBON MONOXIDE MONITOR & ALARM. UL 2034 COMPLIANT HARD WIRED CARBON MONOXIDE DETECTOR WITH BATTERY BACKUP. FIREX HARDWIRED CARBON MONOXIDE DETECTOR WITH 9-VOLT BATTERY BACKUP OR ENGINEER PRE-APPROVED EQUIVALENT.
10-P01	SAW CUT AND PATCH FLOOR FOR INSTALLATION OF NEW SANITARY PIPING.
10-P02	SAW CUT AND PATCH FLOOR FOR INSTALLATION OF NEW FLOOR SINK.
10-P06	ROUTE VENT PIPING IN COORDINATION WITH HOT WATER SUPPLY AND RETURN PIPING.
10-P08	RUN VENT PIPING FROM STEAM BOILER ROOM TO SANITARY VENT RISER IN HOT WATER BOILER MECHANICAL ROOM.
10-P10	APPROXIMATE SAW CUT AND PATCH FLOOR FOR INSTALLATION OF NEW SANITARY PIPING. FIELD VERIFY PIPE ROUTING AND CONDITIONS PRIOR TO CUTTING.
NOTE:	

BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.



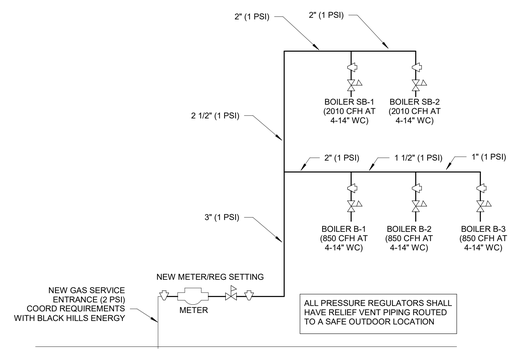
NORTH

A1 UNDERFLOOR PLUMBING PLANS
1/4" = 1'-0" 0 6'

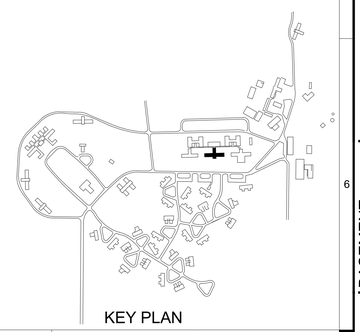


NORTH

D1 BASEMENT PLUMBING PLAN
3/16" = 1'-0" 0 8'



F2 GAS PIPING SCHEMATIC
NOT TO SCALE



KEY PLAN

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Iowa Department of Administrative Services
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BASEMENT PLUMBING PLAN

10-P100

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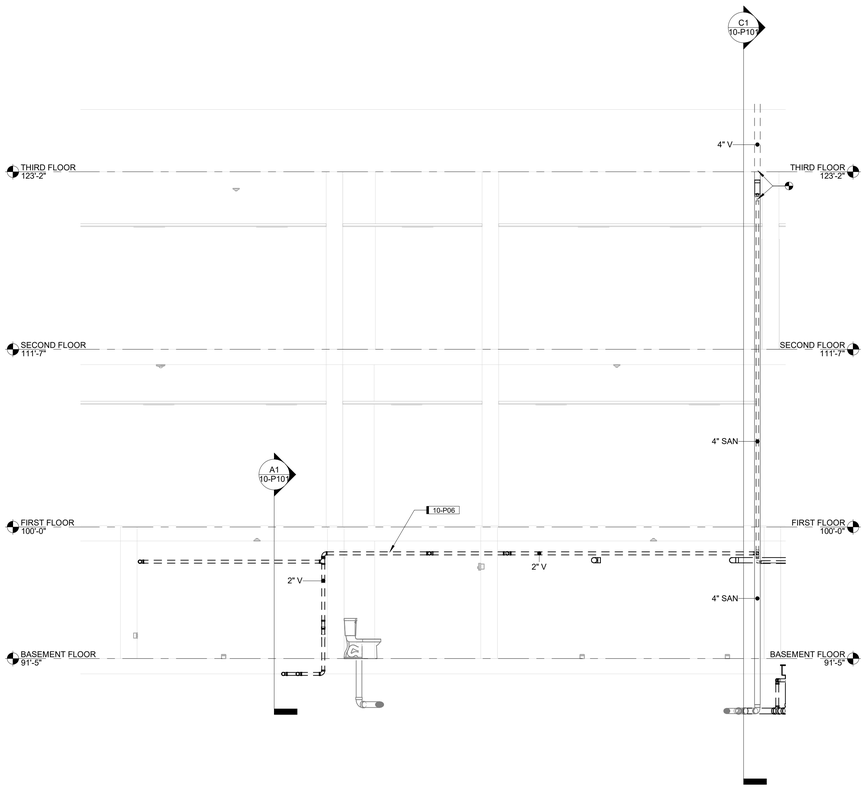
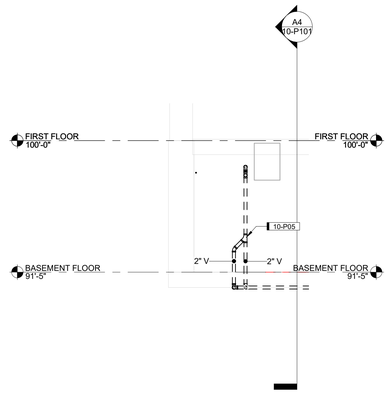
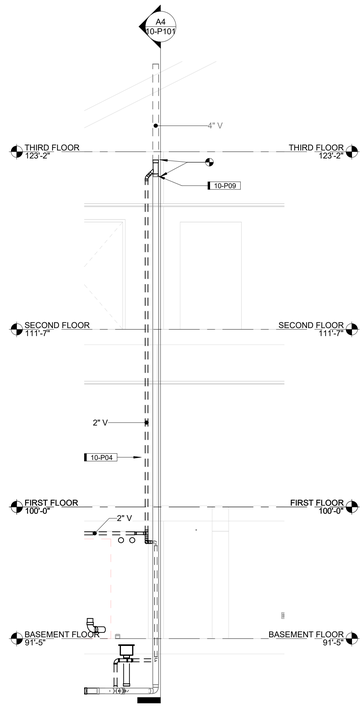


A4 MECHANICAL ROOM B25 VENT SECTION
1/4" = 1'-0"



A1 MECHANICAL ROOM B25 VENT RISER SECTION
1/4" = 1'-0"



C1 EXISTING SANITARY RISER SECTION
1/4" = 1'-0"

KEYNOTES	
KEY	NOTE
10-P04	ROUTE VENT PIPING UP THROUGH FIRST AND SECOND FLOOR. ROUTE PIPING TO EXISTING SANITARY VENT. CONNECT TO EXISTING SANITARY VENT BEFORE EXISTING VENT TERMINATES AT ROOF.
10-P05	ROUTE VENT PIPING SEPARATELY UNDERFLOOR. CONNECT 1'-0" A.F.F.
10-P06	ROUTE VENT PIPING IN COORDINATION WITH HOT WATER SUPPLY AND RETURN PIPING.
10-P09	CONNECT NEW SANITARY VENT PIPING ABOVE SECOND FLOOR CEILING.

NOTE:

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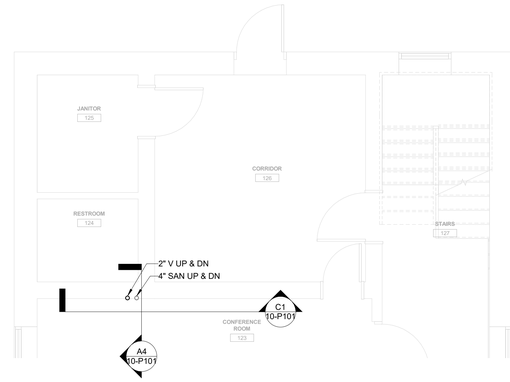
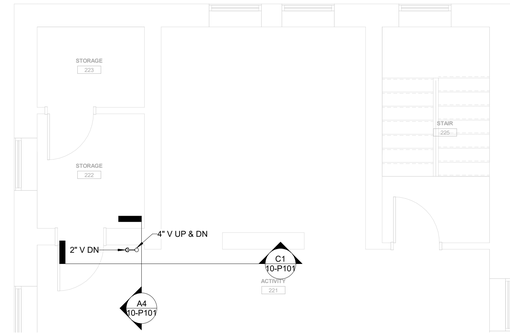


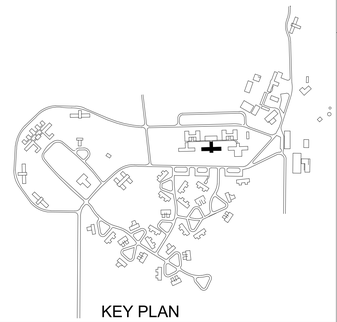
NORTH

F4 FIRST FLOOR PLUMBING PLAN
1/4" = 1'-0"



NORTH

F2 SECOND FLOOR PLUMBING PLANS
1/4" = 1'-0"



KEY PLAN

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Iowa Department of Administrative Services
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FIRST AND SECOND FLOOR PLUMBING PLAN

10-P101

Autodesk Docs://LKAS - WRC Projects/21422033944ABP-M22.rvt
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KEYNOTES	
KEY	NOTE
10-MD2	REMOVE ALL LOW PRESSURE STEAM PIPING AND RELATED HANGERS AND FITTINGS.
10-MD3	REMOVE ALL LOW PRESSURE CONDENSATE PIPING AND RELATED HANGERS AND FITTINGS.
10-MD4	VALVE, SEAL, AND CAP STEAM PIPE MAINS AT THE NEAREST SHUTOFF VALVE IN THE TUNNEL OUTSIDE OF BUILDING FOOTPRINT.
10-MD6	REMOVE HANGING STEAM RADIATOR AND ALL ASSOCIATED HANGERS AND PIPING.
10-MD9	REMOVE DISCONNECTED HANGING UNIT HEATER AND ASSOCIATED HANGERS/PIPING.
10-MD12	REMOVE HANGING STEAM UNIT HEATER AND ASSOCIATED PIPING.
10-MD14	STAIRWELL STEAM RADIATORS TO BE DEMOLISHED. REFER TO PHOTOS ON PLAN FOR FURTHER DETAIL.

NOTE:

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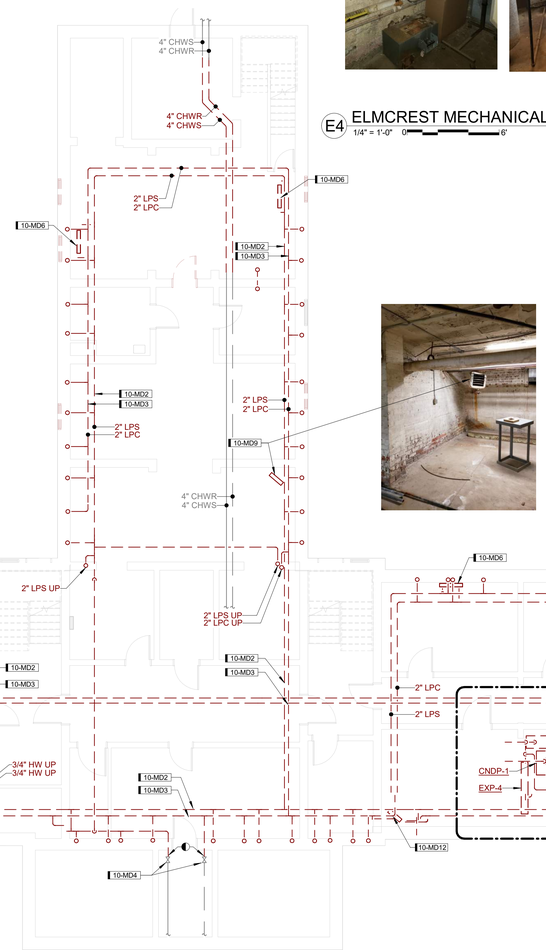
E4 ELMCREST MECHANICAL ROOM PHOTOS

1/4" = 1'-0" 0 6'

A3 ELMCREST STAIRWELLS

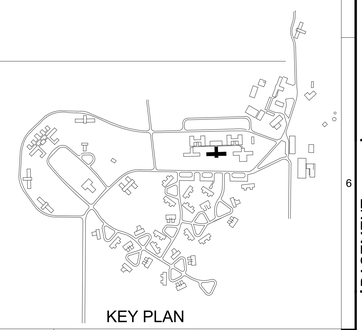
NOT TO SCALE



NORTH

A1 BASEMENT MECHANICAL DEMOLITION PLAN

1/8" = 1'-0" 0 12'



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BASEMENT MECHANICAL PIPING DEMOLITION PLAN

10-MD100

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KEYNOTES	
KEY	NOTE
10-MD1	REMOVE EXISTING STEAM RADIATORS, ASSOCIATED PIPING, CONTROLS. EXISTING STEAM ENCLOSURE TO BE REUSED WITH NEW HOT WATER FIN TUBE.
10-MD2	REMOVE ALL LOW PRESSURE STEAM PIPING AND RELATED HANGERS AND FITTINGS.
10-MD3	REMOVE ALL LOW PRESSURE CONDENSATE PIPING AND RELATED HANGERS AND FITTINGS.
10-MD7	REMOVE FLOOR MOUNTED RADIATOR AND ASSOCIATED ENCLOSURE. PREPARE FOR NEW HOT WATER FIN TUBE AND ENCLOSURE TO BE INSTALLED. REPAIR ANY DAMAGE RELATED TO THE DEMOLITION AND INSTALLATION OF NEW HOT WATER FIN TUBE.
10-MD13	DEMO DUCT MOUNTED COIL AND DEMO ASSOCIATED PIPING. PATCH AND RE-INSULATE DUCTWORK.

NOTE:

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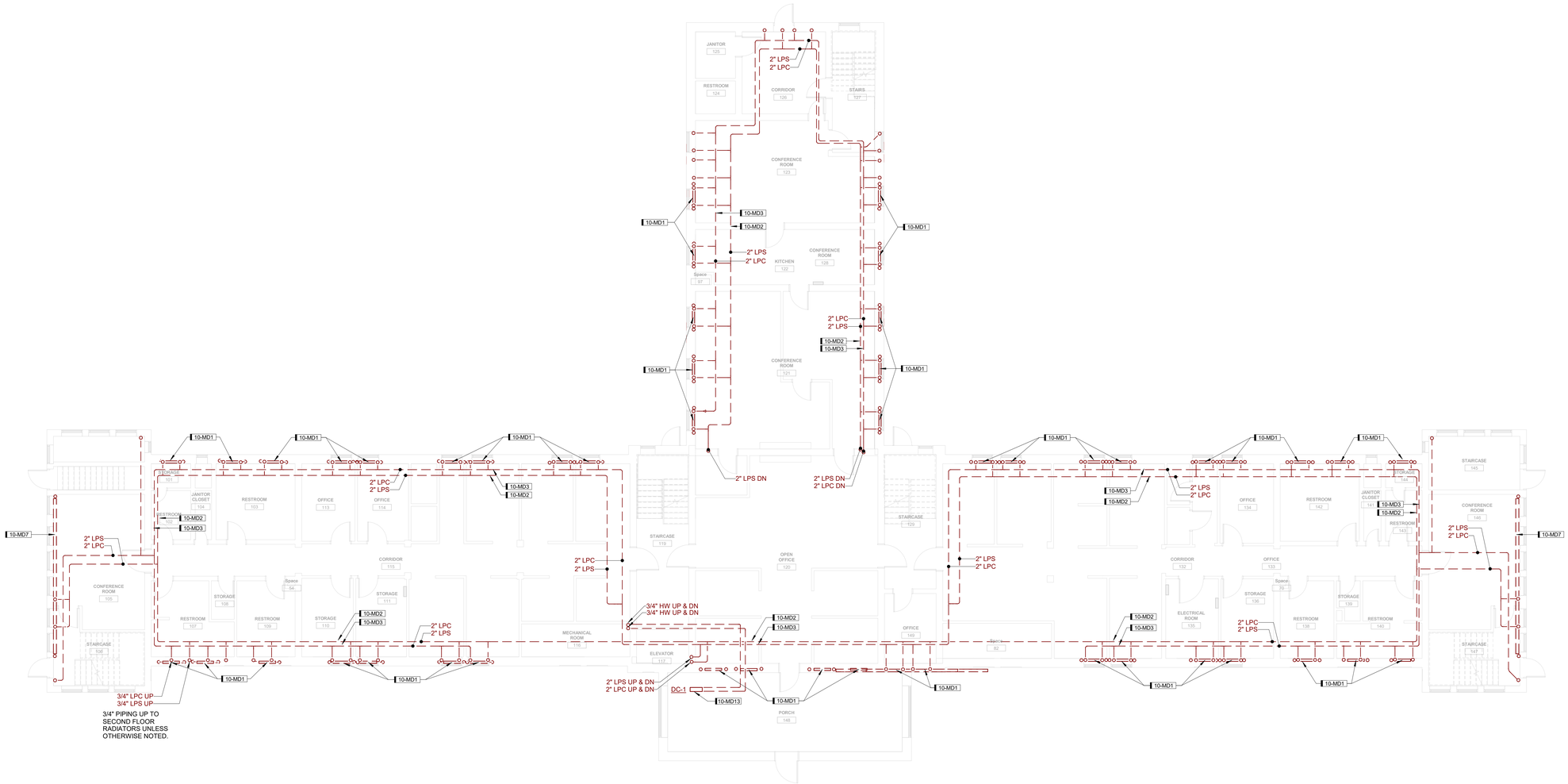
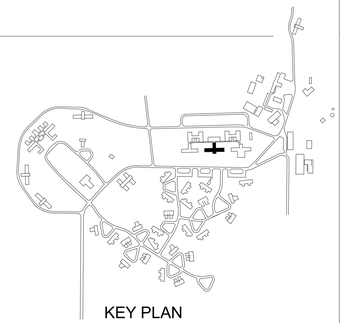


NORTH

A1 FIRST FLOOR MECHANICAL DEMOLITION PLAN

1/8" = 1'-0" 0 12'



KEY PLAN

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FIRST FLOOR MECHANICAL PIPING DEMOLITION PLAN

10-MD101

Autodesk Docs://A DAS - WRC Projects/21422033944-MEP-H221.rvt
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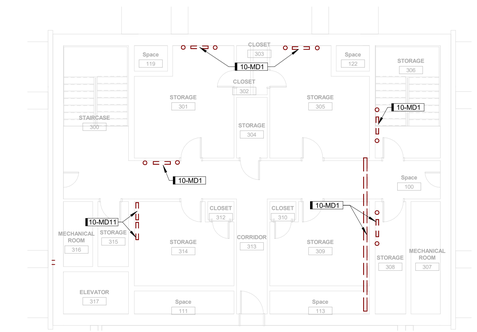
KEYNOTES	
KEY	NOTE
10-MD1	REMOVE EXISTING STEAM RADIATORS, ASSOCIATED PIPING, CONTROLS. EXISTING STEAM ENCLOSURE TO BE REUSED WITH NEW HOT WATER FIN TUBE.
10-MD2	REMOVE ALL LOW PRESSURE STEAM PIPING AND RELATED HANGERS AND FITTINGS.
10-MD3	REMOVE ALL LOW PRESSURE CONDENSATE PIPING AND RELATED HANGERS AND FITTINGS.
10-MD5	EXISTING RADIATOR AND CABINET BEHIND WALL. ABANDON IN PLACE. REFER TO IMAGE FOR EXISTING CONDITION.
10-MD7	REMOVE FLOOR MOUNTED RADIATOR AND ASSOCIATED ENCLOSURE. PREPARE FOR NEW HOT WATER FIN TUBE AND ENCLOSURE TO BE INSTALLED. REPAIR ANY DAMAGE RELATED TO THE DEMOLITION AND INSTALLATION OF NEW HOT WATER FIN TUBE.
10-MD11	ABANDONED STEAM RADIATOR TO BE REMOVED WITH DEMOLITION
10-MD13	DEMO DUCT MOUNTED COIL AND DEMO ASSOCIATED PIPING. PATCH AND RE-INSULATE DUCTWORK.

NOTE:

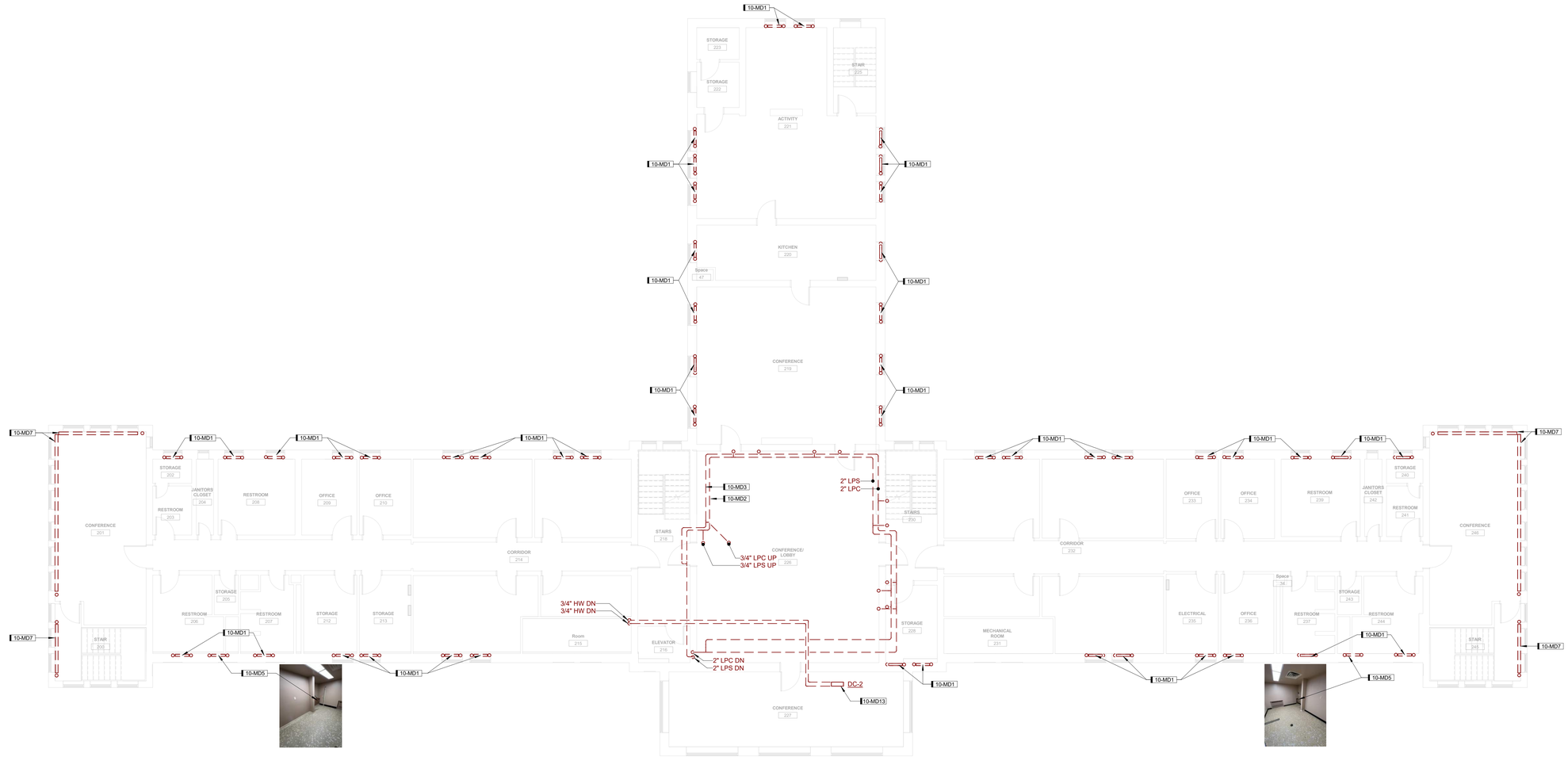
BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.



NORTH

D5 THIRD FLOOR MECHANICAL DEMOLITION PLAN

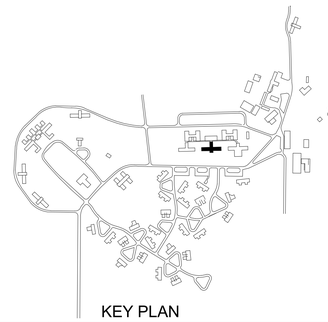
1/8" = 1'-0" 0 12'



NORTH

A1 SECOND FLOOR MECHANICAL DEMOLITION PLAN

1/8" = 1'-0" 0 12'



KEY PLAN

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15-Dispatch Garage

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1251 334th St, Woodward, IA 50276

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SECOND AND THIRD FLOOR MECHANICAL PIPING DEMOLITION PLAN

10-MD102

Autodesk Docs://LSAS - WRC Phase3 (#9279.30)/10-MD-HDZ.rvt
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KEYNOTES	
KEY	NOTE
10-M02	FIN TUBE PLACEMENT IS A REFERENCE. PLACE THE FIN TUBE IN A LOCATION ON THE DESIGNATED WALL THAT WILL NOT INTERFERE WITH EXISTING ELECTRICAL OUTLETS.
10-M05	EXISTING HEATING HOT WATER SUPPLY AND RETURN PIPING TO REMAIN.
10-M09	RECONNECT EXISTING HWS AND HWR PIPING TO NEW HWS AND HWR MAINS IN HALLWAY.
10-M16	EXISTING CHILLED WATER PIPING TO REMAIN.
10-M18	EXISTING STEAM PIPING RUNNING INTO STEAM TUNNEL.
10-M23	PROVIDE CARBON MONOXIDE MONITOR & ALARM. UL 2034 COMPLIANT HARD WIRED CARBON MONOXIDE DETECTOR WITH BATTERY BACKUP. FIREX HARDWIRED CARBON MONOXIDE DETECTOR WITH 9-VOLT BATTERY BACKUP OR ENGINEER PRE-APPROVED EQUIVALENT.
10-M27	ROUTE REFRIGERANT PIPING OUT BASEMENT WINDOW TO CONDENSING UNIT.

NOTE:

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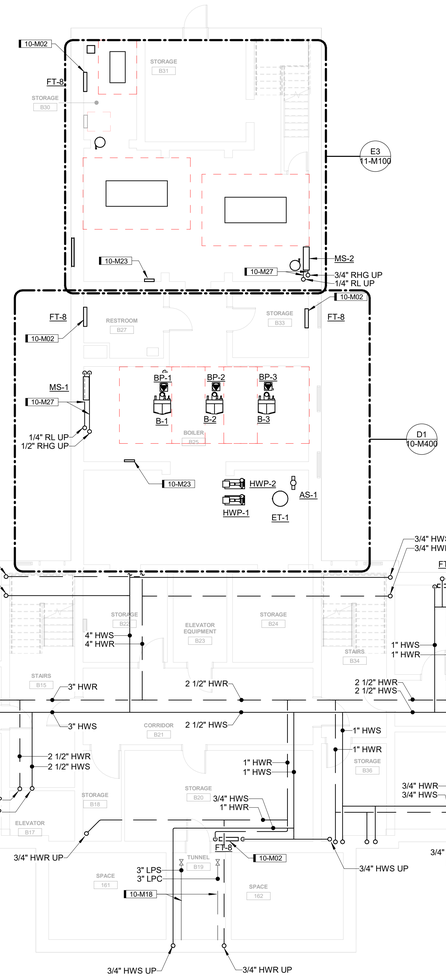
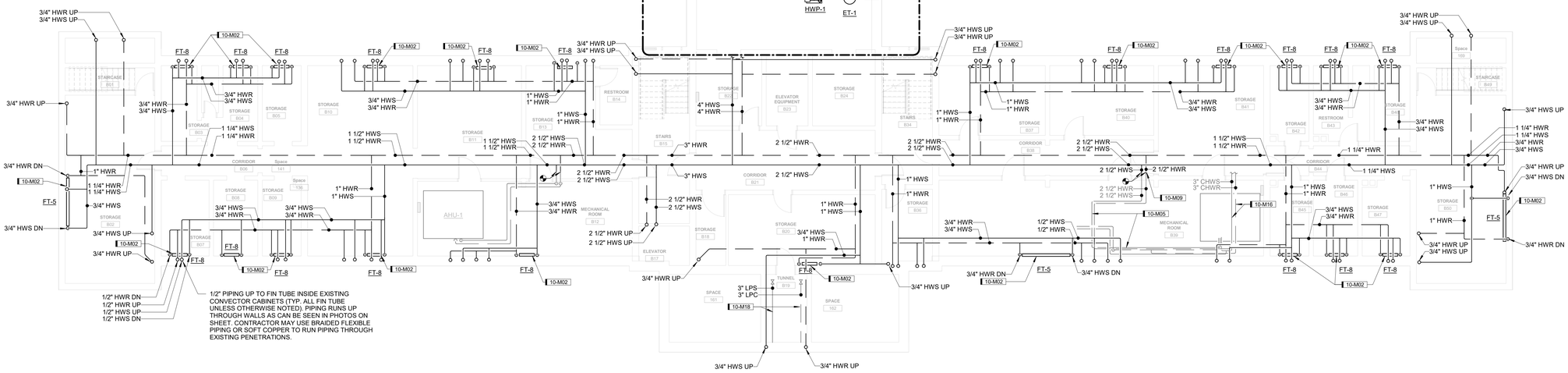
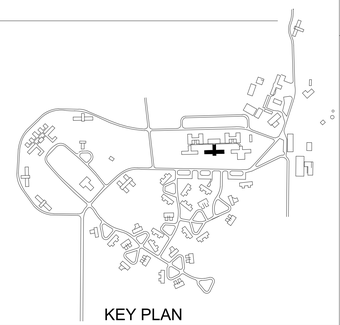




NORTH

A1 BASEMENT MECHANICAL PIPING PLAN

1/8" = 1'-0" 0 1' 2'



KEY PLAN

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1251 334th St, Woodward, IA 50276

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BASEMENT MECHANICAL PIPING PLAN

10-M100

Autodesk Docs://A Folk - WRC Projects/2142203394-MEP-WRC.rvt 1/9/2024 7:47:29 AM

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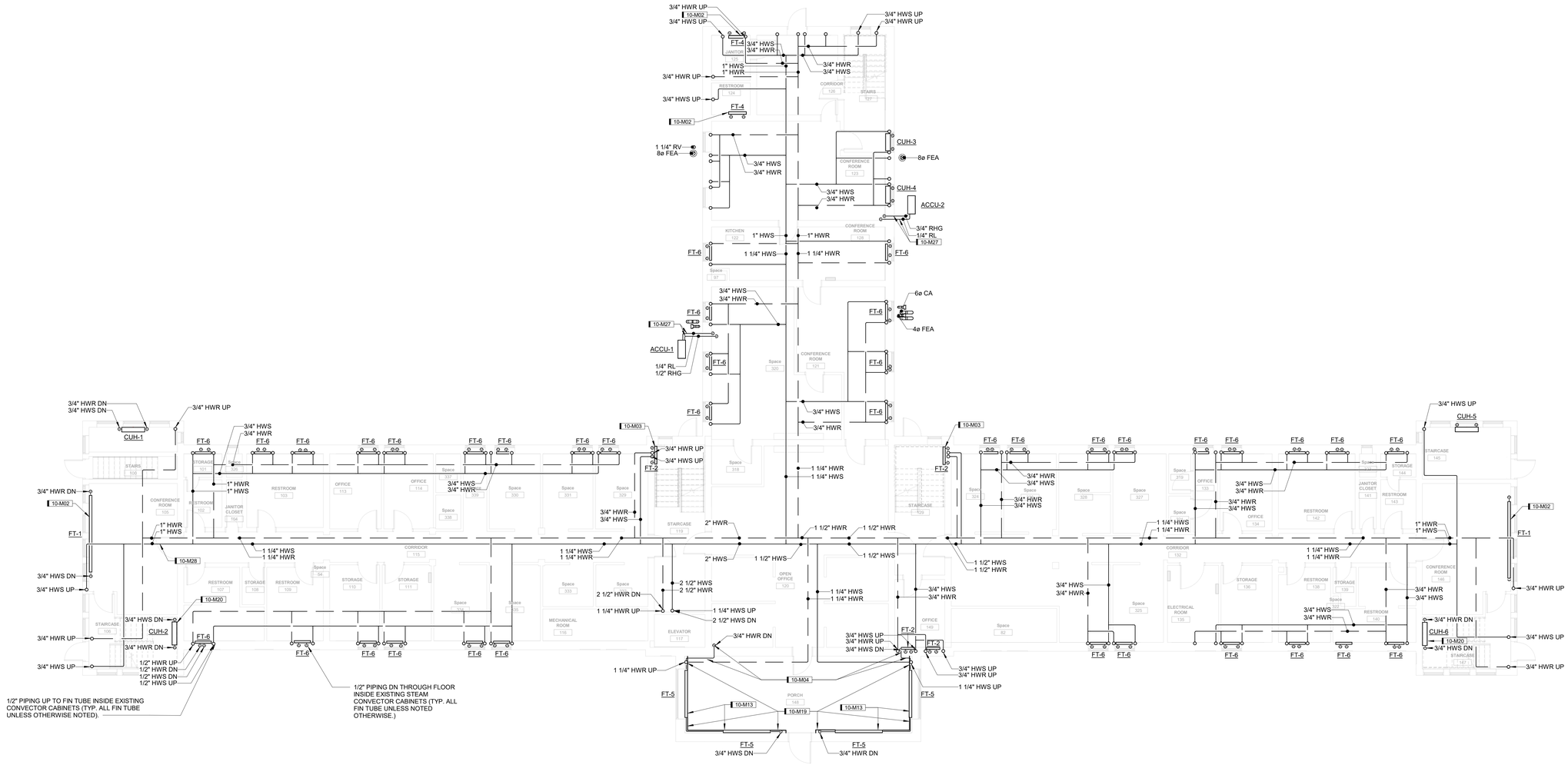
KEYNOTES	
KEY	NOTE
10-M02	FIN TUBE PLACEMENT IS A REFERENCE. PLACE THE FIN TUBE IN A LOCATION ON THE DESIGNATED WALL THAT WILL NOT INTERFERE WITH EXISTING ELECTRICAL OUTLETS.
10-M03	STAIRWELL FIN TUBE IS TO BE INSTALLED 8'-0" AFF.
10-M04	3/4" HWS/HWR EXPOSED IN ROOM. INSTALL PIPING TIGHT TO WALL AND DOWN THROUGH FLOOR TO BRANCHES BELOW.
10-M13	FIN TUBE TO BE SCHEDULED LENGTH. ENCLOSURE TO COVER FIN TUBE AND PIPING BETWEEN EACH FIN TUBE.
10-M19	COVER TO BE INSTALLED OVER ENTIRE LENGTH OF WALL TO COVER PIPING AND FIN TUBES.
10-M20	CABINET UNIT HEATER TO BE PLACED ON FLOOR UNDER STAIRWELL.
10-M27	ROUTE REFRIGERANT PIPING OUT BASEMENT WINDOW TO CONDENSING UNIT.
10-M28	HEATING WATER DIFFERENTIAL PRESSURE SENSOR LOCATION.

NOTE:

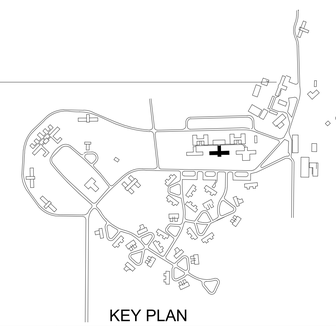
BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.



NORTH

A1 FIRST FLOOR MECHANICAL PIPING PLAN

1/8" = 1'-0" 0" 1' 2'



KEY PLAN

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10-Elmcrest

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Iowa Department of Administrative Services
1251 334th St. Woodward, IA 50276

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FIRST FLOOR MECHANICAL PIPING PLAN

10-M101

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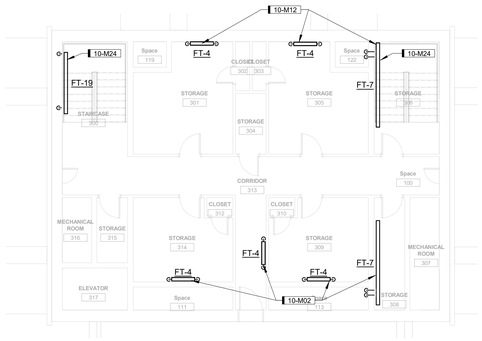
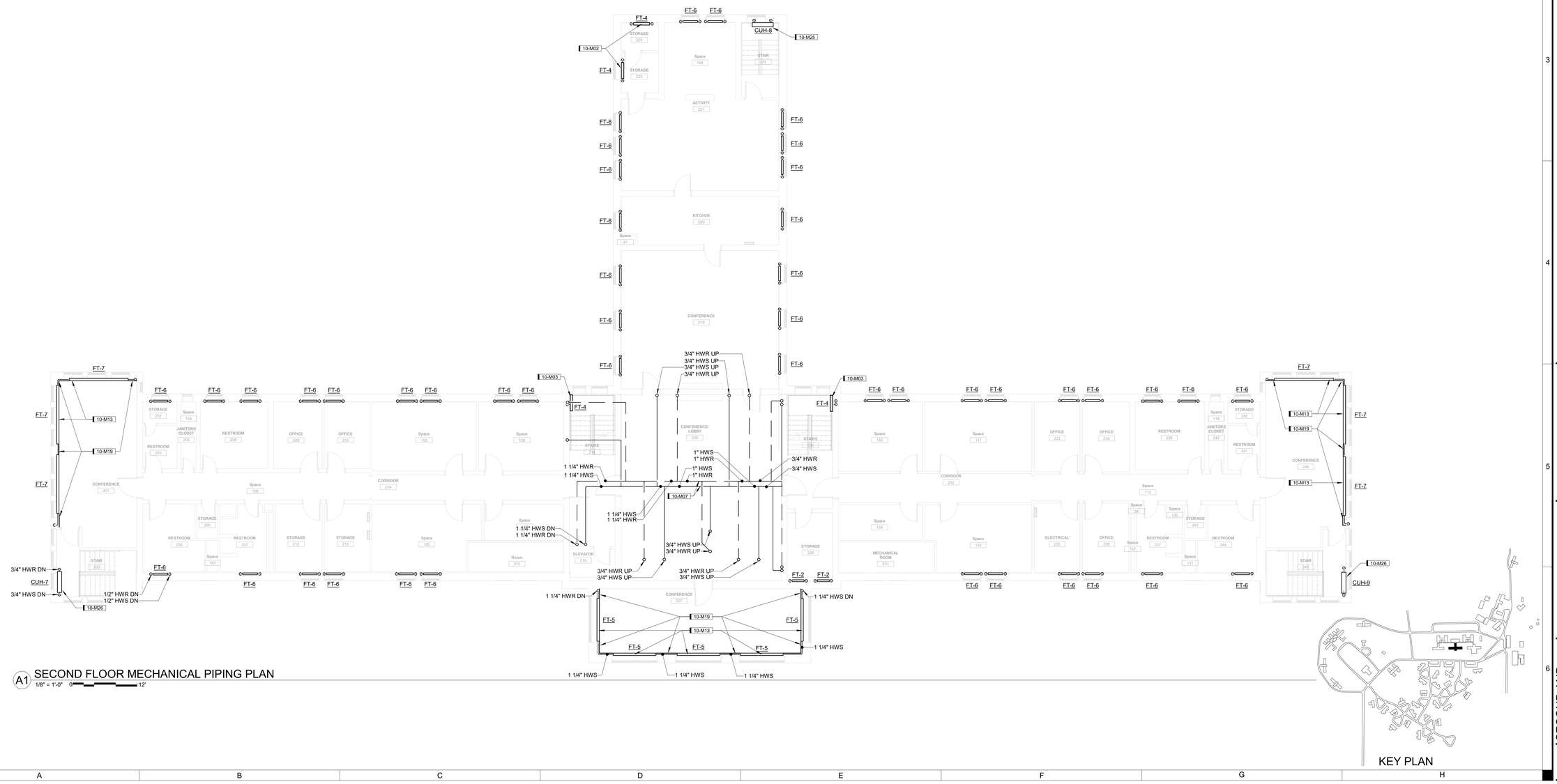


NORTH

C5 THIRD FLOOR MECHANICAL PIPING PLAN

1/8" = 1'-0" 0 12'



NORTH

A1 SECOND FLOOR MECHANICAL PIPING PLAN

1/8" = 1'-0" 0 12'

KEY PLAN

KEYNOTES

KEY	NOTE
10-M02	FIN TUBE PLACEMENT IS A REFERENCE. PLACE THE FIN TUBE IN A LOCATION ON THE DESIGNATED WALL THAT WILL NOT INTERFERE WITH EXISTING ELECTRICAL OUTLETS.
10-M03	STAIRWELL FIN TUBE IS TO BE INSTALLED 8'-0" AFF.
10-M07	THIRD FLOOR HOT WATER RETURN AND SUPPLY LOOP MAINS.
10-M12	FIN TUBE PLACEMENT IS A REFERENCE. PLACE THE FIN TUBE IN A LOCATION ON THE DESIGNATED WALL THAT WILL NOT INTERFERE WITH EXISTING ELECTRICAL OUTLETS. 1/2" HOT WATER PIPING IS EXPOSED IN ROOM. INSTALL PIPING TIGHT TO WALL AND DOWN THROUGH EXISTING FLOOR TO HOT WATER PIPING LOOPS BELOW.
10-M13	FIN TUBE TO BE SCHEDULED LENGTH. ENCLOSURE TO COVER FIN TUBE AND PIPING BETWEEN EACH FIN TUBE.
10-M19	COVER TO BE INSTALLED OVER ENTIRE LENGTH OF WALL TO COVER PIPING AND FIN TUBES.
10-M24	INSTALL HOT WATER FIN TUBE 8'-0" A.F.F.
10-M25	INSTALL CABINET UNIT HEATER 8'-0" A.F.F. INSTALL WITH MANUFACTURER RECOMMENDED HANGERS.
10-M26	INSTALL CABINET UNIT HEATER ON FLOOR, TIGHT TO EXTERIOR WALL, AND OUT OF THE WALKWAY FOR THE STAIRCASE.

NOTE:

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SECOND AND THIRD FLOOR MECHANICAL PLAN

10-M102

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10/2/2023 7:40:55 AM
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KEYNOTES	
KEY	NOTE
10-M10	THERMOSTAT SERVING CUH CALLED OUT WITH LEADERS.
10-M11	THERMOSTAT SERVES THE CONVECTORS OR MINI-SPLIT CALLED OUT WITH LEADERS.

NOTE:

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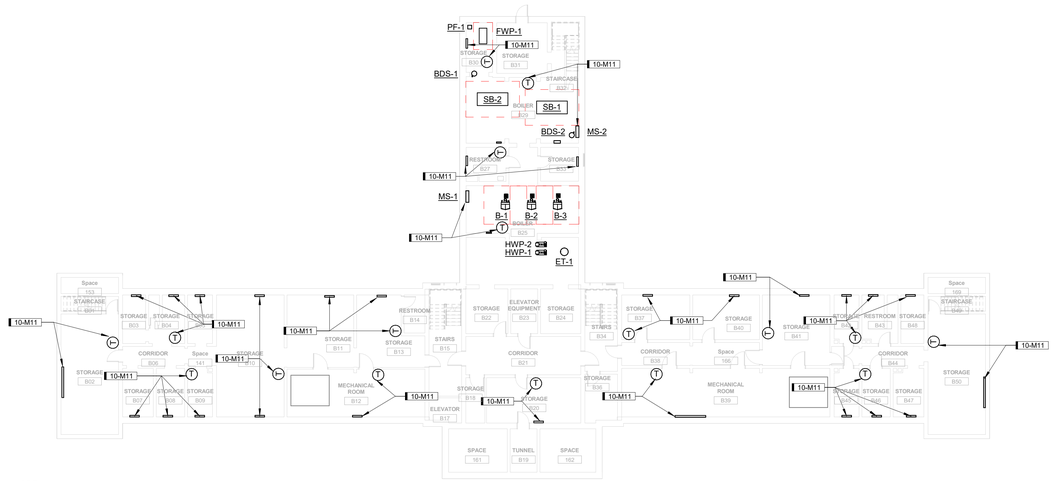
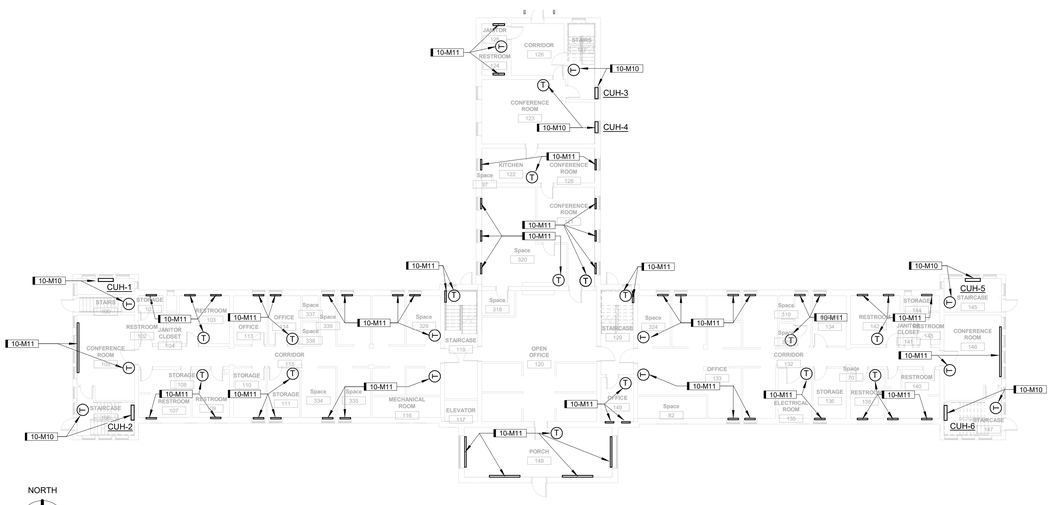


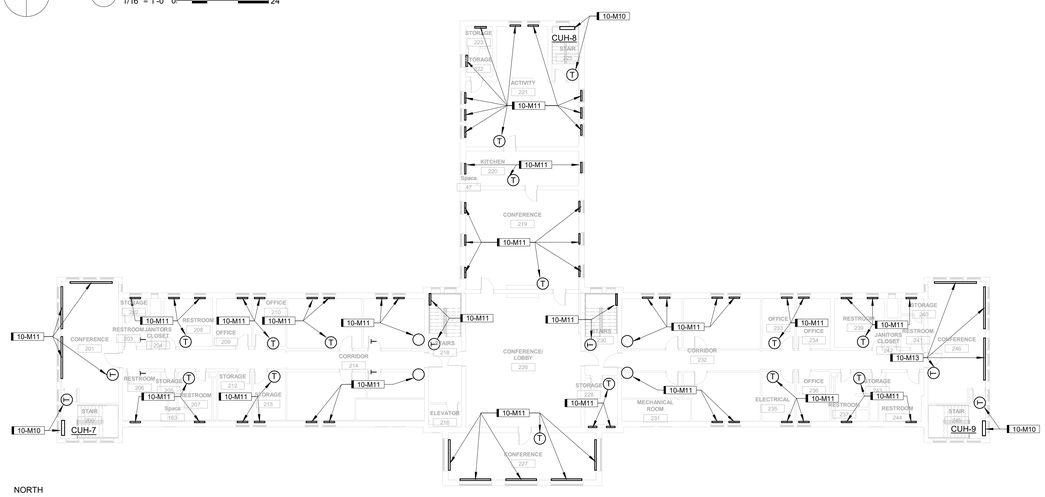
NORTH

A5 BASEMENT THERMOSTAT PLAN
1/16" = 1'-0" 0 24'



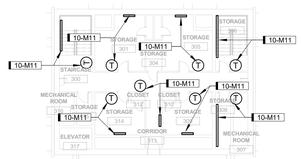
NORTH

A2 FIRST FLOOR THERMOSTAT PLAN
1/16" = 1'-0" 0 24'



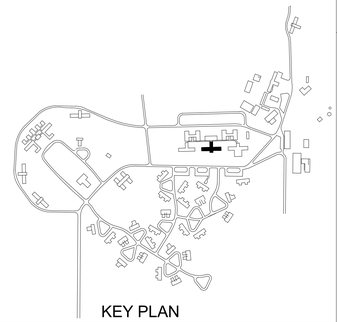
NORTH

A1 SECOND FLOOR THERMOSTAT PLAN
1/16" = 1'-0" 0 24'



NORTH

E1 THIRD FLOOR THERMOSTAT PLAN
1/16" = 1'-0" 0 24'



KEY PLAN

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THERMOSTAT PLANS

10-M300

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10/2/24 7:40:58 AM
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KEYNOTES	
KEY	NOTE
10-M02	FIN TUBE PLACEMENT IS A REFERENCE. PLACE THE FIN TUBE IN A LOCATION ON THE DESIGNATED WALL THAT WILL NOT INTERFERE WITH EXISTING ELECTRICAL OUTLETS.
10-M14	FLUE AND COMBUSTION AIR VENT PIPING TO BE ROUTED THROUGH EXISTING WINDOW. SEE ARCH SHEETS FOR DETAIL ON FILLING WINDOW.
10-M21	3'-0" MINIMUM CLEARANCE AROUND THE ENTIRE BOILER PER IOWA STATE BOILER CODE.
10-M22	BYPASS FOR BOILER LOOP TO BE INSTALLED HERE.
10-M23	PROVIDE CARBON MONOXIDE MONITOR & ALARM. UL 2034 COMPLIANT HARD WIRED CARBON MONOXIDE DETECTOR WITH BATTERY BACKUP. FIREX HARDWIRED CARBON MONOXIDE DETECTOR WITH 9-VOLT BATTERY BACKUP OR ENGINEER PRE-APPROVED EQUIVALENT.

NOTE:

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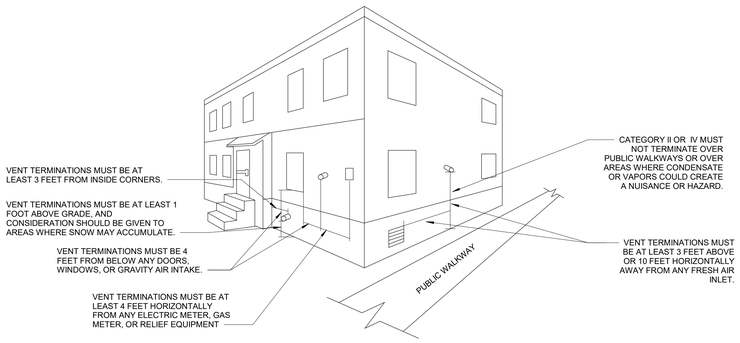
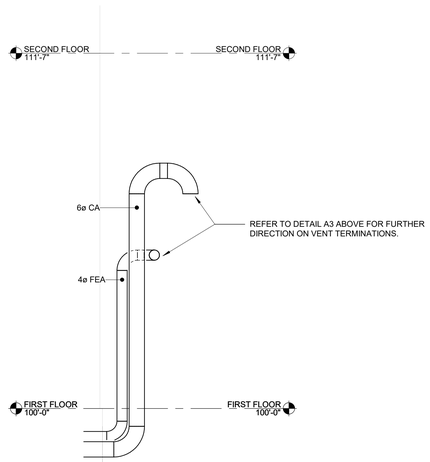
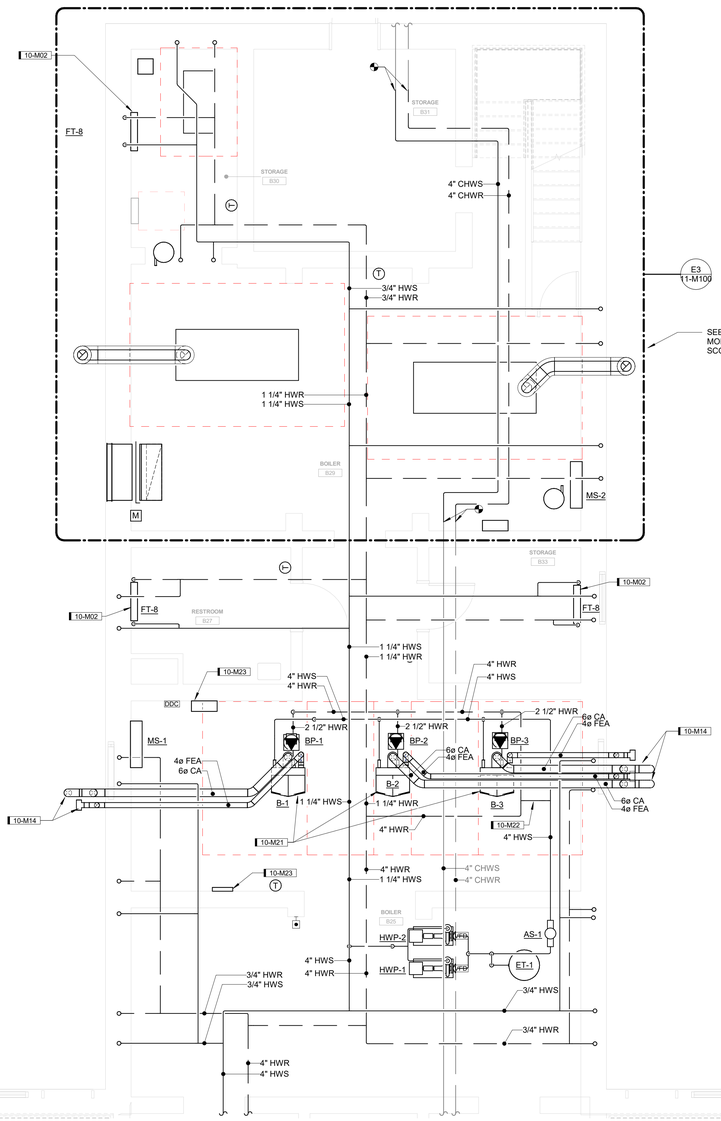


NOTE: VERTICAL TERMINATIONS SHALL EXTEND AT LEAST 3 FEET ABOVE THE HIGHEST POINT WHERE IT PASSES THROUGH A ROOF OF A BUILDING AND AT LEAST 3 FEET HIGHER THAN ANY PORTION OF THE BUILDING WITHIN A HORIZONTAL DISTANCE OF 10 FEET. TERMINATIONS THAT EXTEND MORE THAN 2 FEET ABOVE THE ROOF MUST BE LATERALLY SUPPORTED.

A3 VENT TERMINATION DETAIL
NOT TO SCALE



B1 BOILER VENT SECTION
1/2" = 1'-0" 0 3'



NORTH

D1 BOILER ROOM MECHANICAL PLAN
1/4" = 1'-0" 0 6'

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ENLARGED MECHANICAL PLANS

10-M400

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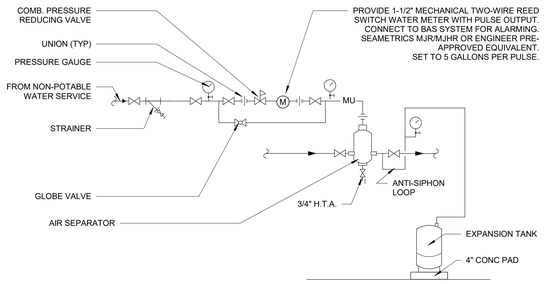

A5 AIR SEPARATOR/BLADDER TYPE EXP. TANK DETAIL
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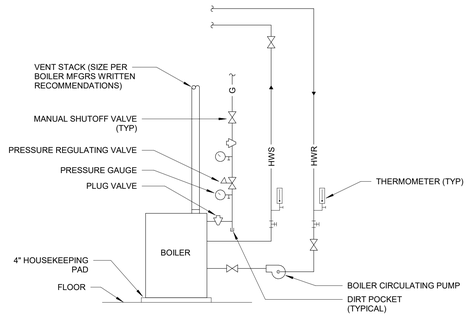
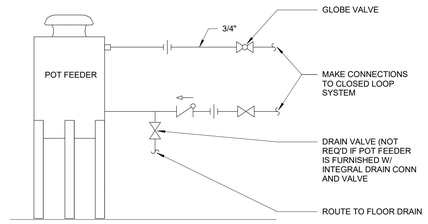
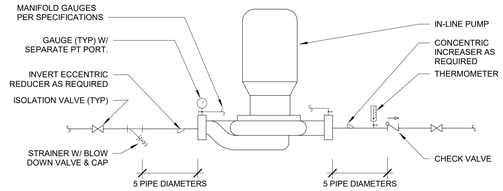


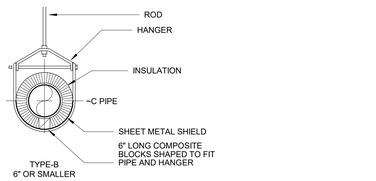
C5 GAS FIRED BOILER PIPING DETAIL
NOT TO SCALE

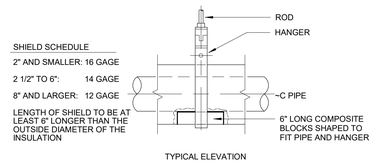


E5 POT FEEDER DETAIL
NOT TO SCALE

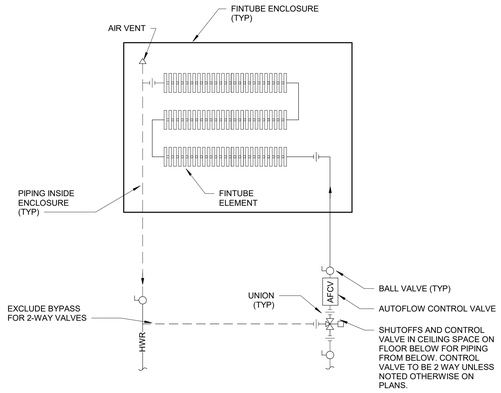


G5 PIPING DIAGRAM - IN-LINE PUMP
NOT TO SCALE

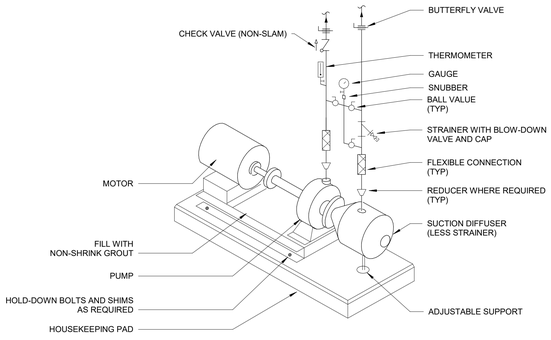




A3 INSULATED PIPE HANGER DETAIL
NOT TO SCALE



3 TIER FIN TUBE PIPING DIAGRAM - PIPING IN FLOOR BELOW
B3 NOT TO SCALE



E3 BASE MOUNTED PUMP DETAIL
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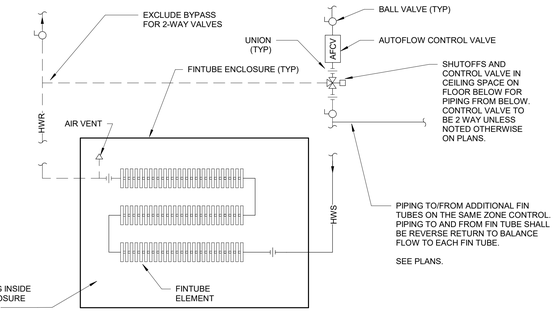
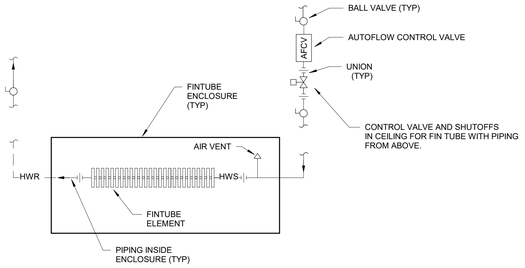
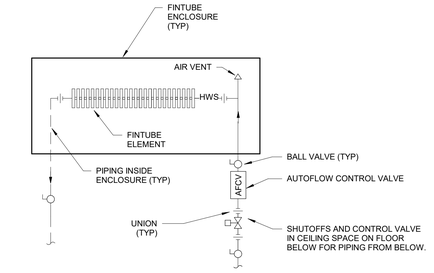


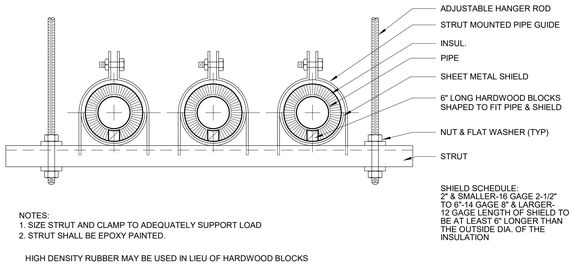
3 TIER FIN TUBE PIPING DIAGRAM - PIPING IN CEILING ABOVE
A2 NOT TO SCALE



1 TIER FIN TUBE PIPING DIAGRAM - PIPING IN CEILING ABOVE
C2 NOT TO SCALE



1 TIER FIN TUBE PIPING DIAGRAM - PIPING IN FLOOR BELOW
E2 NOT TO SCALE



A1 TRAPEZE TYPE HANGER DETAIL
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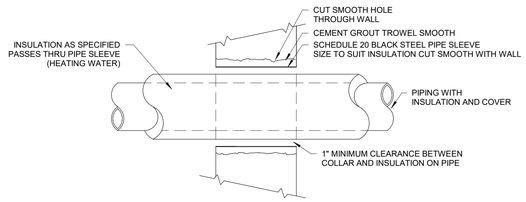
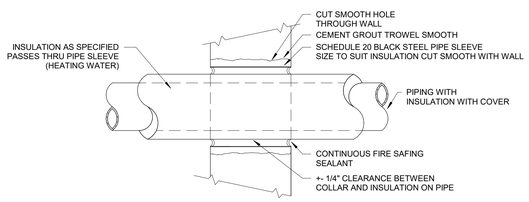


C1 INTERIOR WALL PIPE PENETRATION DETAIL
NOT TO SCALE



E1 INTERIOR FIRE RATED WALL PIPE PENETRATION DETAIL
NOT TO SCALE

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MECHANICAL DETAILS

10-M500

Autodesk Docs://A.Shiv...WRC Phase3 Tech/2024-Add-Add2.rvt
1/9/2024 7:46:13 AM
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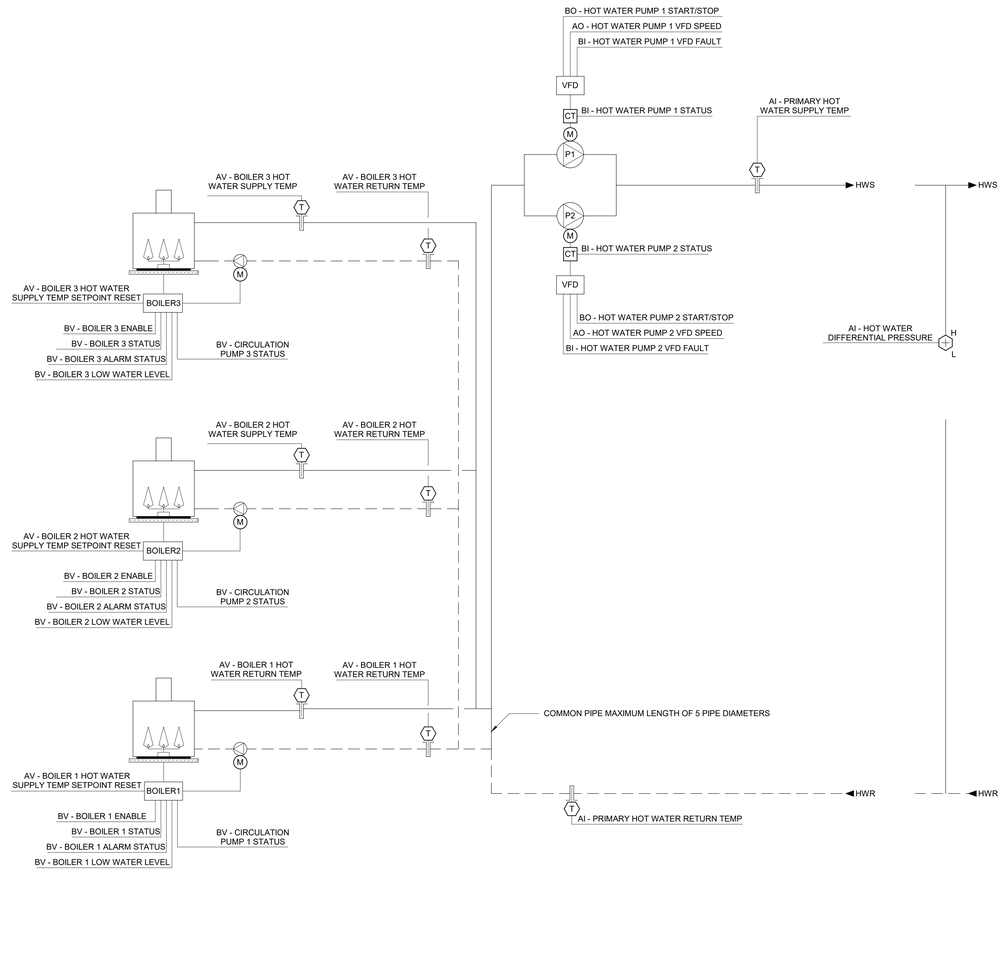
POINTS MATRIX - BOILER											
POINT NAME	HARDWARE POINTS				SOFTWARE POINTS						SHOW ON GRAPHIC
	AI	AO	BI	BO	AV	BV	LOOP	SCHED	TREND	ALARM	
BOILER 1 HOT WATER RETURN TEMP	x								x		x
BOILER 1 HOT WATER SUPPLY TEMP	x								x		x
BOILER 2 HOT WATER RETURN TEMP	x								x		x
BOILER 2 HOT WATER SUPPLY TEMP	x								x		x
HOT WATER DIFFERENTIAL PRESSURE	x								x		x
PRIMARY HOT WATER RETURN TEMP	x								x		x
PRIMARY HOT WATER SUPPLY TEMP	x								x		x
BOILER 1 HOT WATER SUPPLY TEMP SETPOINT RESET		x							x		x
BOILER 2 HOT WATER SUPPLY TEMP SETPOINT RESET		x							x		x
HOT WATER PUMP 1 VFD SPEED		x							x		x
HOT WATER PUMP 2 VFD SPEED		x							x		x
BOILER 1 ALARM STATUS			x						x	x	x
BOILER 1 LOW WATER LEVEL			x						x	x	x
BOILER 1 STATUS			x						x		x
BOILER 2 ALARM STATUS			x						x	x	x
BOILER 2 LOW WATER LEVEL			x						x	x	x
BOILER 2 STATUS			x						x		x
CIRCULATION PUMP 1 STATUS			x						x		x
CIRCULATION PUMP 2 STATUS			x						x		x
HOT WATER PUMP 1 STATUS			x						x		x
HOT WATER PUMP 1 VFD FAULT			x							x	x
HOT WATER PUMP 2 STATUS			x						x		x
HOT WATER PUMP 2 VFD FAULT			x							x	x
BOILER 1 ENABLE				x							x
BOILER 2 ENABLE				x							x
CIRCULATION PUMP 1 START/STOP				x					x		x
CIRCULATION PUMP 2 START/STOP				x					x		x
HOT WATER PUMP 1 START/STOP				x							x
HOT WATER PUMP 2 START/STOP				x							x
HOT WATER DIFFERENTIAL PRESSURE SETPOINT					x				x		x
OUTSIDE AIR TEMP					x						x
BOILER 1 FAILURE										x	
BOILER 1 HIGH HOT WATER SUPPLY TEMP										x	
BOILER 1 LOW HOT WATER SUPPLY TEMP										x	
BOILER 1 RUNNING IN HAND										x	
BOILER 1 RUNTIME EXCEEDED										x	
BOILER 2 FAILURE										x	
BOILER 2 HIGH HOT WATER SUPPLY TEMP										x	
BOILER 2 LOW HOT WATER SUPPLY TEMP										x	
BOILER 2 RUNNING IN HAND										x	
BOILER 2 RUNTIME EXCEEDED										x	
CIRCULATION PUMP 1 FAILURE										x	
CIRCULATION PUMP 1 RUNNING IN HAND										x	
CIRCULATION PUMP 1 RUNTIME EXCEEDED										x	
CIRCULATION PUMP 2 FAILURE										x	
CIRCULATION PUMP 2 RUNNING IN HAND										x	
CIRCULATION PUMP 2 RUNTIME EXCEEDED										x	
HIGH HOT WATER DIFFERENTIAL PRESSURE										x	
HIGH PRIMARY HOT WATER SUPPLY TEMP										x	
HOT WATER PUMP 1 FAILURE										x	
HOT WATER PUMP 1 RUNNING IN HAND										x	
HOT WATER PUMP 1 RUNTIME EXCEEDED										x	
HOT WATER PUMP 2 FAILURE										x	
HOT WATER PUMP 2 RUNNING IN HAND										x	
HOT WATER PUMP 2 RUNTIME EXCEEDED										x	
LEAD BOILER FAILURE										x	x
LOW HOT WATER DIFFERENTIAL PRESSURE										x	
LOW PRIMARY HOT WATER SUPPLY TEMP										x	
WATER METER ALARM		x							x	x	x



E3 CONTROLS SCHEMATIC - THREE BOILER, PRIMARY/SECONDARY SYSTEM

NOT TO SCALE

1. THREE BOILER SYSTEM WITH CONDENSING BOILERS, PRIMARY SECONDARY FLOW.

BOILER SYSTEM RUN CONDITIONS:
THE BOILER SYSTEM SHALL BE ENABLED TO RUN WHENEVER:
- A HOT WATER COILS OR RADIATOR NEED HEATING.
- AND OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.).

TO PREVENT SHORT CYCLING, THE BOILER SYSTEM SHALL RUN FOR AND BE OFF FOR MINIMUM ADJUSTABLE TIMES (BOTH USER DEFINABLE), UNLESS SHUTDOWN ON SAFETIES OR OUTSIDE AIR CONDITIONS.

THE BOILER SHALL RUN SUBJECT TO ITS OWN INTERNAL SAFETIES AND CONTROLS.

THE BOILER SYSTEM SHALL ALSO RUN FOR FREEZE PROTECTION WHENEVER THE OUTSIDE AIR TEMPERATURE IS LESS THAN 38°F (ADJ.).

BOILER SAFETIES:
THE FOLLOWING SAFETIES SHALL BE MONITORED:
- BOILER ALARM.
- LOW WATER LEVEL.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- BOILER ALARM.
- LOW WATER LEVEL ALARM.

HOT WATER PUMP LEAD/LAG OPERATION:
THE TWO HOT WATER PUMPS SHALL OPERATE IN A LEAD/LAG FASHION.
- THE LEAD PUMP SHALL RUN FIRST.
- ON FAILURE OF THE LEAD PUMP, THE LAG PUMP SHALL RUN AND THE LEAD PUMP SHALL TURN OFF.
- ON DECREASING HOT WATER DIFFERENTIAL PRESSURE, THE LAG PUMP SHALL STAGE ON AND RUN IN UNISON WITH THE LEAD PUMP TO MAINTAIN HOT WATER DIFFERENTIAL PRESSURE SETPOINT.

THE DESIGNATED LEAD PUMP SHALL ROTATE UPON ONE OF THE FOLLOWING CONDITIONS (USER SELECTABLE). THE LAG PUMP SHALL BE ENABLED PRIOR TO THE LEAD PUMP BEING DISABLED AND VFD SPEEDS STAGED SUCH THAT BOILER NUISANCE TRIPS DO NOT OCCUR BECAUSE OF LOW FLOW.
- MANUALLY THROUGH A SOFTWARE SWITCH
- IF PUMP RUNTIME (ADJ.) IS EXCEEDED
- DAILY
- WEEKLY
- MONTHLY

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HOT WATER PUMP 1
  - FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
  - RUNNING IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
  - RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER 3000 CONTINOUS HOURS LIMIT.
  - VFD FAULT.
- HOT WATER PUMP 2
  - FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
  - RUNNING IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
  - RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER 3000 CONTINOUS HOURS LIMIT.
  - VFD FAULT.

HOT WATER DIFFERENTIAL PRESSURE CONTROL:
THE CONTROLLER SHALL MEASURE HOT WATER DIFFERENTIAL PRESSURE AND MODULATE THE HOT WATER PUMP VFDS IN SEQUENCE TO MAINTAIN ITS HOT WATER DIFFERENTIAL PRESSURE SETPOINT.

THE FOLLOWING SETPOINTS ARE RECOMMENDED VALUES. ALL SETPOINTS SHALL BE FIELD ADJUSTED DURING THE COMMISSIONING PERIOD TO MEET THE REQUIREMENTS OF ACTUAL FIELD CONDITIONS.

THE CONTROLLER SHALL MODULATE HOT WATER PUMP SPEEDS TO MAINTAIN A HOT WATER DIFFERENTIAL PRESSURE OF 12LBF/IN2 (ADJ.). THE VFDS MINIMUM SPEED SHALL NOT DROP BELOW 20% (ADJ.).

ON DROPPING HOT WATER DIFFERENTIAL PRESSURE, THE VFDS SHALL STAGE ON AND RUN TO MAINTAIN SETPOINT AS FOLLOWS:
- THE CONTROLLER SHALL MODULATE THE LEAD VFD TO MAINTAIN SETPOINT.
- IF THE LEAD VFD SPEED IS GREATER THAN A SETPOINT OF 90% (ADJ.), THE LAG VFD SHALL STAGE ON.
- THE LAG VFD SHALL RAMP UP TO MATCH THE LEAD VFD SPEED AND THEN RUN IN UNISON WITH THE LEAD VFD TO MAINTAIN SETPOINT.

ON RISING HOT WATER DIFFERENTIAL PRESSURE, THE VFDS SHALL STAGE OFF AS FOLLOWS:
- IF THE VFDS SPEEDS DROPS BACK TO 60% (ADJ.) BELOW SETPOINT, THE LAG VFD SHALL STAGE OFF.
- THE LEAD VFD SHALL CONTINUE TO RUN TO MAINTAIN SETPOINT.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH HOT WATER DIFFERENTIAL PRESSURE: IF 25% (ADJ.) GREATER THAN SETPOINT.
- LOW HOT WATER DIFFERENTIAL PRESSURE: IF 25% (ADJ.) LESS THAN SETPOINT.

BOILER CIRCULATION PUMPS:
THE CIRCULATION PUMPS SHALL BE ENABLED AND START/STOPPED VIA THE FACTORY BOILER CONTROLS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- CIRCULATION PUMP FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- CIRCULATION PUMP RUNNING IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.

BOILER LEAD/STANDBY OPERATION:
THE THREE BOILERS SHALL OPERATE IN A LEAD/LAG FASHION WHEN CALLED TO RUN AND FLOW IS PROVEN.
- THE LEAD BOILER SHALL RUN FIRST.
- ON FAILURE OF THE LEAD BOILER, THE STANDBY BOILER SHALL RUN AND THE LEAD BOILER SHALL TURN OFF.

IF POSSIBLE, THE DESIGNATED LEAD BOILER SHALL ROTATE UPON ONE OF THE FOLLOWING CONDITIONS: (USER SELECTABLE):
- MANUALLY THROUGH A SOFTWARE SWITCH
- IF BOILER RUNTIME (ADJ.) IS EXCEEDED
- DAILY
- WEEKLY
- MONTHLY

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- BOILER 1
  - FAILURE: COMMANDED ON BUT THE STATUS IS OFF.
  - RUNNING IN HAND: COMMANDED OFF BUT THE STATUS IS ON.
  - RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER 3000 CONTINOUS HOURS LIMIT.
- BOILER 2
  - FAILURE: COMMANDED ON BUT THE STATUS IS OFF.
  - RUNNING IN HAND: COMMANDED OFF BUT THE STATUS IS ON.
  - RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER 3000 CONTINOUS HOURS LIMIT.
- BOILER 3
  - FAILURE: COMMANDED ON BUT THE STATUS IS OFF.
  - RUNNING IN HAND: COMMANDED OFF BUT THE STATUS IS ON.
  - RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER 3000 CONTINOUS HOURS LIMIT.
- LEAD BOILER FAILURE: THE LEAD BOILER IS IN FAILURE AND THE STANDBY BOILER IS ON.
- IF INDIVIDUAL BOILER ALARMS ARE NOT AVAILABLE VIA BACNET INTREGRATION OF BOILER CONTROLLER. A GENERAL ALARM SHALL BE PROVIDED.

HOT WATER SUPPLY TEMPERATURE SETPOINT RESET:
THE HOT WATER SUPPLY TEMPERATURE SETPOINT SHALL RESET BASED ON OUTSIDE AIR TEMPERATURE.

AS OUTSIDE AIR TEMPERATURE RISES FROM 0 F (ADJ.) TO 70 F (ADJ.) THE HOT WATER SUPPLY TEMPERATURE SETPOINT SHALL RESET DOWNWARDS FROM 140 F (ADJ.) TO 90 F (ADJ.) FROM THE CURRENT BOILER SETPOINT.

AS THE FACILITY'S HOT WATER VALVES OPEN BEYOND A USER DEFINABLE THRESHOLD (90% OPEN, TYP.), AND THE WATER TEMPERATURE FAILS TO MAINTAIN SETPOINT FOR 30 MINUTES (ADJ.) AND OUTSIDE AIR FALLS BELOW 0 F, THE SETPOINT SHALL RESET TO 190 F (ADJ.). AS OUTSIDE AIR TEMPERATURE RISES FROM -20 F (ADJ.) TO 0 F (ADJ.) THE HOT WATER SUPPLY TEMPERATURE SETPOINT SHALL RESET DOWNWARDS FROM 980 F (ADJ.) TO 140 F (ADJ.) FROM THE CURRENT BOILER SETPOINT. ONCE THE HOT WATER COILS ARE SATISFIED (VALVES CLOSING) THEN THE SETPOINT SHALL GRADUALLY LOWER OVER TIME TO REDUCE HEATING ENERGY USER.

PRIMARY HOT WATER TEMPERATURE MONITORING:
THE FOLLOWING TEMPERATURES SHALL BE MONITORED:
- PRIMARY HOT WATER SUPPLY.
- PRIMARY HOT WATER RETURN.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- LOW PRIMARY HOT WATER SUPPLY TEMP: IF LESS THAN 80°F (ADJ.).

BOILER HOT WATER TEMPERATURE MONITORING:
THE FOLLOWING TEMPERATURES SHALL BE MONITORED FOR EACH BOILER:
- BOILER HOT WATER SUPPLY.
- BOILER HOT WATER RETURN.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH HOT WATER SUPPLY TEMP: IF GREATER THAN 190°F (ADJ.).
- LOW HOT WATER SUPPLY TEMP: IF LESS THAN 80°F (ADJ.).

PROVIDE ALARM FROM MECHANICAL WATER METER ON WATER FILL LINE FOR SYSTEM. ALARM IF WATER METER OUTPUTS ANY PULSE SIGNALS.

D1 HEATING WATER PLANT SEQUENCE OF OPERATIONS

NOT TO SCALE

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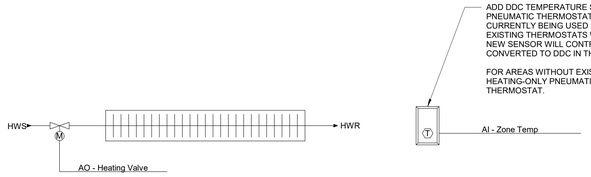


F6 CONTROLS SCHEMATIC - FIN TUBE HEATER

NOT TO SCALE

1. CONVECTIVE / FIN TUBE HEATER (TYPICAL OF 1)

RUN CONDITIONS - CONTINUOUS:
THE UNIT SHALL RUN CONTINUOUSLY AND SHALL MAINTAIN A HEATING SETPOINT OF 70°F (ADJ.).

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- LOW ZONE TEMP: IF THE ZONE TEMPERATURE IS LESS THAN THE HEATING SETPOINT BY 10°F (ADJ.).

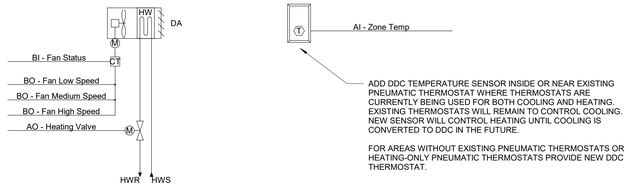
HEATING COIL VALVE:
THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND OPEN OR CLOSE THE HEATING COIL VALVE TO MAINTAIN ITS HEATING SETPOINT.

THE HEATING SHALL BE ENABLED WHENEVER:
- OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.).
- AND THE ZONE TEMPERATURE IS BELOW HEATING SETPOINT.

CREATE A TABLE IN THE BUILDING AUTOMATION GRAPHICS WHICH DISPLAYS EACH FIN TUBE IN THE BUILDING WITH FIN TUBE LOCATION, VALVE POSITION, SPACE TEMPERATURE AND SPACE TEMPERATURE SETPOINT. ONE FIN TUBE PER LINE IN THE TABLE.

POINTS MATRIX - FIN TUBE HEATER

POINT NAME	HARDWARE POINTS				SOFTWARE POINTS						SHOW ON GRAPHIC
	AI	AO	BI	BO	AV	BV	LOOP	SCHED	TREND	ALARM	
ZONE TEMP	x								x		x
HEATING VALVE				x					x		x
HEATING SETPOINT					x				x		x
LOW ZONE TEMP										x	



F3 CONTROLS SCHEMATIC - UNIT HEATER

NOT TO SCALE

1. UNIT HEATER

THE UNIT SHALL MAINTAIN A HEATING SETPOINT OF 70°F (ADJ.).

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- LOW ZONE TEMP: IF THE ZONE TEMPERATURE IS LESS THAN THE HEATING SETPOINT BY 10°F (ADJ.).

FAN:
THE FAN SHALL RUN ANYTIME THE ZONE TEMPERATURE IS BELOW HEATING SETPOINT, UNLESS SHUTDOWN ON SAFETIES.

HEATING COIL VALVE:
THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND MODULATE THE HEATING COIL VALVE TO MAINTAIN ITS HEATING SETPOINT.

THE HEATING SHALL BE ENABLED WHENEVER:
- OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.).
- AND THE ZONE TEMPERATURE IS BELOW HEATING SETPOINT.
- AND THE FAN IS ON.

FAN STATUS:
THE CONTROLLER SHALL MONITOR THE FAN STATUS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- FAN RUNTIME EXCEEDED: FAN STATUS RUNTIME EXCEEDS 2000 CONTINUOUS HOURS (ADJ.).

POINTS MATRIX - UNIT HEATER

POINT NAME	HARDWARE POINTS				SOFTWARE POINTS						SHOW ON GRAPHIC
	AI	AO	BI	BO	AV	BV	LOOP	SCHED	TREND	ALARM	
ZONE TEMP	x								x		x
HEATING VALVE		x							x		x
FAN STATUS			x						x		x
FAN HIGH SPEED				x							x
FAN LOW SPEED				x							x
FAN MEDIUM SPEED				x							x
HEATING SETPOINT					x				x		x
FAN FAILURE										x	
FAN IN HAND										x	
LOW ZONE TEMP										x	

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MODULAR FIRE-TUBE BOILER SCHEDULE - HOT WATER

REMARKS:
1. OR ENGINEER APPROVED EQUIVALENT.
2. DISCONNECT TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
3. BOILER CONTROLS SHALL OPERATE THEIR ASSOCIATED BOILER PUMP.

MARK	INPUT (MBH)	OUTPUT (MBH)	GAS PRESSURE RANGE REQUIRED (IN W.C.)	EFFICIENCY	EWT (°F)	LWT (°F)	GPM	MAX PD (FT)	FUEL TYPE	TURNDOWN RATIO	OPERATING PRESSURE	MAX DIMENSIONS			ELECTRICAL DATA					DESIGN BASIS	REMARKS
												MAX HEIGHT	MAX LENGTH	MAX WIDTH	VOLTS	PHASE	FLA	MCA	MOCP		
B-1	850	745	4-14	87.5	172	190	83	5.7	NATURAL	7:1	160	5'-5"	3'-4"	2'-4"	120	1	12	15	20	LOCHINVAR FTX850	1, 2, 3
B-2	850	745	4-14	87.5	172	190	83	5.7	NATURAL	7:1	160	5'-5"	3'-4"	2'-4"	120	1	12	15	20	LOCHINVAR FTX850	1, 2, 3
B-3	850	745	4-14	87.5	172	190	83	5.7	NATURAL	7:1	160	5'-5"	3'-4"	2'-4"	120	1	12	15	20	LOCHINVAR FTX850	1, 2, 3

MECHANICAL PUMP SCHEDULE

REMARKS:
1. OR ENGINEER APPROVED EQUIVALENT.
2. BALANCE BOILER PUMP TO 70 GPM.
3. VFD TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
4. DISCONNECT TO BE PROVIDED AND INSTALLED BY E.C.
5. BOILER PUMPS TO BE CONTROLLED BY THEIER ASSOCIATED BOILER.

MARK	SYSTEM SERVED	TYPE	GPM	HEAD (FT)	SHUTOFF HEAD (FT)	PLEV %	MOTOR DATA			ELECTRICAL DATA		DESIGN BASIS	REMARKS
							HP	BHP	RPM	VOLTS	PHASE		
HWP-1	HEATING WATER	END SUCTION	210	58	78	73	5	4.06	1800	208	3	B&G e-1510 2BD	1, 3
HWP-2	HEATING WATER	END SUCTION	210	58	78	73	5	4.06	1800	208	3	B&G e-1510 2BD	1, 3
BP-1	HWB-1	INLINE	83	13.5	17.6	68.1	1	0.3	1300	208	1	B&G E-90	1, 2, 4, 5
BP-2	HWB-2	INLINE	83	13.5	17.6	68.1	1	0.3	1300	208	1	B&G E-90	1, 2, 4, 5
BP-3	HWB-3	INLINE	83	13.5	17.6	68.1	1	0.3	1300	208	1	B&G E-90	1, 2, 4, 5

MECHANICAL PIPING EXPANSION TANK SCHEDULE

REMARKS:
1. OR ENGINEER APPROVED EQUIVALENT.

MARK	SYSTEM SERVED	TYPE	TANK CAPACITY (GAL)	ACCEPTANCE CAPACITY (GAL)	RELIEF VALVE		DESIGN BASIS	REMARKS
					RELIEF AT (PSI)	FILL AT (PSI)		
ET-1	HEATING WATER	BLADDER	53	53	75	16	B&G B200	1

FIN TUBE RADIATION SCHEDULE - HYDRONIC

REMARKS:
1. OR ENGINEER APRROVED EQUIVALENT
2. PROVIDE WITH 3-WAY VALVE. SEE DETAILS.

MARK	CAPACITY (BTU/FT)	AVERAGE WATER TEMP (°F)	GPM	TUBE SIZE (IN)	NUMBER OF TUBES OR ROWS	ELEMENT LENGTH (FT)	EAT (°F)	HEATING COIL FIN DATA			ENCLOSURE				DESIGN BASIS	REMARKS
								FIN HEIGHT (IN)	FIN WIDTH (IN)	FINS PER FOOT	LENGTH (IN)	DEPTH (IN)	HEIGHT (IN)	MOUNTING HEIGHT		
FT-1	913	180	1.5	0.75	1	15'-0"	68	3 1/4"	3 1/4"	50	15'-3"	4 3/8"	1'-2"	1'-6"	STERLING VERSALINE JVA-S14	1, 2
FT-2	2167	180	1.5	1	3	3'-0"	68	3 5/8"	3 5/8"	50	3'-3"	4 3/8"	1'-6"		STERLING VB-X18	1, 2
FT-3	711	180	0.5	0.75	2	2'-3"	68	2 1/2"	2 1/4"	50	0"	0"	0"		STERLING BARE TYPE "K"	1
FT-4	2333	180	1.5	0.75	3	3'-0"	68	4 1/4"	4 1/4"	50	3'-3"	4 3/8"	2'-0"	2'-4"	STERLING VERSALINE JVB-S24	1, 2
FT-5	914	180	2	0.75	1	8'-9"	68	3 1/4"	3 1/4"	50	9'-0"	4 3/8"	1'-2"	1'-6"	STERLING VERSALINE JVA-S14	1, 2
FT-6	2000	180	0.5	0.75	3	2'-9"	68	4 1/4"	4 1/4"	50	0"	0"	0"		STERLING BARE TYPE "B"	1
FT-7	1045	180	1	0.75	1	11'-0"	68	3 5/8"	3 5/8"	40	11'-3"	4 3/8"	1'-2"	1'-6"	STERLING VERSALINE JVA-S14	1
FT-8	2000	180	0.5	0.75	3	2'-6"	68	4 1/4"	4 1/4"	50	2'-9"	4 3/8"	2'-0"	2'-4"	STERLING VERSALINE JVB-S24	1
FT-19	2155	180	0.5	0.75	3	8'-6"	68	4 1/4"	4 1/4"	50	8'-9"	4 3/8"	2'-0"	2'-4"	STERLING VERSALINE JVB-S24	1

UNIT HEATER SCHEDULE - HOT WATER

REMARKS:
1. OR ENGINEER APPROVED EQUIVALENT
2. PROVIDE WITH FACTORY MOUNTED DISCONNECT
3. INSTALL CUH 8'-0" A.F.F.

MARK	AREA SERVED	CFM	EWT (°F)	LWT (°F)	EAT (°F)	LAT (°F)	MBH	GPM	MAX PD (FT)	MOUNTING HEIGHT (FT)	ORIENTATION	FAN MOTOR DATA			DESIGN BASIS	REMARKS
												HP	VOLTS	PHASE		
CUH-1	STAIRCASE 100	424	190	160	68	118	25	2.5	0.2	0"	SLOPED TOP	1/10	120	1	STERLING W-1070-04	1, 2
CUH-2	STAIRCASE 106	424	190	160	68	118	25	2.5	0.2	0"	SLOPED TOP	1/10	120	1	STERLING W-1070-04	1, 2
CUH-3	STAIRCASE 127	225	190	160	68	151	19.5	1.28	0.1	0"	RECESSED WALL	1/15	120	1	STERLING RW-1120-02	1, 2
CUH-4	ACTIVITY 123	225	190	160	68	151	19.5	1.28	0.1	0"	RECESSED WALL	1/15	120	1	STERLING RW-1120-02	1, 2
CUH-5	STAIRCASE 145	424	190	160	68	118	25	2.5	0.2	0"	SLOPED TOP	1/10	120	1	STERLING W-1070-04	1, 2
CUH-6	STAIRCASE 147	424	190	160	68	118	25	2.5	0.2	0"	SLOPED TOP	1/10	120	1	STERLING W-1070-04	1, 2
CUH-7	STAIRCASE 200	424	190	160	68	118	25	2.5	0.2	0"	SLOPED TOP	1/10	120	1	STERLING W-1070-04	1, 2
CUH-8	STAIRCASE 225	424	190	160	68	118	25	2.5	0.2	0"	WALL	1/10	120	1	STERLING W-1070-04	1, 2, 3
CUH-9	STAIRCASE 245	424	190	160	68	118	25	2.5	0.2	0"	SLOPED TOP	1/10	120	1	STERLING W-1070-04	1, 2

AIR SEPARATOR SCHEDULE

REMARKS:
1. OR ENGINEER APPROVED EQUIVALENT.

MARK	SYSTEM SERVED	SIZE (IN)	CAPACITY (GPM)	STRAINER (Y/N)	MAX PD (FT)	MINIMUM AIR REMOVAL (%)	DESIGN BASIS	REMARKS
AS-1	HEATING WATER	4"	210	N	2	99	SPIROTHERM VSR-400	1

DUCTLESS AIR CONDITIONER SCHEDULE

REMARKS:
1. OR ENGINEER APPROVED EQUIVALENT
2. DISCONNECT TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR

MARK	AREA SERVED	CFM	COOLING (MBH)	HEATING (MBH)	OPERATING WEIGHT	REFRIGERANT USED	ELECTRICAL DATA			DESIGN BASIS	REMARKS
							VOLTS	PHASE	MCA		
MS-1	MECHANICAL ROOM B25	514	21	17.1	29	R-410a	208	1	1	MITSUBISHI MSZ-FS18NA	1, 2
MS-2	MECHANICAL ROOM B29	839	33.2	13.5	45	R-410a	208	1	1	MITSUBISHI MSZ-FS36NA	1, 2

AIR COOLED CONDENSING UNIT SCHEDULE

REMARKS:
1. OR ENGINEER APPROVED EQUIVALENT.
2. DISCONNECT TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
3. PROVIDE MIRO UNIFLEX MINI SPLIT RAIL, OR ENGINEER PRE-APPROVED EQUIVALENT, SUPPORT FOR CONDESING UNIT.

MARK	SYSTEM SERVED	CAPACITY (MBH)	COND AMBIENT AIR TEMP (°F)	MINIMUM OPERATING AMBIENT TEMPERATURE	NUMBER OF COMPRESSORS	SEER	ELECTRICAL DATA			OPERATING WEIGHT	REFRIGERANT TYPE	DESIGN BASIS	REMARKS
							VOLTS	PHASE	MCA				
ACCU-1	MS-1	21	95	-4	1	21	208	1	18	120	R-410a	MITSUBISHI MUZ-FS18NA	1, 2, 3
ACCU-2	MS-2	33.2	95	-4	1	18	208	1	22	122	R-410a	MITSUBISHI MUZ-FS36NA	1, 2, 3

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MECHANICAL SCHEDULES

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KEYNOTES	
KEY	NOTE
10-ED01	REMOVE ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT.

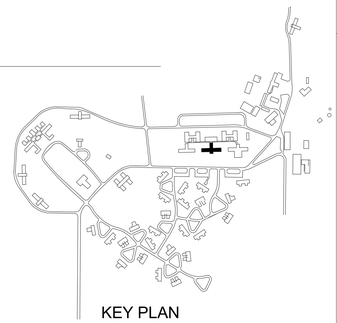
NOTE:

BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.

NORTH

A6 BASEMENT LEVEL - POWER DEMOLITION PLAN

1/8" = 1'-0" 0 12'



KEY PLAN

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(#9279.30) WRC Decentralization Phase 3

Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

DRAWN BY	PJD
APPROVED BY	KJB
ISSUED FOR	BIDDING
ISSUE DATE	2024-01-11
PROJECT NUMBER	2142203394
FIELD BOOK	

BASEMENT LEVEL POWER DEMOLITION PLAN

10-ED200

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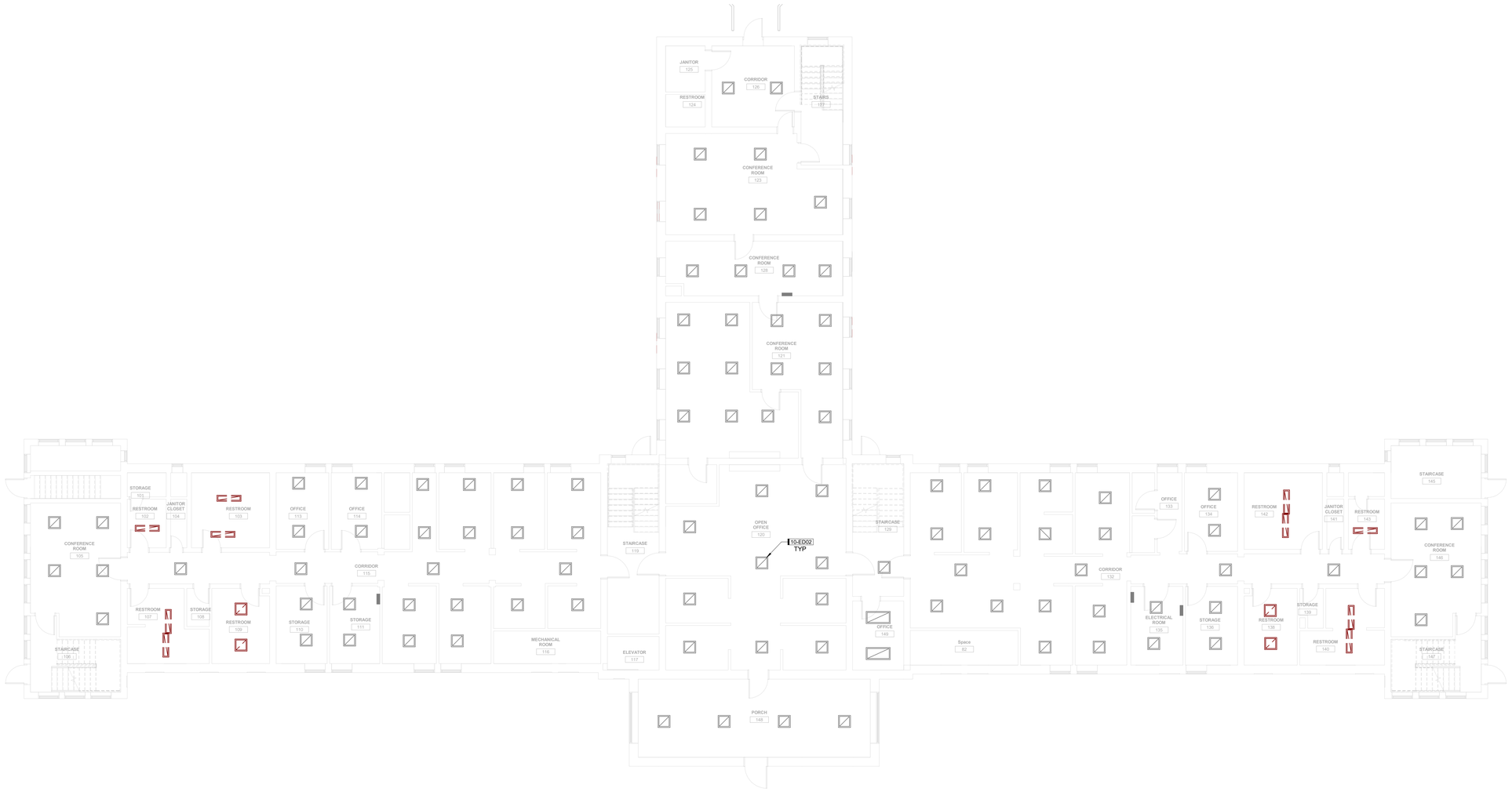
KEYNOTES	
KEY	NOTE
10-ED02	SUPPORT ALL EXISTING CEILING MOUNTED ELECTRICAL DEVICES IN THE CEILING INCLUDING LIGHT FIXTURES, EXIT LIGHTS, SPEAKERS, DIFFUSERS, AND FIRE ALARM DEVICES WHILE THE CEILING IS REMOVED TO INSTALL MECHANICAL PIPING. REINSTALL EXISTING CEILING MOUNTED ELECTRICAL DEVICES IN THE CEILING AFTER MECHANICAL PIPING IS COMPLETE.

NOTE:

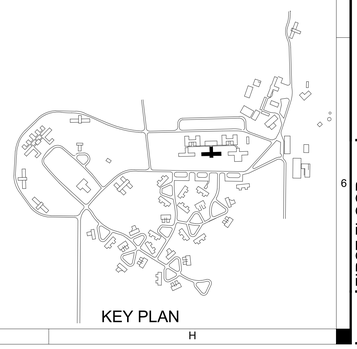
BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.



NORTH

A5 FIRST FLOOR - POWER DEMOLITION PLAN

1/8" = 1'-0" 0 12'



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Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

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ISSUED FOR	BIDDING
ISSUE DATE	2024-01-11
PROJECT NUMBER	2142203394
FIELD BOOK	

FIRST FLOOR POWER DEMOLITION PLAN

10-ED201

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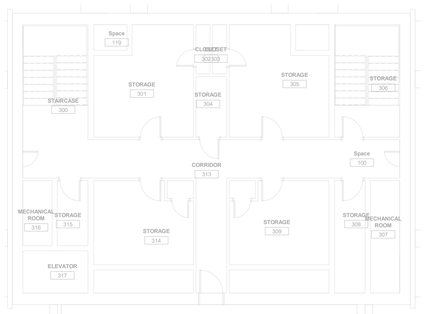
KEYNOTES	
KEY	NOTE
10-ED02	SUPPORT ALL EXISTING CEILING MOUNTED ELECTRICAL DEVICES IN THE CEILING INCLUDING LIGHT FIXTURES, EXIT LIGHTS, SPEAKERS, DIFFUSERS, AND FIRE ALARM DEVICES WHILE THE CEILING IS REMOVED TO INSTALL MECHANICAL PIPING. REINSTALL EXISTING CEILING MOUNTED ELECTRICAL DEVICES IN THE CEILING AFTER MECHANICAL PIPING IS COMPLETE.
10-ED03	REFER TO 10-A112 FOR SCOPE OF ALTERNATE BID 2. WORK IN CONFERENCE/LOBBY 226, STORAGE 228, STAIRS 230, STAIRS 218 TO BASE BID. ALL OTHER WORK TO BE ALTERNATE BID 2.

NOTE:

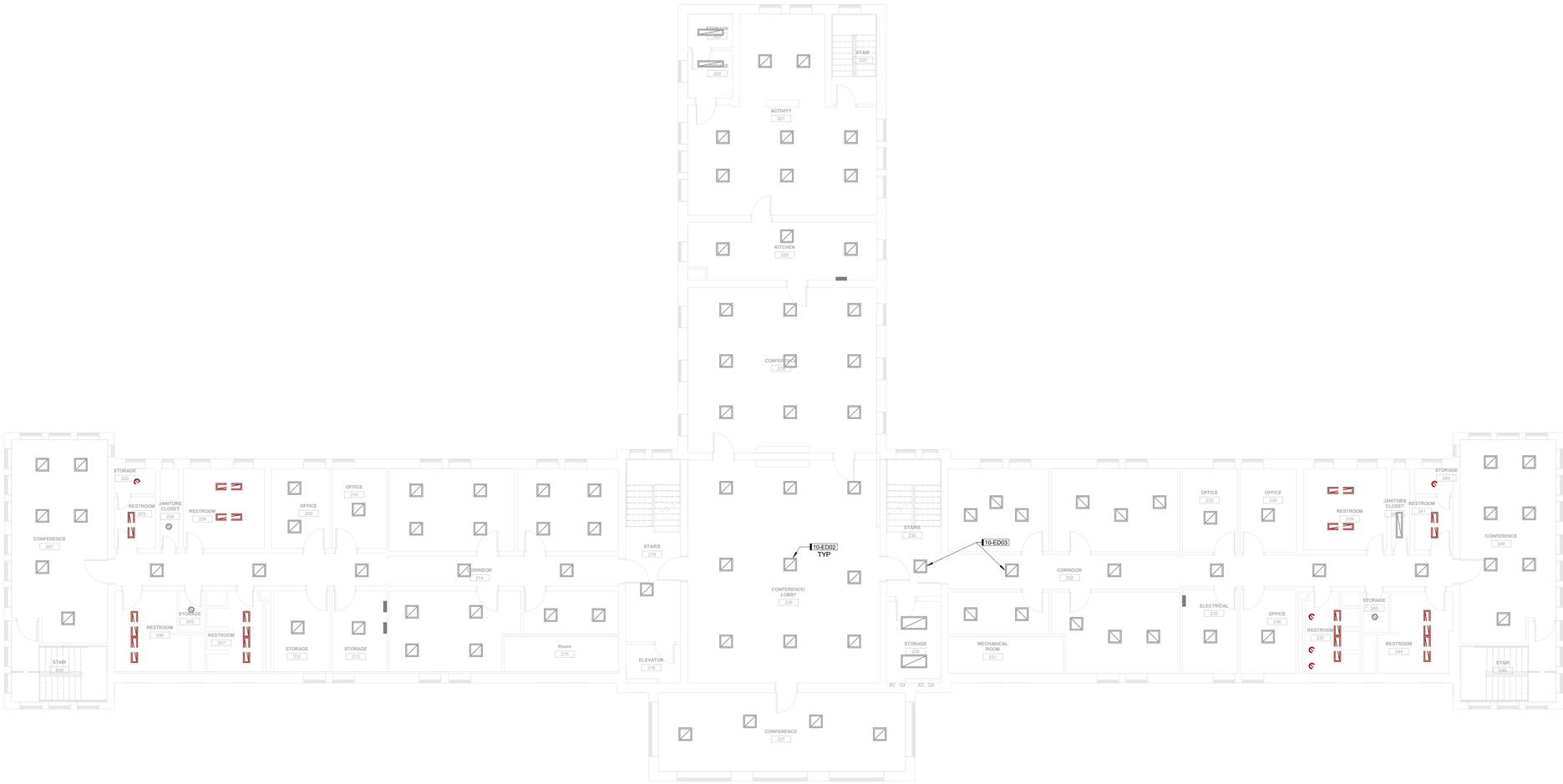
BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.



NORTH

C5 THIRD FLOOR - POWER DEMOLITION PLAN

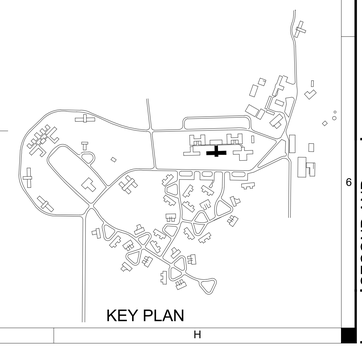
1/8" = 1'-0" 0 12'



NORTH

A1 SECOND FLOOR - POWER DEMOLITION PLAN

1/8" = 1'-0" 0 12'



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Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

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SECOND AND THIRD FLOOR POWER DEMOLITION PLAN

10-ED202

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NOTE:

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NORTH

A5 BASEMENT LEVEL - SYSTEMS DEMOLITION PLAN

1/8" = 1'-0" 0 12'

KEY PLAN

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(#9294.01) WRC Fire Alarm Phase 2

Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

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ISSUE DATE	2024-01-11
PROJECT NUMBER	2142203394
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BASEMENT LEVEL SYSTEMS DEMOLITION PLAN

10-ED300

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NOTE:

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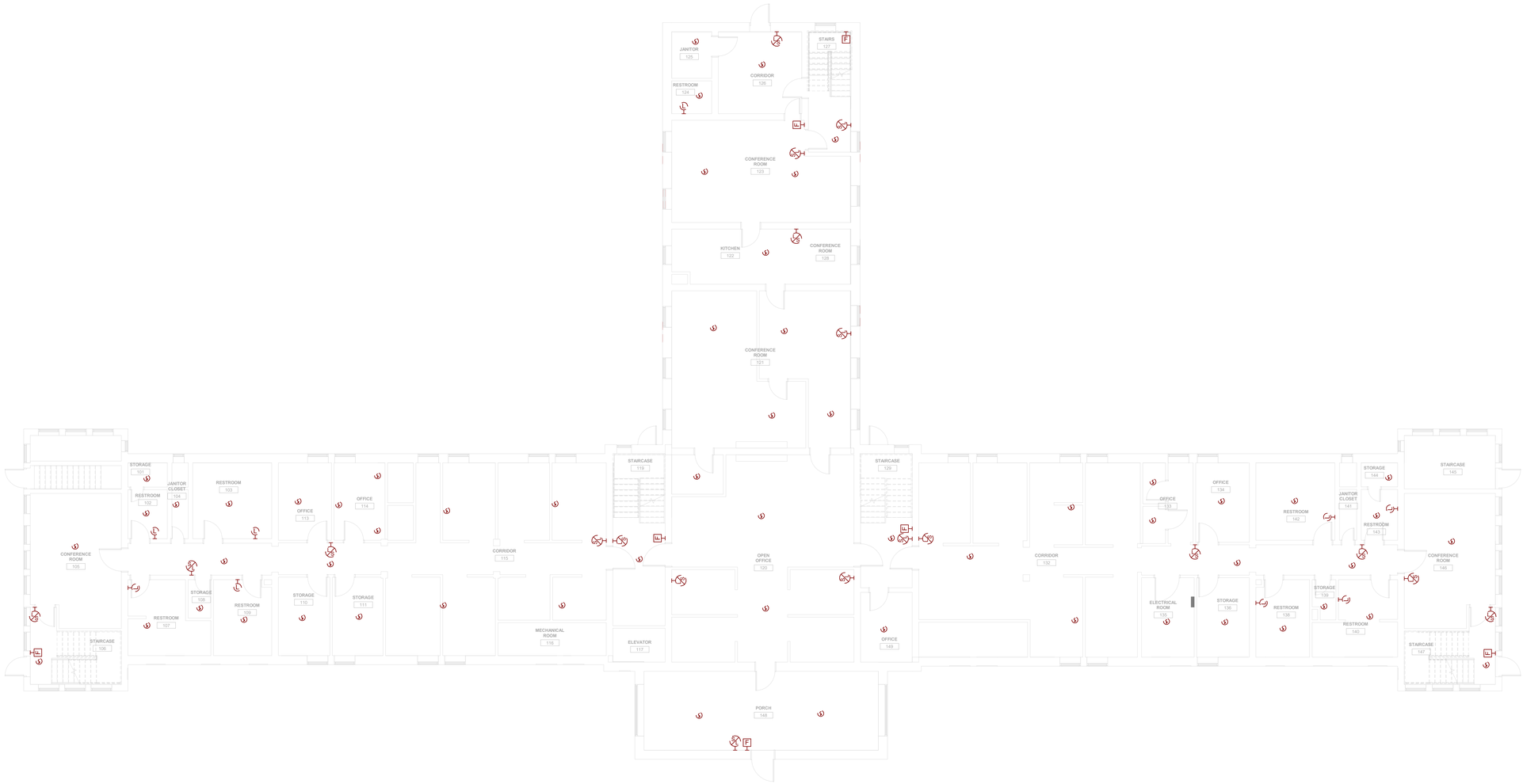

NORTH

A2 FIRST FLOOR - SYSTEMS DEMOLITION PLAN
1/8" = 1'-0" 0' 12'

KEY PLAN

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FIRST FLOOR SYSTEM DEMOLITION PLAN

10-ED301

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NOTE:

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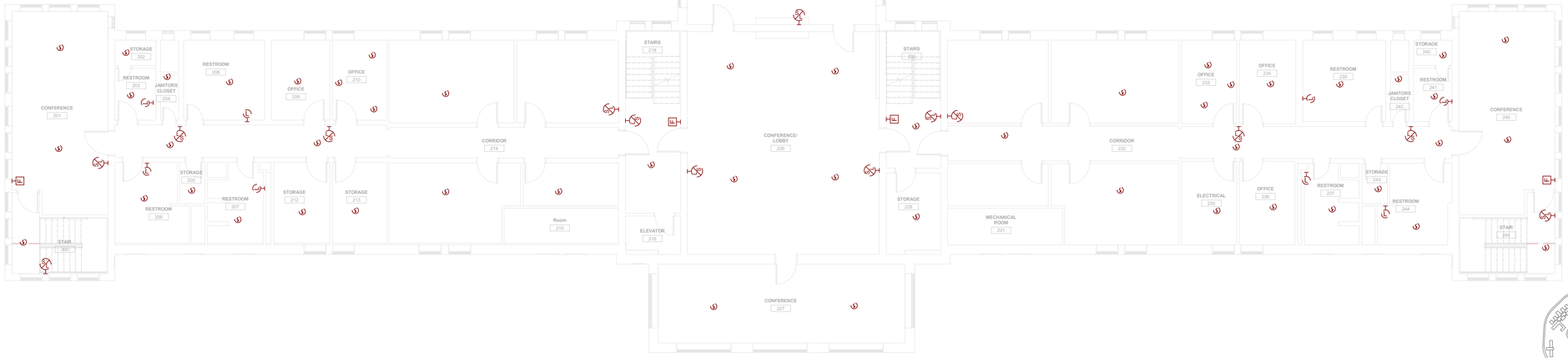
NORTH

C4 THIRD FLOOR - SYSTEMS DEMOLITION PLAN

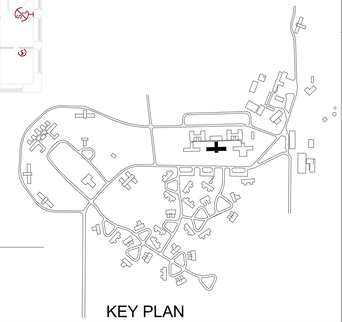
1/8" = 1'-0" 0 12'



NORTH

A1 SECOND FLOOR - SYSTEMS DEMOLITION PLAN

1/8" = 1'-0" 0 12'



KEY PLAN

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1251 334th St, Woodward, IA 50276

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SECOND AND THIRD FLOOR SYSTEM DEMOLITION PLAN

10-ED302

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ELECTRICAL AND MECHANICAL COORDINATION SCHEDULE

GENERAL NOTES:

MOCP SIZES SHOWN BELOW ARE FOR BIDDING PURPOSES ONLY. VERIFY MOCP WITH EQUIPMENT NAME PLATE DATA PRIOR TO ORDERING EQUIPMENT.
MINIMUM WIRE SIZE SHALL BE #12 AWG AND MINIMUM CONDUIT SIZE SHALL BE 3/4". INCLUDE A SEPARATE, GREEN, CONDUCTOR IN ALL FEEDER AND BRANCH CIRCUIT CONDUITS.

ABBREVIATIONS:

EC - ELECTRICAL CONTRACTOR
MC - MECHANICAL CONTRACTOR
MFR - MANUFACTURER
TCC - TEMPERATURE CONTROL CONTRACTOR
OWN - OWNER
NF - NON-FUSED DISCONNECT
PWE - PROVIDED WITH EQUIPMENT

REMARKS:

1. VFD FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
2. MINI SPLIT POWERED THROUGH CONDENSING UNIT.

Mark	VOLTAGE	PHASE	FLA	MCA	MOCP	HP	FUSE	WATTAGE	CONDUIT AND WIRE SIZE	CONTROL OR STARTER	CONTROLLER OR STARTER FURNISHED / INSTALLED	DISCONNECT TYPE	DISCONNECT FURNISHED / INSTALLED	MATERIAL LIST	REMARKS
ACCU-1	208 V	1	14.4 A	18 A	25 A	-	-	2995.2 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	EC	-	-
ACCU-2	208 V	1	17.6 A	22 A	25 A	-	-	3660.8 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	EC	-	-
B-1	120 V	1	12 A	15 A	20 A	-	-	1440 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	EC	-	-
B-2	120 V	1	12 A	15 A	20 A	-	-	1440 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	EC	-	-
B-3	120 V	1	12 A	15 A	20 A	-	-	1440 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	EC	-	-
BP-1	208 V	1	8.8 A	11 A	20 A	1	-	1830.4 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	EC	-	-
BP-2	208 V	1	8.8 A	11 A	20 A	1	-	1830.4 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	EC	-	-
BP-3	208 V	1	8.8 A	11 A	20 A	1	-	1830.4 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	EC	-	-
CUH-1	120 V	1	1.4 A	1.8 A	20 A	1/10	-	168 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-
CUH-2	120 V	1	1.4 A	1.8 A	20 A	1/10	-	168 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-
CUH-3	120 V	1	0.8 A	1 A	20 A	1/15	-	96 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-
CUH-4	120 V	1	0.8 A	1 A	20 A	1/15	-	96 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-
CUH-5	120 V	1	1.4 A	1.8 A	20 A	1/10	-	168 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-
CUH-6	120 V	1	1.4 A	1.8 A	20 A	1/10	-	168 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-
CUH-7	120 V	1	1.4 A	1.8 A	20 A	1/10	-	168 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-
CUH-8	120 V	1	1.4 A	1.8 A	20 A	1/10	-	168 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-
CUH-9	120 V	1	1.4 A	1.8 A	20 A	1/10	-	168 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-
FWP-1	208 V	1	11 A	13.8 A	20 A	1/3	-	2288 W	3#12, 1#12 GND, 3/4" C	-	MC	NF	EC	-	-
HWP-1	208 V	3	17.5 A	21.9 A	40 A	5	-	6304.66 W	3#10, 1#10 GND, 3/4" C	VFD	EC	VFD	EC	-	1
HWP-2	208 V	3	17.5 A	21.9 A	40 A	5	-	6304.66 W	3#10, 1#10 GND, 3/4" C	VFD	EC	VFD	EC	-	1
MS-1	208 V	1	0.8 A	1 A	25 A	-	-	166.4 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	EC	-	2
MS-2	208 V	1	0.8 A	1 A	25 A	-	-	166.4 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	EC	-	2
SB-1	120 V	1	13.8 A	17.3 A	25 A	1/2	-	1656 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	EC	-	-
SB-2	120 V	1	13.8 A	17.3 A	25 A	1/2	-	1656 W	2#12, 1#12 GND, 3/4" C	-	MC	NF	EC	-	-

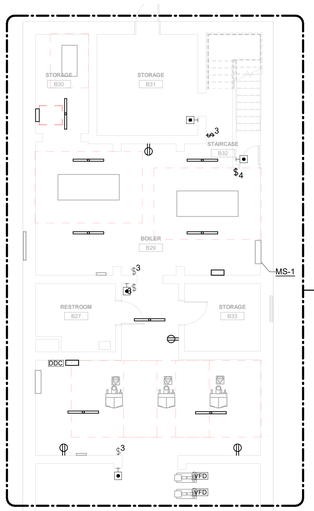
BRANCH PANEL NAME	VOLTAGE	PHASE	WIRE	BUS SIZE	MAIN OCP	AIC RATING
EBLC	208Y/120	3	4	150 AMPS	150 A	10,000 AMPS SYMMETRICAL
	CODE: L=LIGHTING, R=RECEPTACLES, M=MOTORS, K=KITCHEN					MOUNTING: SURFACE
ROOM: STORAGE B30						ENCLOSURE: NEMA 1
FED FROM:						FEED:

LOAD	CODE	POLE	BKR	CKT #	A KVA	B KVA	C KVA	CKT #	BKR	POLE	CODE	LOAD
SB-1 (ST)		1	25 A	1	2.1 / 2.1			2	25 A	1		SB-2 (ST)
HWB-1		1	20 A	3		1.4 / 1.4		4	20 A	1		HWB-2
HWB-3		1	20 A	5			1.4 / 2.6	6				
HWP-2		3	40 A	7	2.6 / 2.6			8	40 A	3		HWP-1
				9		2.6 / 2.6		10				
				11			2.6 / 0.4	12				
BP-1		3	20 A	13	0.4 / 0.4			14	20 A	3		BP-2
				15		0.4 / 0.4		16				
				17			0.4 / 1.4	18				
BP-3		3	20 A	19	0.4 / 1.4			20	20 A	2		FWP-1
				21		0.4 / 2.0		22				
				23			0.4 / 2.0	24	20 A	2		MS-1, ACCU-1
DDC, CO MONITOR		1	20 A	25	0.0 / 0.7			26	20 A	1		RECEPTACLES
SPARE	--	1	20 A	27		0.0 / 2.4		28	25 A	2		MS-2, ACCU-2
SPARE	--	1	20 A	29			0.0 / 2.4	30				
SPARE	--	1	20 A	31	0.0 / 0.0			32	20 A	1	--	SPARE
SPARE	--	1	20 A	33		0.0 / 0.0		34	20 A	1	--	SPARE
SPARE	--	1	20 A	35			0.0 / 0.0	36	20 A	1	--	SPARE
SPARE	--	1	20 A	37	0.0 / 0.0			38	20 A	1	--	SPARE
SPARE	--	1	20 A	39		0.0 / 0.0		40	20 A	1	--	SPARE
SPARE	--	1	20 A	41			0.0 / 0.0	42	20 A	1	--	SPARE
			TOTAL LOAD:		12672.5 VA	13630.5 VA	13620.5 VA					
			TOTAL AMPS:		105.6 A	114.8 A	114.7 A					

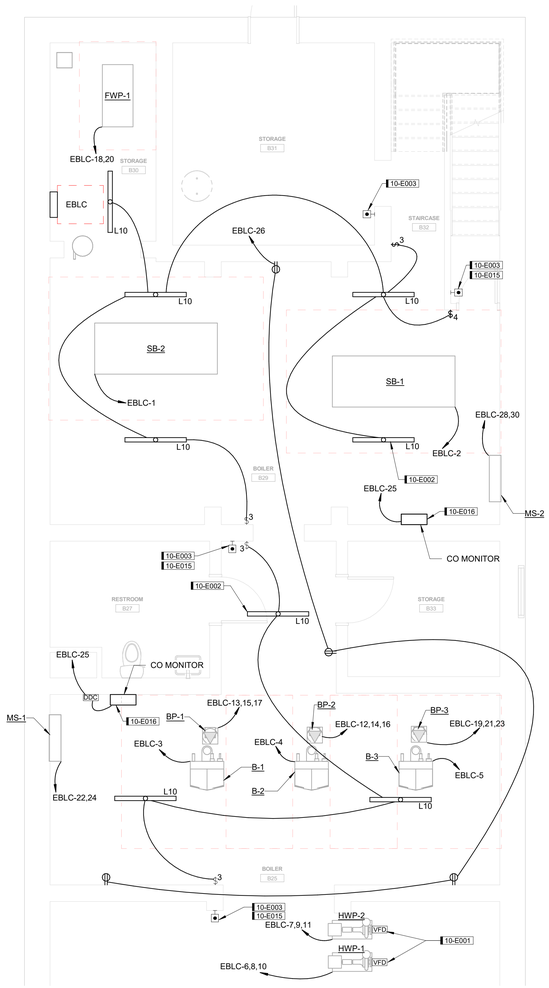
LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATED DEMAND (VA)
SPEC	39203.6 VA	100%	39203.6 VA

PANEL TOTALS	
TOTAL CONN. LOAD:	39923.6 VA
TOTAL EST. DEMAND:	39923.6 VA
TOTAL CONN. CURRENT:	110.8 A
TOTAL EST. DEMAND CURRENT:	110.8 A

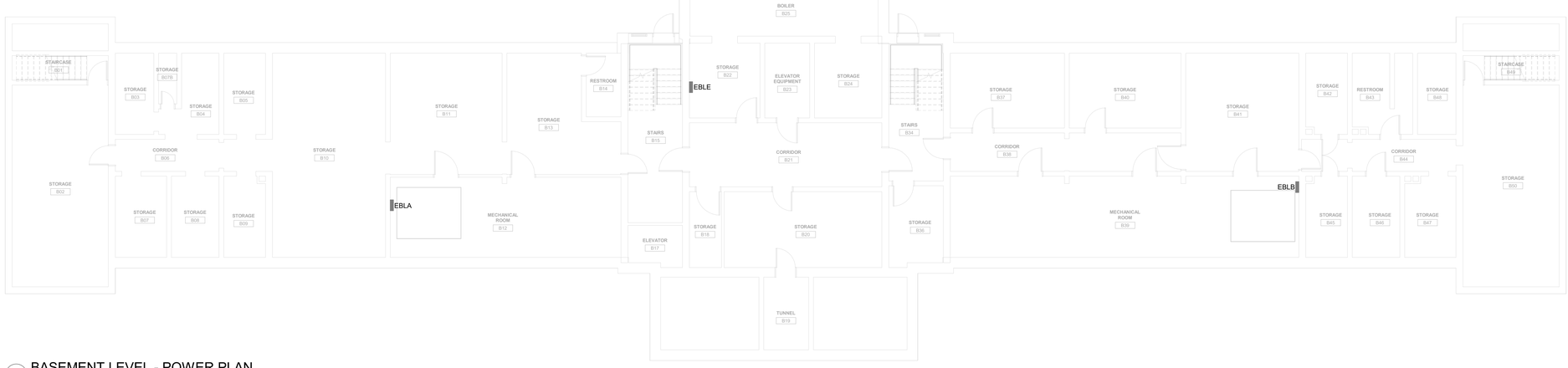
NOTES:
(ST) - SHUNT TRIP BREAKER



NORTH

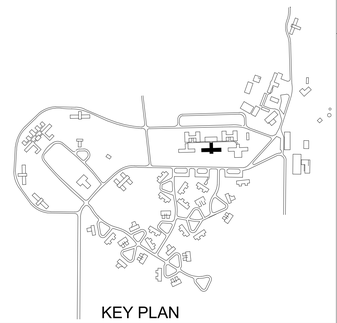


E3 BASEMENT LEVEL - POWER PLAN ENLARGED VIEW
1/4" = 1'-0"



NORTH

A1 BASEMENT LEVEL - POWER PLAN
1/8" = 1'-0"



KEY PLAN

KEYNOTES

KEY	NOTE
10-E001	FURNISH AND INSTALL NEW CONDUIT AND WIRE FROM VFD TO PUMP. INSTALL VFD FOR EACH PUMP.
10-E002	REMOVE EXISTING LIGHT FIXTURE IN THE ROOM. CIRCUIT NEW LIGHT FIXTURE TO EXISTING LIGHTING CIRCUIT THAT FED THE ROOM. CIRCUIT WITH (2) #12, 1#12 GND, 3/4"C.
10-E003	BOILER EMERGENCY POWER OFF (EPO) SWITCH. EPO SWITCH TO SHUNT TRIP BOILER BREAKER AND SEND SHUTDOWN SIGNAL TO THE BOILER.
10-E015	COORDINATE EXACT LOCATION OF BOILER EPO SWITCHES WITH INSPECTOR PRIOR TO ROUGH-IN.
10-E016	CO MONITOR FURNISHED BY MECHANICAL CONTRACTOR INSTALLED BY ELECTRICAL CONTRACTOR.

NOTE:

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1251 334th St, Woodward, IA 50276

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BASEMENT LEVEL POWER PLAN

10-E200

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KEYNOTES	
KEY	NOTE
10-E004	FURNISH AND INSTALL NEW 20A/1P BREAKER IN EXISTING PANEL. MATCH EXISTING BREAKER CHARACTERISTICS. CIRCUIT WITH (2) #12 & 1#12 GND IN 3/4" C.
10-E005	FURNISH AND INSTALL NEW 150A/3P BREAKER IN EXISTING GE PANEL BOARD. NEW BREAKER TO FEED PANEL EB1F. PANEL FEEDER TO BE 4#2/0, 1#6 GND, 2-1/2"C.
10-E013	CONNECT NEW LIGHT FIXTURES TO EXISTING LIGHTING CIRCUIT AND LIGHTING CONTROLS.

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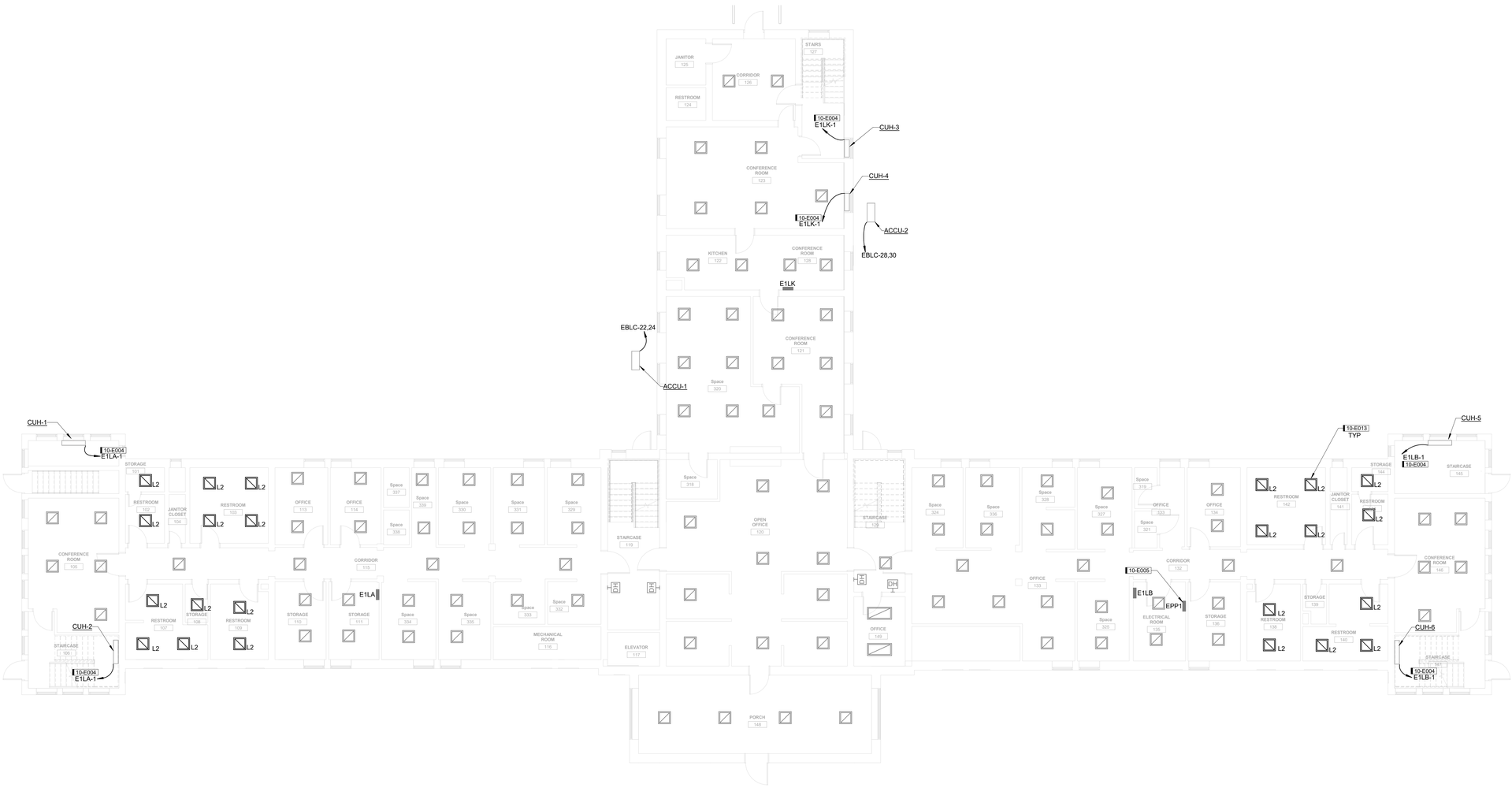

NORTH

A2 FIRST FLOOR - POWER PLAN

1/8" = 1'-0" 0 12'

KEY PLAN

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10-Elmcrest

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Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

DRAWN BY	PJD
APPROVED BY	KJB
ISSUED FOR	BIDDING
ISSUE DATE	2024-01-11
PROJECT NUMBER	2142203394
FIELD BOOK	

FIRST FLOOR POWER PLAN

10-E201

Autodesk Docs://LEAS - WRC Phase3 142203394-ABP-R22.rvt
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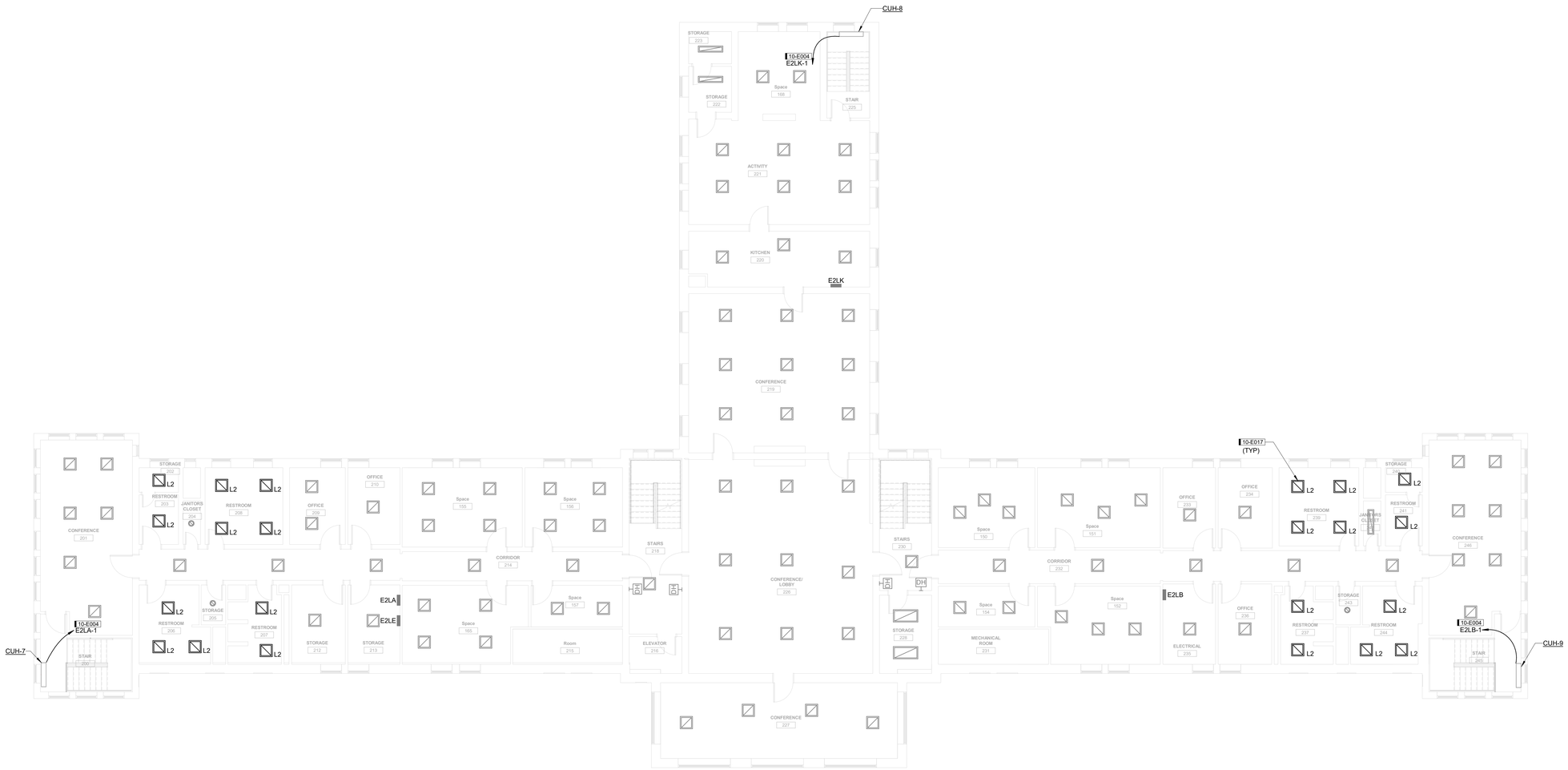
Autodesk Revit 2022

KEYNOTES	
KEY	NOTE
10-E004	FURNISH AND INSTALL NEW 20A/1P BREAKER IN EXISTING PANEL. MATCH EXISTING BREAKER CHARACTERISTICS. CIRCUIT WITH (2) #12 & 1#12 GND IN 3/4" C.
10-E017	CONNECT NEW LIGHT FIXTURES TO EXISTING LIGHTING CIRCUIT AND LIGHTING CONTROLS. WORK TO BE COMPLETED UNDER ALTERNATE BID 2.

NOTE:

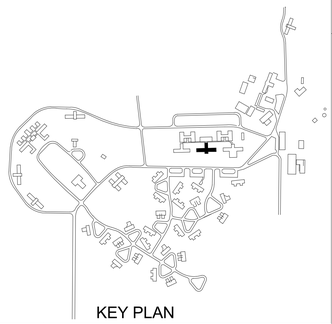
BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.



NORTH

A2 SECOND FLOOR - POWER PLAN

1/8" = 1'-0" 0 12'



SHIVEHATTERY ARCHITECTURE + ENGINEERING

4125 WESTOWN PKWY, SUITE 100
WEST DES MOINES, IA 50266
515.223.8184 | SHIVEHATTERY.COM

10-Elmcrest

(#9279.30) WRC Decentralization Phase 3

Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

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ISSUED FOR	BIDDING
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PROJECT NUMBER	2142203394
FIELD BOOK	

SECOND FLOOR POWER PLAN

10-E202

Autodesk Docs://A DAS - WRC Projects/21422033944EP-H22.rvt
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KEYNOTES	
KEY	NOTE
10-E006	ELEVATOR RECALL RELAY.
10-E007	AHU SUPPLY OR RETURN.
10-E008	AHU SHUTDOWN RELAY.
10-E009	ALL FIRE ALARM CABLING ON THIS FLOOR TO BE INSTALLED IN CONDUIT.
10-E010	FIRE PROTECTION RELAY.
10-E011	DOOR HOLDER RELAY.
10-E018	FIRE ALARM CONTROL PANEL IS LOCATED IN FOOD SERVICE.

NOTE:

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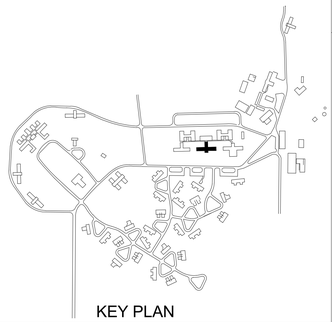
NORTH

A2 BASEMENT LEVEL - SYSTEMS PLAN

1/8" = 1'-0" 0 12'



KEY PLAN

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(#9294.01) WRC Fire Alarm Phase 2

Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

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BASEMENT LEVEL SYSTEMS PLAN

10-E300

Autodesk Docs://A DAS - WRC Project/2142203394-ABE/Project.rvt
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KEYNOTES	
KEY	NOTE
10-E014	EXTERIOR STROBE RELAY.

NOTE:

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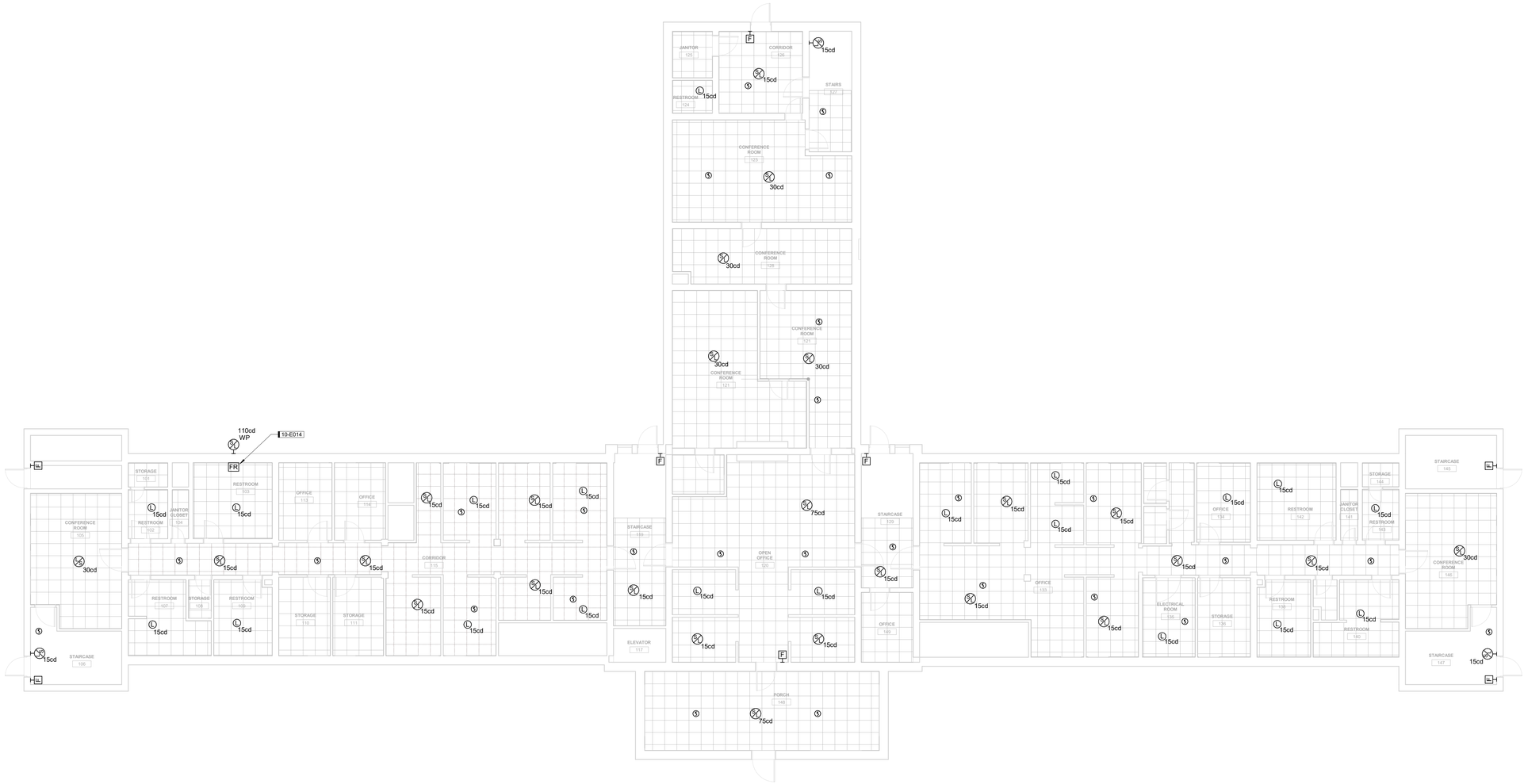

NORTH

A2 FIRST FLOOR - SYSTEMS PLAN
1/8" = 1'-0" 0 12'

KEY PLAN

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ARCHITECTURE + ENGINEERING
4125 WESTOWN PKWY, SUITE 100
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10-Elmcrest

(#9294.01) WRC Fire Alarm Phase 2

Iowa Department of Administrative Services
1251 334th St. Woodward, IA 50276

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FIELD BOOK	

FIRST FLOOR SYSTEMS PLAN

10-E301

Autodesk Docs://(IA Dist) - WRC Projects/142203394-M&P-H22.rvt
10/26/2023 7:31:19 AM
Autodesk Revit 2022

KEYNOTES	
KEY	NOTE
10-E012	TOP OF ELEVATOR SHAFT.

NOTE:

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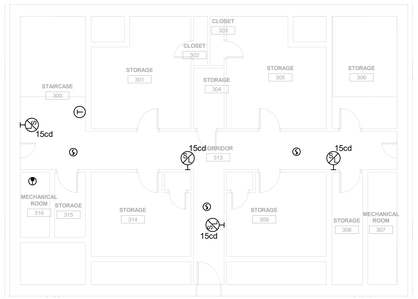
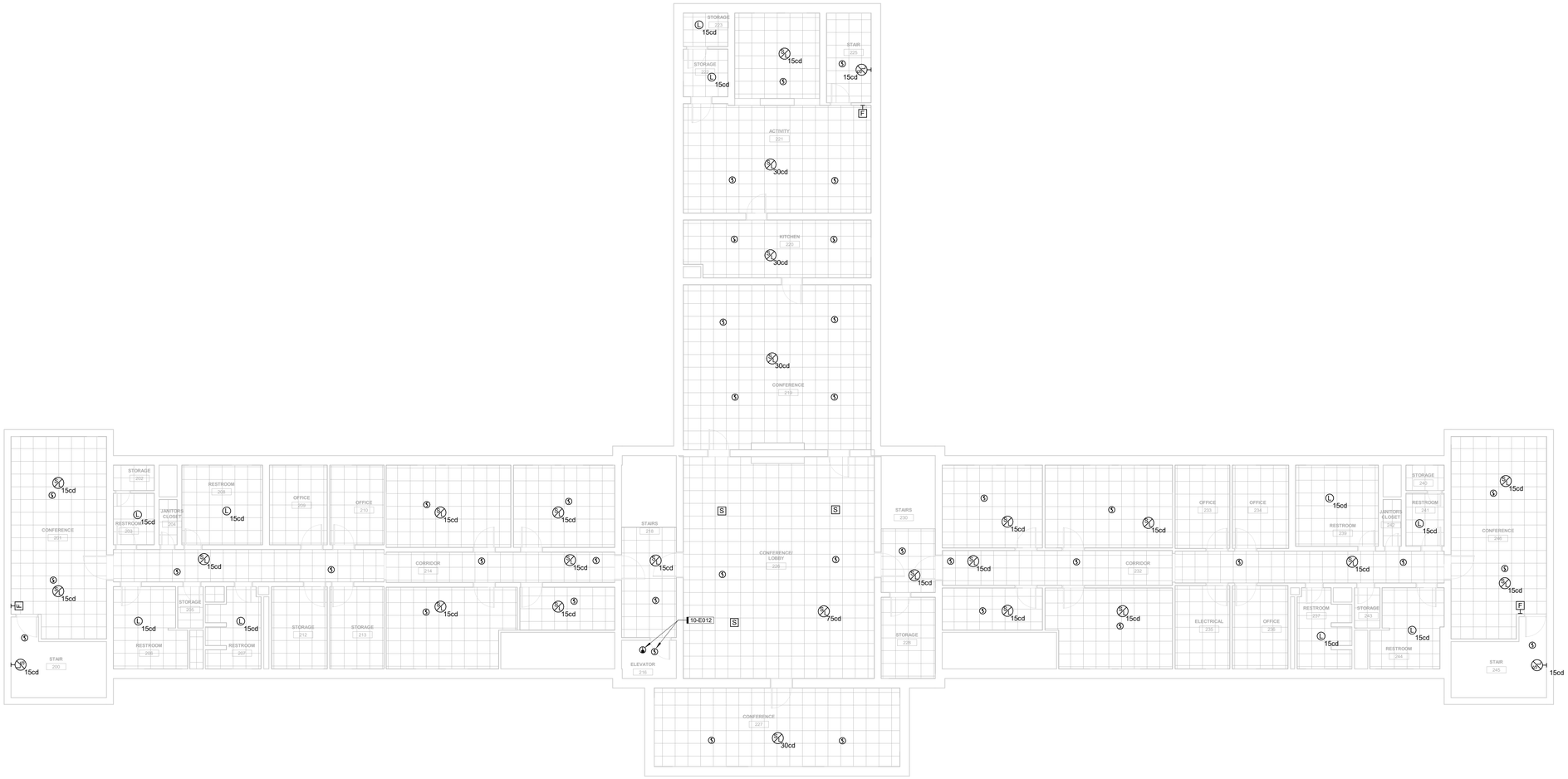


NORTH

C5 THIRD FLOOR - SYSTEMS PLAN

1/8" = 1'-0" 0 12'



NORTH

A1 SECOND FLOOR - SYSTEMS PLAN

1/8" = 1'-0" 0 12'

KEY PLAN

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10-Elmcrest

(#9294.01) WRC Fire Alarm Phase 2

Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

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SECOND AND THIRD FLOOR SYSTEMS PLAN

10-E302

Autodesk Docs://A DAS - WRC Project/21422033M-ABEP-M227.rvt
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KEYNOTES	
KEY	NOTE
11-P01	INSTALL CLEANOUT TO END OF VERTICAL SANITARY LINE.
11-P02	APPROXIMATE SAW CUT AND PATCH FLOOR FOR INSTALLATION OF NEW SANITARY PIPING. FIELD VERIFY PIPE ROUTING AND CONDITIONS PRIOR TO CUTTING.
11-P03	ROUTE NEW DOMESTIC COLD WATER TO HEATING WATER SYSTEM. SEE SHEET 11-M500 FOR DETAIL.
11-P04	INSTALL NEW FLOOR SINK AND CONNECT TO EXISTING SANITARY PIPING.
11-P05	REFER TO ELMCREST PLUMBING SHEETS FOR SANITARY VENT DETAILS.
11-PD1	DEMO EXISTING FLOOR DRAIN. REUSE SANITARY PIPING FOR NEW FLOOR SINK.

PLUMBING FIXTURE SCHEDULE:

FS1 (FLOOR SINK):

FIXTURE: 4" ZURN Z-1910 SERIES (OR ENGINEER APPROVED EQUIVALENT), 8"x8"x6" DEEP, CAST IRON, 3/4" SQUARE NICKEL BRONZE MEDIUM DUTY GRATE, WHITE ACID RESISTING PORCELAIN ENAMEL INTERIOR & DOME STRAINER, MEMBRANE CLAMP, BOTTOM CAULK OUTLET. SET TOP FLUSH WITH FINISHED FLOOR. PROVIDE DEEP SEAL P-TRAP.

NOTE:

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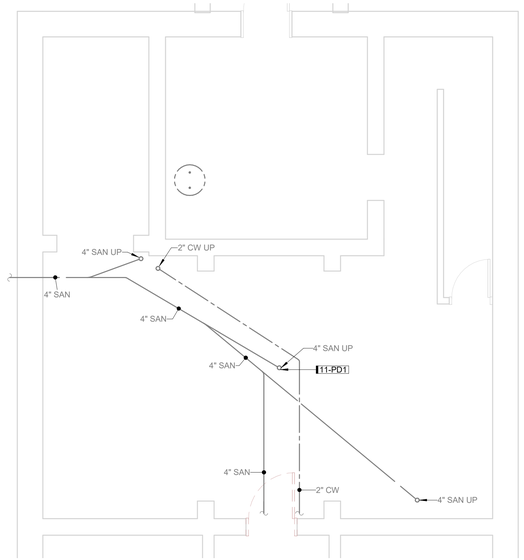
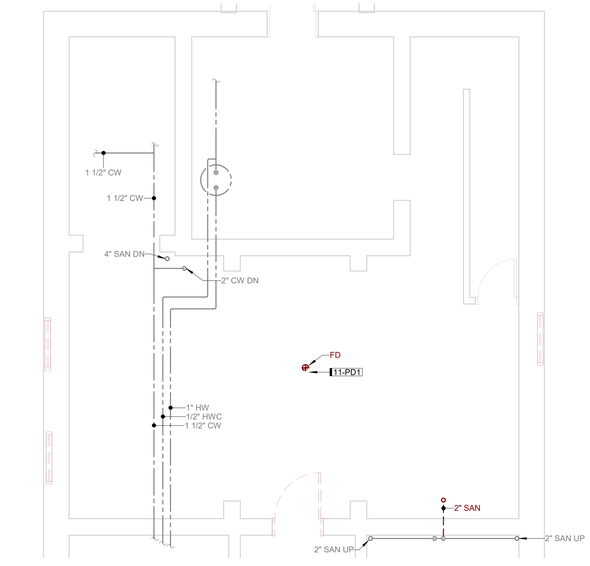


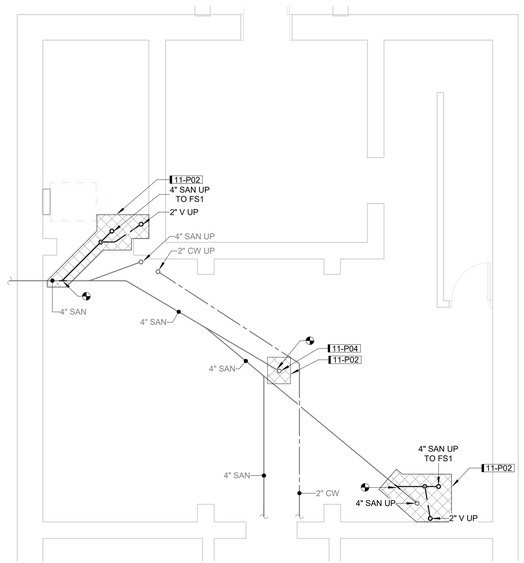
NORTH

B4 UNDERFLOOR PLUMBING DEMOLITION PLAN
1/4" = 1'-0" 0 6'



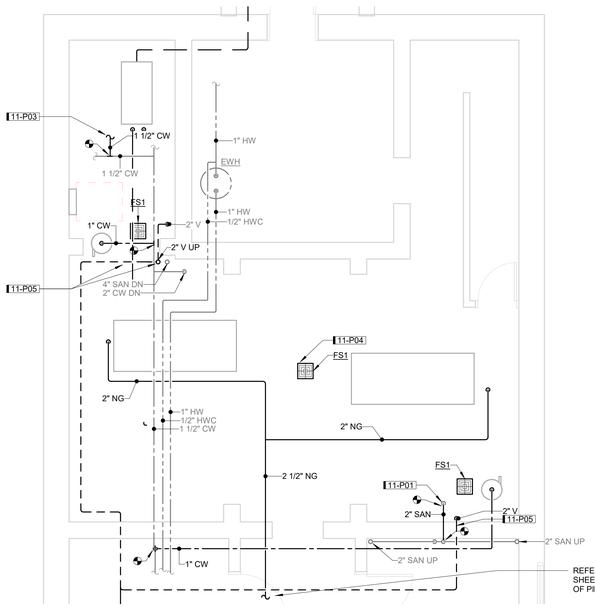
NORTH

D4 BASEMENT PLUMBING DEMOLITION PLAN
1/4" = 1'-0" 0 6'



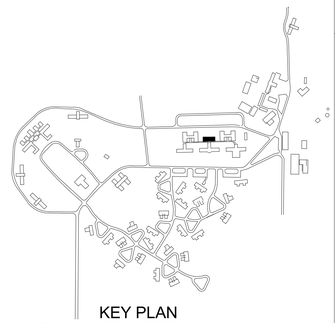
NORTH

B6 UNDERFLOOR PLUMBING PLAN
1/4" = 1'-0" 0 6'



NORTH

D6 BASEMENT PLUMBING PLAN
1/4" = 1'-0" 0 6'



KEY PLAN

SHIVEHATTERY
ARCHITECTURE + ENGINEERING
4125 WESTOWN PKWY, SUITE 100
WEST DES MOINES, IA 50266
515.223.9164 | SHIVEHATTERY.COM

11-Food Service

(#9279.30) WRC Decentralization Phase 3

Iowa Department of Administrative Services
1251 334th St. Woodward, IA 50276

DRAWN BY	CAS
APPROVED BY	TLS
ISSUED FOR	BIDDING
ISSUE DATE	2024-01-11
PROJECT NUMBER	2142203394
FIELD BOOK	

BASEMENT PLUMBING PLANS

11-P100

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KEYNOTES	
KEY	NOTE
11-MD1	DEMO STEAM SUPPLY PIPING IN TUNNEL. VALVE AND CAP EXISTING STEAM MAIN AT THE TEE.
11-MD2	DEMO STEAM CONDENSATE PIPING. EXISTING STEAM SUPPLY PIPING TO REMAIN.
11-MD3	DISCONNECT STEAM CONDENSATE PIPING FROM EXISTING AHU. NEW STEAM CONDENSATE PIPING WILL RECONNECT TO THE COIL IN THE SAME LOCATION.

NOTE:

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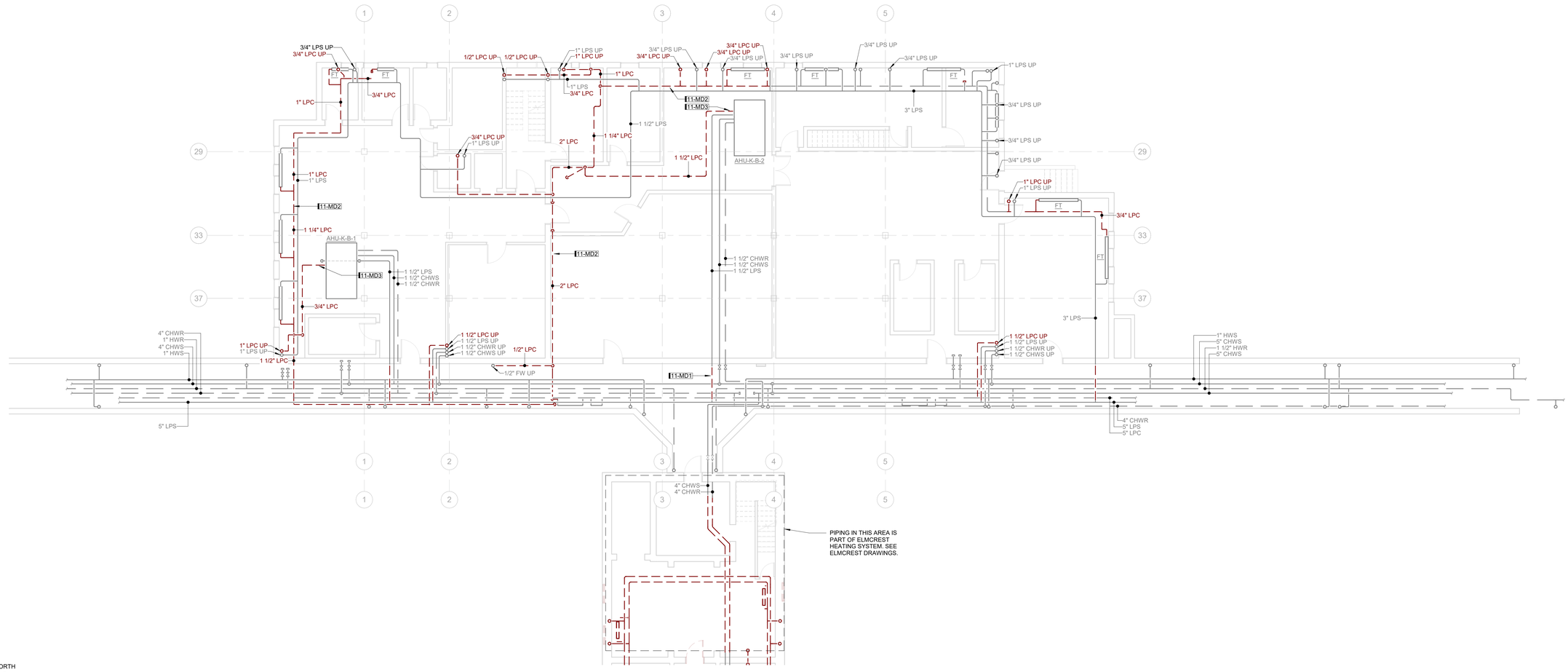
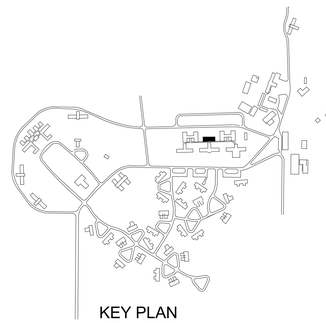


NORTH

1 BASEMENT MECHANICAL PIPING DEMOLITION PLAN

1/8" = 1'-0" 0 12'



KEY PLAN

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1251 334th St. Woodward, IA 50276

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BASEMENT MECHANICAL PIPING DEMOLITION PLAN

11-MD100

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Autodesk Revit 2022

KEYNOTES	
KEY	NOTE
11-MD2	DEMO STEAM CONDENSATE PIPING. EXISTING STEAM SUPPLY PIPING TO REMAIN.
11-MD3	DISCONNECT STEAM CONDENSATE PIPING FROM EXISTING AHU. NEW STEAM CONDENSATE PIPING WILL RECONNECT TO THE COIL IN THE SAME LOCATION.
11-MD4	DISCONNECT STEAM CONDENSATE PIPING FROM EXISTING CUHG. NEW STEAM CONDENSATE PIPING WILL RECONNECT TO THE COIL IN THE SAME LOCATION.

NOTE:

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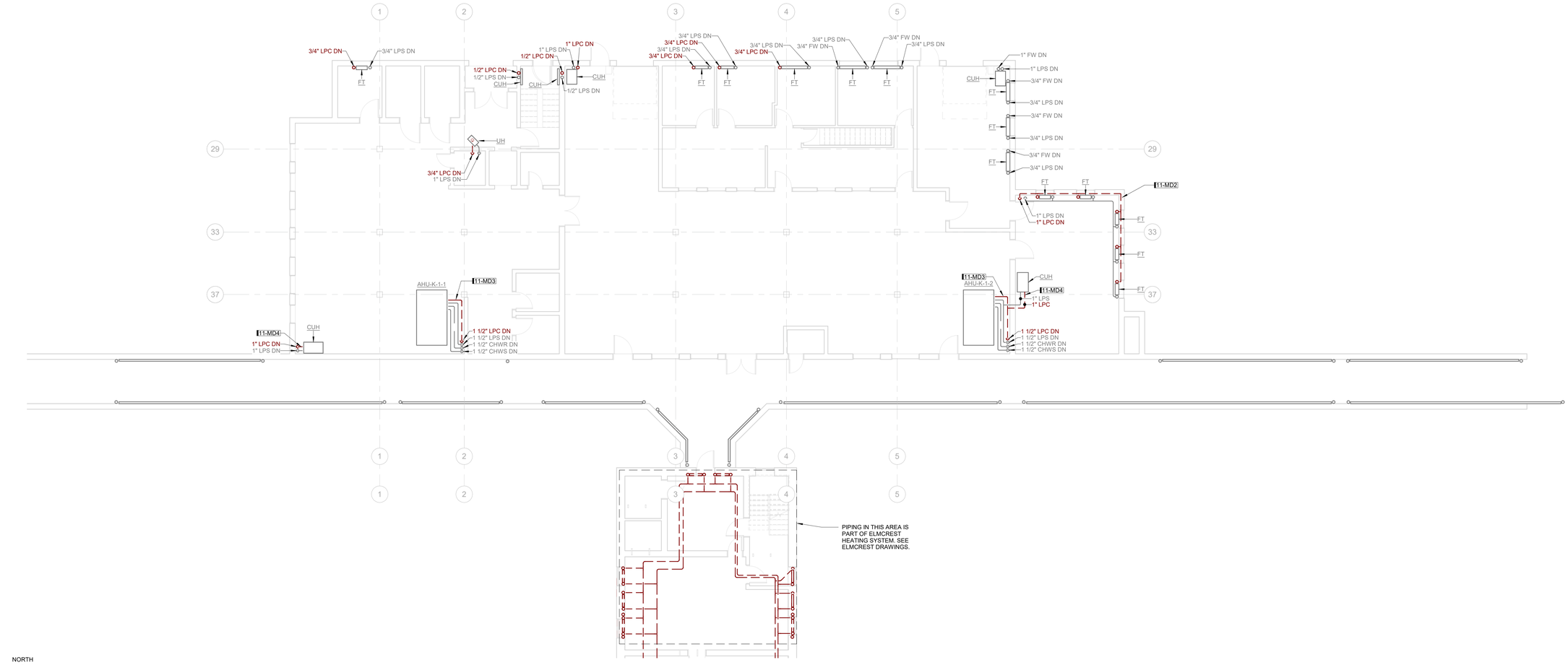
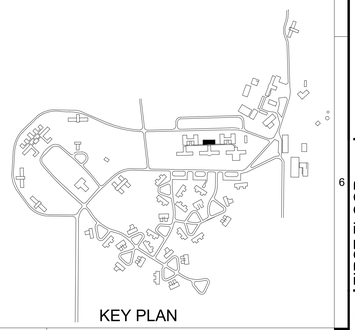


NORTH

1B FIRST FLOOR MECHANICAL PIPING DEMOLITION PLAN

1/8" = 1'-0" 0' 12'



KEY PLAN

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FIRST FLOOR MECHANICAL PIPING DEMOLITION PLAN

11-MD101

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KEYNOTES	
KEY	NOTE
11-M01	REPLACE STEAM TRAP ASSOCIATED WITH EXISTING PIECE OF EQUIPMENT.
11-M03	CONNECT 1.5" BLOWDOWN PIPING TO BOILER. SEE BOILER DETAIL FOR PIPING CONNECTIONS.
11-M04	ROUTE 4" DRAIN PIPING TO FLOOR SINK, REFER TO PLUMBING PLANS FOR MORE DETAIL.
11-M05	POT FEEDER PROVIDED BY WATER TREATMENT PROVIDER AND INSTALLED BY MECHANICAL CONTRACTOR. REFER TO POT FEEDER DETAIL FOR CONNECTIONS AND PIPING.
11-M06	PROVIDE CARBON MONOXIDE MONITOR & ALARM. UL 2034 COMPLIANT HARD WIRED CARBON MONOXIDE DETECTOR WITH BATTERY BACKUP. FIREX HARDWIRED CARBON MONOXIDE DETECTOR WITH 9-VOLT BATTERY BACKUP OR ENGINEER PRE-APPROVED EQUIVALENT.
11-M07	FLUE AND COMBUSTION AIR VENT PIPING TO BE ROUTED THROUGH EXISTING WINDOW. SEE ARCH SHEETS FOR DETAIL ON FILLING WINDOW.

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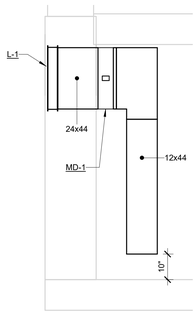
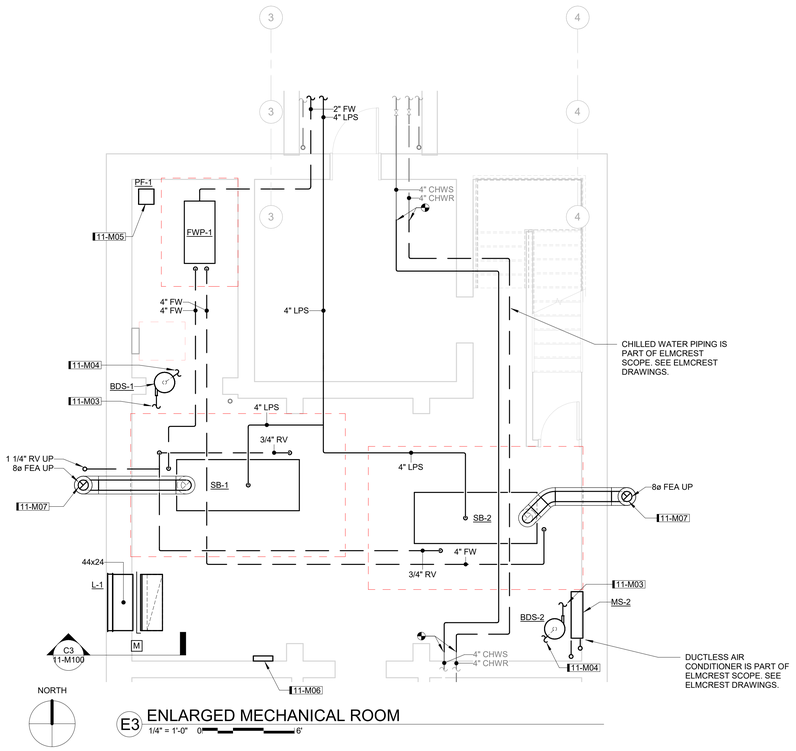
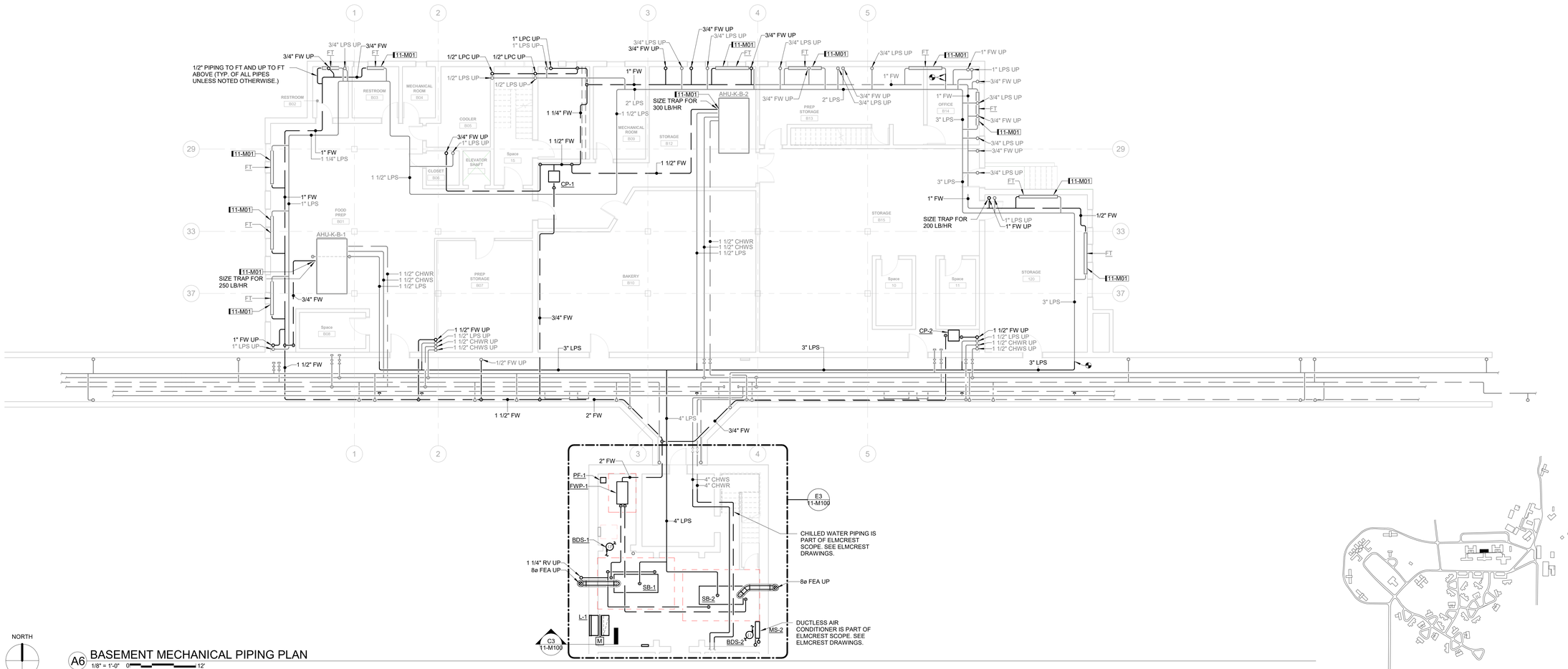


C3 COMBUSTION AIR DUCT SECTION
1/2" = 1'-0"



E3 ENLARGED MECHANICAL ROOM
1/4" = 1'-0"



A6 BASEMENT MECHANICAL PIPING PLAN
1/8" = 1'-0"

NORTH

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BASEMENT MECHANICAL PIPING PLAN

11-M100

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KEYNOTES	
KEY	NOTE
11-M01	REPLACE STEAM TRAP ASSOCIATED WITH EXISTING PIECE OF EQUIPMENT.

NOTE:

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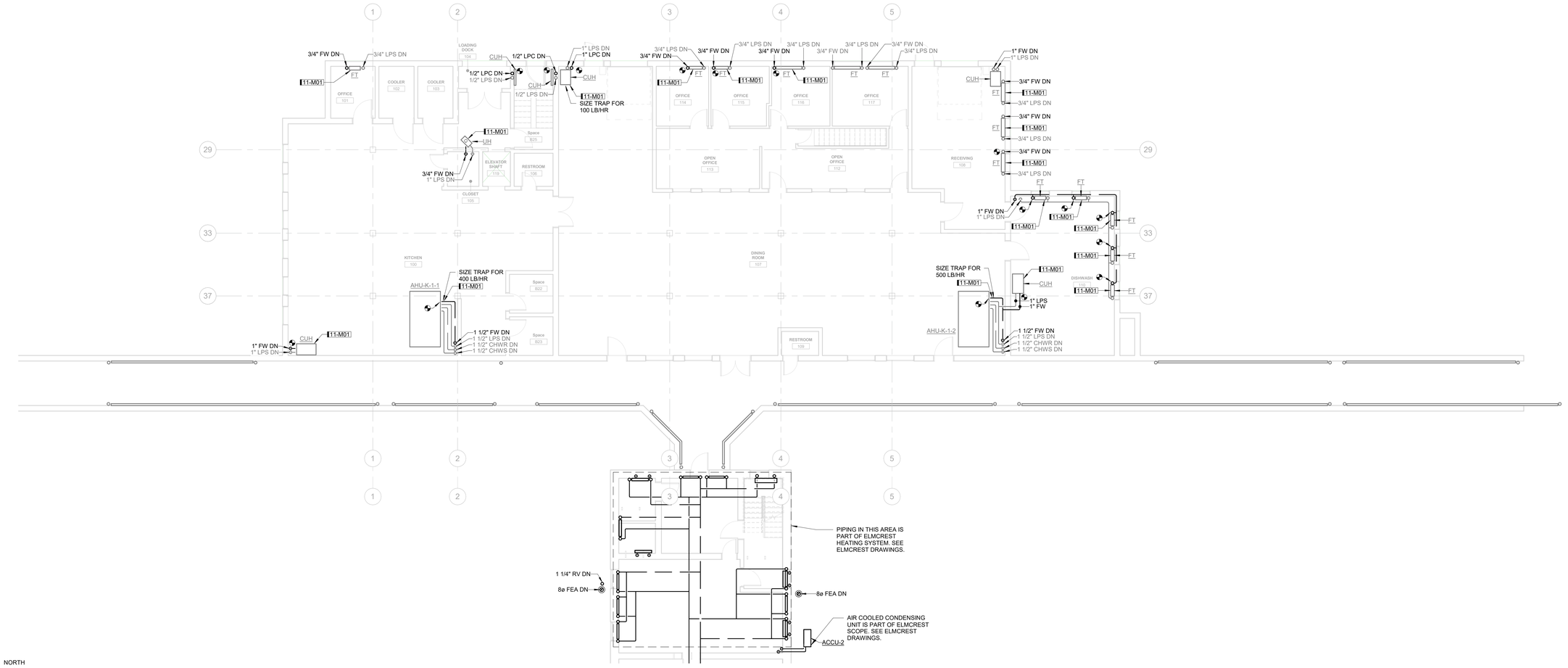
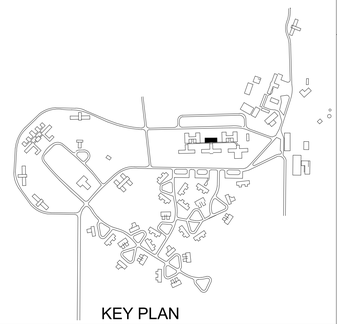


NORTH

A5 FIRST FLOOR MECHANICAL PIPING PLAN

1/8" = 1'-0" 0 1' 2'



KEY PLAN

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FIELD BOOK	

FIRST FLOOR MECHANICAL PIPING PLAN

11-M101

Autodesk Docs://9.0 DAS - WRC Phase3 Y2025/2025-DAS_WRC_Phase3_Y25_central_11-Food Service.rvt
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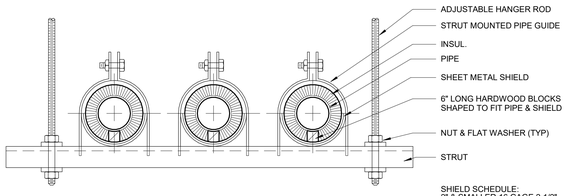
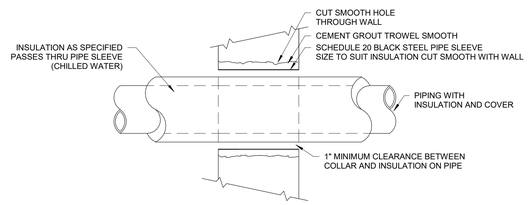
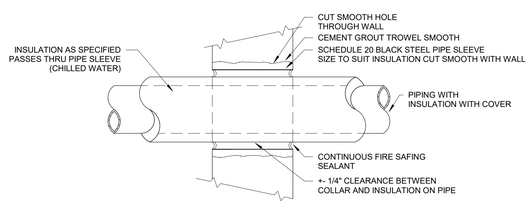


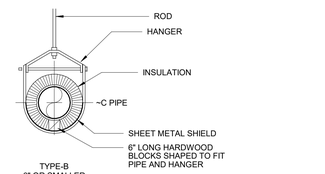
C4 TRAPEZE TYPE HANGER DETAIL
NOT TO SCALE



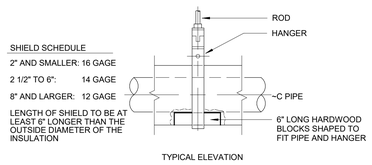
E4 INTERIOR WALL PIPE PENETRATION DETAIL
NOT TO SCALE



G4 INTERIOR FIRE RATED WALL PIPE PENETRATION DETAIL
NOT TO SCALE

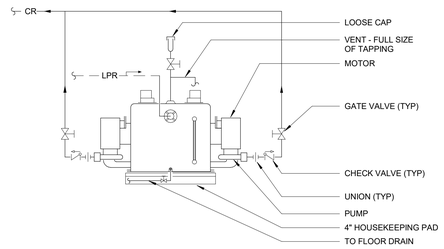


TYPE-B
6" OR SMALLER

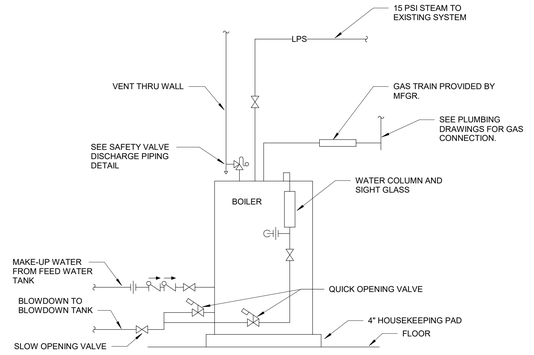


TYPICAL ELEVATION

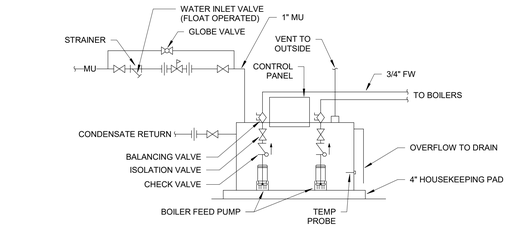
A5 INSULATED PIPE HANGER DETAIL
NOT TO SCALE



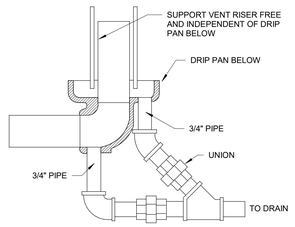
C5 CONDENSATE PUMP PIPING DETAIL
NOT TO SCALE



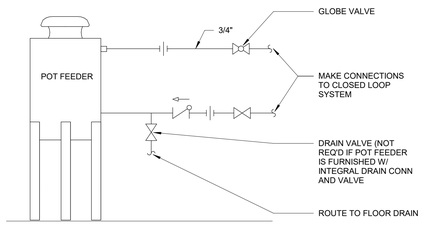
E5 GAS-FIRED BOILER PIPING DETAIL
NOT TO SCALE



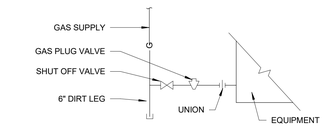
G5 FEEDWATER PUMP PIPING DIAGRAM
NOT TO SCALE



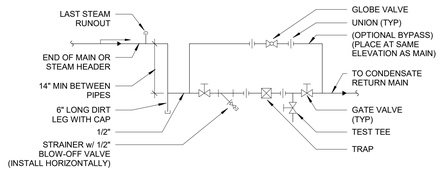
A6 SAFETY VALVE DISCHARGE
NOT TO SCALE



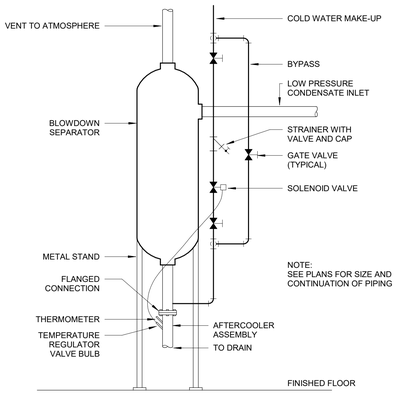
B6 POT FEEDER PIPING DETAIL
NOT TO SCALE



D6 GAS CONNECTION DETAIL
NOT TO SCALE



E6 END OF MAIN DRIP ASSEMBLY
NOT TO SCALE



G6 BLOWDOWN SEPARATOR DETAIL
NOT TO SCALE

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MECHANICAL DETAILS

11-M500

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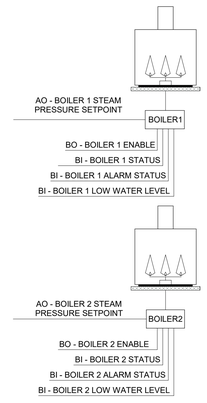

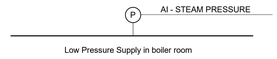

1. Hardwired Points:
   a. Monitoring: On/off status, common trouble alarm, low water level alarm.
   b. Control: On/off operation, steam pressure adjustment.
2. A communication interface with building management system shall enable building management system operator to remotely control and monitor the boiler from an operator workstation. Control features available, and monitoring points displayed, locally at boiler control panel shall be available through building management system.

The steam boiler system shall be enabled whenever outside air temperature is below 55°F (adj.)

Alarm when steam main pressure is 5 PSI below setpoint (adj.) for more than 30 minutes (adj.)

F3 CONTROLS SCHEMATIC - STEAM BOILERS
NOT TO SCALE

POINTS MATRIX - BOILER

POINT NAME	HARDWARE POINTS				SOFTWARE POINTS						SHOW ON GRAPHIC
	AI	AO	BI	BO	AV	BV	LOOP	SCHED	TREND	ALARM	
BOILER 1 STEAM PRESSURE		x							x		x
BOILER 2 STEAM PRESSURE		x							x		x
BOILER 1 ALARM STATUS			x						x	x	x
BOILER 1 LOW WATER LEVEL			x						x	x	x
BOILER 1 STATUS			x						x		x
BOILER 2 ALARM STATUS			x						x	x	x
BOILER 2 LOW WATER LEVEL			x						x	x	x
BOILER 2 STATUS			x						x		x
BOILER 1 ENABLE				x							x
BOILER 2 ENABLE				x							x
STEAM PRESSURE	x								x	x	x
ALLOW FOR UP TO 10 ADDITIONAL SOFTWARE POINTS VIA BACNET					x				x		

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CONTROLS

11-M501

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CONDENSATE PUMP SCHEDULE

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT.

MARK	SYSTEM SERVED	TYPE	GPM	PUMP DISCH PRESSURE (PSI)	MOTOR DATA		ELECTRICAL DATA		DESIGN BASIS	REMARKS
					HP	RPM	VOLTS	PHASE		
CP-1	CONDENSATE RETURN	CENTRIFUGAL	2	14	1/3	3500	120	1	SHIPCO 11 DS	1
CP-2	CONDENSATE RETURN	CENTRIFUGAL	3	15	1/3	3500	120	1	SHIPCO 21 DS	1

LOUVER SCHEDULE

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT.

MARK	AREA SERVED	AIR FLOW (CFM)	DIMENSIONS			MAX FREE AREA (%)	FREE AREA VELOCITY (FPM)	PRESSURE DROP (WG)	DESIGN BASIS	REMARKS
			H	W	D					
L-1	BOILER ROOM COMBUSTION AIR	1210	24"	44"	4"	48.6	340	0.02	GREENHECK ESD-435	1

FEEDWATER PUMP SCHEDULE

REMARKS:
1. PROVIDE WITH SOLENOID MAKEUP VALVE WITH WYE STRAINER.
2. PROVIDE AN INLET BASKET STRAINER ON THE RETURN PIPING.
3. FEEDWATER PUMP ASSEMBLY SHALL HAVE SINGLE POINT POWER CONNECTION WITH CONTROL PANEL.
5. OR ENGINEER PRE-APPROVED EQUIVALENT.

MARK	TANK VOLUME (GAL)	GPM (PER PUMP)	HEAD (PSI)	NUMBER OF PUMPS	MOTOR DATA (EACH)		ELECTRICAL DATA		DESIGN BASIS	REMARKS
					HP	RPM	VOLTS	PHASE		
FWP-1	117	6	20	2	1/3	3500	208	1	SHIPCO CS-B	1, 2, 3, 4, 5

MOTOR OPERATED DAMPER SCHEDULE

REMARKS:
1. PROVIDE WITH DAMPER END SWITCH. MOTORIZED DAMPER SHALL BE INTERLOCKED WITH BOILER OPERATION. BOILERS SHALL NOT OPERATE UNTIL DAMPER SWITCH IS PROVED.
2. CONTROLS CONTRACTOR TO PROVIDE AND INSTALL 120V TO 24V TRANSFORMER. COORDINATE 120V POWER WITH ELECTRICAL CONTRACTOR.

MARK	EQUIPMENT SERVED	CFM	APD (IN)	DIMENSIONS		INSULATED BLADE	BLADE ORIENTATION	ELECTRICAL DATA		POWER FAILURE POSITION	REMARKS
				H	W			ACTUATOR			
								BY	VOLTS		
MD-1	BOILER COMBUSTION AIR	1210	0.03	24"	44"	YES	HORIZONTAL	CONTROLS CONTRACTOR	24	OPEN	1, 2

BOILER SCHEDULE - STEAM

REMARKS:
1. MAX WIDTH OF 34" WITHOUT TRIM INSTALLED. BOILER SHALL FIT THROUGH EXISTING DOORWAYS AND STAIRWELLS TO BASEMENT.
2. OR ENGINEER PRE-APPROVED EQUIVALENT.
3. BOILER MANUFACTURER/SUPPLIER SHALL PROVIDE BLOWDOWN SEPARATOR WITH AFTERCOOLER. UNIT SHALL BE SIZED PER MANUFACTURERS RECOMMENDATIONS.

MARK	AREA SERVED	FUEL	INPUT (MBH)	GROSS OUTPUT (MBH)	EFFICIENCY	OPERATING PRESSURE (PSI)	MAX DIMENSIONS			ELECTRICAL DATA		HP	TURNDOWN RATIO	BOILER DESIGN BASIS	REMARKS
							MAX HEIGHT	MAX LENGTH	MAX WIDTH	VOLTS	PHASE				
SB-1	FOOD SERVICES	NATURAL GAS	1610	1340	83	15	5'-4"	8'-0"	3'-4"	120	1	1/2	10:1	LES BOILER HW/HF SERIES	1, 2, 3
SB-2	FOOD SERVICES	NATURAL GAS	1610	1340	83	15	5'-4"	8'-0"	3'-4"	120	1	1/2	10:1	LES BOILER HW/HF SERIES	1, 2, 3

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MECHANICAL SCHEDULES

11-M600

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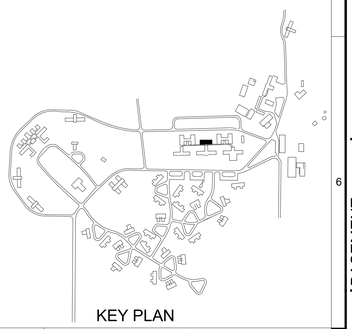
NORTH

B5 BASEMENT LEVEL - SYSTEMS DEMOLITION PLAN

1/8" = 1'-0" 0 12'



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BASEMENT LEVEL SYSTEMS DEMOLITION PLAN

11-ED300

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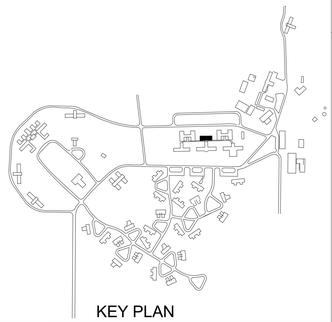
NORTH

B5 FIRST FLOOR - SYSTEM DEMOLITION PLAN
1/8" = 1'-0" 0 12'



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FIRST FLOOR SYSTEMS DEMOLITION PLAN

11-ED301

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NEW - ELECTRICAL AND MECHANICAL COORDINATION SCHEDULE

GENERAL NOTES:

MOCP SIZES SHOWN BELOW ARE FOR BIDDING PURPOSES ONLY. VERIFY MOCP WITH EQUIPMENT NAME PLATE DATA PRIOR TO ORDERING EQUIPMENT.
MINIMUM WIRE SIZE SHALL BE #12 AWG AND MINIMUM CONDUIT SIZE SHALL BE 3/4".
INCLUDE A SEPARATE, GREEN, CONDUCTOR IN ALL FEEDER AND BRANCH CIRCUIT CONDUITS.

ABBREVIATIONS:

EC - ELECTRICAL CONTRACTOR
MC - MECHANICAL CONTRACTOR
MFR - MANUFACTURER
TCC - TEMPERATURE CONTROL CONTRACTOR
OWN - OWNER

REMARKS:

MARK	VOLTAGE	PHASE	FLA	MCA	MOCP	HP	FUSE	WATTAGE	KVA	CONDUIT AND WIRE SIZE	CONTROL OR STARTER	CONTROLLER OR STARTER FURNISHED / INSTALLED	DISCONNECT TYPE	DISCONNECT FURNISHED / INSTALLED	AIC RATING	MATERIAL LIST	REMARKS
CP-1	120 V	1	7.2 A	9 A	20 A	1/3	-	864 W	0.86 W	2#12, 1#12 GND, 3/4" C	-	-	NF	EC	-	-	-
CP-2	120 V	1	7.2 A	9 A	20 A	1/3	-	864 W	0.86 W	2#12, 1#12 GND, 3/4" C	-	-	NF	EC	-	-	-

KEYNOTES

KEY	NOTE
11-E007	CIRCUIT CP-1 AND CP-2 TO NEW 20A/1P BREAKER IN PANEL DPP1.

NOTE:

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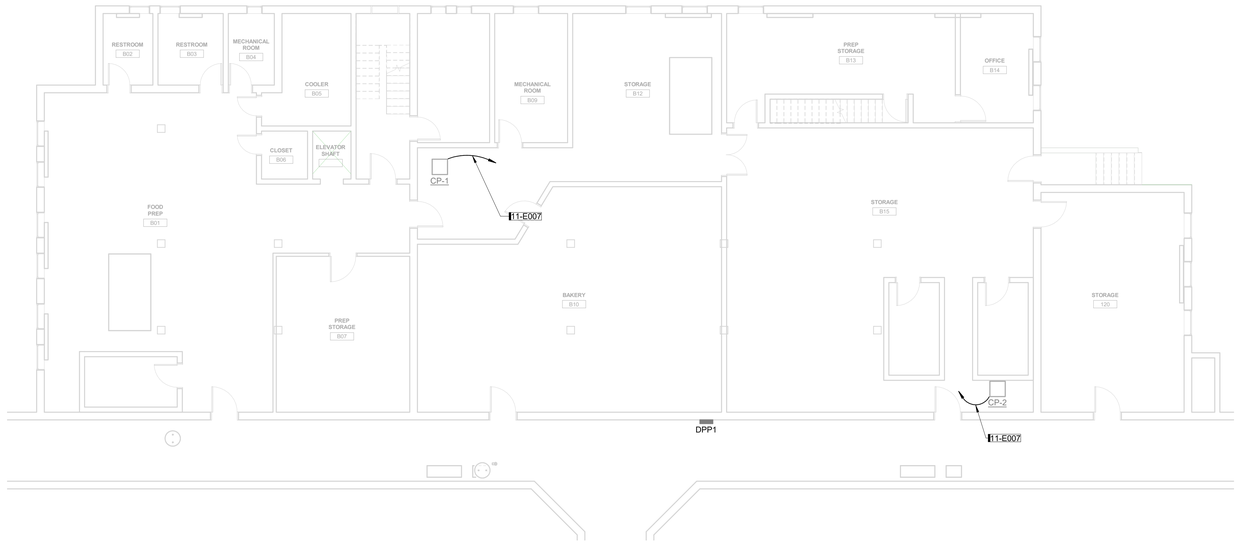
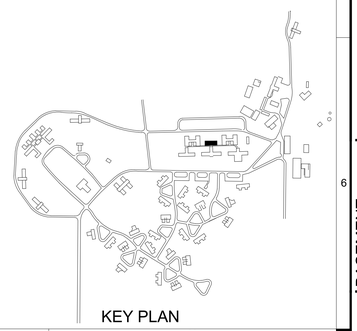


NORTH

B5 BASEMENT LEVEL - POWER PLAN
1/8" = 1'-0" 0' 12'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BASEMENT LEVEL POWER PLAN

11-E200

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KEYNOTES	
KEY	NOTE
11-E001	FIRE ALARM CONTROL PANEL TO FEED BOTH FOOD SERVICE AND ELMCREST.
11-E002	EXTEND CIRCUIT FROM EXISTING FACP TO NEW CAP. REUSE EXISTING MULTI-MODE FIBER TO CONNECT NEW FACP.
11-E003	AHU SUPPLY OR RETURN.
11-E004	AHU SHUTDOWN RELAY.
11-E005	FIRE PROTECTION RELAY.
11-E008	DOOR HOLDER RELAY
11-E009	REUSE EXISTING CONDUIT WIREMOLD, AND BACK BOXES FOR NEW FIRE ALARM IN FOOD SERVICE IN AREAS WITHOUT LAY-IN CEILING. CONTRACTOR TO REPLACE ANY EXISTING DAMAGED RACEWAY OR BOXES. REMOVE ALL EXISTING FIRE ALARM WIRING. OWNER TO PROVIDE FIRE WATCH FOR THE BUILDING DURING CONSTRUCTION. PROVIDE BLANK COVER PLATES FOR BACK BOXES THAT ARE NOT BEING USED.

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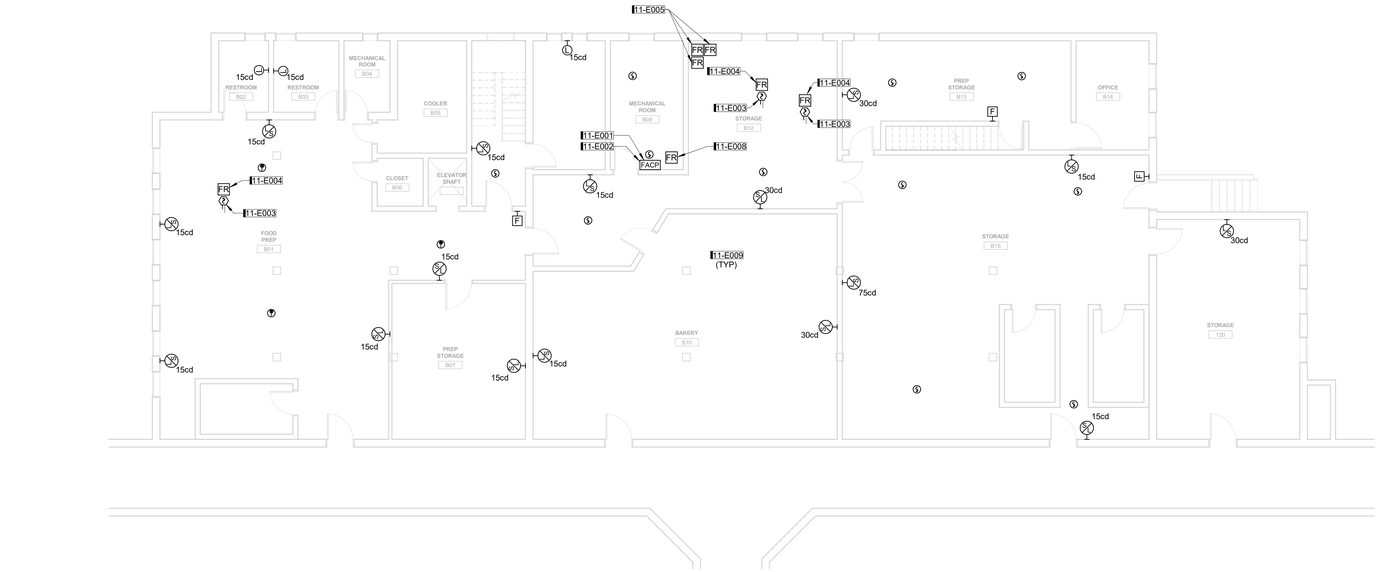
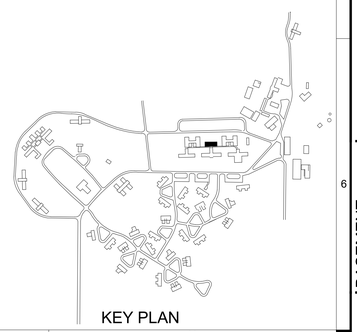


NORTH

B5 BASEMENT LEVEL - SYSTEMS PLAN
1/8" = 1'-0" 0 12'



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BASEMENT LEVEL SYSTEM PLAN

11-E300

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KEYNOTES	
KEY	NOTE
11-E003	AHU SUPPLY OR RETURN.
11-E004	AHU SHUTDOWN RELAY.
11-E005	FIRE PROTECTION RELAY.
11-E006	EXTERIOR STROBE RELAY.
11-E009	REUSE EXISTING CONDUIT WIREMOLD, AND BACK BOXES FOR NEW FIRE ALARM IN FOOD SERVICE IN AREAS WITHOUT LAY-IN CEILING. CONTRACTOR TO REPLACE ANY EXISTING DAMAGED RACEWAY OR BOXES. REMOVE ALL EXISTING FIRE ALARM WIRING. OWNER TO PROVIDE FIRE WATCH FOR THE BUILDING DURING CONSTRUCTION. PROVIDE BLANK COVER PLATES FOR BACK BOXES THAT ARE NOT BEING USED.

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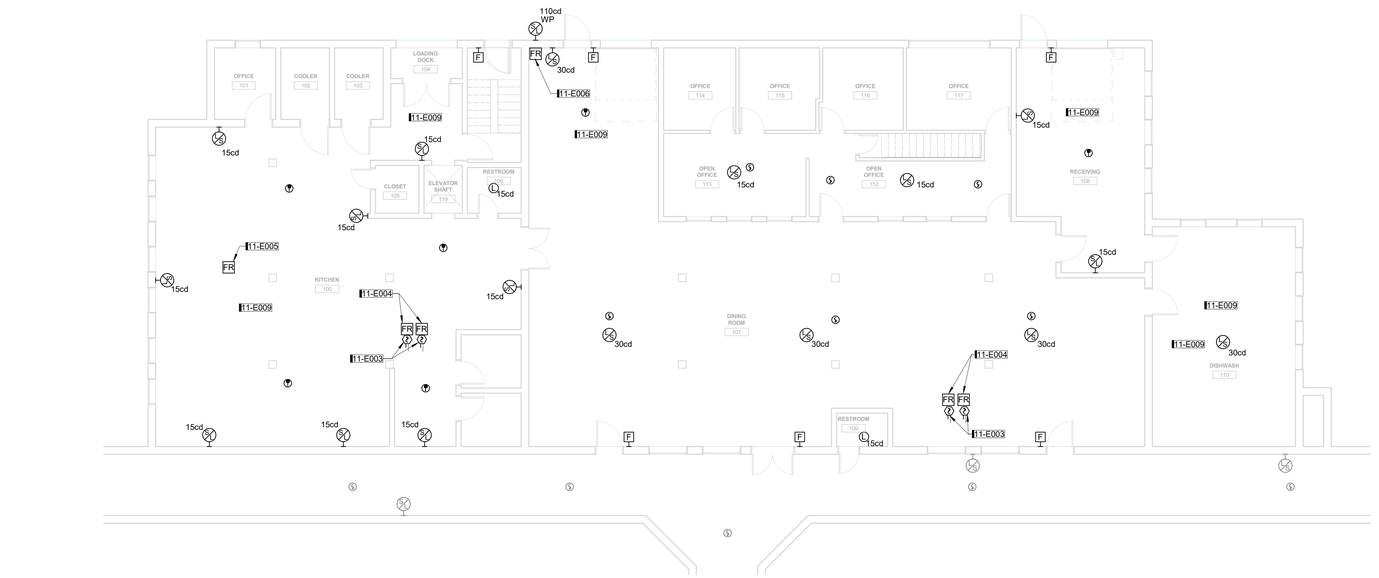
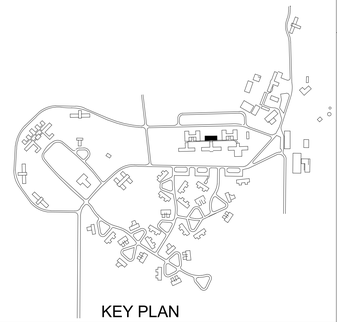


NORTH

B5 FIRST FLOOR - SYSTEMS PLAN
1/8" = 1'-0" 0 12'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FIRST FLOOR SYSTEMS PLAN

11-E301

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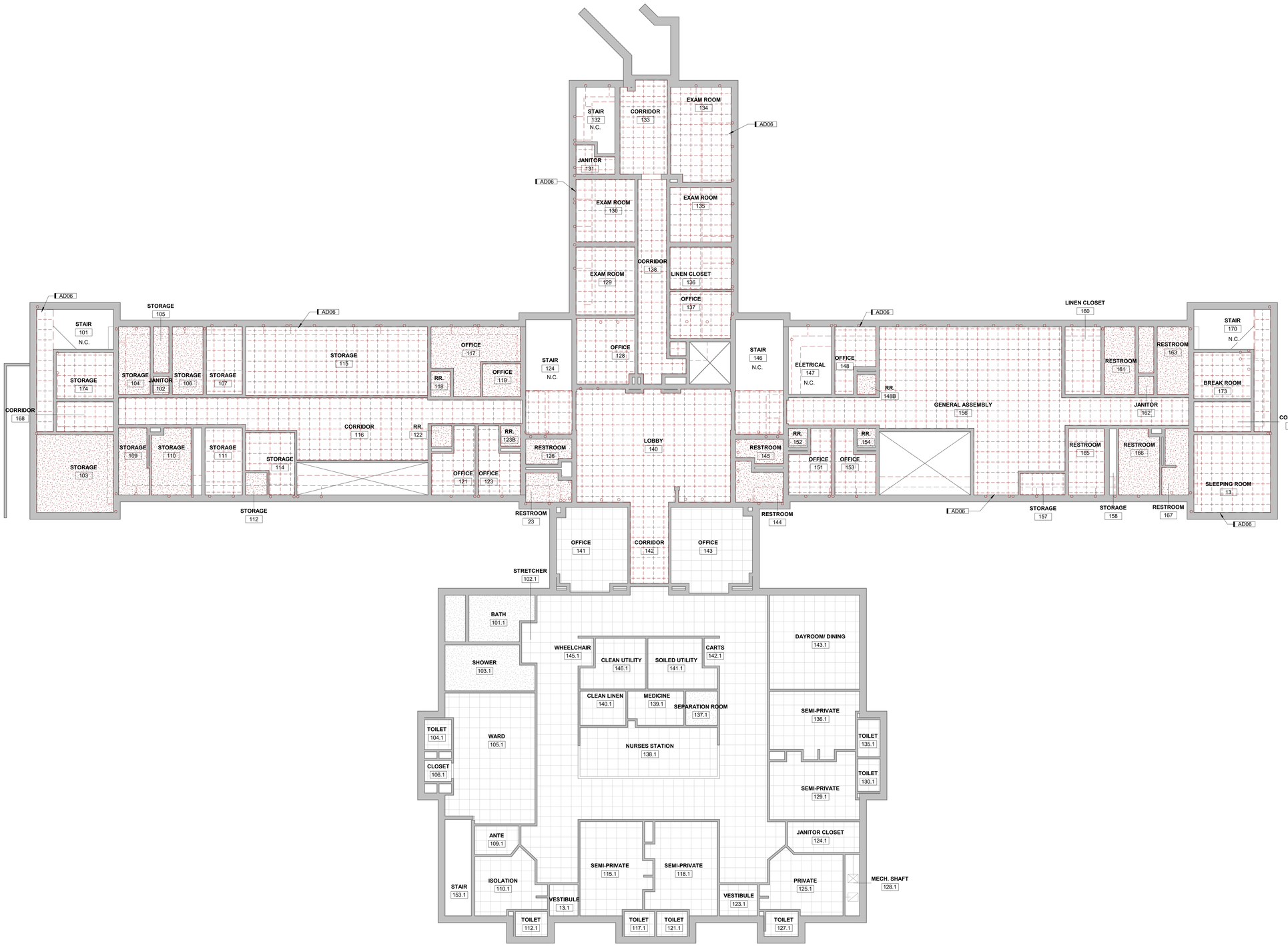


ARCHITECTURAL DEMOLITION NOTES

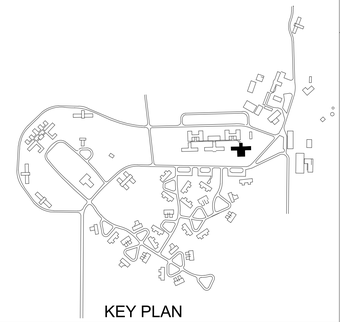
1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO START OF DEMOLITION WORK. NOTIFY ARCHITECT IN WRITING OF DISCREPANCIES BETWEEN WORK SHOWN IN THE DRAWINGS AND FIELD CONDITIONS ENCOUNTERED.
2. TO PROTECT OWNER AND CONTRACTOR, PHOTOGRAPHICALLY DOCUMENT EXISTING CONDITIONS TO REMAIN, PRIOR TO START OF DEMOLITION AND CONSTRUCTION ACTIVITIES. COPY ARCHITECT AND OWNER ON PHOTOGRAPHIC DOCUMENTATION.
3. OPEN FLAME EQUIPMENT IS NOT PERMITTED FOR REMOVAL OF EXISTING WORK WITHOUT SPECIFIC WRITTEN PERMISSION FROM THE OWNER.
4. COORDINATE WITH OWNER ANY ITEMS TO BE SALVAGED.
5. OWNER WILL REMOVE ALL NON-FIXED FURNISHINGS AND EQUIPMENT FROM THE CONSTRUCTION AREA PRIOR TO START OF CONSTRUCTION UNLESS NOTED OTHERWISE.
6. MAINTAIN BUILDING IN A WEATHER-TIGHT CONDITION. DO NOT PERFORM WORK ON EXTERIOR OPENINGS THAT CANNOT BE COMPLETED OR MADE WEATHER-TIGHT WHEN INCLEMENT WEATHER IS POSSIBLE.
7. PROTECT ALL FINISHES (TO REMAIN) IN THE PROJECT AREA. COORDINATE WITH ARCHITECT AND OWNER PRIOR TO DEMOLITION.
8. ENSURE THAT DUST AND DEBRIS ARE PREVENTED FROM ENTERING THE EXISTING HVAC SYSTEM AND ADJOINING SPACES WITH TEMPORARY BARRIERS AS REQUIRED PER THE BUILDING.
9. ALL NEW AND EXISTING PENETRATIONS IN EXISTING INTERIOR AND EXTERIOR WALLS, FLOORS AND CEILING DECKS SHALL RECEIVE UL AND FACILITY APPROVED FIRE SEALANT MATERIALS TO MATCH RATING REQUIREMENT OF AREA BEING PENETRATED. FOR LOCATIONS AND EXTENTS OF NEW PENETRATIONS SEE MECHANICAL AND ELECTRICAL DRAWINGS.
10. COORDINATE WITH OTHER TRADES CUTTING AND PATCHING REQUIRED FOR DEMOLITION OR NEW CONSTRUCTION.
11. ANY DEMOLITION OR REMOVAL INDICATED IS SHOWN IN GENERAL TO PROVIDE THE EXTENT OF DEMOLITION AND IS NOT TO BE CONSIDERED AS A RECORD DRAWING OF EXISTING CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR IN FIELD VERIFICATION AND COORDINATION WITH THE ARCHITECT PRIOR TO COMMENCING WITH STATED WORK.
12. ALL CONSTRUCTION TO REMAIN WHICH IS AFFECTED BY DEMOLITION SHALL BE PATCHED, BE PROPERLY ALIGNED AND FINISHED SO AS TO LEAVE NO EVIDENCE OF PATCHING OR REPAIR. REPAIR OR REPLACE ANY EXISTING CONSTRUCTION, MATERIALS, OR EQUIPMENT DAMAGED DURING DEMOLITION TO LIKE NEW CONDITION.
13. THE CONTRACTOR IS TO RETURN SALVAGEABLE MATERIALS, INCLUDING BUT NOT LIMITED TO DOORS, FRAMES, HARDWARE, MARBLE, EQUIPMENT, AND LIGHTING FIXTURES TO THE OWNER AND STOCKPILE THEM IN AN APPROVED CONSTRUCTION AREA. DISPOSE OF THESE MATERIALS AFTER OWNER'S REVIEW AND APPROVAL.
14. BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.
15. TEMPORARILY REMOVE OR SUPPORT FIXTURES AND OTHER DEVICES, INCLUDING DIFFUSERS, AS NEEDED TO COMPLETE NEW WORK. REINSTALL ONCE MECHANICAL/ELECTRICAL WORK IS COMPLETE.
16. INTENT FOR PERIMETER GRID TO REMAIN TO LIMIT LEAD PAINT ABATEMENT.

DEMOLITION PLAN SYMBOLS LEGEND

- EXISTING WALL PARTITIONS
- EXISTING DOOR
- DEMOLISHED DOOR
- DEMOLISH CEILINGS AND PREPARE FOR NEW CEILINGS. PERIMETER GRID TO REMAIN.
- DEMOLISH GWB/PLASTER CEILINGS AND PREPARE FOR NEW CEILINGS
- N.C. — NO CEILING IN SPACE
- DEMOLITION OF EXISTING AND INSTALLATION OF NEW CEILINGS TO BE PART OF ALTERNATE 2

KEYNOTES

KEY	NOTE
AD06	PERIMETER GRID ANGLE MOLDING TO REMAIN FOR INSTALLATION OF NEW ACP GRID, TYP.



NORTH

A6 FIRST FLOOR REFLECTED CEILING DEMOLITION PLAN
1/8" = 1'-0" 0 12'

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12-Med Center

(#9279.30) WRC Decentralization Phase 3

Iowa Department of Administrative Services
1251 334th St. Woodward, IA 50276

DRAWN BY	TAL, RMS
APPROVED BY	CLM
ISSUED FOR	BIDDING
ISSUE DATE	2024-01-11
PROJECT NUMBER	2142203394
FIELD BOOK	

FIRST FLOOR REFLECTED CEILING DEMOLITION PLAN

12-AD11

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ARCHITECTURAL DEMOLITION NOTES

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7. PROTECT ALL FINISHES (TO REMAIN) IN THE PROJECT AREA. COORDINATE WITH ARCHITECT AND OWNER PRIOR TO DEMOLITION.
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9. ALL NEW AND EXISTING PENETRATIONS IN EXISTING INTERIOR AND EXTERIOR WALLS, FLOORS AND CEILING DECKS SHALL RECEIVE UL AND FACILITY APPROVED FIRE SEALANT MATERIALS TO MATCH RATING REQUIREMENT OF AREA BEING PENETRATED. FOR LOCATIONS AND EXTENTS OF NEW PENETRATIONS SEE MECHANICAL AND ELECTRICAL DRAWINGS.
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15. TEMPORARILY REMOVE OR SUPPORT FIXTURES AND OTHER DEVICES, INCLUDING DIFFUSERS, AS NEEDED TO COMPLETE NEW WORK. REINSTALL ONCE MECHANICAL/ELECTRICAL WORK IS COMPLETE.
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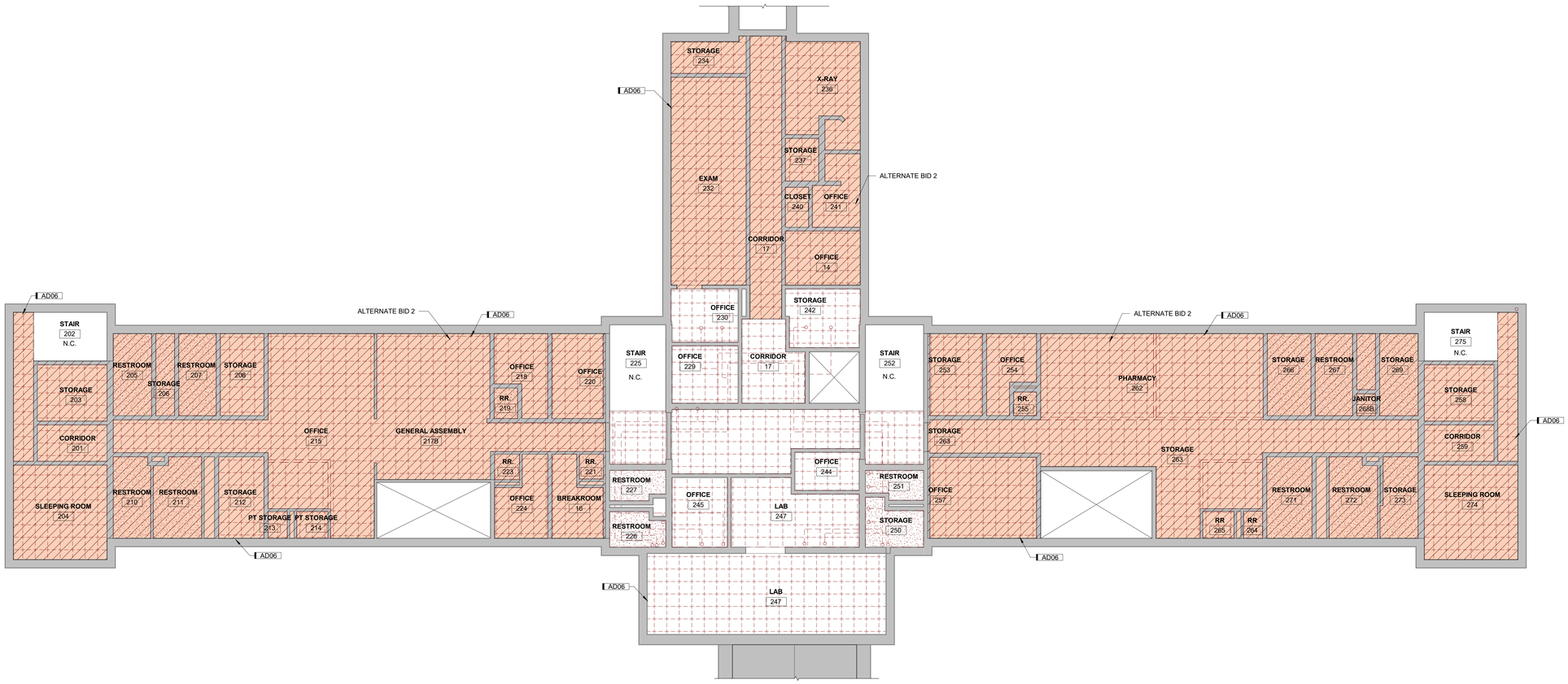
DEMOLITION PLAN SYMBOLS LEGEND

- EXISTING WALL PARTITIONS
- EXISTING DOOR
- DEMOLISHED DOOR
- DEMOLISH CEILINGS AND PREPARE FOR NEW CEILINGS. PERIMETER GRID TO REMAIN.
- DEMOLISH GWB/PLASTER CEILINGS AND PREPARE FOR NEW CEILINGS
- N.C. NO CEILING IN SPACE
- DEMOLITION OF EXISTING AND INSTALLATION OF NEW CEILINGS TO BE PART OF ALTERNATE 2

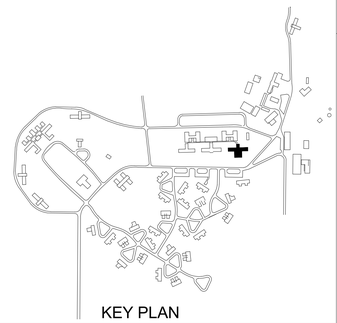
KEYNOTES

KEY	NOTE
AD06	PERIMETER GRID ANGLE MOLDING TO REMAIN FOR INSTALLATION OF NEW ACP GRID, TYP.



NORTH

A6 SECOND FLOOR REFLECTED CEILING DEMOLITION PLAN
1/8" = 1'-0" 0 12'



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SECOND FLOOR REFLECTED CEILING DEMOLITION PLAN

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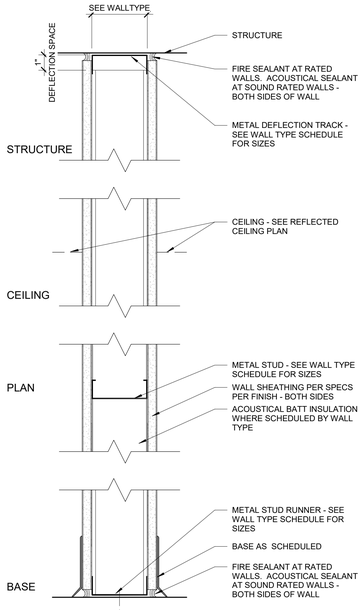
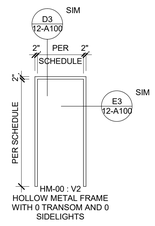


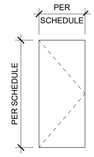
S#A-11 WALL TYPES				
TYPE	DESCRIPTION	WIDTH	FIRE RATING	UL NO
S3A-F11	3 5/8" METAL STUDS FIRE RATED TO UNDERSIDE OF STRUCTURE W/ 1 LAYER 5/8" GYP BOTH SIDES	4 7/8"	1 HR	U415, System A
S3A-S11	3 5/8" METAL STUD TO UNDERSIDE OF STRUCTURE W/ 1 LAYER 5/8" GYP BOTH SIDES	4 7/8"	SMOKE	

B3 WALLTYPE S#A-#11
3" = 1'-0"

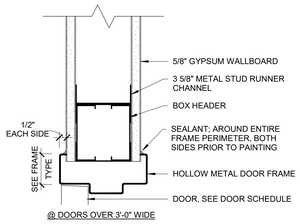
DOOR SCHEDULE											
		OPENING SIZE		DOOR			FRAME				
MARK	ROOM NAME	WIDTH	HEIGHT	TYPE	MATERIAL	THICKNESS	TYPE	MATERIAL	HDWR	FIRE RATING	REMARKS
B05	MECHANICAL	6' - 0"	7' - 0"	F	HM	0' - 1 3/4"	HM-00 : V2	HM	01	SP	
B04	STORAGE	4' - 0"	7' - 0"	F	HM	0' - 1 3/4"	HM-00 : V2	HM	02	45 MIN	PART OF ALTERNATE BID 1



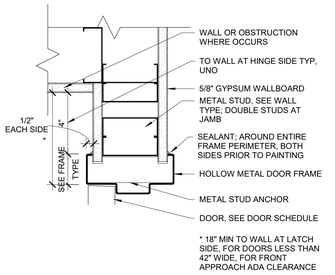
D2 DOOR FRAME ELEVATION
1/4" = 1'-0"



E2 DOOR PANEL ELEVATION
1/4" = 1'-0"



D3 HEAD - HM - METAL STUD
3" = 1'-0"

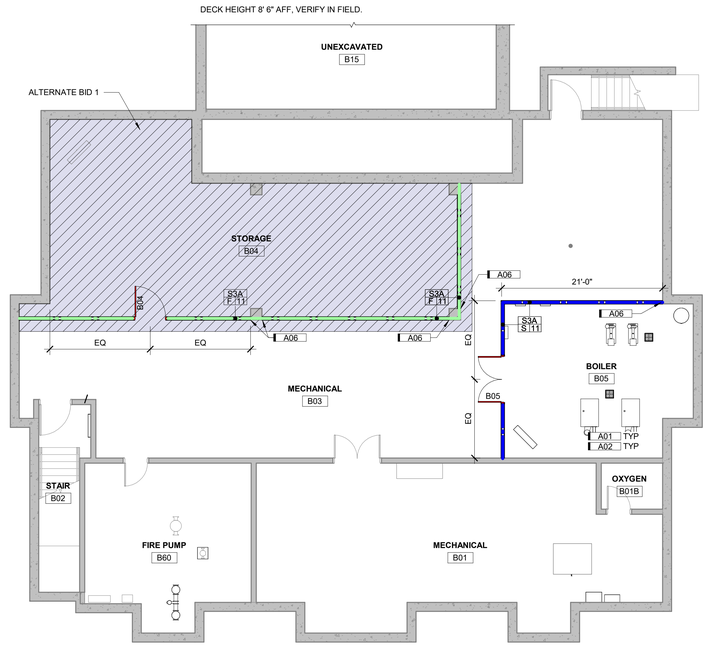


E3 JAMB - HM - METAL STUD
3" = 1'-0"

WALL RATING INDICATORS AND CODES						
PLAN INDICATOR LINE STYLE	SEPARATION DESIGNATION	RATING	DESCRIPTION	USE	DOORS	HVAC
	SP	0 HR	SMOKE PARTITION	-	0 MIN	ALLOWED W/ NO DAMPERS
	FB-1-HP	1 HR	FIRE BARRIER	HAZARD PROTECTION	45 MIN	ALLOWED W/ FIRE DAMPERS

NORTH

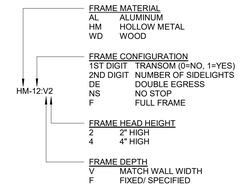
A6 FIRST FLOOR PLAN
1/8" = 1'-0"



NORTH

D6 BASEMENT FLOOR PLAN
1/8" = 1'-0"

FRAME NAMING CONVENTION



DOOR HARDWARE GROUPS

MANUFACTURERS LISTED ARE BASIS OF DESIGN, SEE SPECIFICATIONS FOR ADDITIONAL MANUFACTURERS.

GROUP 01

PAIR SWING DOORS. FOR USE ON DOOR NO. B05

6 EA.	HEAVY DUTY HINGES	TA795, 4-1/2"	US26D	MCK
1 EA.	STOREROOM LOCKSET	PROVIDED BY OWNER	-	-
1 EA.	CLOSER	4040XP DEL EDA	AL	LCN
1 EA.	OVERHEAD STOP	599S	US26D	RO
2 EA.	KICKPLATE	8400 30" X 34"	US32D	IV
2 EA.	FLUSH BOLT	555	US26D	RO
1 EA.	DUST PROOF STRIKE	570	US26D	RO
1 SET	SMOKE GASKET	PK52BL	BL	PE
4 EA.	SILENCERS	608	GR	RO

GROUP 02

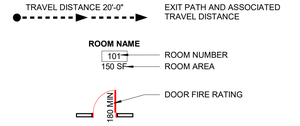
SINGLE FIRE RATED DOOR. FOR USE ON DOOR NO. B04

3 EA.	HEAVY DUTY HINGES	TA795, 5"	US26D	MCK
1 EA.	STOREROOM LOCKSET	PROVIDED BY OWNER	-	-
1 EA.	CLOSER	4040XP DEL EDA	AL	LCN
1 EA.	OVERHEAD STOP	599S	US26D	RO
1 EA.	KICKPLATE	8400 30" X 34"	US32D	IV
1 SET	SMOKE GASKET	PK52BL	BL	PE
3 EA.	SILENCERS	608	GR	RO

MANUFACTURER ABBREVIATIONS

IV - IVES
LCN - LCN CLOSERS
MCK - MCKINNEY
PE - PEMKO
RO - ROCKWOOD
SA - SARGENT

LIFE SAFETY PLAN SYMBOLS LEGEND

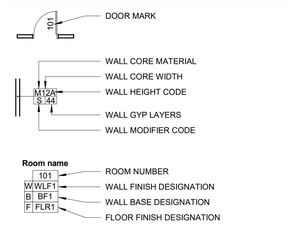


FLOOR PLAN NOTES

1. REFER TO DRAWINGS OF ALL TRADES FOR ADDITIONAL INFORMATION REGARDING ITEMS PENETRATING FLOORS, WALLS, AND CEILINGS.
2. ALL NEW PARTITIONS ARE DIMENSIONED TO FACE OF STUD, MASONRY, OR CONCRETE COMPONENT UNLESS NOTED OTHERWISE. DIMENSIONS TO EXISTING ELEMENTS ARE TO EXPOSED FACE.

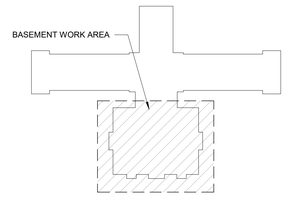
NEW CONSTRUCTION EXTENTS TO BE PART OF ALTERNATE 1

FLOOR PLAN SYMBOLS LEGEND



KEYNOTES

KEY	NOTE
A01	CONFIRM AND MAINTAIN EXISTING FIRE RATING AT FLOOR/CEILING BETWEEN BASEMENT AND FIRST FLOOR. FIRESTOP ALL NEW PENETRATIONS.
A02	PATCH ANY EXISTING HOLES AND FIRESTOP ALL EXISTING AND NEW PENETRATIONS AS REQUIRED TO ACHIEVE A 1 HOUR FIRE RATING (FIRE BARRIER).
A06	ALIGN NEW WALL WITH EXISTING.
A08	NEW PENETRATION THROUGH EXISTING EXTERIOR WALL; SEE MECHANICAL FOR ADDITIONAL INFORMATION

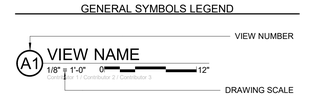


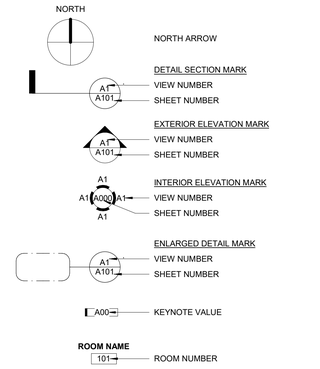
MED CENTER KEY PLAN

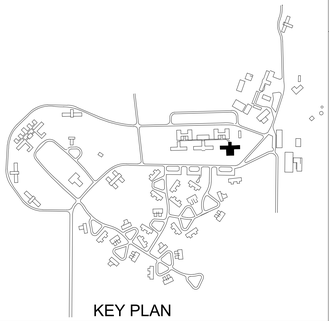
PROJECT GENERAL INFORMATION

1. COLOR HAS BEEN USED ON THESE DRAWINGS TO ENHANCE UNDERSTANDING. PRINTING IN COLOR IS RECOMMENDED TO ENSURE CLARITY.
2. ANY DAMAGE TO AREAS INSIDE OR OUTSIDE OF THE PROJECT AREA SHALL BE REPAIRED TO THE STATUS PRIOR TO CONSTRUCTION AT NO COST TO OWNER.
3. THE GENERAL CONTRACTOR SHALL BE ULTIMATELY RESPONSIBLE FOR ALL CUTTING, SUPPORTING, AND PATCHING IF NOT COVERED BY A SPECIFIC TRADE.
4. EACH TRADE SHALL PROVIDE TESTED FIRESTOPPING ASSEMBLIES FOR PENETRATIONS OF THEIR WORK THROUGH FIRE-RATED WALLS AND FLOOR/CEILING ASSEMBLIES. FIRESTOPPING ASSEMBLIES ARE TO BE OF DESIGNS THAT PROVIDE THE SCHEDULED FIRE RATINGS WHEN TESTED IN ACCORDANCE WITH ASTM E119, ASTM E814, OR UL 1479, AND ARE TO BE INSTALLED BY INDIVIDUALS TRAINED AND EXPERIENCED WITH INSTALLATION OF SUCH ASSEMBLIES. PROVIDE SUBMITTALS TO LOCAL AUTHORITIES AS REQUESTED
5. IF COMPLIANCE WITH TWO OR MORE STANDARDS IS SPECIFIED AND THE STANDARDS ESTABLISH DIFFERENT OR CONFLICTING REQUIREMENTS FOR MINIMUM QUANTITIES OR QUALITY LEVELS, COMPLY WITH THE MOST STRINGENT REQUIREMENT. REFER UNCERTAINTIES AND REQUIREMENTS THAT ARE DIFFERENT, BUT APPARENTLY EQUAL, TO ARCHITECT FOR A DECISION BEFORE PROCEEDING.
6. ABATEMENT WORK WILL BE UNDER SEPARATE CONTRACT. OBTAIN AND MAINTAIN ON SITE A COMPLETE SET OF ABATEMENT DOCUMENTS, INCLUDING ADDENDA AND CHANGES AFTER START OF CONSTRUCTION, FOR REFERENCE AND COORDINATION BY ALL TRADES. COORDINATE ALL DEMOLITION AND CONSTRUCTION WORK WITH THE ABATEMENT CONTRACTOR.
7. BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.
8. THE INDICATION OF TYPE AND LOCATION OF EXISTING CONDITIONS AND MATERIALS IN THE DRAWINGS IS NOT INTENDED AS EXACT DOCUMENTATION OF IN-PLACE CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS BEFORE SUBMISSION OF BIDS. EXISTING CONDITIONS VARYING FROM THOSE SHOWN IN THE DRAWINGS WILL NOT BE JUSTIFICATION FOR ADDITIONAL ALLOWANCE TO THE CONTRACTOR. NOTIFY THE ARCHITECT IMMEDIATELY IF ANY CONDITIONS CONFLICT WITH THE DRAWINGS.
9. PROTECT ALL BUILDING SYSTEMS, NEW AND EXISTING. COVER SUPPLY, RETURN, AND EXHAUST AIR GRILLES, AND PROTECT OTHER SENSITIVE EQUIPMENT FROM ALL ACTIVITIES RELATED TO THIS CONTRACT. REMOVE PROTECTION AT END OF CONSTRUCTION.
10. ALL DISSIMILAR METALS SHALL BE ISOLATED FROM EACH OTHER EVEN IF NOT SPECIFICALLY IDENTIFIED IN THE CONTRACT DOCUMENTS.
11. ALL CODE-REQUIRED LABELS SUCH AS "UL", "FACTORY MUTUAL", OR ANY EQUIPMENT IDENTIFICATION, PERFORMANCE RATING, NAME, OR NOMENCLATURE PLATES SHALL REMAIN READABLE AND NOT PAINTED OR COVERED BY OTHER CONSTRUCTION.
12. STRUCTURAL INFORMATION ON ARCHITECTURAL DRAWINGS IS FOR REFERENCE ONLY.
13. ARCHITECTURAL DIMENSIONS AND DESIGN INTENT ARE INDICATED ON ARCHITECTURAL DRAWINGS. IF THE INSTALLATION OF EQUIPMENT FROM OTHER TRADES INTERFERES WITH COMPLIANCE OF THE DESIGN INTENT, NOTIFY THE ARCHITECT BEFORE PROCEEDING.
14. DO NOT SCALE DRAWINGS; DIMENSIONS GOVERN LOCATION OF BUILDING ELEMENTS. IF DIMENSIONS ARE NOT AVAILABLE, CONTACT THE ARCHITECT.
15. WHEN DIMENSIONS ON SMALL SCALE DRAWINGS CONFLICT WITH THOSE ON LARGE SCALE DRAWINGS, THE LARGE SCALE DRAWINGS GOVERN.

GENERAL SYMBOLS LEGEND







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BASEMENT AND FIRST FLOOR PLANS

12-A100

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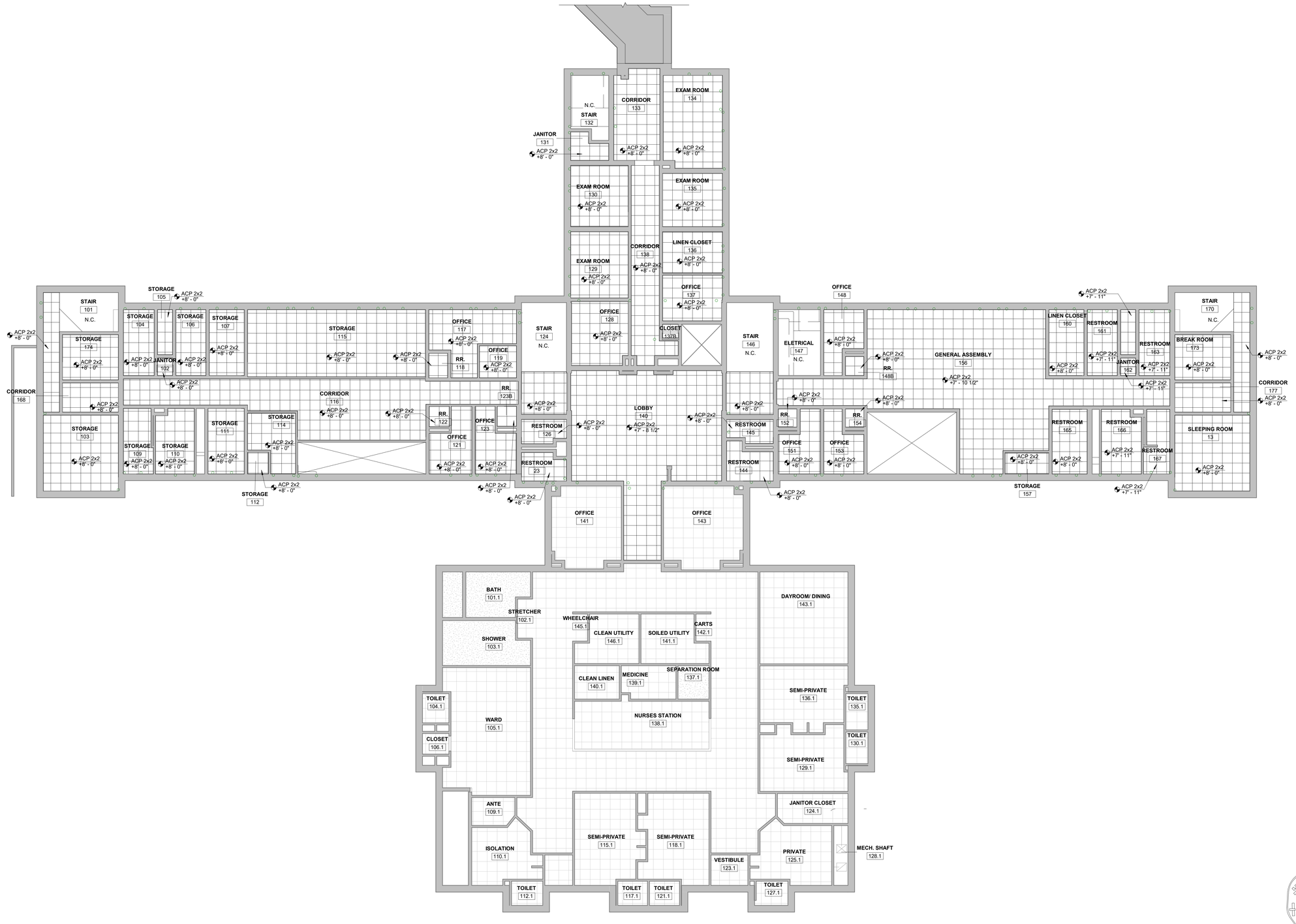


CEILING PLAN NOTES

1. NOTIFY ARCHITECT OF INADEQUATE CLEARANCES FOR CEILING LAYOUT PRIOR TO COMMENCING WORK.
2. LOCATIONS OF LIGHT FIXTURES, DIFFUSERS, ETC. SHALL REMAIN IN PLACE. SUPPORT EXISTING DIFFUSERS AND LIGHTING. NOTIFY ARCHITECT OF ANY CONFLICTS PRIOR TO PROCEEDING WITH CONSTRUCTION. REFER TO DRAWINGS AND SPECIFICATIONS OF ALL TRADES FOR SYSTEM DESIGN AND ADDITIONAL INFORMATION.
3. COORDINATE WITH ALL TRADES TO CONFIRM THEIR WORK CAN BE INSTALLED TO ACHIEVE CEILING HEIGHTS AS SHOWN. TRADE PRIORITY SHALL BE AS FOLLOWS UNLESS DIRECTED OTHERWISE BY THE ARCHITECT.
   - ELECTRICAL LIGHTING FIXTURES
   - MECHANICAL GRILLES AND DIFFUSERS
   - MECHANICAL DUCTWORK
   - ELECTRICAL CONDUIT
   - PIPING SYSTEMS
4. COORDINATE WITH ALL TRADES TO CONFIRM THE LOCATION OF ACCESS PANELS WITH ASSOCIATED INSTALLED EQUIPMENT. INFORM ARCHITECT OF PROPOSED LOCATIONS PRIOR TO INSTALLATION AND CONSTRUCTION OF NEW WORK.
5. CONTRACTOR TO REPLACE FROM OWNER STOCK CEILING TILES DAMAGED DURING CONSTRUCTION.
6. DESIGN INTENT TO HAVE NEW CEILINGS REMAIN AT ELEVATION OF EXISTING CEILINGS.
7. BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.

CEILING PLAN SYMBOLS LEGEND

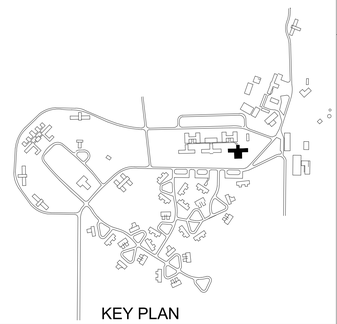
- ACP-1 / +8'-0" — CEILING MATERIAL DESIGNATION / CEILING HEIGHT
- PLASTER CEILING/ SOFFIT
- ACOUSTICAL CEILING PANEL SYSTEM
- N.C. — NO CEILINGS IN SPACE
- AREA NOT IN SCOPE
- DEMOLITION OF EXISTING AND INSTALLATION OF NEW CEILINGS TO BE PART OF ALTERNATE 2

KEYNOTES

KEY	NOTE

NORTH

A6 FIRST FLOOR REFLECTED CEILING PLAN
1/8" = 1'-0" 0 12'



KEY PLAN

SHIVEHATTERY ARCHITECTURE + ENGINEERING
4125 WESTOWN PKWY, SUITE 100
WEST DES MOINES, IA 50266
515.223.9164 | SHIVEHATTERY.COM

12-Med Center

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Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

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FIRST FLOOR REFLECTED CEILING PLAN

12-A111

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CEILING PLAN NOTES

1. NOTIFY ARCHITECT OF INADEQUATE CLEARANCES FOR CEILING LAYOUT PRIOR TO COMMENCING WORK.
2. LOCATIONS OF LIGHT FIXTURES, DIFFUSERS, ETC. SHALL REMAIN IN PLACE. SUPPORT EXISTING DIFFUSERS AND LIGHTING. NOTIFY ARCHITECT OF ANY CONFLICTS PRIOR TO PROCEEDING WITH CONSTRUCTION. REFER TO DRAWINGS AND SPECIFICATIONS OF ALL TRADES FOR SYSTEM DESIGN AND ADDITIONAL INFORMATION.
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   - MECHANICAL GRILLES AND DIFFUSERS
   - MECHANICAL DUCTWORK
   - ELECTRICAL CONDUIT
   - PIPING SYSTEMS
4. COORDINATE WITH ALL TRADES TO CONFIRM THE LOCATION OF ACCESS PANELS WITH ASSOCIATED INSTALLED EQUIPMENT. INFORM ARCHITECT OF PROPOSED LOCATIONS PRIOR TO INSTALLATION AND CONSTRUCTION OF NEW WORK.
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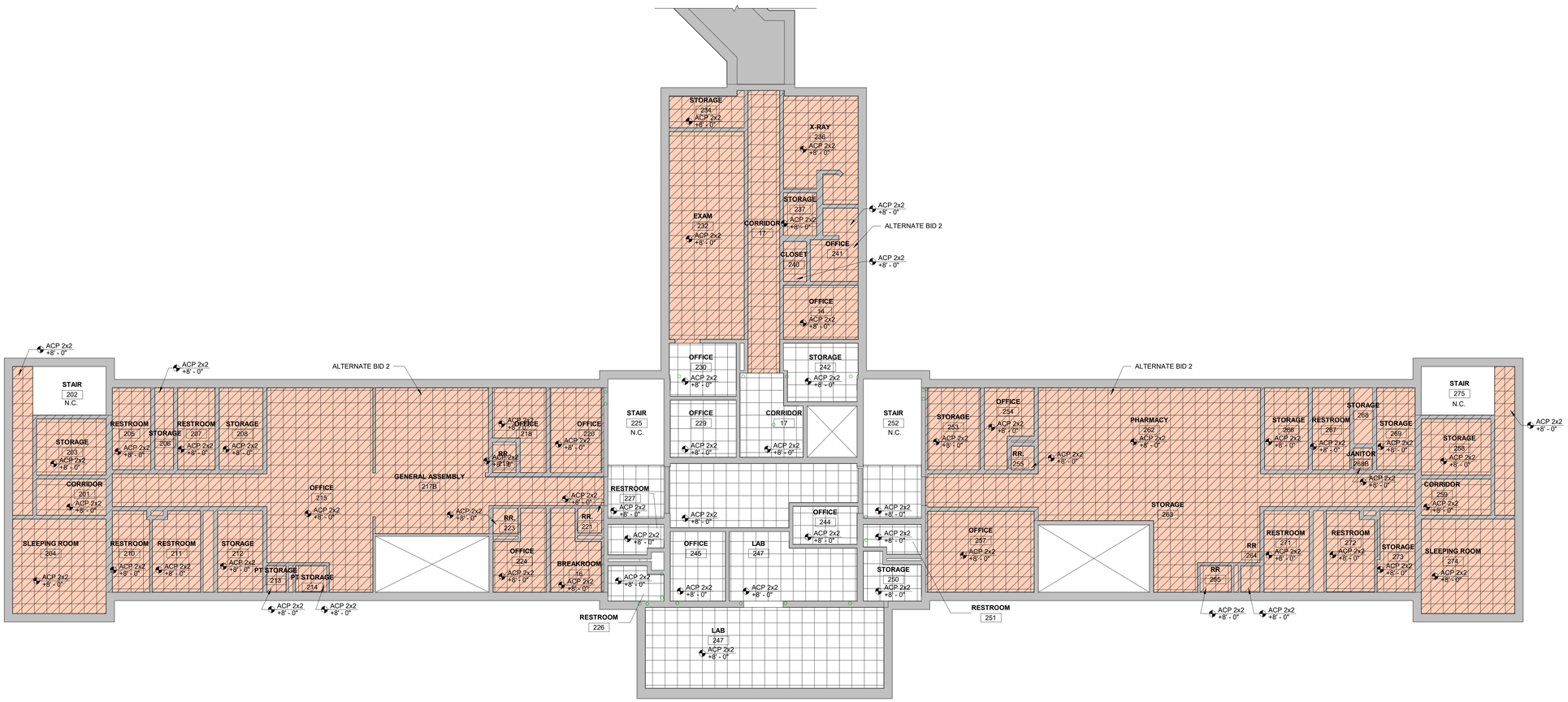
7. BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.

CEILING PLAN SYMBOLS LEGEND

- ACP-1 / +8'-0" — CEILING MATERIAL DESIGNATION / CEILING HEIGHT
- PLASTER CEILING/ SOFFIT
- ACOUSTICAL CEILING PANEL SYSTEM
- N.C. — NO CEILINGS IN SPACE
- AREA NOT IN SCOPE
- DEMOLITION OF EXISTING AND INSTALLATION OF NEW CEILINGS TO BE PART OF ALTERNATE 2

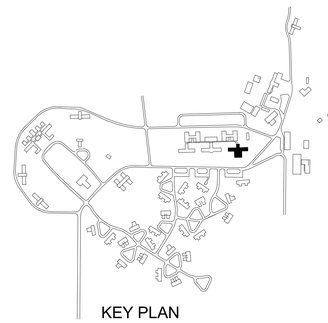
KEYNOTES

KEY	NOTE



NORTH

A6 SECOND FLOOR REFLECTED CEILING PLAN
1/8" = 1'-0" 0 12'



KEY PLAN

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SECOND FLOOR REFLECTED CEILING PLAN

12-A112

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KEYNOTES	
KEY	NOTE
12-P01	MAKE NEW CONNECTION TO EXISTING 4" VENT UP.
12-P02	ROUTE NEW DOMESTIC COLD WATER TO HEATING WATER SYSTEM. SEE SHEET 12-M500 FOR DETAIL.
12-P03	SAW CUTTING AREA FOR INSTALLATION OF NEW SANITARY PIPING.
12-P04	INSTALL ELECTRIC WATER HEATER AND PIPE IN PARALLEL WITH EXISTING WATER HEATER.

PLUMBING FIXTURE SCHEDULE:

FS1 (FLOOR SINK):

FIXTURE: 4" ZURN Z-1910 SERIES (OR ENGINEER APPROVED EQUIVALENT), 8"x8"x6" DEEP, CAST IRON, 3/4" SQUARE NICKEL BRONZE MEDIUM DUTY GRATE, WHITE ACID RESISTING PORCELAIN ENAMEL INTERIOR & DOME STRAINER, MEMBRANE CLAMP, BOTTOM CAULK OUTLET. SET TOP FLUSH WITH FINISHED FLOOR. PROVIDE DEEP SEAL P-TRAP.

WATER HEATER SCHEDULE - ELECTRIC

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT

MARK	AREA SERVED	STORAGE (GAL)	RECOVERY (GPH)	WATER IN (°F)	WATER OUT (°F)	ELEMENT KW	# OF ELEMENTS	ELECTRICAL DATA TOTAL KW	VOLTS	PHASE	DESIGN BASIS	REMARKS
HW-1	MECHANICAL B37	80	46	40	120	4.5	2	9	240	1	A.O. SMITH DEN-80	1

NOTE:

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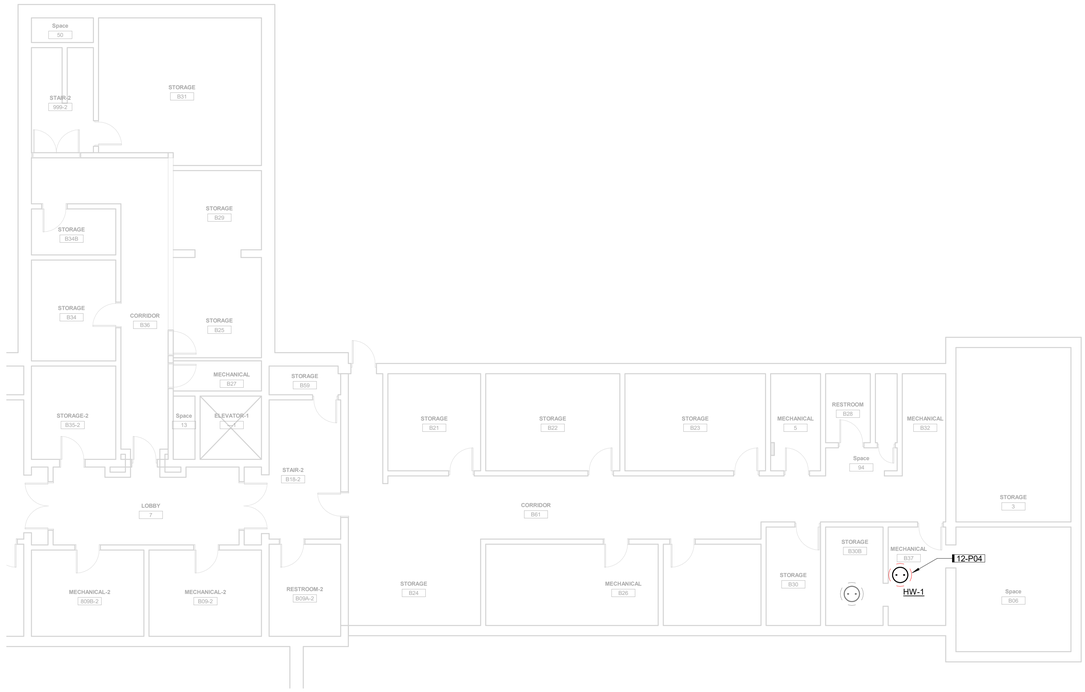
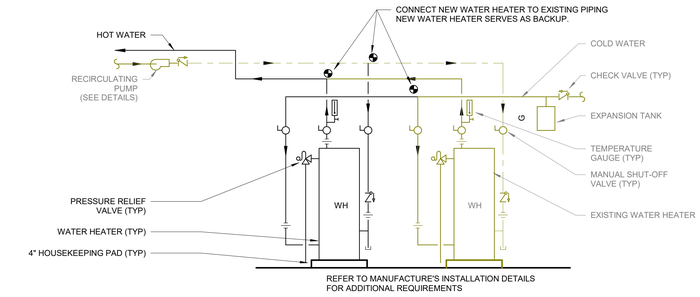


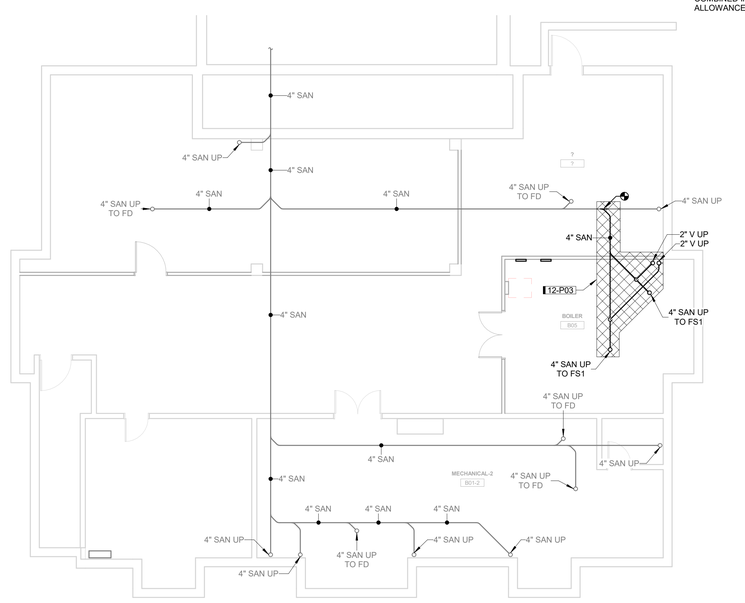
NORTH

A3 BASEMENT PLUMBING PLAN NORTHEAST
1/8" = 1'-0" 0 12'



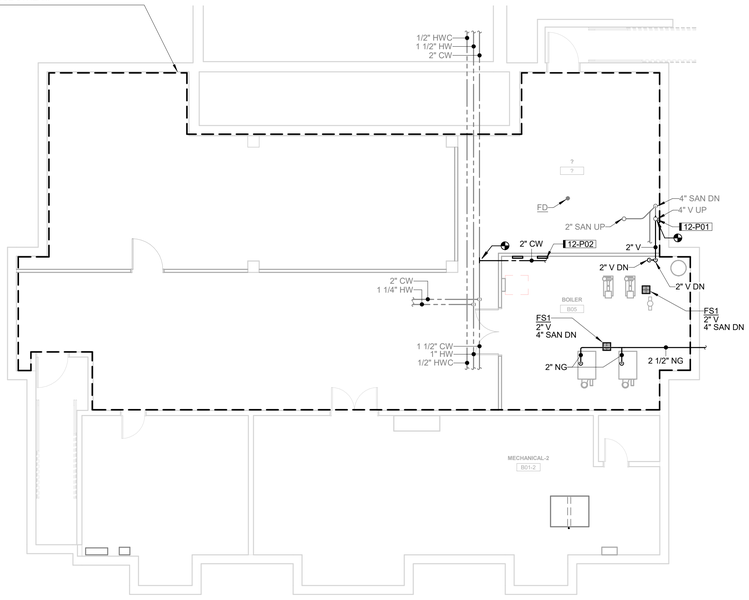
F3 Water Heater Piping Schematic
NOT TO SCALE

REVISE SPRINKLER HEAD LAYOUT TO ACCOMMODATE NEW ROOMS AND MECHANICAL EQUIPMENT. AREA SHALL BE CONSIDERED ORDINARY HAZARD GROUP 1 WITH A MNIMUM DENSITY OF 0.15 GPM/SF OVER THE MOST HYDRAULICALLY REMOTE 1500 SF WITH 250 GPM COMBINED INSIDE AND OUTSIDE HOSE STREAM ALLOWANCE.



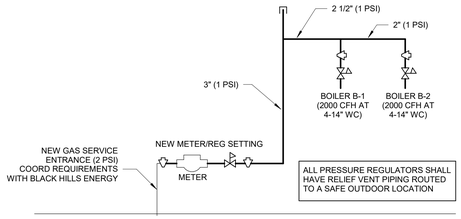
NORTH

A6 BASEMENT PLUMBING UNDERFLOOR PLAN SOUTH
1/8" = 1'-0" 0 12'

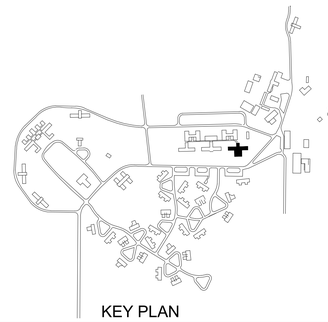


NORTH

D6 BASEMENT PLUMBING PLAN SOUTH
1/8" = 1'-0" 0 12'



G2 GAS PIPING SCHEMATIC
NOT TO SCALE



KEY PLAN

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12-Med Center

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Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

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BASEMENT PLUMBING PLANS

12-P100

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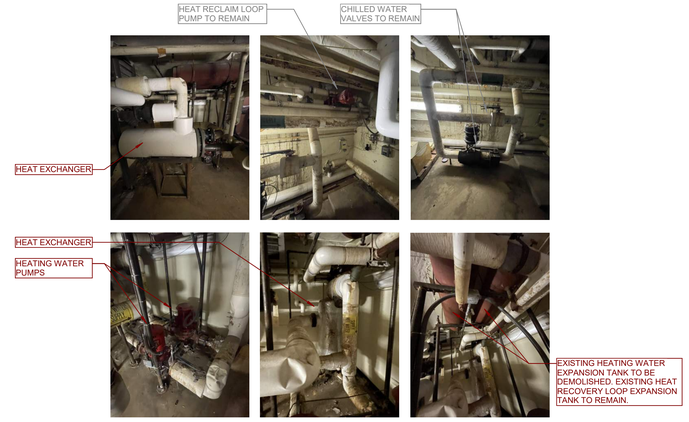
KEYNOTES

KEY	NOTE
12-MD1	REMOVE EXISTING STEAM RADIATORS, ASSOCIATED PIPING, CONTROLS. EXISTING STEAM ENCLOSURE TO BE REUSED WITH NEW HOT WATER FIN TUBE.
12-MD2	REMOVE ALL STEAM CONDENSATE PIPING AND RELATED HANGERS AND FITTINGS.
12-MD3	REMOVE ALL LOW PRESSURE STEAM PIPING AND RELATED HANGERS AND FITTINGS.
12-MD4	VALVE, SEAL, AND CAP STEAM PIPE MAINS AT THE NEAREST SHUTOFF VALVE IN THE TUNNEL OUTSIDE OF BUILDING FOOTPRINT.
12-MD5	REMOVE EXISTING STEAM COIL ELEMENT FROM AIR HANDLING UNIT
12-MD6	REMOVE HANGING STEAM HEATER AND ALL ASSOCIATED HANGERS AND PIPING.
12-MD9	DEMO EXISTING HW PEX LINE AND REPLACE WITH COPPER PIPING.
12-MD10	REMOVE AND RELOCATED HANGING HOT WATER HEATER AND ALL ASSOCIATED HANGERS AND PIPING.
12-PD01	REMOVE EXISTING DISCONNECTED ELECTRIC WATER HEATER.

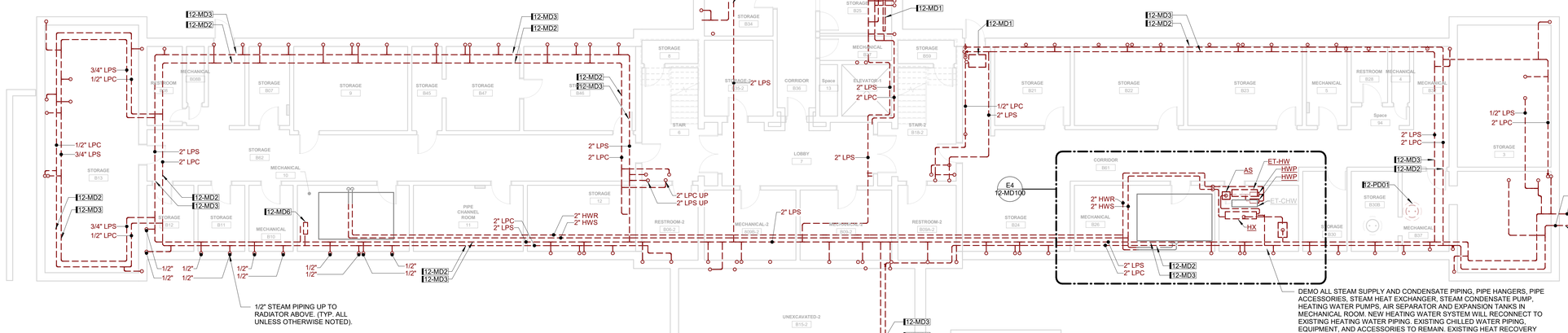
NOTE:

BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.

EXISTING FLOOR PENETRATIONS. EXISTING PIPING TO BE DEMOLISHED AND PENETRATION REUSED FOR NEW PIPING.

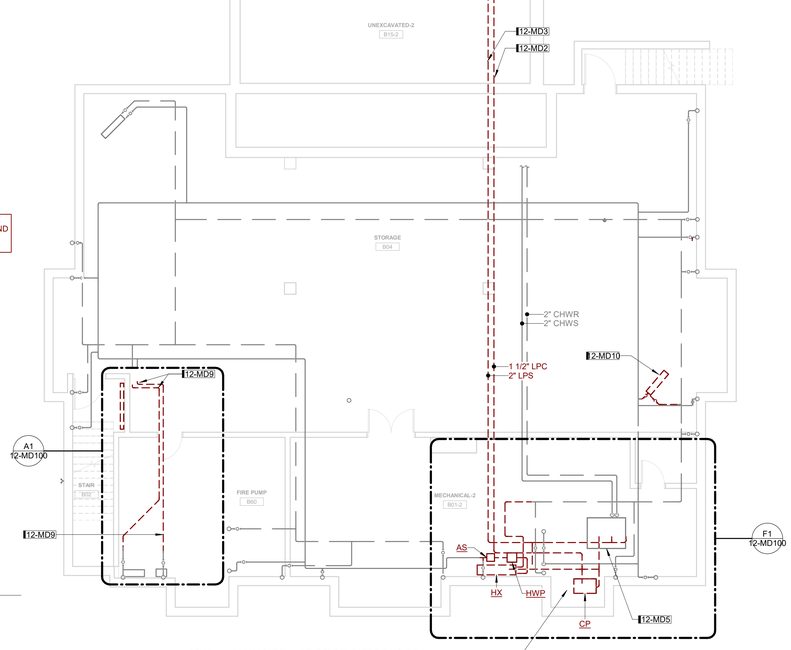


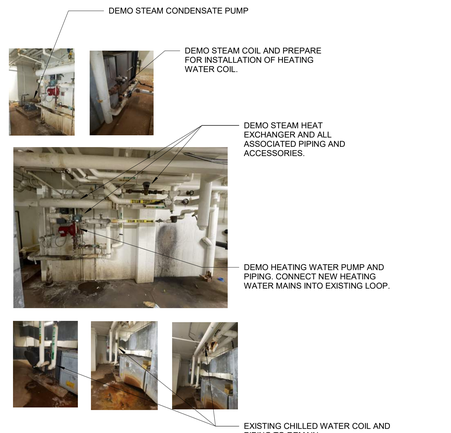
E4 MED CENTER MECHANICAL ROOM PHOTOS
NOT TO SCALE



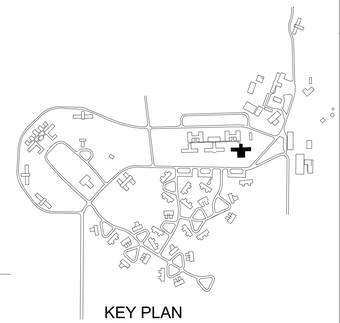
EXISTING PEX HW LINE TO BE DEMOLISHED AND REPLACED WITH COPPER.

A1 BASEMENT HOT WATER PIPING
NOT TO SCALE





F1 SOUTH ADDITION MECHANICAL ROOM PHOTOS
NOT TO SCALE



NORTH

A6 BASEMENT MECHANICAL PIPING DEMOLITION PLAN
1/8" = 1'-0"

SHIVEHATTERY ARCHITECTURE + ENGINEERING
4125 WESTOWN PKWY, SUITE 100
WEST DES MOINES, IA 50266
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12-Med Center

(#9279.30) WRC Decentralization Phase 3

Iowa Department of Administrative Services
1251 334th St. Woodward, IA 50276

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ISSUE DATE	2024-01-11
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BASEMENT MECHANICAL PIPING DEMOLITION PLAN

12-MD100

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KEYNOTES

KEY	NOTE
12-MD1	REMOVE EXISTING STEAM RADIATORS, ASSOCIATED PIPING, CONTROLS. EXISTING STEAM ENCLOSURE TO BE REUSED WITH NEW HOT WATER FIN TUBE.
12-MD2	REMOVE ALL STEAM CONDENSATE PIPING AND RELATED HANGERS AND FITTINGS.
12-MD3	REMOVE ALL LOW PRESSURE STEAM PIPING AND RELATED HANGERS AND FITTINGS.

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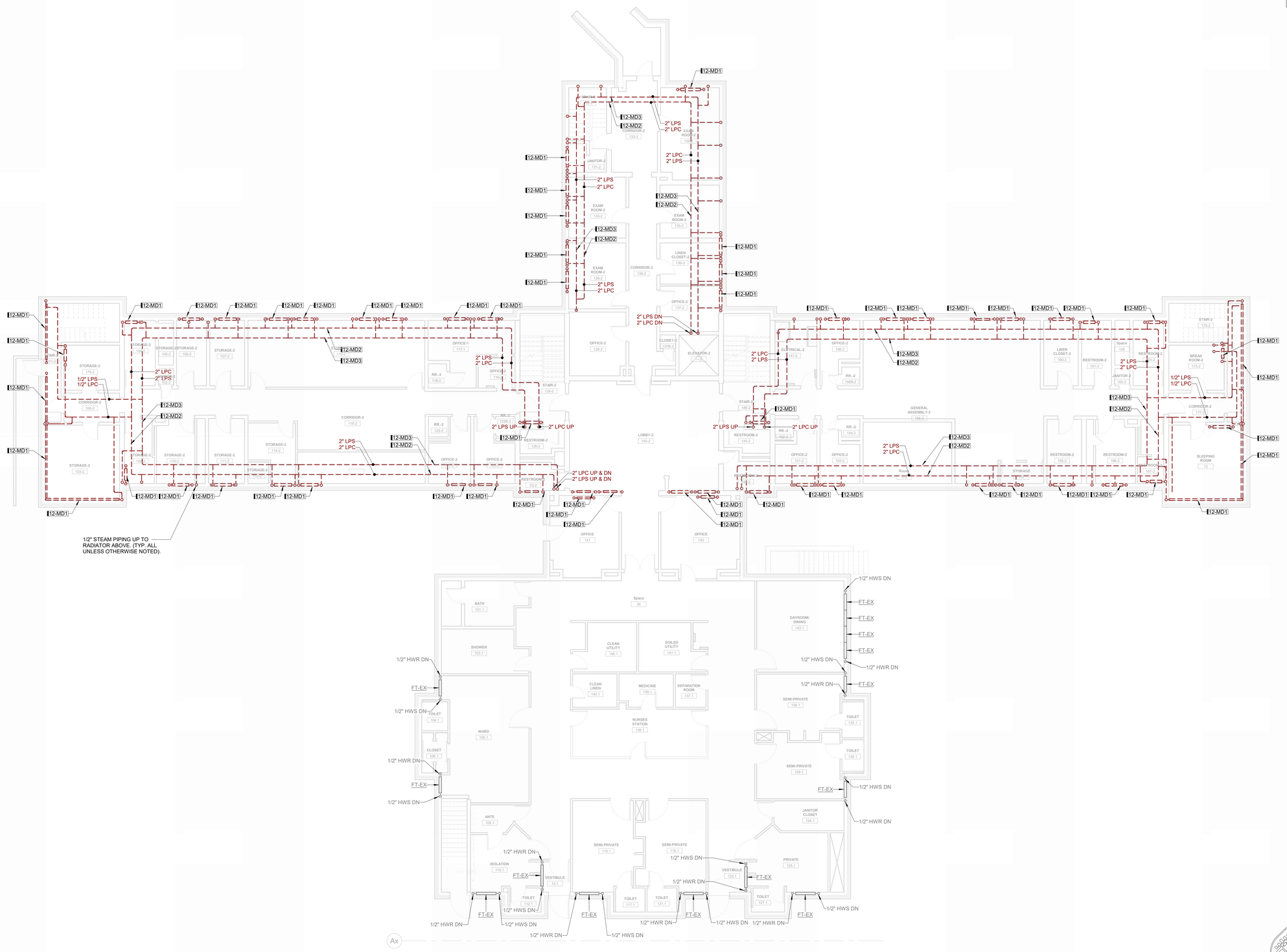

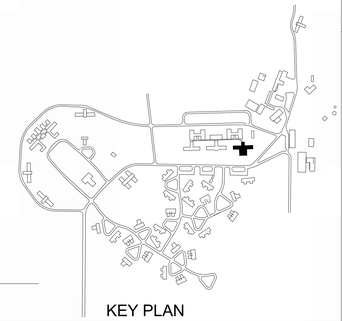

NORTH

A6 FIRST FLOOR MECHANICAL PIPING DEMOLITION PLAN

1/8" = 1'-0"

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FIRST FLOOR MECHANICAL PIPING DEMOLITION PLAN

12-MD101

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Version: 23.0.0.748
Autodesk Revit 2022

KEYNOTES	
KEY	NOTE
12-MD1	REMOVE EXISTING STEAM RADIATORS, ASSOCIATED PIPING, CONTROLS. EXISTING STEAM ENCLOSURE TO BE REUSED WITH NEW HOT WATER FIN TUBE.
12-MD2	REMOVE ALL STEAM CONDENSATE PIPING AND RELATED HANGERS AND FITTINGS.
12-MD3	REMOVE ALL LOW PRESSURE STEAM PIPING AND RELATED HANGERS AND FITTINGS.

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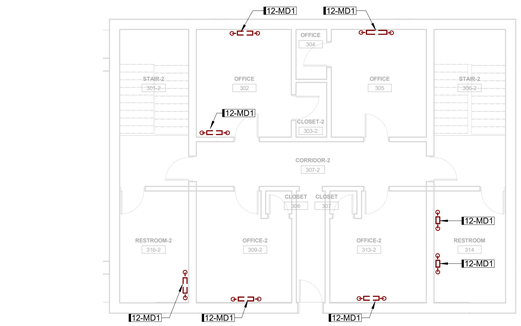
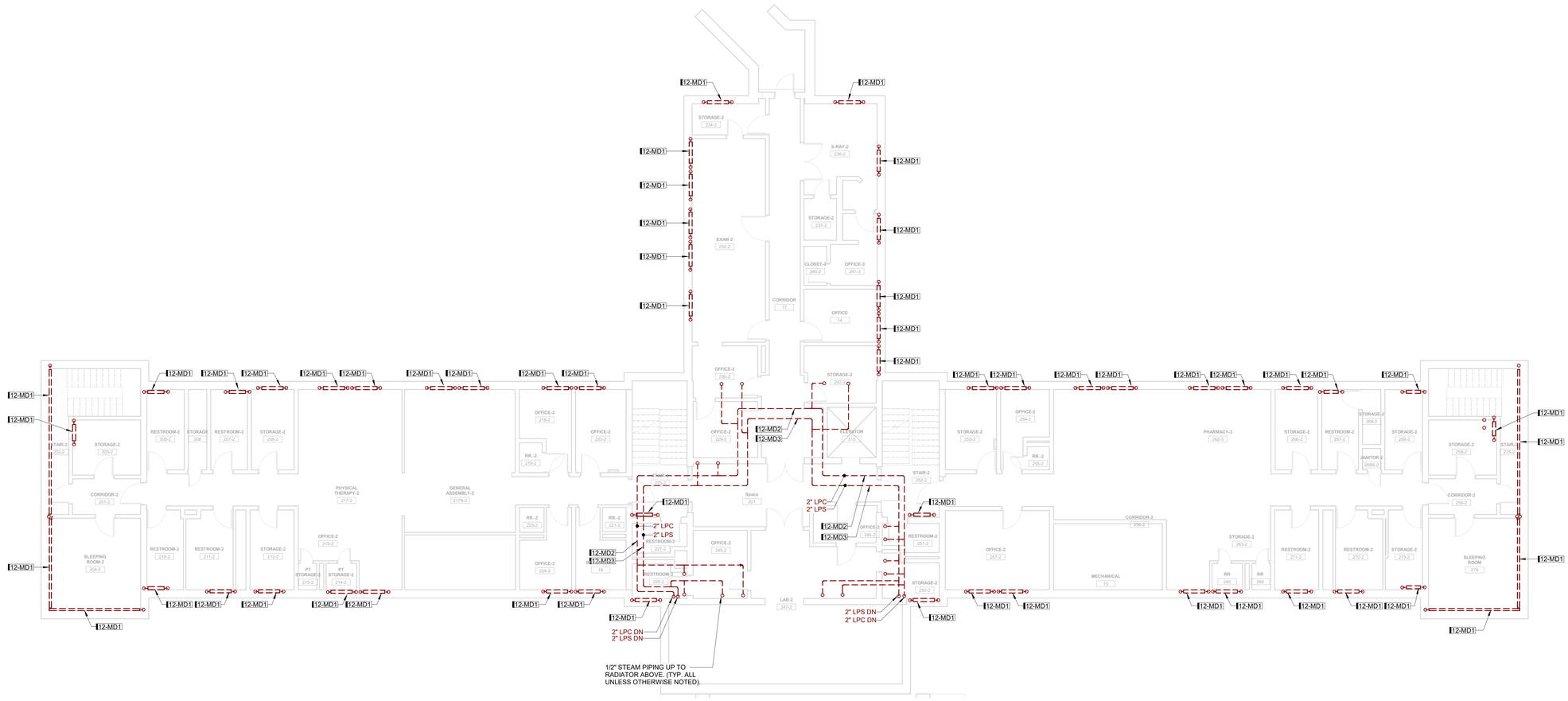


NORTH

C4 THIRD FLOOR MECHANICAL PIPING DEMOLITION PLAN

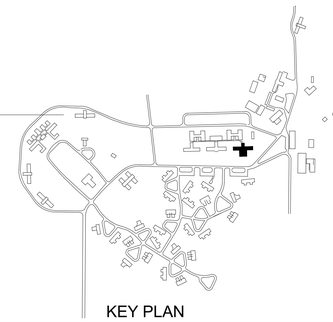
1/8" = 1'-0" 0' 12'



NORTH

A1 SECOND FLOOR MECHANICAL PIPING DEMOLITION PLAN

1/8" = 1'-0" 0' 12'



KEY PLAN

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SECOND FLOOR MECHANICAL PIPING DEMOLITION PLAN

12-MD102

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KEYNOTES

KEY	NOTE
12-M01	MAIN HOT WATER SUPPLY AND RETURN RISERS FOR PIPING LOOPS
12-M02	FIN TUBE PLACEMENT IS A REFERENCE. PLACE THE FIN TUBE IN A LOCATION ON THE DESIGNATED WALL THAT WILL NOT INTERFERE WITH EXISTING ELECTRICAL OUTLETS.
12-M13	INSTALL NEW COPPER PIPING IN PLACE OF THE EXISTING PEX HW PIPING.
12-M21	EXISTING HOT WATER PROPELLER UNIT HEATER TO REMAIN.
12-M22	MAIN HOT WATER PIPING TO GO THROUGH WALL. REFER TO DETAIL D6 ON M500 FOR WALL PENETRATION DETAIL.
12-M30	PROVIDE CARBON MONOXIDE MONITOR & ALARM. UL 2034 COMPLIANT HARD WIRED CARBON MONOXIDE DETECTOR WITH BATTERY BACKUP. FIREX HARDWIRED CARBON MONOXIDE DETECTOR WITH 9-VOLT BATTERY BACKUP OR ENGINEER PRE-APPROVED EQUIVALENT.

NOTE:

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1/2" PIPING UP TO FIN TUBE INSIDE EXISTING CONVECTOR CABINETS (TYP. ALL FIN TUBE UNLESS OTHERWISE NOTED). PIPING RUNS UP THROUGH WALLS AS CAN BE SEEN IN PHOTOS ON SHEET. CONTRACTOR MAY USE BRAIDED FLEXIBLE PIPING OR SOFT COPPER TO RUN PIPING THROUGH EXISTING PENETRATIONS.

SEE DETAIL B2 ON SHEET M500 FOR DETAILS ON PROPANE PIPING TO BOILERS.

1000 GALLON UNDERGROUND PROPANE STORAGE TANK

2" BURIED PG

BURIED TANK AND UNDERGROUND PIPING TO BUILDING BY PROPANE SUPPLIER

PIPING INSIDE BUILDING BY M.C.

NORTH

A1 BASEMENT MECHANICAL PIPING PLAN

1/8" = 1'-0"

KEY PLAN

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PROJECT NUMBER	2142203394
FIELD BOOK	

BASEMENT MECHANICAL PIPING PLAN

12-M100

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KEYNOTES

KEY	NOTE
12-M02	FIN TUBE PLACEMENT IS A REFERENCE. PLACE THE FIN TUBE IN A LOCATION ON THE DESIGNATED WALL THAT WILL NOT INTERFERE WITH EXISTING ELECTRICAL OUTLETS.
12-M03	STAIRWELL FIN TUBE IS TO BE INSTALLED 8'-0" AFF. FIN TUBE IS TO HAVE EXPANDED METAL MESH ENCLOSURE.
12-M06	SECOND FLOOR HOT WATER SUPPLY AND RETURN LOOP MAINS.
12-M18	EXTEND ENCLOSURE AROUND ROOM SUCH THAT IT ENCLOSES PIPE AND ENDS FLUSH WITH ADJACENT WALL. FIELD MEASURE LENGTH OF ENCLOSURE PRIOR TO ORDERING.
12-M25	INSTALL CUH INTO EXISTING STEAM CABINET. ADD SHEET METAL TO FILL ANY GAPS BETWEEN CUH AND EXISTING CABINET OPENING. UTILIZE SAME GAUGE SHEET METAL AS CUH AND PAINT TO MATCH CUH FINISH.
12-M26	MOUNT CABINET UNIT HEATER ON WALL 8'-0" A.F.F.
12-M27	MOUNT CUH ON FLOOR TIGHT TO WALL. LOCATION OF CUH IS A REFERENCE. PLACE ACCORDINGLY TO AVOID ELECTRICAL OUTLETS.
12-M31	INSTALL FIN TUBE INSIDE DIRECTLY NEXT TO CABINETS ALONG WALL.
12-M33	ROUTE HEATING WATER PIPING UP THROUGH CHASE FROM FIRST FLOOR. ROUTE PIPING INTO SECOND FLOOR CABINET FROM FIRST FLOOR TYPICAL OF ALL OTHER CABINETS.

NOTE:

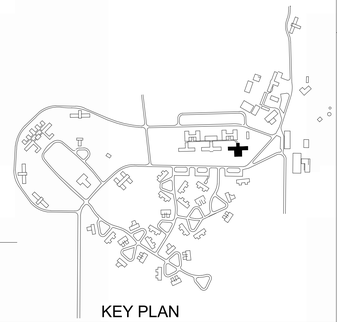
BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.

1/2" PIPING UP TO FIN TUBE INSIDE EXISTING STEAM CONVECTOR CABINETS (TYP. ALL FIN TUBE UNLESS OTHERWISE NOTED).

EXISTING PIPING IS PARTIALLY EMBEDDED IN EXTERIOR WALL. INTENT IS TO ROUTE NEW PIPING THROUGH EXISTING OPENINGS IN WALL AND FLOOR. RADIUSED SOFT COPPER MAY BE UTILIZED FOR PORTION OF PIPING INSIDE THE WALL AND UP THROUGH THE FLOOR AVOID NEEDING TO SOLDER OR BRAZE LINES INSIDE WALL.

NORTH

A1 FIRST FLOOR MECHANICAL PIPING PLAN
1/8" = 1'-0"



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FIRST FLOOR MECHANICAL PIPING PLAN

12-M101

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KEYNOTES	
KEY	NOTE
12-M02	FIN TUBE PLACEMENT IS A REFERENCE. PLACE THE FIN TUBE IN A LOCATION ON THE DESIGNATED WALL THAT WILL NOT INTERFERE WITH EXISTING ELECTRICAL OUTLETS.
12-M03	STAIRWELL FIN TUBE IS TO BE INSTALLED 8'-0" AFF. FIN TUBE IS TO HAVE EXPANDED METAL MESH ENCLOSURE.
12-M07	THIRD FLOOR HOT WATER RETURN AND SUPPLY LOOP MAINS.
12-M18	EXTEND ENCLOSURE AROUND ROOM SUCH THAT IT ENCLOSES PIPE AND ENDS FLUSH WITH ADJACENT WALL. FIELD MEASURE LENGTH OF ENCLOSURE PRIOR TO ORDERING.
12-M26	MOUNT CABINET UNIT HEATER ON WALL 8'-0" A.F.F.

NOTE:

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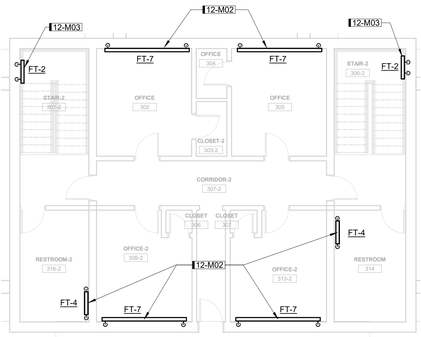
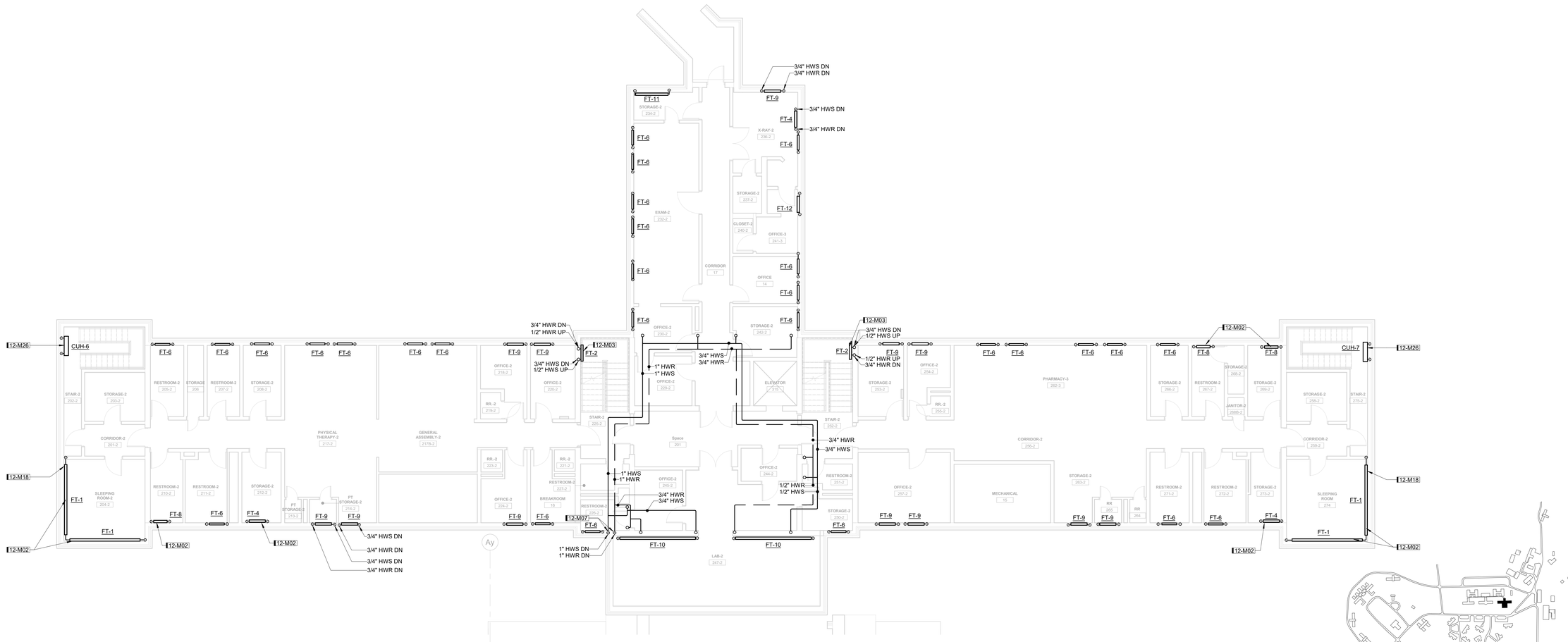


NORTH

C5 THIRD FLOOR MECHANICAL PIPING PLAN

1/8" = 1'-0" 0 12'



NORTH

A1 SECOND FLOOR MECHANICAL PIPING PLAN

1/8" = 1'-0" 0 12'

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SECOND AND THIRD FLOOR MECHANICAL PIPING PLAN

12-M102

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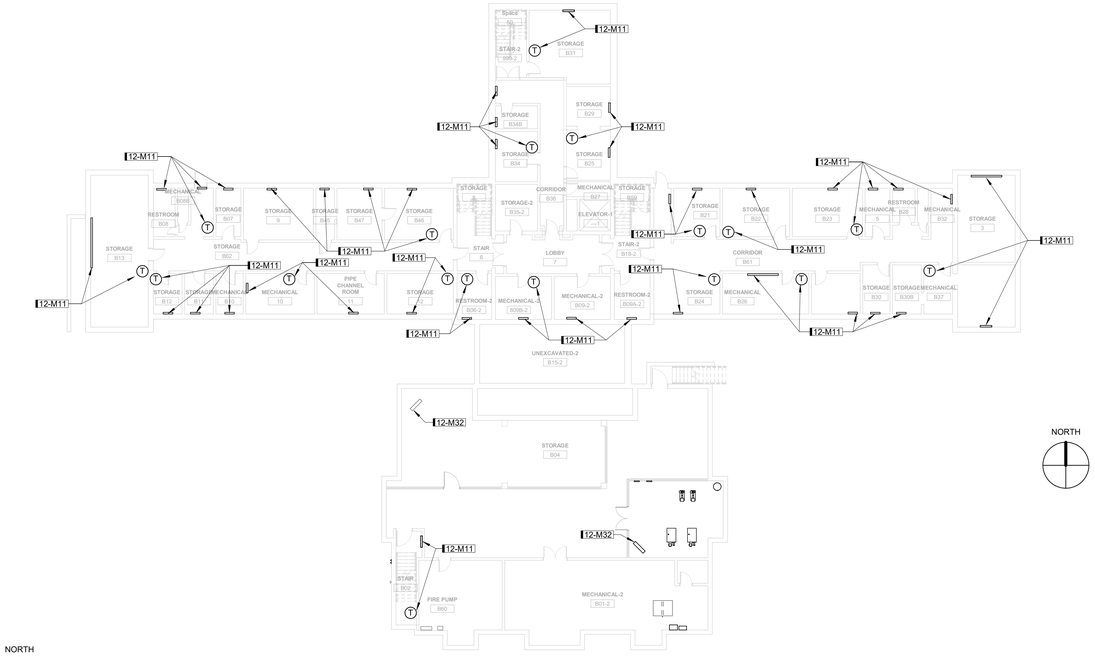
KEYNOTES	
KEY	NOTE
12-M10	THERMOSTAT SERVING CUH CALLED OUT WITH LEADERS.
12-M11	THERMOSTAT SERVES THE HEATING ZONE OF CONVECTORS CALLED OUT WITH LEADERS.
12-M32	EXISTING THERMOSTAT TO BE RELOCATED FROM PREVIOUS LOCATION.

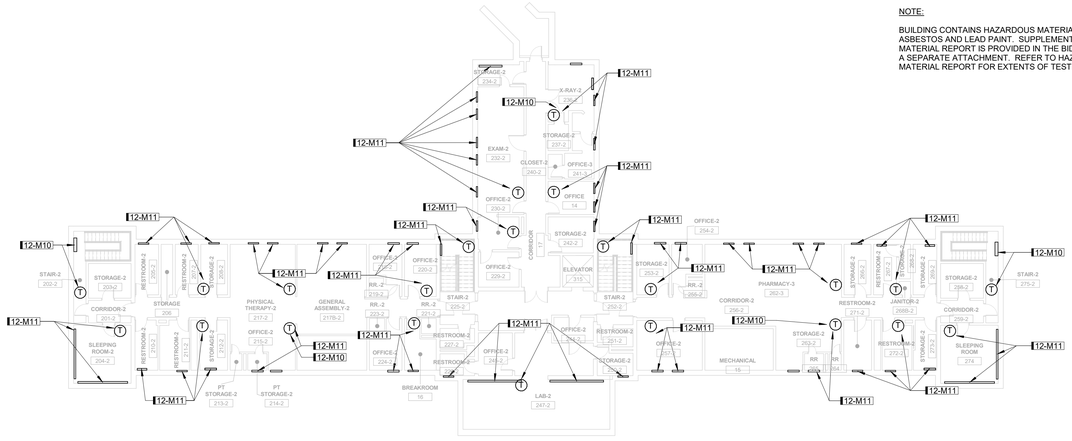
NOTE:

BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.



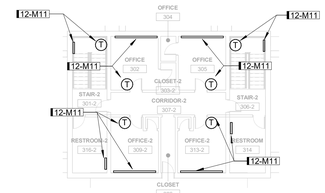
NORTH

A4 BASEMENT THERMOSTAT PLAN
1/16" = 1'-0" 0 24'



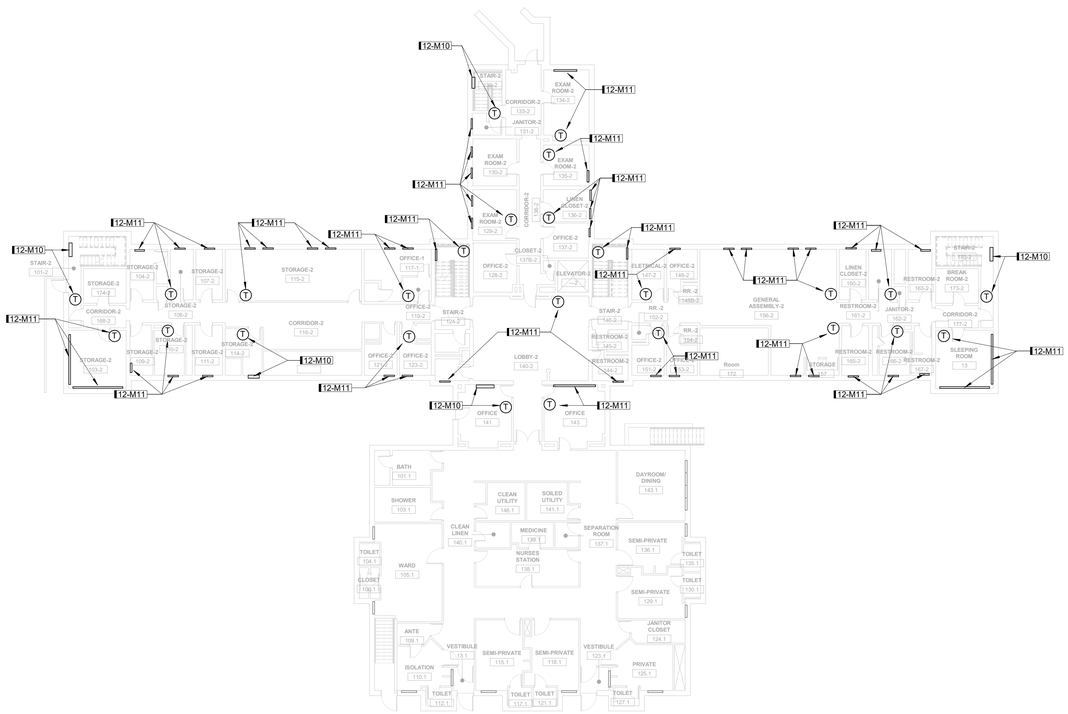
NORTH

D4 SECOND FLOOR THERMOSTAT PLAN
1/16" = 1'-0" 0 24'



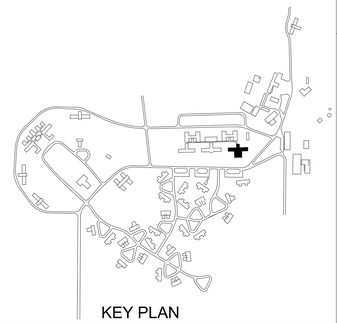
NORTH

F3 THIRD FLOOR THERMOSTAT PLAN
1/16" = 1'-0" 0 24'



NORTH

A1 FIRST FLOOR THERMOSTAT PLAN
1/16" = 1'-0" 0 24'



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THERMOSTAT PLANS

12-M300

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KEYNOTES	
KEY	NOTE
12-M19	INSTALL HOT WATER COIL TO FIT IN EXISTING AIR HANDLING UNIT WHERE STEAM COIL WAS REMOVED
12-M24	ROUTE TEMPERED STEAM CONDENSATE DRAIN TO FLOOR DRAIN FULL SIZE OF DRAIN OUTLET.
12-M28	RELOCATED PROPELLER UNIT HEATER TO BE HUNG AND CONNECTED HERE.
12-M29	RE-BALANCE EXISTING AHU TO 3200 CFM.
12-M30	PROVIDE CARBON MONOXIDE MONITOR & ALARM. UL 2034 COMPLIANT HARD WIRED CARBON MONOXIDE DETECTOR WITH BATTERY BACKUP. FIREX HARDWIRED CARBON MONOXIDE DETECTOR WITH 9-VOLT BATTERY BACKUP OR ENGINEER PRE-APPROVED EQUIVALENT.

NOTE:

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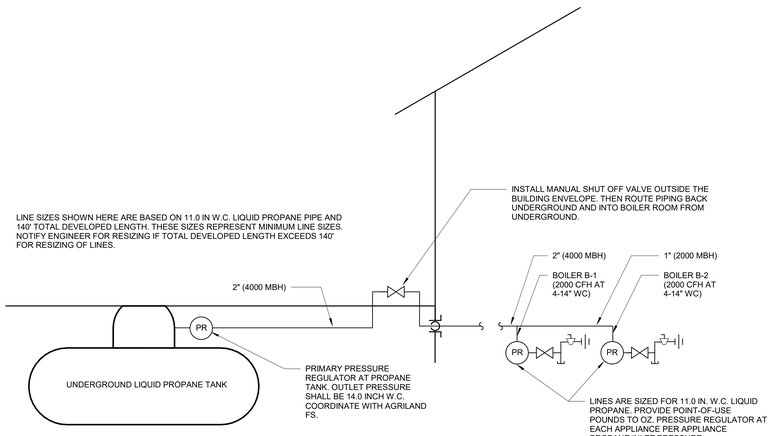


NOTES:

1)PROVIDE AND INSTALL GAS SHUT OFF VALVE ON RISE OF WALL FOR GAS UNIT HEATERS. FEED GAS PIPING THROUGH EAST WALL FOR EQUIPMENT CONNECTION. PROVIDE PIPING PORTAL FOR WALL PENETRATION. VERIFY LOCATION IN FIELD.

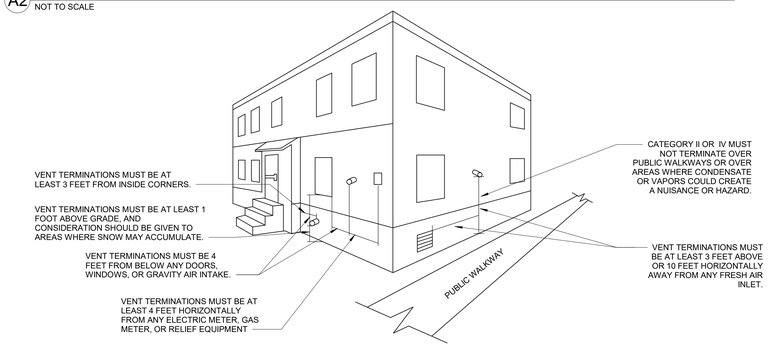
2) TANK VALVE COVER SHALL BE AT LEAST 10' FROM EXTERIOR SOURCES OF IGNITION, (AIR CONDITIONER, TRANSFORMER OR GENERATOR) OPENINGS INTO DIRECT-VENT GAS APPLIANCES, OR MECHANICAL VENTILATION AIR INTAKE, NO PART OF UNDERGROUND TANK SHALL BE LESS THAN 10' FROM ANY BUILDING (FOUNDATION), WELL, SEPTIC SYSTEM OR ADJOINING PROPERTY LINE WHICH MAY LATER BE BUILT UPON

3) LIQUID PROPANE (LP) PIPING SHALL BE METALLIC PIPE, SCHEDULE 40, ASTM A-53. FITTING SHALL BE STANDARD WEIGHT MALLEABLE IRON WITH THREADED CONNECTIONS. THREADED CONNECTIONS SHALL BE SEALED WITH AN APPROVED THREAD COMPOUND. LP PIPING SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 54 (LATEST EDITION) ALL LP PIPING SHALL BE PAINTED WITH ONE COAT OF PRIMER AND ONE COAT OF PAINT. COLOR SHALL BE SELECTED BY THE ARCHITECT. PLACE AT INTERVALS OF 10', AND AT CHANGES IN DIRECTION.

4) PRESSURE REGULATOR AND SHUT OFF VALVE DROPS INITIAL PRESSURE DOWN TO 14.0 INCHES W.C. ROUTE SCHEDULE 40 METALLIC PIPING BELOW GRADE FROM TANK TO BUILDING THEN SCHEDULE 40 BLACK IRON PIPE FOR RISE TO ABOVE GRADE AND DISTRIBUTION ABOVE GRADE.

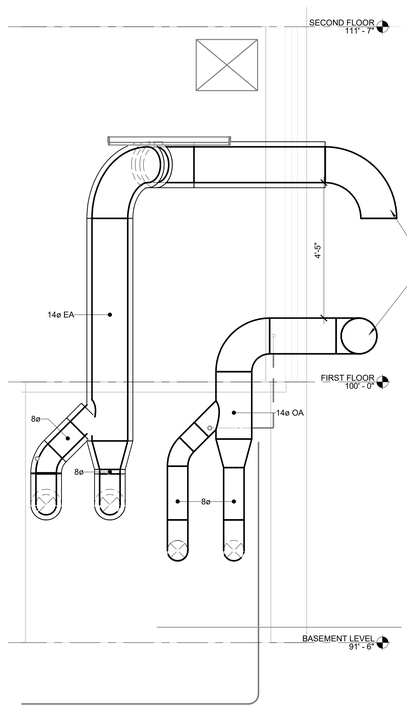
5) PROVIDE COMPLETE LIQUID PROPANE SYSTEM TO SERVE BUILDING INCLUDING BELOW GROUND TANK, REGULATORS, VALVES, VENTS AND FITTINGS FOR A CONNECTED TOTAL L.P. LOAD OF 4000 MBH (LP) AT 140' DEVELOPED LENGTH OF PIPING.

A2 LIQUID PROPANE TANK RISER
NOT TO SCALE



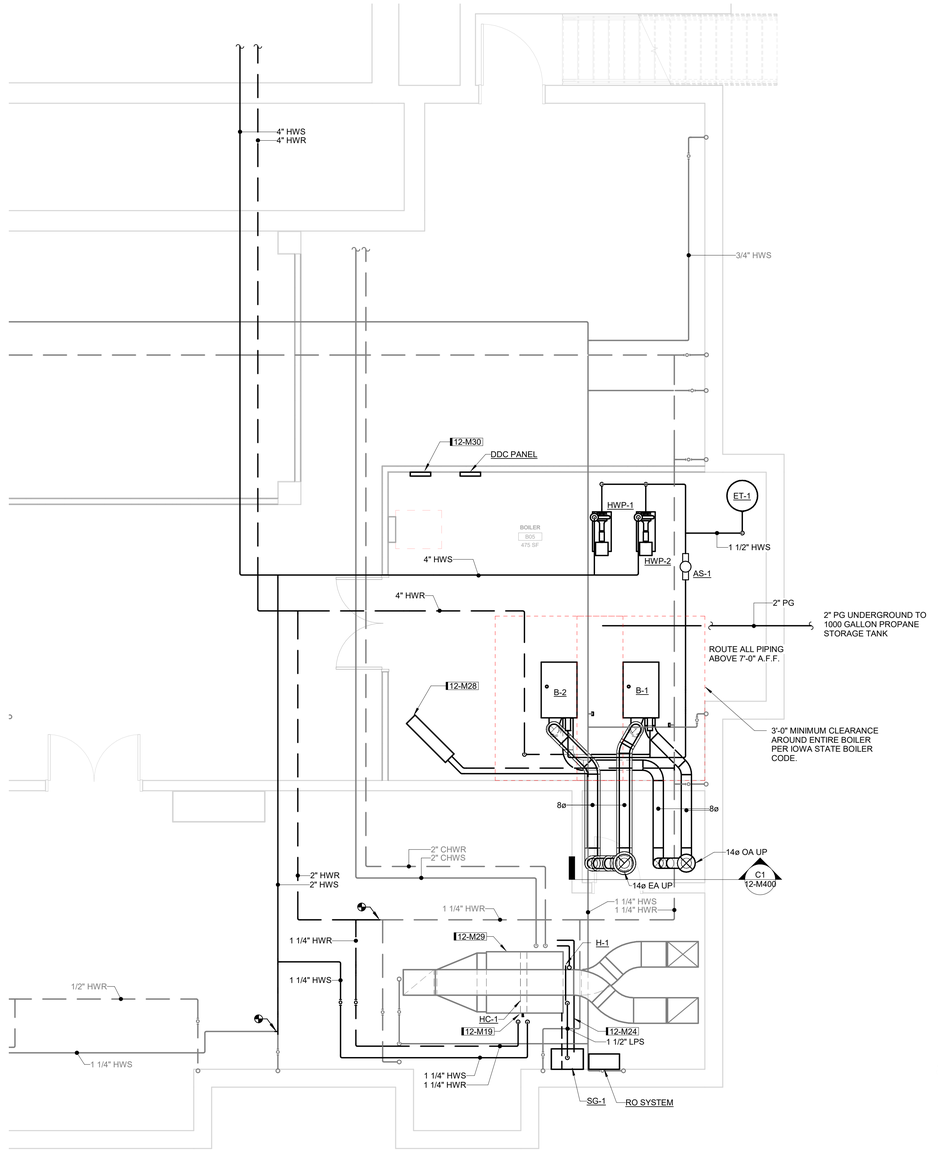
NOTE: VERTICAL TERMINATIONS SHALL EXTEND AT LEAST 3 FEET ABOVE THE HIGHEST POINT WHERE IT PASSES THROUGH A ROOF OF A BUILDING AND AT LEAST 3 FEET HIGHER THAN ANY PORTION OF THE BUILDING WITHIN A HORIZONTAL DISTANCE OF 10 FEET. TERMINATIONS THAT EXTEND MORE THAN 2 FEET ABOVE THE ROOF MUST BE LATERALLY SUPPORTED.

A1 VENT TERMINATION DETAIL
NOT TO SCALE



NORTH

C1 BOILER VENT TERMINATION SECTION
1/2" = 1'-0" 0 3'



NORTH

E1 BASEMENT MECHANICAL PIPING PLAN
1/4" = 1'-0" 0 6'

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ENLARGED MECHANICAL PLANS

12-M400

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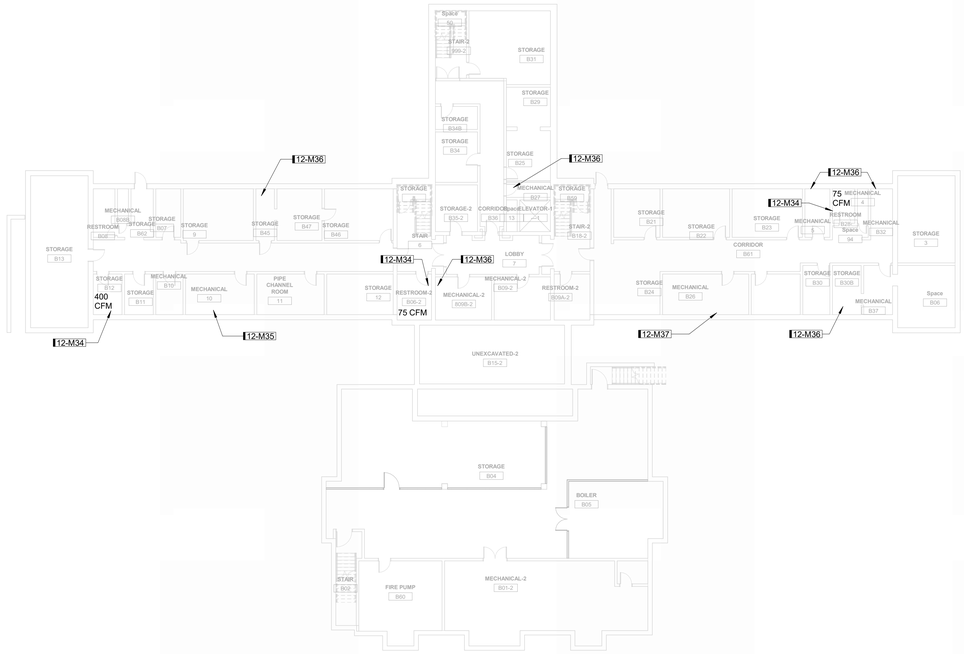
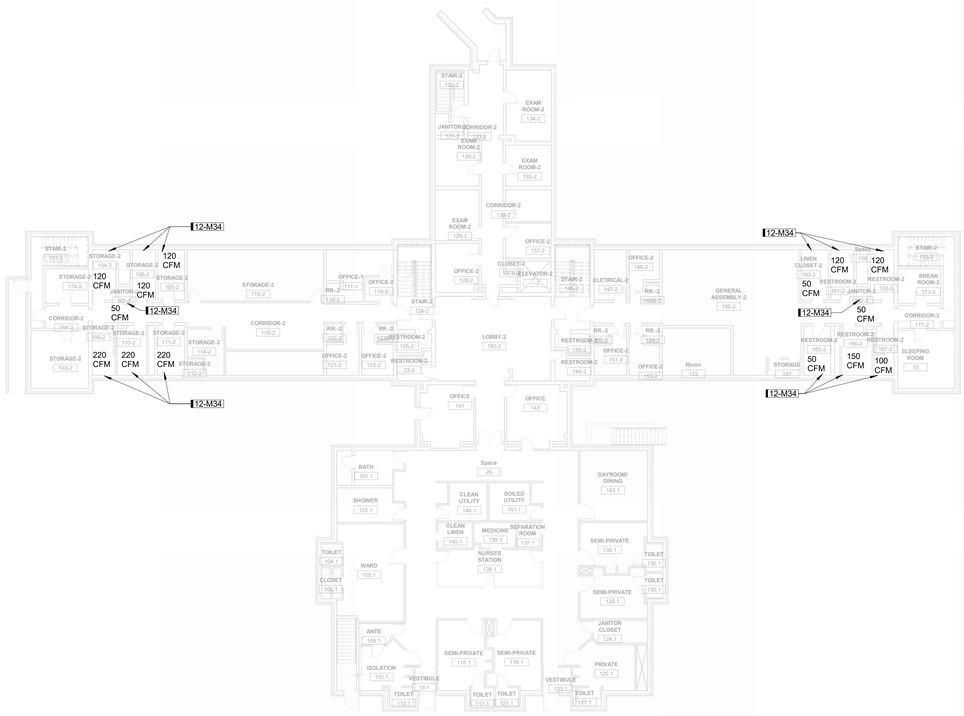


NORTH

A4 BASEMENT EXHAUST MECHANICAL PLAN

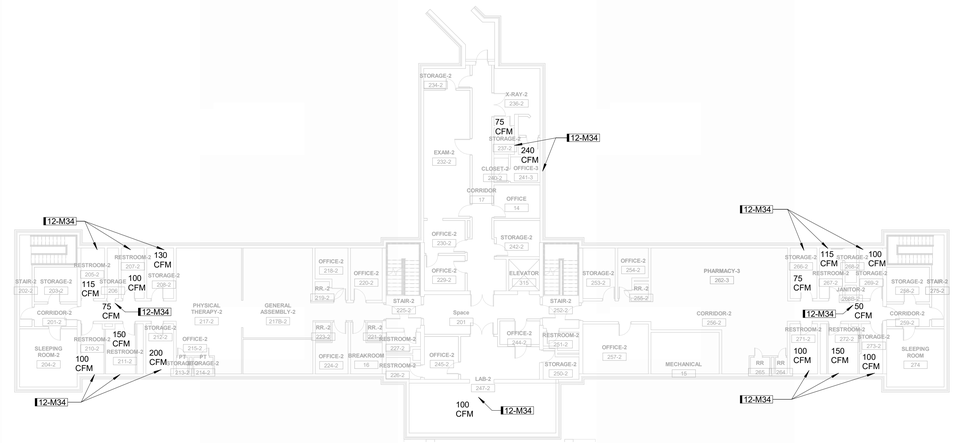
1/16" = 1'-0" 0 24'



NORTH

A1 FIRST FLOOR EXHAUST MECHANICAL PLAN

1/16" = 1'-0" 0 24'



NORTH

E1 SECOND FLOOR EXHAUST MECHANICAL PLAN

1/16" = 1'-0" 0 24'

KEYNOTES

KEY	NOTE
12-M34	REBALANCE EXHAUST CFM TO CFM SHOWN.
12-M35	REBALANCE AHU-1MC MINIMUM OUTSIDE AIR TO 2500 CFM. COORDINATE BALANCING WITH TEMPERATURE CONTROLS CONTRACTOR AND IDENTIFY THE ACTUATOR POSITION CORRELATING WITH THE MINIMUM OUTSIDE AIR CFM WITH ALL VAV BOXES OPEN, ALL VAV BOXES AT MINIMUM AND VAV BOXES AT 50% OPEN SUCH THAT MINIMUM OA CFM IS MAINTAINED ACROSS THE AHU CFM RANGE.
12-M36	ROOM TO REMAIN ON EXHAUST SYSTEM. BALANCER TO TEST CURRENT SUPPLY AIR CFM PRIOR TO REBALANCING. REBALANCE EXHAUST TO MATCH SUPPLY AIR CFM.
12-M37	REBALANCE AHU-2MC MINIMUM OUTSIDE AIR TO 1820 CFM. COORDINATE BALANCING WITH TEMPERATURE CONTROLS CONTRACTOR AND IDENTIFY THE ACTUATOR POSITION CORRELATING WITH THE MINIMUM OUTSIDE AIR CFM WITH ALL VAV BOXES OPEN, ALL VAV BOXES AT MINIMUM AND VAV BOXES AT 50% OPEN SUCH THAT MINIMUM OA CFM IS MAINTAINED ACROSS THE AHU CFM RANGE.

NOTE:

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ENLARGED AIR REBALANCING PLANS

12-M401

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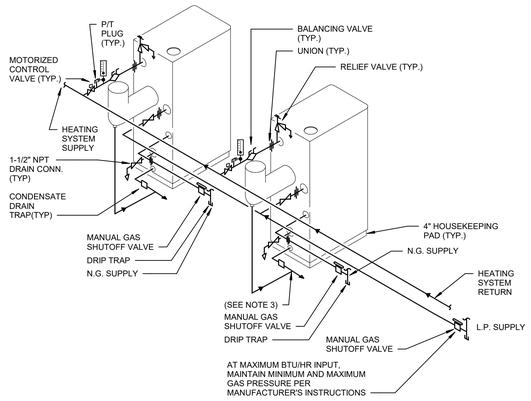


NOTES:

1) SHELL DRAIN VALVE AND CONDENSATE DRAIN TRAP SHOULD BE ARRANGED TO PERMIT THE FLUIDS TO DRAIN FREELY, BY GRAVITY, TO A CONVENIENT FLOOR DRAIN. RELIEF VALVE SHOULD BE PIPED VERTICALLY TO A HEIGHT 18" ABOVE FLOOR.

2) LOCATE WATER INLET AND OUTLET FITTINGS (I.E. UNIONS, ELBOWS, ETC.) A MINIMUM OF 6" FROM BOILER FITTINGS TO PREVENT INTERFERENCE WITH REMOVAL OF BOILER PANELS AND COVERS. ALL PIPING AND ELECTRIC CONNECTIONS (SERVICE SWITCHES, CONDUIT BOXES) SHOULD LIKEWISE BE 6" AWAY FROM SIDE PANELS.

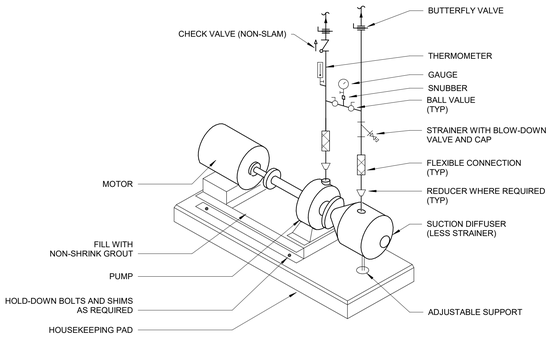
3) EACH CONDENSATE PORT SHALL BE PIPED INDIVIDUALLY TO MAIN DRAIN. EACH DRAIN SHALL ROUTE THROUGH ACID NEUTRALIZATION SYSTEM WITH LIMESTONE CHIPS PRIOR TO DISCHARGING INTO SANITARY SEWER SYSTEM. ACID NEUTRALIZATION TANK SHALL BE SCIENTIFIC PLASTICS COMPANY, INC. W121206-001 OR APPROVED EQUIVALENT.

B2 GAS FIRED BOILER PIPING DETAIL
NOT TO SCALE

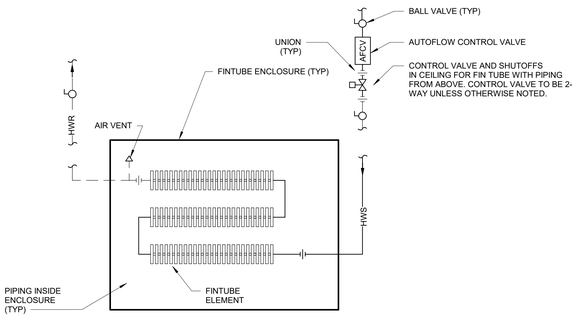
B3 POT FEEDER DETAIL
NOT TO SCALE

B5 1 TIER FIN TUBE PIPING DIAGRAM - PIPING IN FLOOR BELOW
NOT TO SCALE

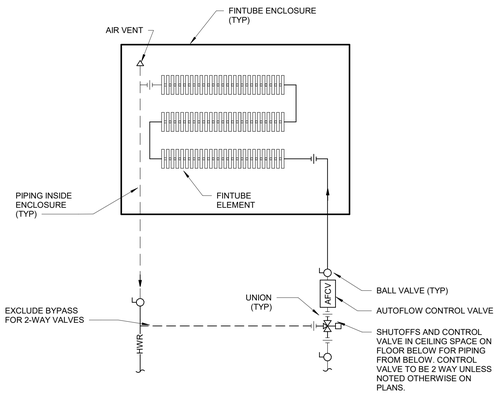
B6 1 TIER FIN TUBE PIPING DIAGRAM - PIPING IN CEILING ABOVE
NOT TO SCALE



D2 BASE MOUNTED PUMP DETAIL
NOT TO SCALE

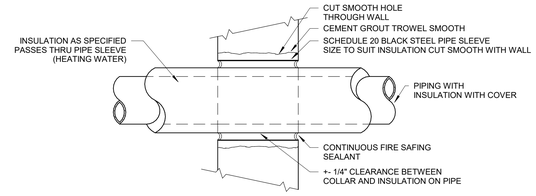


D3 3 TIER FIN TUBE PIPING DIAGRAM - PIPING IN CEILING ABOVE
NOT TO SCALE

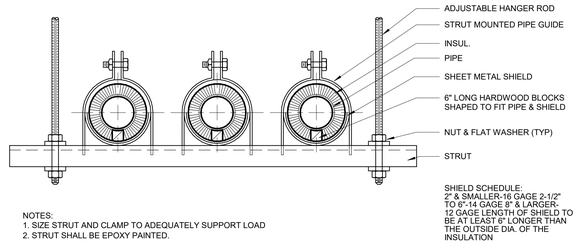


D5 3 TIER FIN TUBE PIPING DIAGRAM - PIPING IN FLOOR BELOW
NOT TO SCALE

D6 INTERIOR WALL PIPE PENETRATION DETAIL
NOT TO SCALE

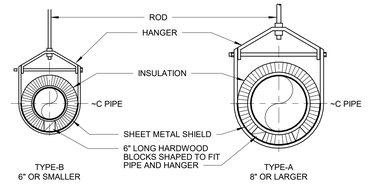


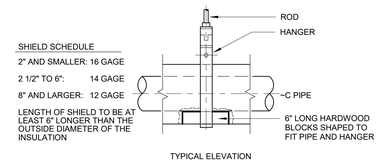
F2 INTERIOR FIRE RATED WALL PIPE PENETRATION DETAIL
NOT TO SCALE



NOTES:
1. SIZE STRUT AND CLAMP TO ADEQUATELY SUPPORT LOAD
2. STRUT SHALL BE EPOXY PAINTED.

F3 TRAPEZE TYPE HANGER DETAIL
NOT TO SCALE





G5 INSULATED PIPE HANGER DETAIL
NOT TO SCALE

G1 Air Separator/Bladder Type Exp. Tank Detail
NOT TO SCALE

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MECHANICAL DETAILS

12-M500

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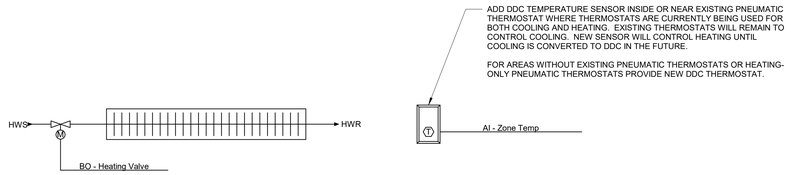


A2 CONTROLS SCHEMATIC - FIN TUBE HEATER
NOT TO SCALE

1. CONVECTIVE / FIN TUBE HEATER (TYPICAL OF 1)

RUN CONDITIONS - CONTINUOUS:
THE UNIT SHALL RUN CONTINUOUSLY AND SHALL MAINTAIN A HEATING SETPOINT OF 70°F (ADJ.).

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- LOW ZONE TEMP: IF THE ZONE TEMPERATURE IS LESS THAN THE HEATING SETPOINT BY 10°F (ADJ.).

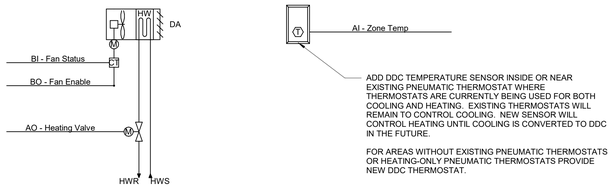
HEATING COIL VALVE:
THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND OPEN OR CLOSE THE HEATING COIL VALVE TO MAINTAIN ITS HEATING SETPOINT.

THE HEATING SHALL BE ENABLED WHENEVER:
- OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.).
- AND THE ZONE TEMPERATURE IS BELOW HEATING SETPOINT.

CREATE A TABLE IN THE BUILDING AUTOMATION GRAPHICS WHICH DISPLAYS EACH FIN TUBE IN THE BUILDING WITH FIN TUBE LOCATION, VALVE POSITION, SPACE TEMPERATURE AND SPACE TEMPERATURE SETPOINT. ONE FIN TUBE PER LINE IN THE TABLE.

POINTS MATRIX - FIN TUBE HEATER

POINT NAME	HARDWARE POINTS				SOFTWARE POINTS						SHOW ON GRAPHIC
	AI	AO	BI	BO	AV	BV	LOOP	SCHED	TREND	ALARM	
ZONE TEMP	x								x		x
HEATING VALVE				x					x		x
HEATING SETPOINT					x				x		x
LOW ZONE TEMP										x	



A3 CONTROLS SCHEMATIC - UNIT HEATER
NOT TO SCALE

1. UNIT HEATER

THE UNIT SHALL MAINTAIN A HEATING SETPOINT OF 70°F (ADJ.).

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- LOW ZONE TEMP: IF THE ZONE TEMPERATURE IS LESS THAN THE HEATING SETPOINT BY 10°F (ADJ.).

FAN:
THE FAN SHALL RUN ANYTIME THE ZONE TEMPERATURE IS BELOW HEATING SETPOINT, UNLESS SHUTDOWN ON SAFETIES.

HEATING COIL VALVE:
THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND MODULATE THE HEATING COIL VALVE TO MAINTAIN ITS HEATING SETPOINT.

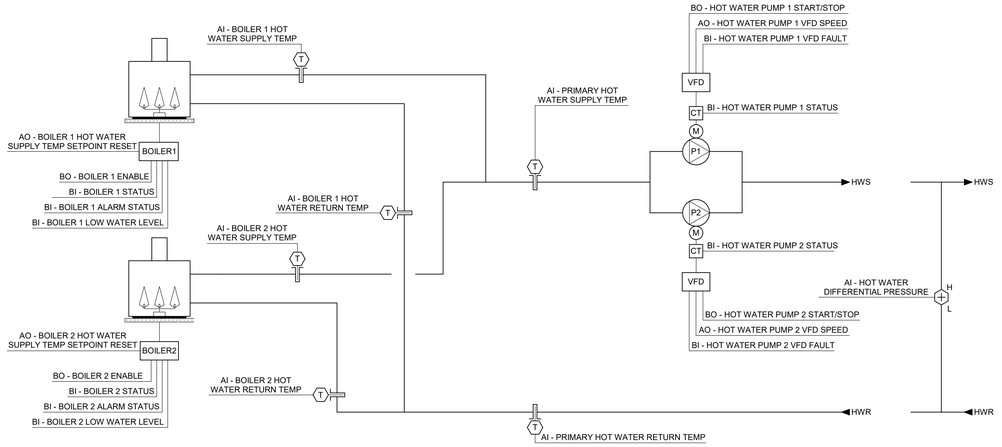
THE HEATING SHALL BE ENABLED WHENEVER:
- OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.).
- AND THE ZONE TEMPERATURE IS BELOW HEATING SETPOINT.
- AND THE FAN IS ON.

FAN STATUS:
THE CONTROLLER SHALL MONITOR THE FAN STATUS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- FAN RUNTIME EXCEEDED: FAN STATUS RUNTIME EXCEEDS 2000 CONTINUOUS HOURS (ADJ.).

POINTS MATRIX - UNIT HEATER

POINT NAME	HARDWARE POINTS				SOFTWARE POINTS						SHOW ON GRAPHIC
	AI	AO	BI	BO	AV	BV	LOOP	SCHED	TREND	ALARM	
ZONE TEMP	x								x		x
HEATING VALVE		x							x		x
FAN STATUS			x						x		x
FAN ENABLE				x							x
HEATING SETPOINT					x				x		x
FAN FAILURE										x	
FAN IN HAND										x	
LOW ZONE TEMP										x	



D4 CONTROLS SCHEMATIC - TWO BOILER SYSTEM
NOT TO SCALE

1. TWO BOILER SYSTEM WITH CONDENSING BOILERS, PRIMARY-SECONDARY FLOW.

BOILER SYSTEM RUN CONDITIONS:
THE BOILER SYSTEM SHALL BE ENABLED TO RUN WHENEVER:
- A HOT WATER COIL OR RADIATOR NEED HEATING.
- AND OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.).

TO PREVENT SHORT CYCLING, THE BOILER SYSTEM SHALL RUN FOR AND BE OFF FOR MINIMUM ADJUSTABLE TIMES (BOTH USER DEFINABLE), UNLESS SHUTDOWN ON SAFETIES OR OUTSIDE AIR CONDITIONS.

THE BOILER SHALL RUN SUBJECT TO ITS OWN INTERNAL SAFETIES AND CONTROLS.

THE BOILER SYSTEM SHALL ALSO RUN FOR FREEZE PROTECTION WHENEVER THE OUTSIDE AIR TEMPERATURE IS LESS THAN 38°F (ADJ.).

BOILER 1 SAFETIES:
THE FOLLOWING SAFETIES SHALL BE MONITORED:
- BOILER ALARM.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- BOILER ALARM.

BOILER 2 SAFETIES:
THE FOLLOWING SAFETIES SHALL BE MONITORED:
- BOILER ALARM.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- BOILER ALARM.

HOT WATER PUMP LEAD/LAG OPERATION:
THE TWO HOT WATER PUMPS SHALL OPERATE IN A LEAD/LAG FASHION.
- THE LEAD PUMP SHALL RUN FIRST.
- ON FAILURE OF THE LEAD PUMP, THE LAG PUMP SHALL RUN AND THE LEAD PUMP SHALL TURN OFF.
- ON DECREASING HOT WATER DIFFERENTIAL PRESSURE, THE LAG PUMP SHALL STAGE ON AND RUN IN UNISON WITH THE LEAD PUMP TO MAINTAIN HOT WATER DIFFERENTIAL PRESSURE SETPOINT.

THE DESIGNATED LEAD PUMP SHALL ROTATE UPON ONE OF THE FOLLOWING CONDITIONS (USER SELECTABLE). THE LAG PUMP SHALL BE ENABLED PRIOR TO THE LEAD PUMP BEING DISABLED AND VFD SPEEDS STAGED SUCH THAT BOILER NUISANCE TRIPS DO NOT OCCUR BECAUSE OF LOW FLOW.
- MANUALLY THROUGH A SOFTWARE SWITCH
- IF PUMP RUNTIME (ADJ.) IS EXCEEDED
- DAILY
- WEEKLY
- MONTHLY

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HOT WATER PUMP 1
  - FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
  - RUNNING IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
  - RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER 3000 CONTINOUS HOURS LIMIT.
  - VFD FAULT.
- HOT WATER PUMP 2
  - FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
  - RUNNING IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
  - RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER 3000 CONTINOUS HOURS LIMIT.
  - VFD FAULT.

HOT WATER DIFFERENTIAL PRESSURE CONTROL:
THE CONTROLLER SHALL MEASURE HOT WATER DIFFERENTIAL PRESSURE AND MODULATE THE HOT WATER PUMP VFDS IN SEQUENCE TO MAINTAIN ITS HOT WATER DIFFERENTIAL PRESSURE SETPOINT AT THE WORST CASE SENSOR.

THE FOLLOWING SETPOINTS ARE RECOMMENDED VALUES. ALL SETPOINTS SHALL BE FIELD ADJUSTED DURING THE COMMISSIONING PERIOD TO MEET THE REQUIREMENTS OF ACTUAL FIELD CONDITIONS.

THE CONTROLLER SHALL MODULATE HOT WATER PUMP SPEEDS TO MAINTAIN A HOT WATER DIFFERENTIAL PRESSURE OF 12 PSI (ADJ.). THE VFDS MINIMUM SPEED SHALL NOT DROP BELOW 20% (ADJ.).

ON DROPPING HOT WATER DIFFERENTIAL PRESSURE, THE VFDS SHALL STAGE ON AND RUN TO MAINTAIN SETPOINT AS FOLLOWS:
- THE CONTROLLER SHALL MODULATE THE LEAD VFD TO MAINTAIN SETPOINT.
- IF THE LEAD VFD SPEED IS GREATER THAN A SETPOINT OF 90% (ADJ.), THE LAG VFD SHALL STAGE ON.
- THE LAG VFD SHALL RAMP UP TO MATCH THE LEAD VFD SPEED AND THEN RUN IN UNISON WITH THE LEAD VFD TO MAINTAIN SETPOINT.

ON RISING HOT WATER DIFFERENTIAL PRESSURE, THE VFDS SHALL STAGE OFF AS FOLLOWS:
- IF THE VFDS SPEEDS DROPS BACK TO 60% (ADJ.) BELOW SETPOINT, THE LAG VFD SHALL STAGE OFF.
- THE LEAD VFD SHALL CONTINUE TO RUN TO MAINTAIN SETPOINT.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH HOT WATER DIFFERENTIAL PRESSURE: IF 25% (ADJ.) GREATER THAN SETPOINT.
- LOW HOT WATER DIFFERENTIAL PRESSURE: IF 25% (ADJ.) LESS THAN SETPOINT.

THE PACKAGED BOILER CONTROLS SHALL MANAGE LEAD/LAG CASCADING OPERATION.

HOT WATER SUPPLY TEMPERATURE SETPOINT RESET:
THE HOT WATER SUPPLY TEMPERATURE SETPOINT SHALL RESET BASED ON OUTSIDE AIR TEMPERATURE.

AS OUTSIDE AIR TEMPERATURE RISES FROM 0 F (ADJ.) TO 70 F (ADJ.) THE HOT WATER SUPPLY TEMPERATURE SETPOINT SHALL RESET DOWNWARDS FROM 180 F (ADJ.) TO 90 F (ADJ.) FROM THE CURRENT BOILER SETPOINT.

PRIMARY HOT WATER TEMPERATURE MONITORING:
THE FOLLOWING TEMPERATURES SHALL BE MONITORED:
- PRIMARY HOT WATER SUPPLY.
- PRIMARY HOT WATER RETURN.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH PRIMARY HOT WATER SUPPLY TEMP: IF GREATER THAN 190°F (ADJ.).
- LOW PRIMARY HOT WATER SUPPLY TEMP: IF LESS THAN 80°F (ADJ.).

BOILER 1 HOT WATER TEMPERATURE MONITORING:
THE FOLLOWING TEMPERATURES SHALL BE MONITORED:
- BOILER 1 HOT WATER SUPPLY.
- BOILER 1 HOT WATER RETURN.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH HOT WATER SUPPLY TEMP: IF GREATER THAN 190°F (ADJ.).
- LOW HOT WATER SUPPLY TEMP: IF LESS THAN 80°F (ADJ.).

BOILER 2 HOT WATER TEMPERATURE MONITORING:
THE FOLLOWING TEMPERATURES SHALL BE MONITORED:
- BOILER 2 HOT WATER SUPPLY.
- BOILER 2 HOT WATER RETURN.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH HOT WATER SUPPLY TEMP: IF GREATER THAN 190°F (ADJ.).
- LOW HOT WATER SUPPLY TEMP: IF LESS THAN 80°F (ADJ.).

PROVIDE ALARM FROM MECHANICAL WATER METER ON WATER FILL LINE FOR SYSTEM. ALARM IF WATER METER OUTPUTS ANY PULSE SIGNALS.

POINTS MATRIX - BOILER

POINT NAME	HARDWARE POINTS				SOFTWARE POINTS						SHOW ON GRAPHIC
	AI	AO	BI	BO	AV	BV	LOOP	SCHED	TREND	ALARM	
BOILER 1 HOT WATER RETURN TEMP	x				x				x		x
BOILER 1 HOT WATER SUPPLY TEMP					x				x		x
BOILER 2 HOT WATER RETURN TEMP					x				x		x
BOILER 2 HOT WATER SUPPLY TEMP					x				x		x
HOT WATER DIFFERENTIAL PRESSURE	x								x		x
PRIMARY HOT WATER RETURN TEMP	x								x		x
PRIMARY HOT WATER SUPPLY TEMP	x								x		x
BOILER 1 HOT WATER SUPPLY TEMP SETPOINT RESET					x				x		x
BOILER 2 HOT WATER SUPPLY TEMP SETPOINT RESET					x				x		x
HOT WATER PUMP 1 VFD SPEED		x							x		x
HOT WATER PUMP 2 VFD SPEED		x							x		x
BOILER 1 ALARM STATUS						x			x	x	x
BOILER 1 STATUS						x			x		x
BOILER 2 ALARM STATUS						x			x	x	x
BOILER 2 STATUS						x			x		x
CIRCULATION PUMP 1 STATUS			x						x		x
CIRCULATION PUMP 2 STATUS			x						x		x
HOT WATER PUMP 1 STATUS			x						x		x
HOT WATER PUMP 1 VFD FAULT			x							x	x
HOT WATER PUMP 2 STATUS			x						x		x
HOT WATER PUMP 2 VFD FAULT			x							x	x
BOILER 1 ENABLE						x					x
BOILER 2 ENABLE						x					x
HOT WATER PUMP 1 START/STOP				x							x
HOT WATER PUMP 2 START/STOP				x							x
HOT WATER DIFFERENTIAL PRESSURE SETPOINT					x				x		x
OUTSIDE AIR TEMP					x						x
BOILER 1 HIGH HOT WATER SUPPLY TEMP										x	
BOILER 1 LOW HOT WATER SUPPLY TEMP										x	
BOILER 2 HIGH HOT WATER SUPPLY TEMP										x	
BOILER 2 LOW HOT WATER SUPPLY TEMP										x	
HIGH HOT WATER DIFFERENTIAL PRESSURE										x	
HIGH PRIMARY HOT WATER SUPPLY TEMP										x	
HOT WATER PUMP 1 FAILURE										x	
HOT WATER PUMP 1 RUNNING IN HAND										x	
HOT WATER PUMP 1 RUNTIME EXCEEDED										x	
HOT WATER PUMP 2 FAILURE										x	
HOT WATER PUMP 2 RUNNING IN HAND										x	
HOT WATER PUMP 2 RUNTIME EXCEEDED										x	
LOW HOT WATER DIFFERENTIAL PRESSURE										x	
LOW PRIMARY HOT WATER SUPPLY TEMP										x	
WATER METER PULSE ALARM	x								x	x	x

C1 BOILER & PUMP SEQUENCE OF OPERATION
NOT TO SCALE

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12-Med Center

(#9279.30) WRC Decentralization Phase 3

Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

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APPROVED BY	TLS
ISSUED FOR	BIDDING
ISSUE DATE	2024-01-11
PROJECT NUMBER	2142203394
FIELD BOOK	

CONTROLS

12-M501

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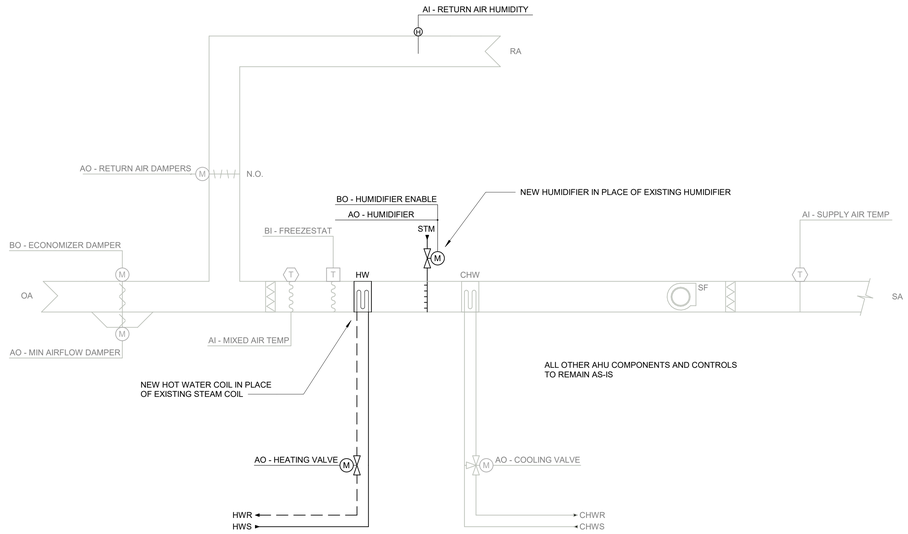

E4 MED CENTER ADDITION AIR HANDLING UNIT CONTROLS SCHEMATIC

NOT TO SCALE

HEATING COIL VALVE:
INTEGRATE THE NEW COIL VALVE INTO THE EXISTING CONTROL SEQUENCE. THE CONTROLLER SHALL MEASURE THE MIXED AIR TEMPERATURE AND MODULATE THE PREHEATING COIL VALVE TO MAINTAIN THE SUPPLY AIR TEMPERATURE SETPOINT.

THE HEATING SHALL BE ENABLED WHENEVER:
- OUTSIDE AIR TEMPERATURE IS LESS THAN 60°F (ADJ.).
- AND THE ECONOMIZER (IF PRESENT) IS DISABLED.
- AND THE SUPPLY FAN STATUS IS ON.

THE HEATING COIL VALVE SHALL OPEN FOR FREEZE PROTECTION WHENEVER:
- MIXED AIR TEMPERATURE DROPS FROM 40°F TO 35°F (ADJ.).
- OR THE FREEZESTAT (IF PRESENT) IS ON.

HUMIDIFIER CONTROL:
THE STEAM GENERATOR OPERATES ON FACTORY INSTALLED CONTROLS. THE DDC SYSTEM SHALL BE CAPABLE OF ENABLING AND DISABLING THE STEAM GENERATOR AND CHANGING THE RETURN AIR HUMIDITY SETPOINT VIA BACNET TO THE STEAM GENERATOR CONTROLLER.

THE HUMIDIFIER SHALL BE ENABLED WHENEVER:
- OUTSIDE AIR TEMPERATURE IS LESS THAN 50°F
- AND THE SUPPLY FAN IS ON

THE RETURN AIR RELATIVE HUMIDITY SETPOINT SHALL BE 30% (ADJ)

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- LOW SUPPLY AIR HUMIDITY: IF THE RETURN AIR HUMIDITY IS LESS THAN 20% RH (ADJ.).

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CONTROLS

12-M502

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Autodesk Revit 2022

FIRE-TUBE BOILER SCHEDULE - HOT WATER

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT.
2. PROVIDE WITH PROPANE DUEL FUEL OPTION. PROVIDE TRIM AND ACCESSORIES NECESSARY FOR PROPANE OR NATURAL GAS OPERATION.
3. DISCONNECT TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR

													MAX DIMENSIONS			ELECTRICAL DATA						
MARK	INPUT (MBH)	OUTPUT (MBH)	MIN GAS PRESSURE REQUIRED(IN)	EFFICIENCY	EWT (°F)	LWT (°F)	GPM	MAX PD (FT)	FUEL TYPE	INLET FUEL PRESSURE	TURNDOWN RATIO	OPERATING PRESSURE	MAX HEIGHT	MAX LENGTH	MAX WIDTH	VOLTS	PHASE	FLA	MCA	MOCP	DESIGN BASIS	REMARKS
B-1	2000	1740	4	87	170	190	205	7	DUAL NG/LP	14	20:1	160	6' - 6"	4' - 10 13/32"	2' - 4"	120	1	16	20	20	AERCO BMK-2000	1, 2, 3
B-2	2000	1740	4	87	170	190	205	7	DUAL NG/LP	14	20:1	160	6' - 6"	4' - 10 13/32"	2' - 4"	120	1	16	20	20	AERCO BMK-2000	1, 2, 3

FIN TUBE RADIATION SCHEDULE - HYDRONIC

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT.
2. PROVIDE WITH 3-WAY VALVE. SEE DETAILS.

								HEATING COIL FIN DATA			ENCLOSURE					
MARK	CAPACITY (BTU/FT)	AVERAGE WATER TEMP (°F)	GPM	TUBE SIZE (IN)	NUMBER OF TUBES OR ROWS	ELEMENT LENGTH (FT)	EAT (°F)	FIN HEIGHT (IN)	FIN WIDTH (IN)	FINS PER FOOT	LENGTH (IN)	DEPTH (IN)	HEIGHT (IN)	MOUNTING HEIGHT	DESIGN BASIS	REMARKS
FT-1	913	180	1.5	0.75	1	15' - 0"	68	0' - 3 1/4"	0' - 3 1/4"	50	15' - 3"	0' - 4 3/8"	1' - 2"	1' - 6"	STERLING JVA-S14	1
FT-2	2167	180	1.5	1	3	3' - 0"	68	0' - 3 5/8"	0' - 4 1/4"	50	3' - 3"	0' - 4 3/8"	1' - 6"		STERLING VB-X18	1, 2
FT-3	489	180	1	0.75	1	2' - 3"	68	0' - 2 1/2"	0' - 2 1/4"	50	0' - 0"	0' - 0"	0' - 0"		STERLING BARE TYPE "K"	1
FT-4	2333	180	1.5	0.75	3	3' - 0"	68	0' - 4 1/4"	0' - 4 1/4"	50	3' - 3"	0' - 4 3/8"	2' - 0"	2' - 4"	STERLING JVA-S24	1, 2
FT-5	914	180	2	0.75	1	8' - 9"	68	0' - 3 1/4"	0' - 3 1/4"	50	9' - 0"	0' - 4 3/8"	1' - 2"	1' - 6"	STERLING JVA-S14	1
FT-6	2000	180	0.5	0.75	3	2' - 9"	68	0' - 4 1/4"	0' - 4 1/4"	50	0' - 0"	0' - 0"	0' - 0"		STERLING BARE TYPE "B"	1
FT-7	1045	180	1	0.75	1	11' - 0"	68	0' - 3 5/8"	0' - 4 1/4"	40	11' - 3"	0' - 4 3/8"	1' - 2"	1' - 6"	STERLING JVA-S14	1, 2
FT-8	2000	180	0.5	0.75	3	2' - 6"	68	0' - 4 1/4"	0' - 4 1/4"	50	2' - 9"	0' - 4 3/8"	2' - 0"	2' - 4"	STERLING JVA-S24	1
FT-9	2100	180	1.5	0.75	3	3' - 0"	68	0' - 4 1/4"	0' - 4 1/4"	50	0' - 0"	0' - 0"	0' - 0"		STERLING BARE TYPE "B"	1
FT-10	1438	180	1.5	0.75	1	14' - 0"	68	0' - 4 1/4"	0' - 4 1/4"	50	14' - 3"	0' - 4 3/8"	2' - 0"	2' - 4"	STERLING JVA-S24	1
FT-11	2174	180	0.5	0.75	3	6' - 0"	68	0' - 4 1/4"	0' - 4 1/4"	50	6' - 3"	0' - 4 3/8"	2' - 0"	2' - 4"	STERLING JVA-S24	1
FT-12	2233	180	2.1	0.75	3	3' - 0"	68	0' - 4 1/4"	0' - 4 1/4"	50	0' - 0"	0' - 0"	0' - 0"		STERLING BARE TYPE "B"	1

UNIT HEATER SCHEDULE - HOT WATER

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT.
2. TO BE INSTALLED WITH FACTORY MOUNTED DISCONNECT
3. PROVIDE ALL CUHS WITH 3-WAY VALVE. SEE DETAILS.

			EWT	LWT	EAT	LAT					FAN MOTOR DATA				
MARK	AREA SERVED	CFM	(°F)	(°F)	(°F)	(°F)	MBH	GPM	MAX PD (FT)	MOUNTING HEIGHT (FT)	ORIENTATION	HP	VOLTS	PHASE	DESIGN BASIS	REMARKS
CUH-1	STAIR 101	424	190	160	68	118	23	1.47	0.2	0' - 0"	SLOPED TOP	1/10	120	1	STERLING FS-1005-04	1, 2, 3
CUH-2	STORAGE 114	227	190	160	68	120	12.5	0.81	0.1	0' - 0"	WALL TYPE	1/15	120	1	STERLING W-1120-02	1, 2, 3
CUH-3	OFFICE 141	620	190	150	60	120	33.4	1.61	0.3	0' - 0"	SLOPED TOP	1/10	120	1	STERLING FS-1005-06	1, 2, 3
CUH-4	STAIR 132	227	190	160	68	120	12.5	0.81	0.1	0' - 0"	WALL TYPE	1/15	120	1	STERLING W-1120-02	1, 2, 3
CUH-5	STAIR 170	424	190	160	68	118	23	1.47	0.2	0' - 0"	SLOPED TOP	1/10	120	1	STERLING FS-1005-04	1, 2, 3
CUH-6	STAIR 202	424	190	160	68	118	23	1.47	0.1	0' - 0"	SLOPED TOP	1/10	120	1	STERLING FS-1005-04	1, 2, 3
CUH-7	STAIR 275	620	190	150	68	120	33.4	1.61	0.3	0' - 0"	SLOPED TOP	1/10	120	1	STERLING FS-1005-06	1, 2, 3

MECHANICAL PUMP SCHEDULE

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT.
2. VFD TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

					SHUTOFF		MOTOR DATA			ELECTRICAL DATA			
MARK	SYSTEM SERVED	TYPE	GPM	HEAD (FT)	HEAD (FT)	PLEV %	HP	BHP	RPM	VOLTS	PHASE	DESIGN BASIS	REMARKS
HWP-1	HEATING WATER	END SUCTION	255	73	98.4	70.6	7.5	6.39	1800	208	3	B&G e-1510 2EB	1, 2
HWP-2	HEATING WATER	END SUCTION	255	73	98.4	70.6	7.5	6.39	1800	208	3	B&G e-1510 2EB	1, 2

HEATING COIL SCHEDULE - HYDRONIC

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT
2. CONTRACTOR IS TO VERIFY COIL SIZE PRIOR TO SUBMITTALS.

			COIL DATA							AIR TEMPERATURE (°F)			APD	COIL DIMENSIONS			
MARK	SYSTEM SERVED	CFM	ROW	FINS PER INCH	MBH	GPM	WPD (FT HEAD)	EWT (°F)	LWT (°F)	EAT DB	LAT DB	VELOCITY (FPM)	(IN-WC)	HEIGHT	LENGTH	DESIGN BASIS	REMARKS
HC-1	AHU-1	3,200	1	7	137	13.6	0.5	190	170	40	80	310	0.03	2' - 9"	3' - 9"	TRANE D5WB33045	1, 2

EXISTING AIR HANDLING UNIT SCHEDULE

REMARKS:
1. REPLACE EXISTING HEATING CONTROL VALVE AND RE-BALANCE TO HEATING WATER FLOW RATE.

			HEATING COIL							
MARK	AREA SERVED	SUPPLY CFM	EAT DB (°F)	LAT DB (°F)	EWT (°F)	LWT (°F)	WPD (FT HEAD)	APD (IN WC)	MBH	GPM	REMARKS
AHU-1MC	WEST WING	11200	31	72	190	170	10	0.15	496	50	1
AHU-2MC	EAST AND NORTH WING	15300	38	72	190	170	5	0.15	562	56	1

MECHANICAL PIPING EXPANSION TANK SCHEDULE

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT

			TANK	ACCEPTANCE	RELIEF VALVE			
MARK	SYSTEM SERVED	TYPE	CAPACITY (GAL)	CAPACITY (GAL)	RELIEF AT (PSI)	FILL AT (PSI)	DESIGN BASIS	REMARKS
ET-1	HEATING WATER	BLADDER	53	53	100	16	B&G B200	1

AIR SEPARATOR SCHEDULE

REMARKS:
1. OR ENGINEER PRE-APPROVED EQUIVALENT

			CAPACITY	STRAINER		MINIMUM AIR		
MARK	SYSTEM SERVED	SIZE (IN)	(GPM)	(Y/N)	MAX PD (FT)	REMOVAL (%)	DESIGN BASIS	REMARKS
AS-1	HEATING WATER	0' - 5"	255	N	1	99	SPIROTHERM VSR-400	1

ELECTRIC STEAM GENERATOR

REMARKS:
1. WALL MOUNT BOTTOM OF UNIT AT 3'-6" AFF
2. INTEGRAL DRAIN TEMPERING
3. BACNET INTERFACE
4. ELECTRIC PRESSURE AIRFLOW PROVING SWITCH
5. ELECTRIC HIGH-LIMIT HUMIDISTAT FOR DUCT MOUNTING
6. RETURN DUCT HUMIDITY TRANSIMITTER
7. PROVIDE WITH RO WATER PRE-TREATMENT SYSTEM. DRISTEEM 200 SERIES OR ENGINEER PRE-APPROVED EQUIVALENT.

		ELECTRICAL DATA				
MARK	LBS/HR	KW	VOLTS	PHASE	DESIGN BASIS	REMARKS
SG-1	42	14	208	3	DRISTEEM RX-42-1	1, 2, 3, 4, 5, 6, 7

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MECHANICAL SCHEDULES

12-M600

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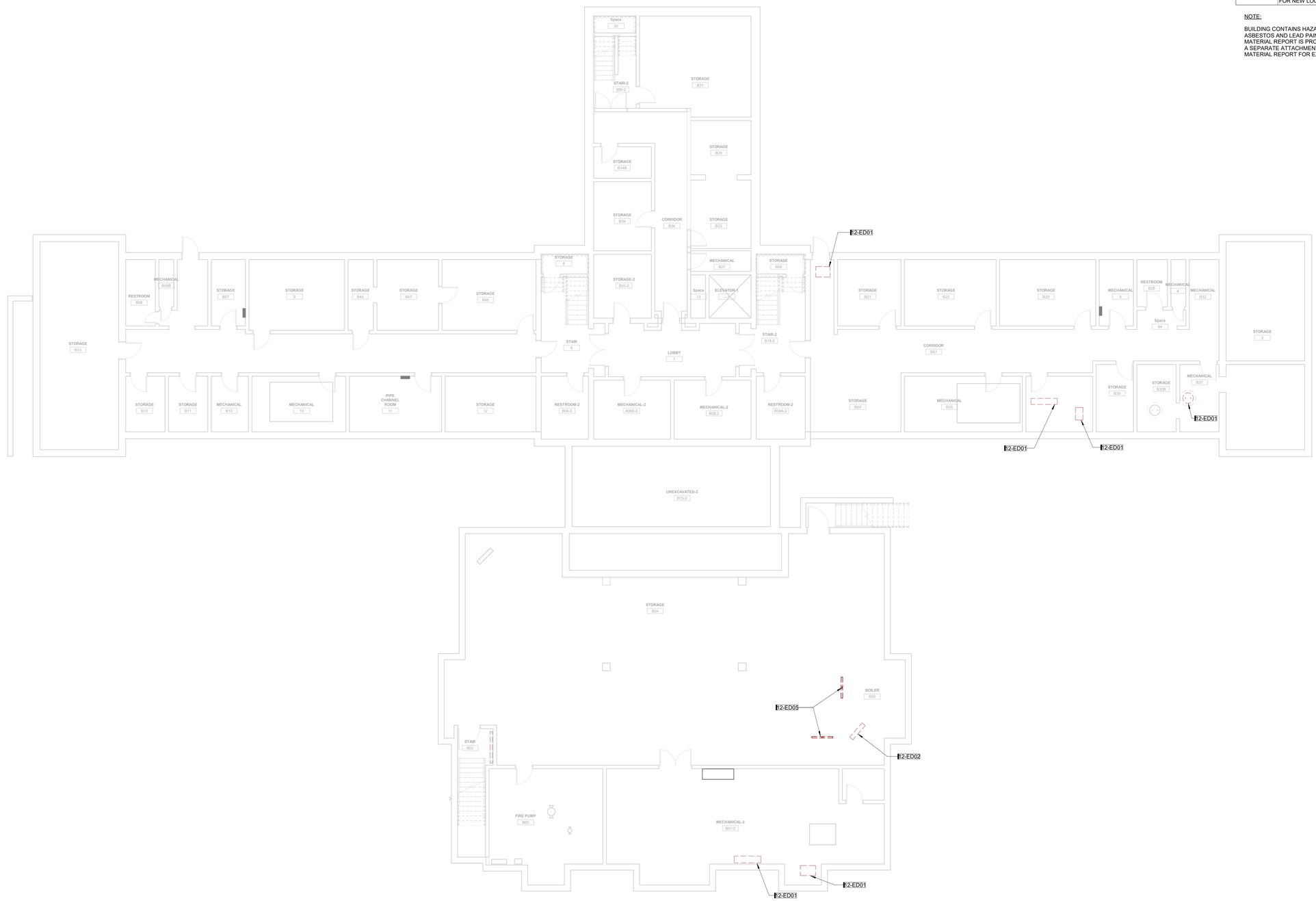
KEYNOTES	
KEY	NOTE
12-ED01	REMOVE ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT.
12-ED02	RELOCATE EXISTING UNIT HEATER. REFER TO 12-E200 FOR NEW LOCATION.
12-ED05	RELOCATE EXISTING LIGHT FIXTURE. REFER TO 12-E200 FOR NEW LOCATION.

NOTE:

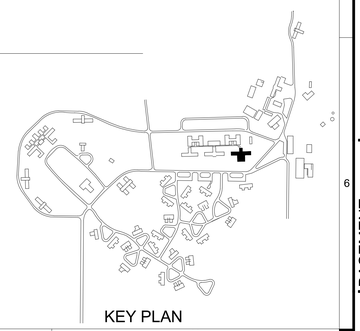
BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.



NORTH

A1 BASEMENT LEVEL - POWER DEMOLITION PLAN

1/8" = 1'-0" 0 12"



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BASEMENT LEVEL POWER DEMOLITION PLAN

12-ED200

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KEYNOTES	
KEY	NOTE
12-ED03	SUPPORT ALL EXISTING CEILING MOUNTED ELECTRICAL DEVICES IN THE CEILING INCLUDING LIGHT FIXTURES, EXIT LIGHTS, SPEAKERS, AND FIRE ALARM DEVICES WHILE THE CEILING IS REMOVED TO INSTALL MECHANICAL PIPING. REINSTALL EXISTING CEILING MOUNTED ELECTRICAL DEVICES IN THE CEILING AFTER MECHANICAL PIPING IS COMPLETE.

NOTE:

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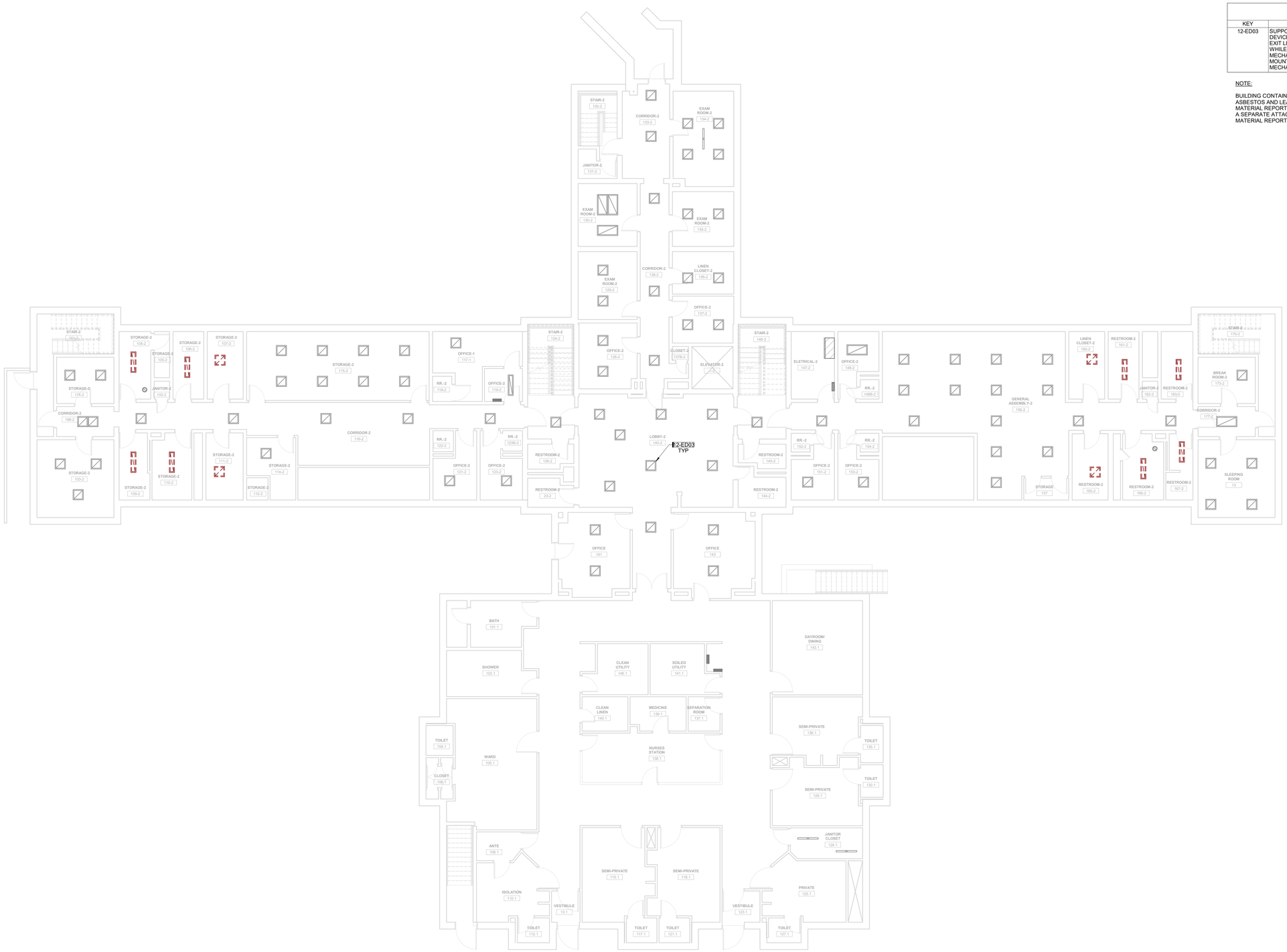
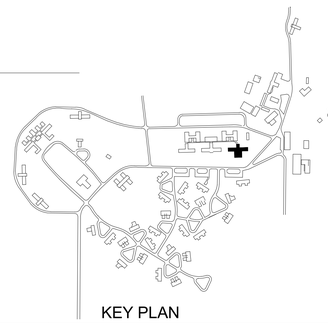


NORTH

A1 FIRST FLOOR - POWER DEMOLITION PLAN

1/8" = 1'-0" 0 12'



KEY PLAN

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FIRST FLOOR ELECTRICAL POWER DEMOLITION PLAN

12-ED201

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KEYNOTES	
KEY	NOTE
12-ED03	SUPPORT ALL EXISTING CEILING MOUNTED ELECTRICAL DEVICES IN THE CEILING INCLUDING LIGHT FIXTURES, EXIT LIGHTS, SPEAKERS, AND FIRE ALARM DEVICES WHILE THE CEILING IS REMOVED TO INSTALL MECHANICAL PIPING. REINSTALL EXISTING CEILING MOUNTED ELECTRICAL DEVICES IN THE CEILING AFTER MECHANICAL PIPING IS COMPLETE.

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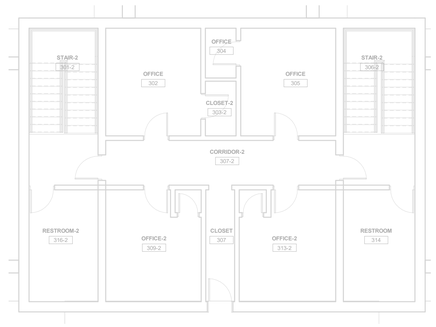
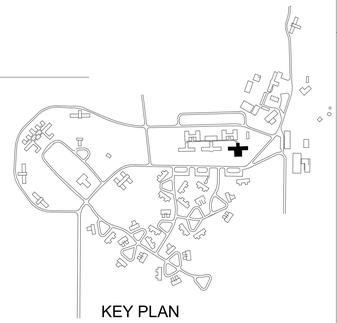


NORTH

C5 THIRD FLOOR - POWER DEMOLITION PLAN
1/8" = 1'-0" 0" 12'

NORTH

A1 SECOND FLOOR - POWER DEMOLITION PLAN
1/8" = 1'-0" 0" 12'



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SECOND AND THIRD FLOOR POWER DEMOLITION PLAN

12-ED202

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NOTE:

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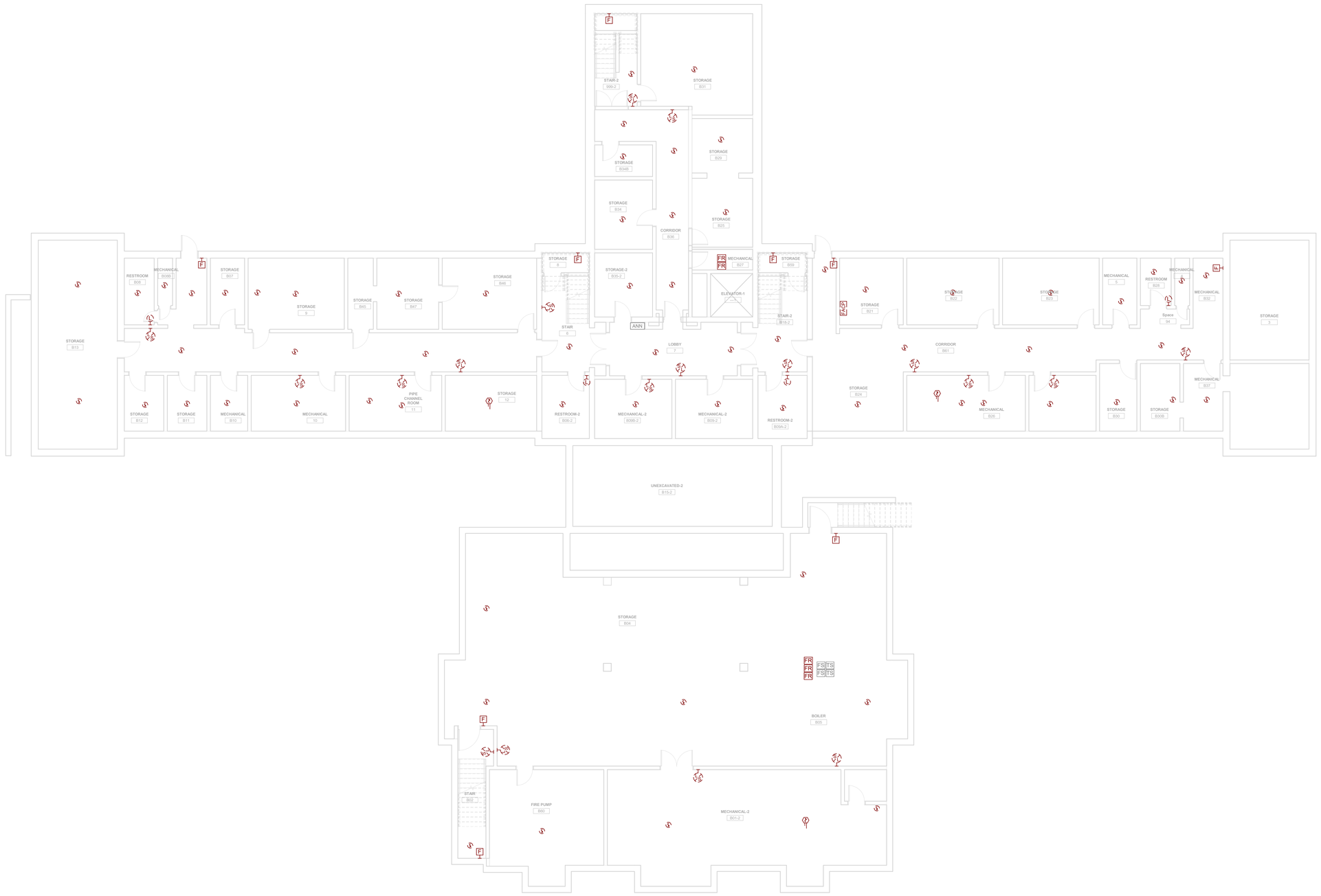
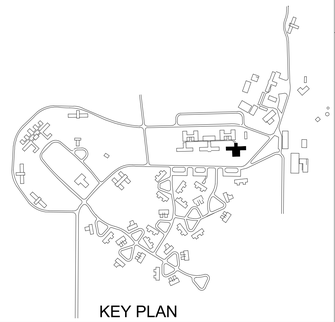


NORTH

A6 BASEMENT LEVEL - SYSTEM DEMOLITION PLAN

1/8" = 1'-0" 0 12'



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BASEMENT LEVEL SYSTEMS DEMOLITION PLAN

12-ED300

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KEYNOTES	
KEY	NOTE
12-ED04	EXISTING FIRE ALARM CONDUIT AND BACK BOXES ON THIS FLOOR TO REMAIN. PROVIDE BLANK COVER PLATES FOR BACK BOXES. REUSE CONDUIT AND BACK BOXES FOR NEW WALL MOUNTED DEVICES.

NOTE:

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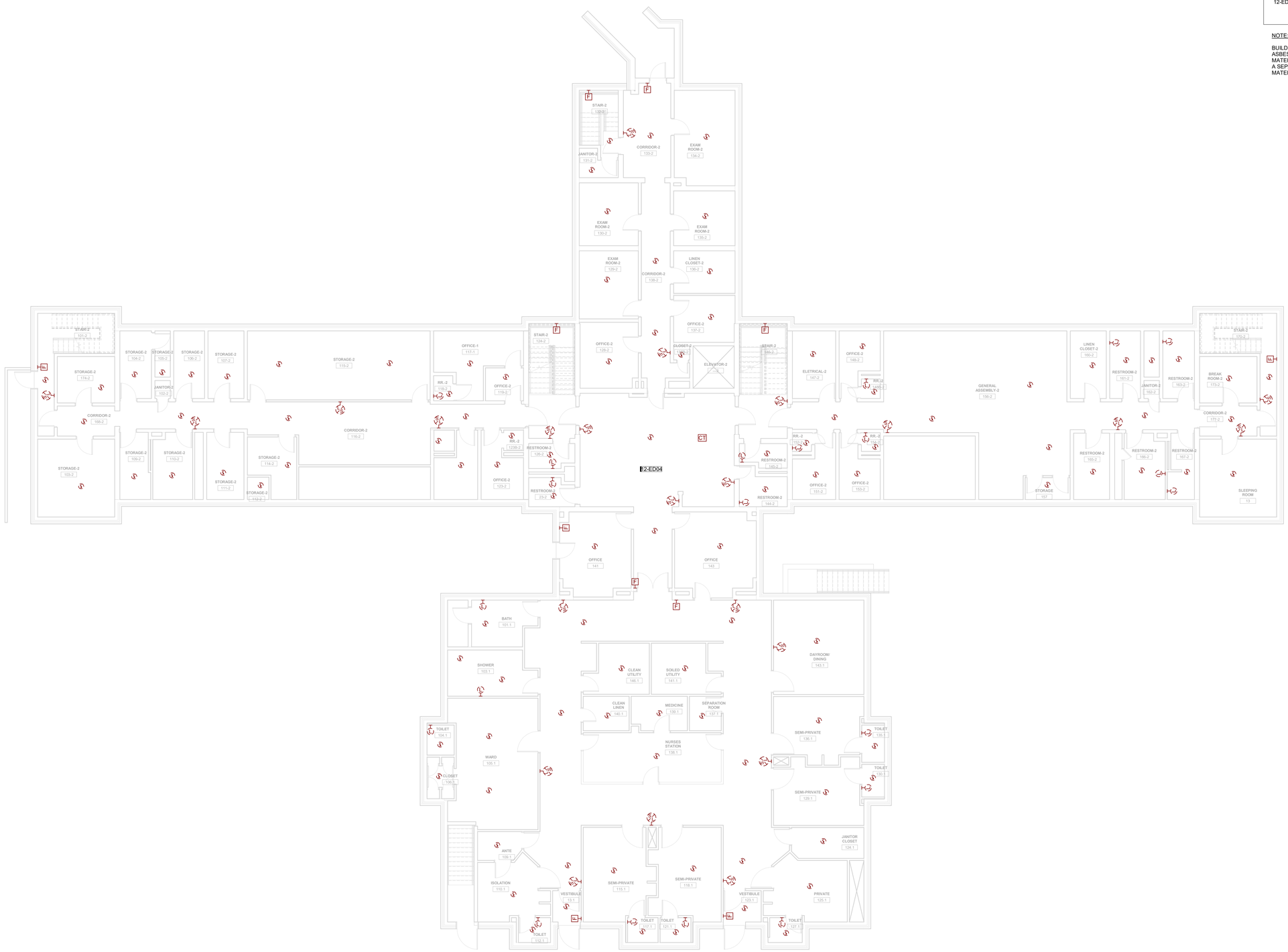
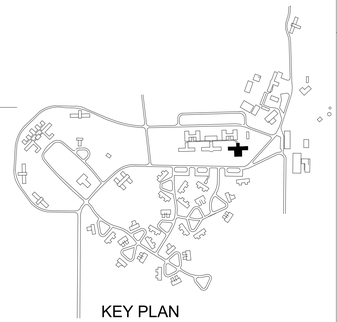


NORTH

A1 FIRST FLOOR - SYSTEMS DEMOLITION PLAN

1/8" = 1'-0" 0 12'



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FIRST FLOOR SYSTEMS DEMOLITION PLAN

12-ED301

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KEYNOTES	
KEY	NOTE
12-ED04	EXISTING FIRE ALARM CONDUIT AND BACK BOXES ON THIS FLOOR TO REMAIN. PROVIDE BLANK COVER PLATES FOR BACK BOXES. REUSE CONDUIT AND BACK BOXES FOR NEW WALL MOUNTED DEVICES.

NOTE:

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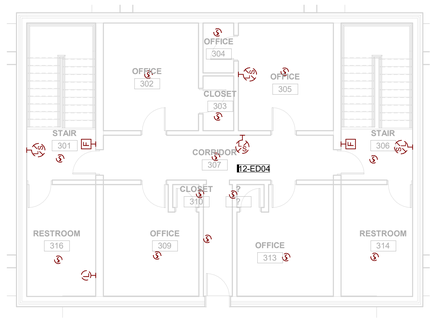


NORTH

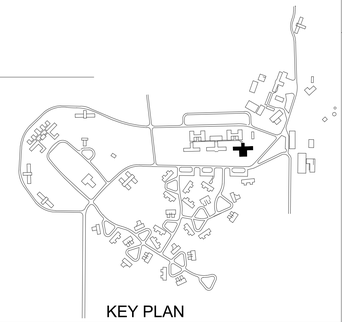
C5 THIRD FLOOR - SYSTEM DEMOLITION PLAN

1/8" = 1'-0" 0 12'

NORTH

A1 SECOND FLOOR - SYSTEMS DEMOLITION PLAN

1/8" = 1'-0" 0 12'



KEY PLAN

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SECOND AND THIRD FLOOR SYSTEMS DEMOLITION PLAN

12-ED302

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BRANCH PANEL NAME	VOLTAGE	PHASE	WIRE	BUS SIZE	MAIN OCP	AIC RATING
MCLBD	**120/208 Wye**	**3**	**4**	**200 AMPS**	**200**	**10,000 AMPS SYMMETRICAL**
	CODE: L=LIGHTING, R=RECEPTACLES, M=MOTORS, K=KITCHEN					MOUNTING: SURFACE
ROOM: BOILER B05						ENCLOSURE: NEMA1
FED... SWBD MC						FEED:

LOAD	CODE	POLE	BKR	CKT #	A KVA	B KVA	C KVA	CKT #	BKR	POLE	CODE	LOAD
B-1 (ST)		1	20	1	2.4 / 2.4			2	20	1		B-2 (ST)
HWP-1		3	60	3		2.6 / 2.6		4	60	3		HWP-2
--	--	--	--	5			2.6 / 2.6	6	--	--	--	--
--	--	--	--	7	2.6 / 2.6			8	--	--	--	--
RECEPTACLES ROOM B05		1	20	9		0.4 / 0.0		10	20	1		DDC, CO MONITOR
RO SYSTEM		1	20	11			0.8 / 5.8	12	50	3		SG-1
Spare	--	1	20	13	0.0 / 5.8			14	--	--	--	--
Spare	--	1	20	15		0.0 / 5.8		16	--	--	--	--
Spare	--	1	20	17			0.0 / 0.0	18	20	1	--	Spare
Spare	--	1	20	19	0.0 / 0.0			20	20	1	--	Spare
Spare	--	1	20	21		0.0 / 0.0		22	20	1	--	Spare
Spare	--	1	20	23			0.0 / 0.0	24	20	1	--	Spare
Spare	--	1	20	25	0.0 / 0.0			26	20	1	--	Spare
Spare	--	1	20	27		0.0 / 0.0		28	20	1	--	Spare
Spare	--	1	20	29			0.0 / 0.0	30	20	1	--	Spare
Spare	--	1	20	31	0.0 / 0.0			32	20	1	--	Spare
Spare	--	1	20	33		0.0 / 0.0		34	20	1	--	Spare
Spare	--	1	20	35			0.0 / 0.0	36	20	1	--	Spare
Spare	--	1	20	37	0.0 / 0.0			38	20	1	--	Spare
Spare	--	1	20	39		0.0 / 0.0		40	20	1	--	Spare
Spare	--	1	20	41			0.0 / 0.0	42	20	1	--	Spare
				TOTAL LOAD:	15888.7 VA	11378.7 VA	11914.3 VA					
				TOTAL AMPS:	133.1 A	94.8 A	100.0 A					

Load Classification	Connected Load (VA)	Demand Factor	Estimated Demand (VA)
Other	0	0.00%	0
SPEC	38892	100.00%	38892
RECEPTACLES	360	100.00%	360

PANEL TOTALS	
TOTAL CONN. LOAD:	39180.2 VA
TOTAL EST. DEMAND:	39180.2 VA
TOTAL CONN. CURRENT:	108.8 A
TOTAL EST. DEMAND...	108.8 A

Notes:
(ST) - SHUNT TRIP BREAKER

KEYNOTES

KEY	NOTE
12-E001	FURNISH AND INSTALL NEW CONDUIT AND WIRE FROM VFD TO PUMP. INSTALL VFD FOR EACH PUMP.
12-E002	RELOCATE EXISTING LIGHT FIXTURE IN THE ROOM. CIRCUIT WITH (2) #12, 1#12 GND, 3/4"C.
12-E003	BOILER EMERGENCY POWER OFF (EPO) SWITCH. EPO SWITCH TO SHUNT TRIP BOILER BREAKER AND SEND SHUTDOWN SIGNAL TO THE BOILER.
12-E015	EXTEND EXISTING CIRCUIT TO NEW LOCATION OF EXISTING UNIT HEATER.
12-E016	EXTEND EXISTING CIRCUIT AND CONTROLS TO NEW LOCATION OF EXISTING LIGHT FIXTURE.
12-E017	CO MONITOR FURNISHED BY MECHANICAL CONTRACTOR INSTALLED BY ELECTRICAL CONTRACTOR.
12-E020	CIRCUIT TO NEW 50A/2P BREAKER IN EXISTING GENERAL ELECTRIC PANEL.

ELECTRICAL AND MECHANICAL COORDINATION SCHEDULE

GENERAL NOTES:
MOCP SIZES SHOWN BELOW ARE FOR BIDDING PURPOSES ONLY. VERIFY MOCP WITH EQUIPMENT NAME PLATE DATA PRIOR TO ORDERING EQUIPMENT.
MINIMUM WIRE SIZE SHALL BE #12 AWG AND MINIMUM CONDUIT SIZE SHALL BE 3/4".
INCLUDE A SEPARATE, GREEN, CONDUCTOR IN ALL FEEDER AND BRANCH CIRCUIT CONDUITS.

ABBREVIATIONS:
EC - ELECTRICAL CONTRACTOR
MC - MECHANICAL CONTRACTOR
MFR - MANUFACTURER
TCC - TEMPERATURE CONTROL CONTRACTOR
OWN - OWNER
NF - NON-FUSED DISCONNECT
PWE - PROVIDED WITH EQUIPMENT

REMARKS:
1. VFD FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.

MARK	VOLTAGE	PHASE	FLA	MCA	MOCP	HP	FUSE	WATTAGE	CONDUIT AND WIRE SIZE	CONTROL OR STARTER	CONTROLLER OR STARTER FURNISHED / INSTALLED	DISCONNECT TYPE	DISCONNECT FURNISHED / INSTALLED	AIC RATING	MATERIAL LIST	REMARKS
B-1	120	1	16.00	20.00	20.00	-	-	1920.00	2#12, 1#12 GND, 3/4" C	-	MC	NF	EC	-	-	-
B-2	120	1	16.00	20.00	20.00	-	-	1920.00	2#12, 1#12 GND, 3/4" C	-	MC	NF	EC	-	-	-
CUH-1	120	1	1.40	1.75	20.00	1/10	-	168.00	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-	-
CUH-2	120	1	0.80	1.00	20.00	1/15	-	96.00	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-	-
CUH-3	120	1	1.40	1.75	20.00	1/10	-	168.00	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-	-
CUH-4	120	1	0.80	1.00	20.00	1/15	-	96.00	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-	-
CUH-5	120	1	1.40	1.75	20.00	1/10	-	168.00	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-	-
CUH-6	120	1	1.40	1.75	20.00	1/10	-	168.00	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-	-
CUH-7	120	1	1.40	1.75	20.00	1/10	-	168.00	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-	-
EUH	120	1	1.40	1.75	20.00	1/10	-	168.00	2#12, 1#12 GND, 3/4" C	-	MC	NF	PWE	-	-	-
HW-1	240	1	37.50	46.88	60.00	-	-	9000.00	2#6, 1#10 GND, 3/4" C	-	MC	NF	EC	-	-	-
HWP-1	208	3	25.30	31.63	60.00	7.5	-	9114.74	3#6, 1#10 GND, 3/4" C	VFD	EC	VFD	EC	-	-	1
HWP-2	208	3	25.30	31.63	60.00	7.5	-	9114.74	3#6, 1#10 GND, 3/4" C	VFD	EC	VFD	EC	-	-	1
SG-1	208	3	38.86	48.58	50.00	-	-	14000.00	3#6, 1#10 GND, 3/4" C	-	MC	NF	EC	-	-	-

NOTE:

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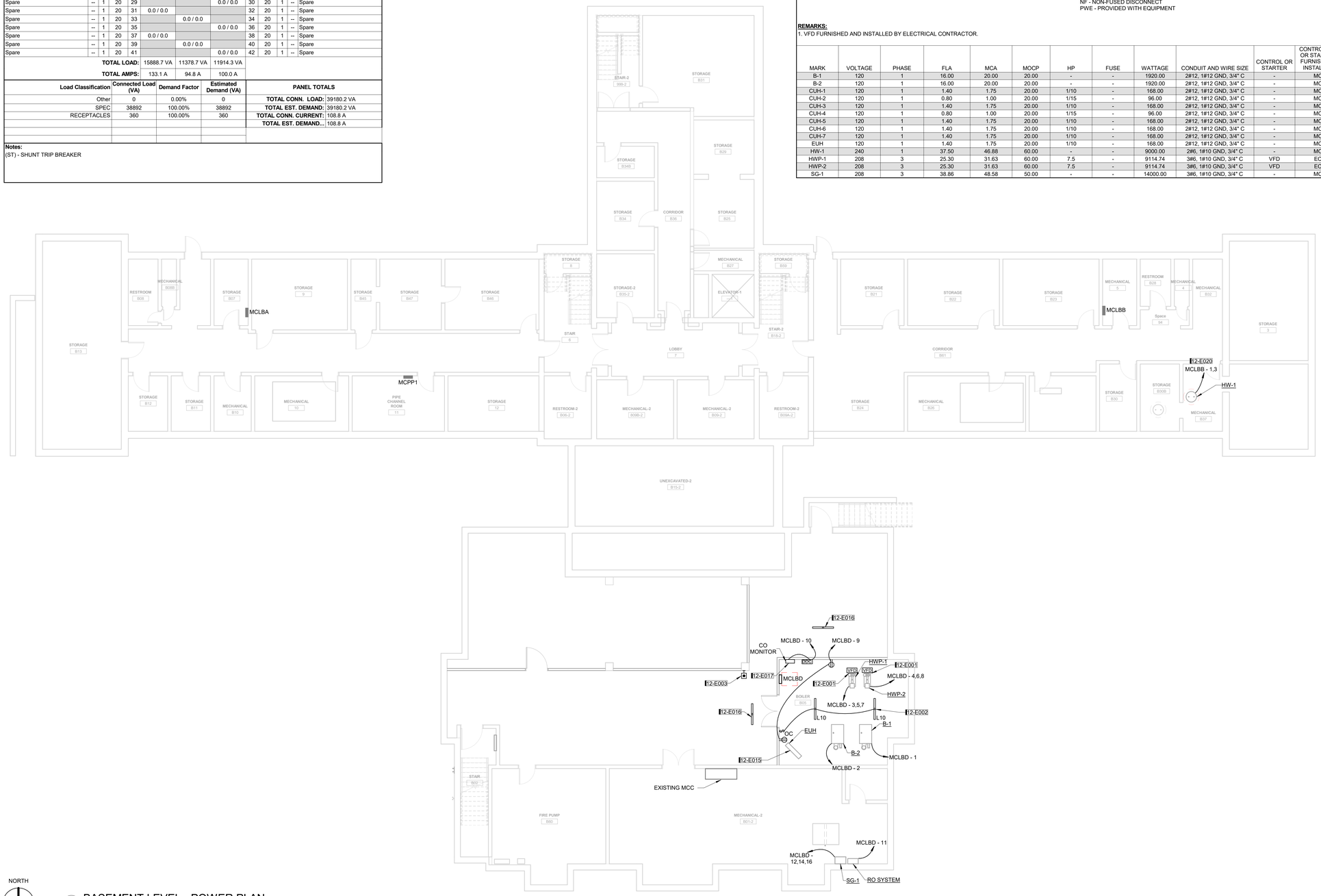
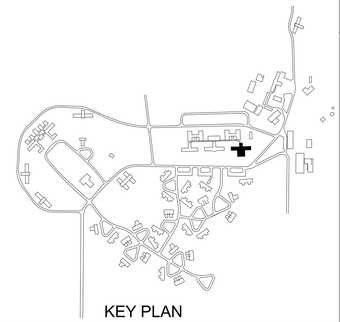


NORTH

A1 BASEMENT LEVEL - POWER PLAN
1/8" = 1'-0"



KEY PLAN

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12-Med Center

(#9279.30) WRC Decentralization Phase 3

Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

DRAWN BY	PJD
APPROVED BY	KJB
ISSUED FOR	BIDDING
ISSUE DATE	2024-01-11
PROJECT NUMBER	2142203394
FIELD BOOK	

BASEMENT LEVEL POWER PLAN

12-E200

Autodesk Docs://A DAS - WRC Project/21420 ABP-A22.rvt
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Autodesk Revit 2022

KEYNOTES	
KEY	NOTE
12-E004	FURNISH AND INSTALL NEW 20A/1P BREAKER IN EXISTING PANEL. MATCH EXISTING BREAKER CHARACTERISTICS. CIRCUIT THE CUH WITH (2) #12 & 1#12 GND IN 3/4" C.
12-E005	FURNISH AND INSTALL NEW 200A/3P FUSE IN EXISTING GE GEAR. NEW FUSE TO FEED PANEL MCLBD. PANEL FEEDER TO BE 4#4/0, 1#3 GND, 2-1/2"C.
12-E006	MOVE EXISTING LIGHTS AS REQUIRED TO INSTALL PIPE CHASE.
12-E018	CONNECT NEW LIGHT FIXTURES TO EXISTING LIGHTING CIRCUIT AND LIGHTING CONTROLS.

NOTE:

BUILDING CONTAINS HAZARDOUS MATERIAL SUCH AS ASBESTOS AND LEAD PAINT. SUPPLEMENTAL HAZARDOUS MATERIAL REPORT IS PROVIDED IN THE BID DOCUMENTS AS A SEPARATE ATTACHMENT. REFER TO HAZARDOUS MATERIAL REPORT FOR EXTENTS OF TESTING AND RESULTS.

CUH-4
MCLIB - 1
12-E004
CUH-1
MCLIB - 1
12-E004
CUH-3
MCLIB - 1
12-E004
12-E005
SWBD-MC
MCILE
MCLIB
MCILA
MC1LED
MCLIC
12-E018
TYP
CUH-5
MCLIB - 1
12-E004
12-E006

NORTH

A1 FIRST FLOOR - POWER PLAN
1/8" = 1'-0" 0 12'

KEY PLAN

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FIRST FLOOR POWER PLAN

12-E201

Autodesk Docs://A DAS - WRC Projects/21749-MEP-A22.rvt
Version: 23.1.0.3784

Autodesk Revit 2022

KEYNOTES	
KEY	NOTE
12-E004	FURNISH AND INSTALL NEW 20A/1P BREAKER IN EXISTING PANEL. MATCH EXISTING BREAKER CHARACTERISTICS. CIRCUIT THE CUH WITH (2) #12 & 1#12 GND IN 3/4" C.

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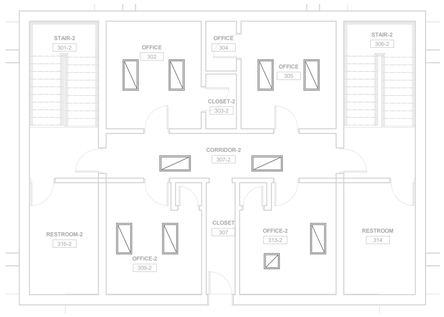
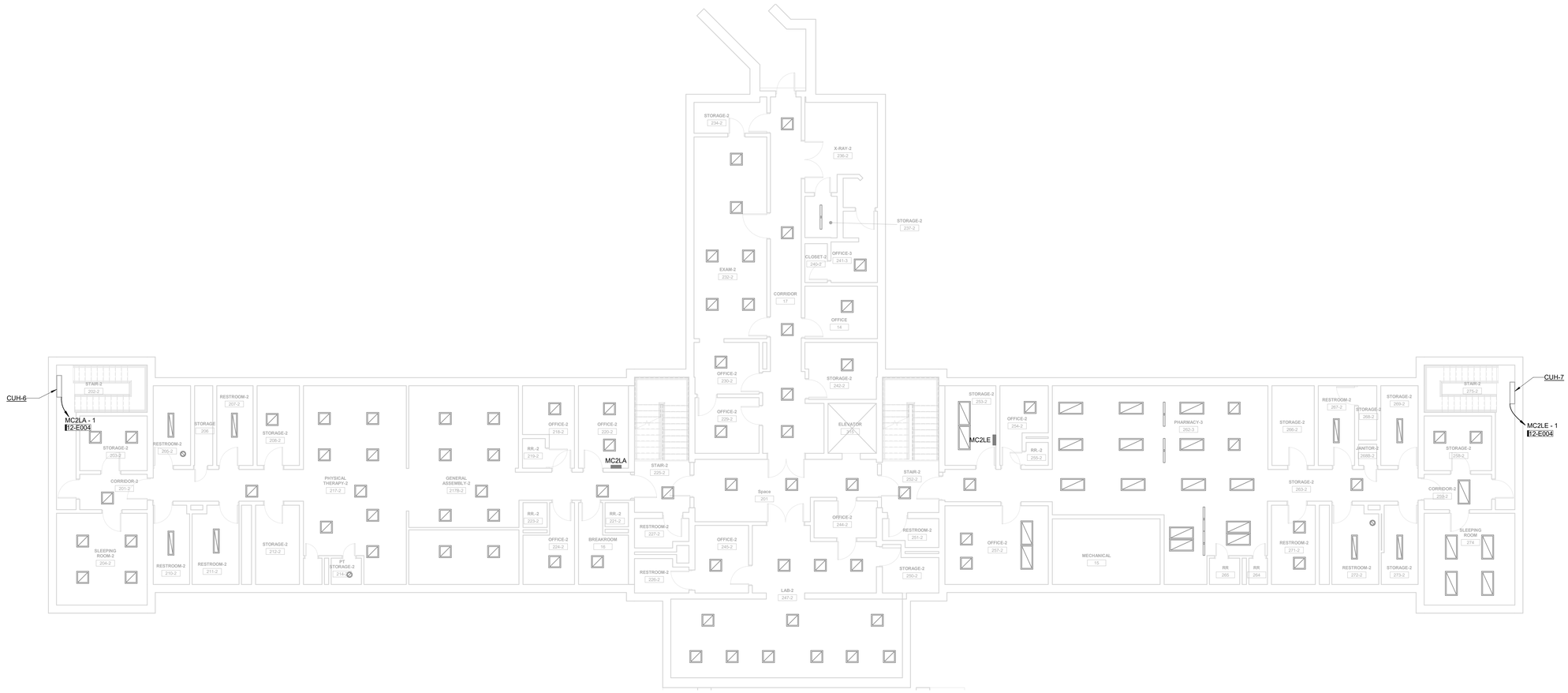


NORTH

C5 THIRD FLOOR - POWER PLAN

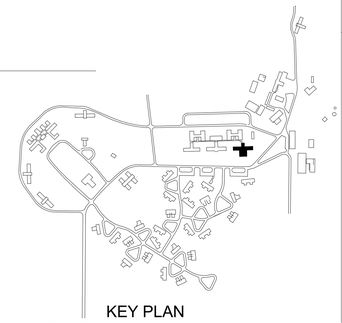
1/8" = 1'-0" 0 12'



NORTH

A1 SECOND FLOOR - POWER PLAN

1/8" = 1'-0" 0 12'



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SECOND AND THIRD FLOOR POWER PLAN

12-E202

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KEYNOTES	
KEY	NOTE
12-E007	ALL FIRE ALARM CABLING ON THIS FLOOR TO BE INSTALLED IN CONDUIT.
12-E008	EXTEND CIRCUIT FROM EXISTING FACP TO NEW FCAP. REUSE EXISTING MULTI-MODE FIBER TO CONNECT NEW FACP.
12-E009	ELEVATOR RECALL RELAY.
12-E010	AHU SUPPLY OR RETURN.
12-E011	AHU SHUTDOWN RELAY.
12-E012	FIRE PROTECTION RELAY.
12-E013	DOOR HOLDER RELAY.

NOTE:

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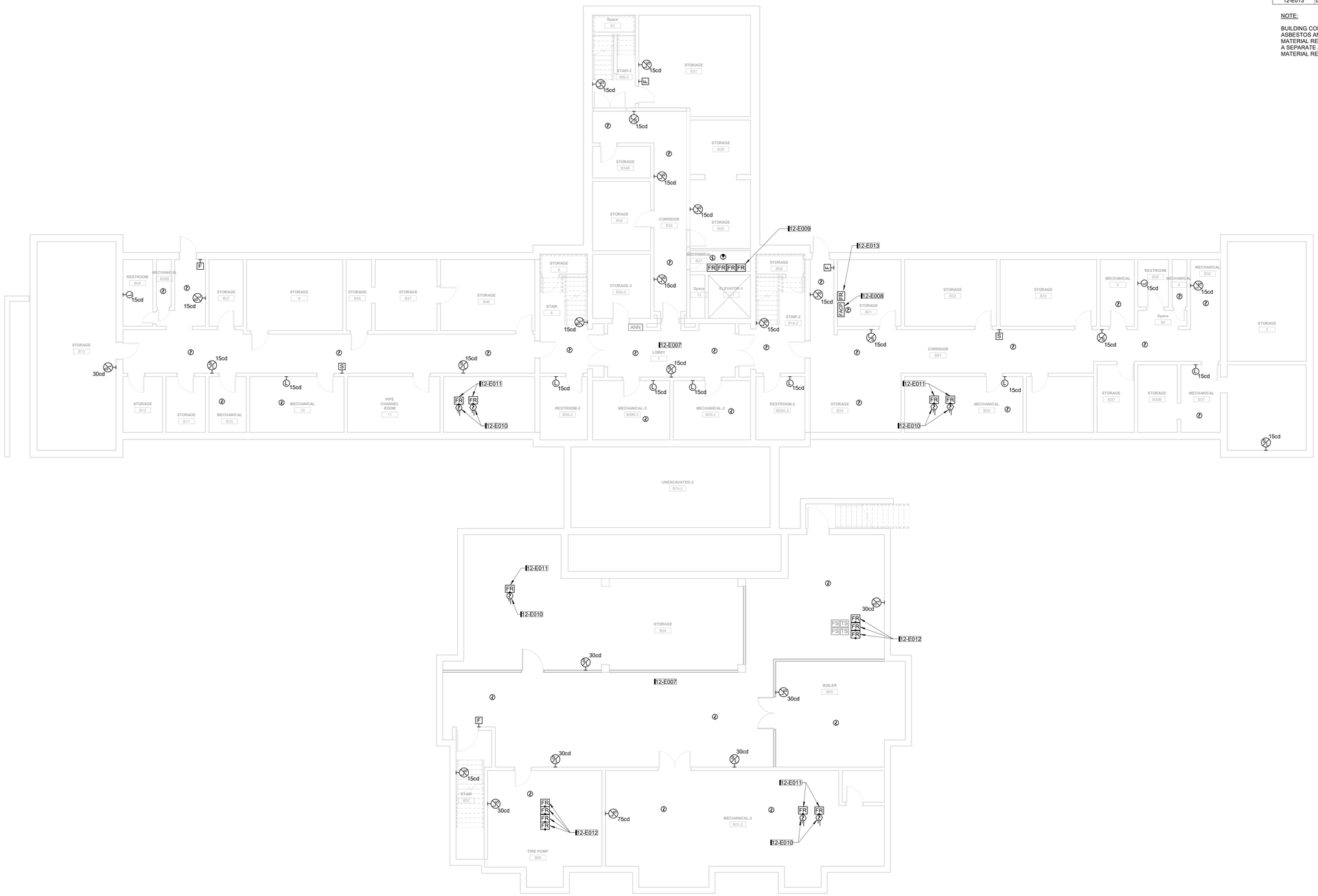
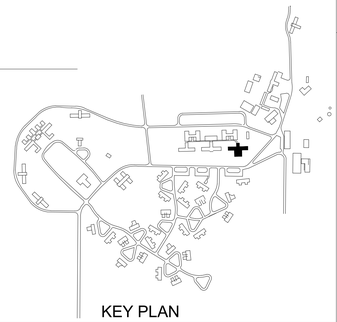


NORTH

A1 BASEMENT LEVEL - SYSTEMS PLAN

1/8" = 1'-0" 0' 12'



KEY PLAN

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(#9294.01) WRC Fire Alarm Phase 2

Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

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BASEMENT LEVEL SYSTEMS PLAN

12-E300

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KEYNOTES	
KEY	NOTE
12-E014	USING EXISTING CONDUIT AND BACK BOXES FOR WALL MOUNTED DEVICES ON FIRST, SECOND, AND THIRD FLOOR.
12-E019	EXTERIOR STROBE RELAY.

NOTE:

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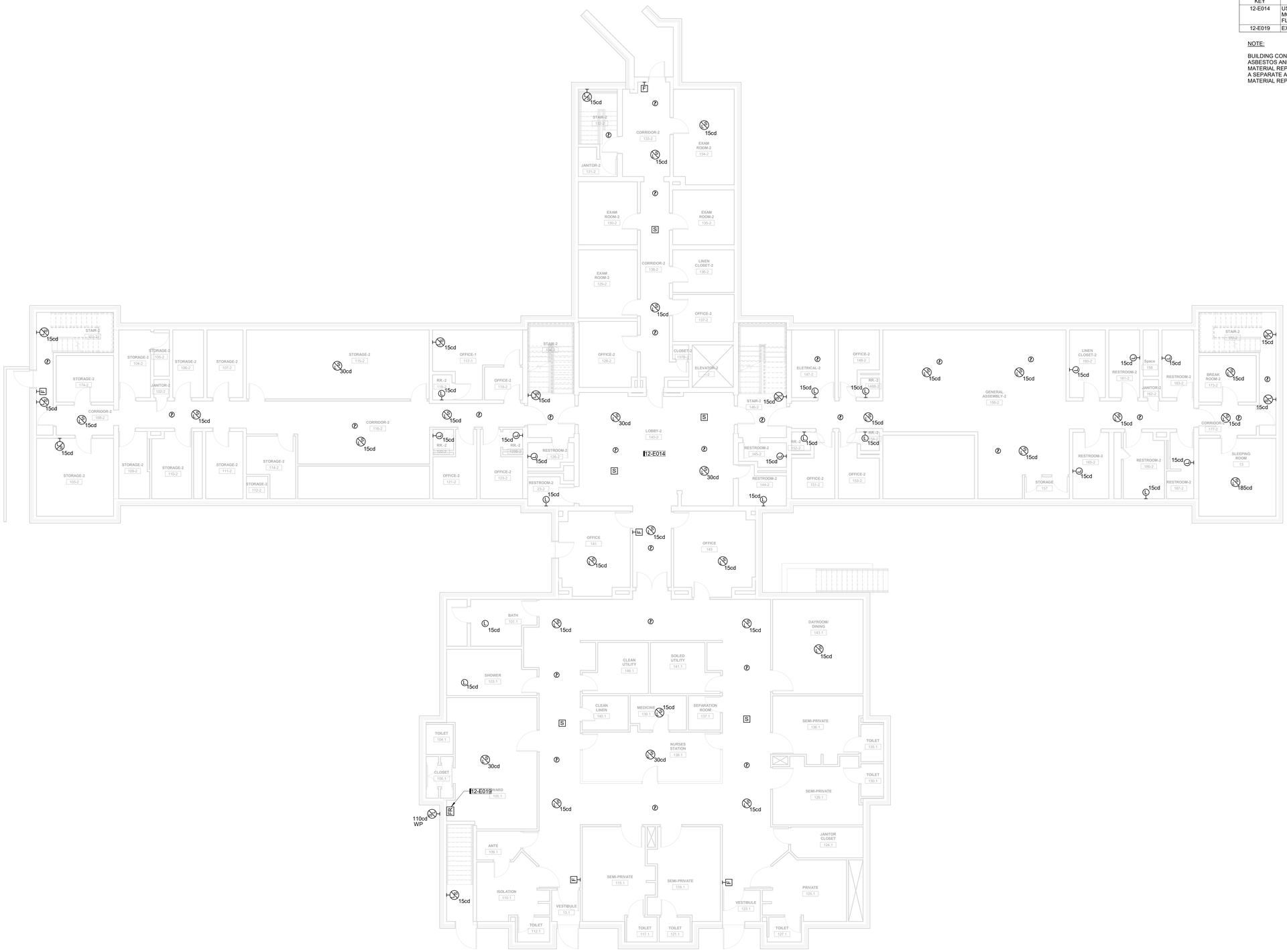
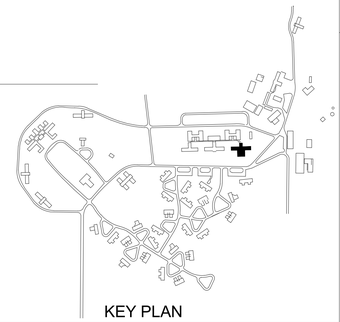


NORTH

A1 FIRST FLOOR - SYSTEMS PLAN
1/8" = 1'-0" 0 12'



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FIRST FLOOR SYSTEMS PLAN

12-E301

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KEYNOTES	
KEY	NOTE
12-E014	USING EXISTING CONDUIT AND BACK BOXES FOR WALL MOUNTED DEVICES ON FIRST, SECOND, AND THIRD FLOOR.

NOTE:

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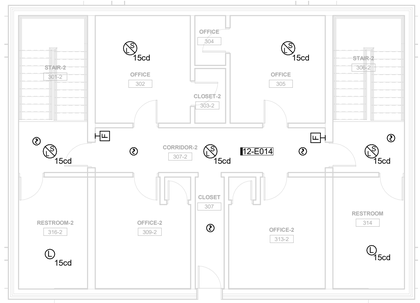


NORTH

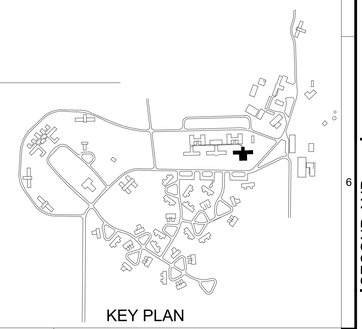
C5 THIRD FLOOR - SYSTEMS PLAN

1/8" = 1'-0" 0 12'

NORTH

A1 SECOND FLOOR - SYSTEMS PLAN

1/8" = 1'-0" 0 12'



KEY PLAN

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SECOND AND THIRD FLOOR SYSTEMS PLAN

12-E302

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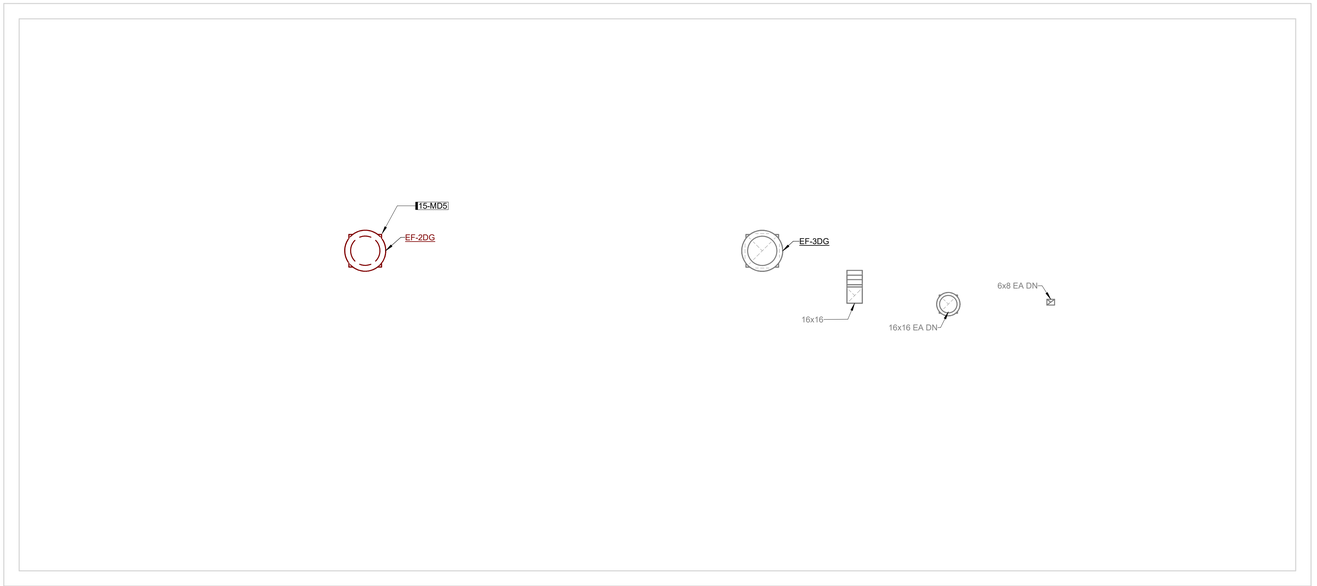
KEYNOTES	
KEY	NOTE
15-MD1	REMOVE ALL LOW PRESSURE STEAM PIPING AND ASSOCIATED HANGERS AND FITTINGS.
15-MD2	VALVE, SEAL, AND CAP STEAM PIPE MAINS AT THE NEAREST SHUTOFF VALVE IN THE TUNNEL OUTSIDE OF BUILDING FOOTPRINT.
15-MD3	REMOVE HANGING STEAM HEATER AND ALL ASSOCIATED HANGERS AND PIPING.
15-MD5	REMOVE EXISTING EXHAUST FAN. ROOF CURB TO REMAIN.
15-MD6	REMOVE DUCTWORK UP TO APPROXIMATELY 6'-0" AFF.

GENERAL DEMOLITION NOTE:

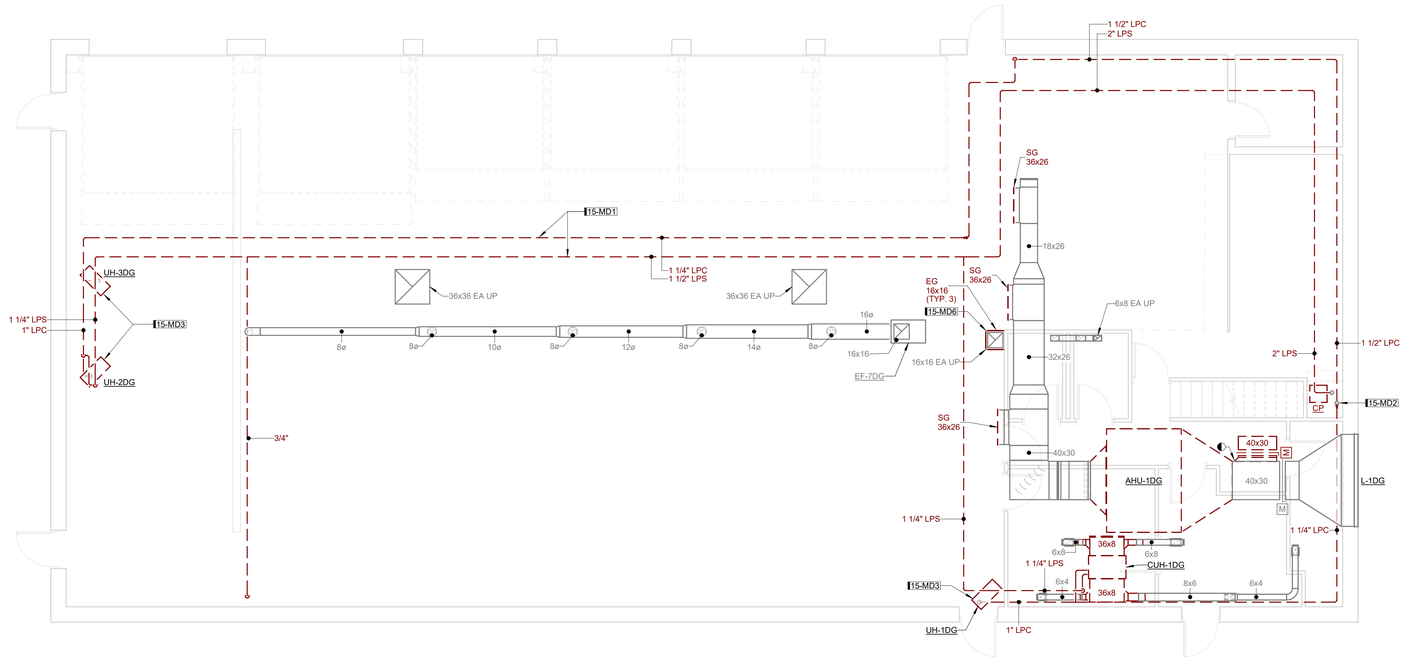
1. REMOVE EXISTING FACED INSULATION AS REQUIRED FOR INSTALLATION OF MECHANICAL SYSTEMS. INSTALL NEW FACED INSULATION, IN SAME THICKNESS AND TYPE OF INSULATION AS EXISTING, WITH NEW STEEL BANDING AS REQUIRED TO SUPPORT INSULATION. TAPE SEAM BETWEEN EXISTING AND NEW INSULATION AND SEAL ANY PENETRATIONS THROUGH INSULATION FACING.



PLAN NORTH / TRUE NORTH

1C ROOF MECHANICAL DEMOLITION PLAN

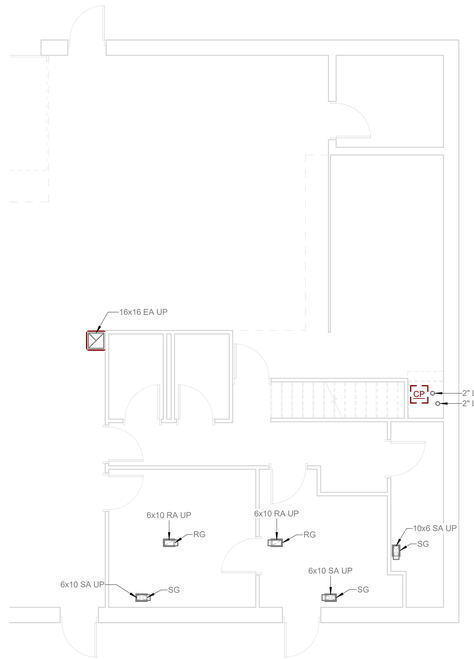
3/16" = 1'-0"



PLAN NORTH / TRUE NORTH

1A FIRST FLOOR MECHANICAL DEMOLITION PLAN

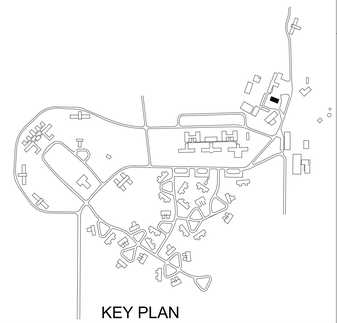
3/16" = 1'-0"



PLAN NORTH / TRUE NORTH

6B OFFICE MECHANICAL DEMOLITION PLAN

3/16" = 1'-0"



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15-Dispatch Garage

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MECHANICAL DEMOLITION PLANS

15-MD101

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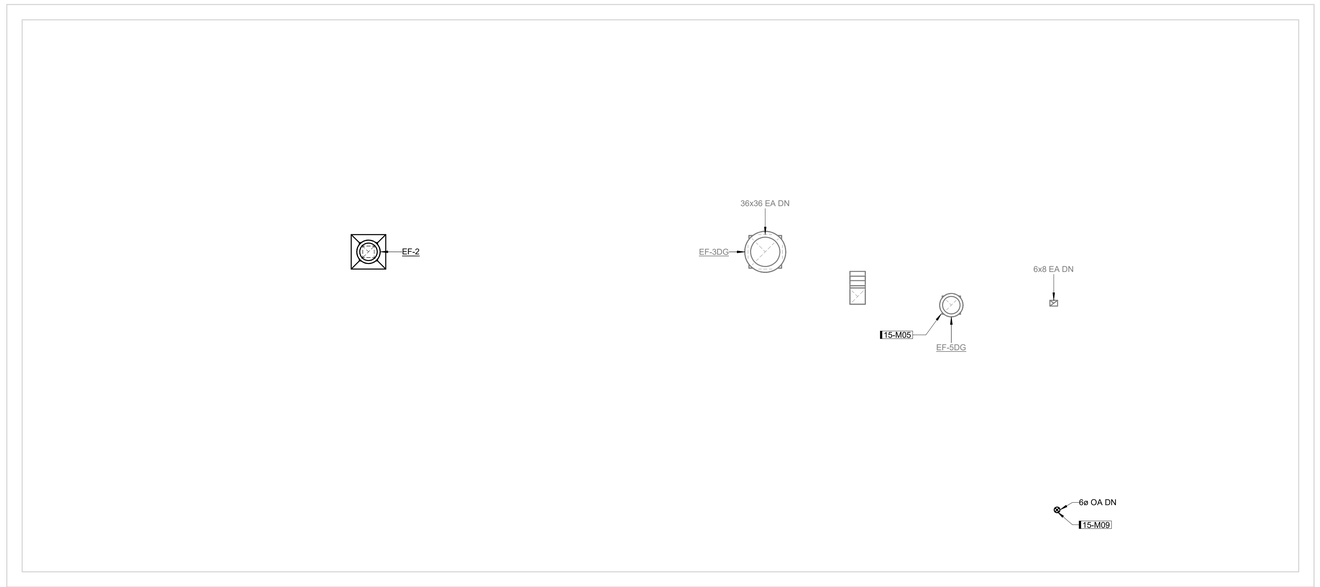


EXISTING DUCT CONTINUES UP TO EXHAUST FAN

16x16

OFFSET AROUND EXISTING WALL CLEANOUT AND TELEPHONE JACKS

EG-B 16x20 TYP.2

BRING BOTTOM OF DUCT TO WITHIN 1'-0" OF FLOOR

6E EXHAUST DUCT SECTION

1/8" = 1'-0" 0 12'

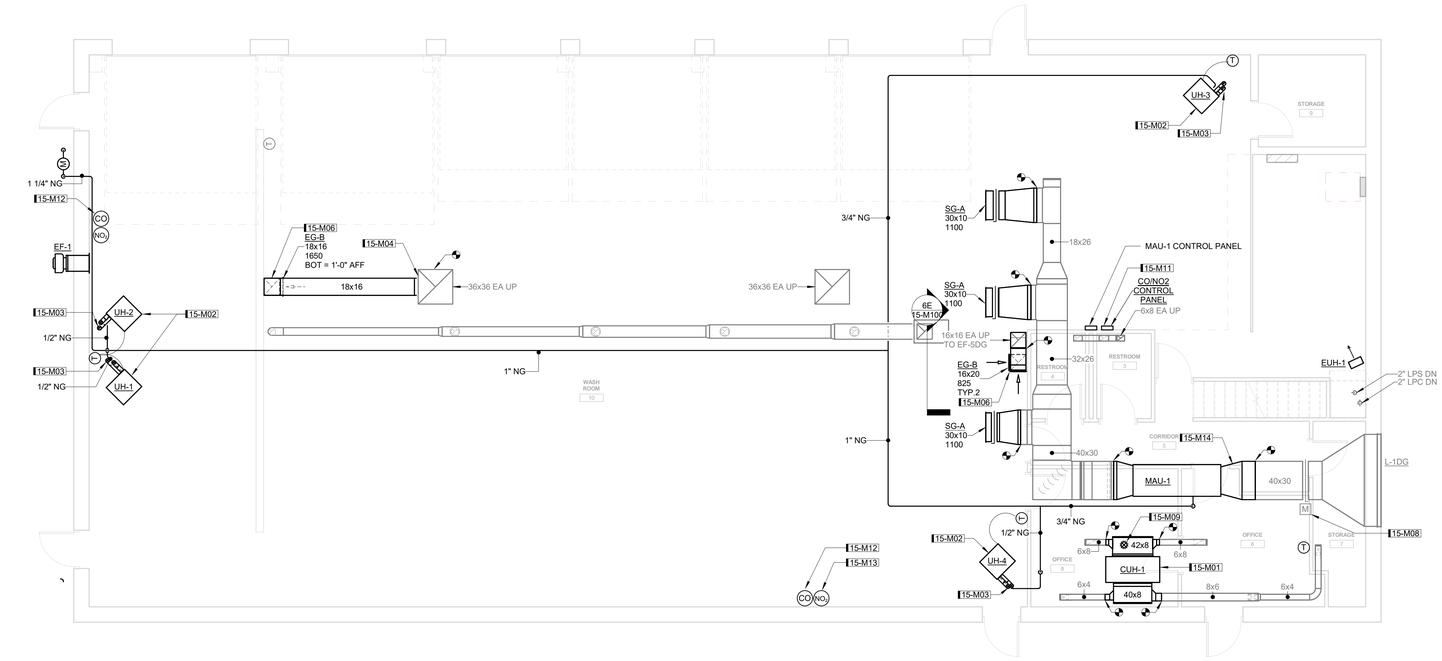
KEYNOTES

KEY	NOTE
15-M01	INSTALL NEW CABINET UNIT HEATER AND ADAPT DUCTWORK AS NECESSARY.
15-M02	HANG UNIT HEATERS FROM STRUCTURE ABOVE. SEE DETAIL 1 ON 15-M600 FOR REFERENCE.
15-M03	TERMINATE UNIT HEATER USING CONCENTRIC VENT KIT.
15-M04	EXTEND NEW 36X36 EA DUCT DOWN FROM EXISTING. TAP 18X16 DUCT OFF THE SIDE OF THE NEW 36X36 DUCT. CAP THE BOTTOM OF NEW 36X36 DUCT.
15-M05	EXISTING FAN (REBALANCE TO 1650 CFM WITH NEW DUCTWORK CONFIGURATION)
15-M06	BOTTOM OF DUCT 1'-0" AFF.
15-M08	REFURBISH EXISTING MOTORIZED DAMPER AND REPLACE ACTUATOR.
15-M09	6' Ø OA DUCT WITH MOTORIZED DAMPER UP THROUGH ROOF. TERMINATE WITH RAIN CAP.
15-M10	RE-BALANCE EXISTING GRILLE TO AIRFLOW INDICATED BELOW
15-M11	PROVIDE TOXALERT TOX-4ANA CONTROL PANEL WITH THE ABILITY TO ACCOMMODATE 4 SENSORS. SEE DETAIL 3 ON SHEET 15-M600 FOR REFERENCE.
15-M12	PROVIDE TOXALERT TOX-EC-CO CO SENSOR MOUNTED APPROX 42" AFF.
15-M13	PROVIDE TOXALERT TOX-EC-NO2 NO2 SENSOR. MOUNT 1-3 FEET BELOW INSULATED TRUSS SPACE.
15-M14	INSULATE OUTDOOR AIR DUCT WITH 2" TYPE "I" DUCT WRAP. REPAIR ANY DAMAGED INSULATION ON EXISTING DUCT.

PLAN NORTH / TRUE NORTH

1C ROOF MECHANICAL PLAN

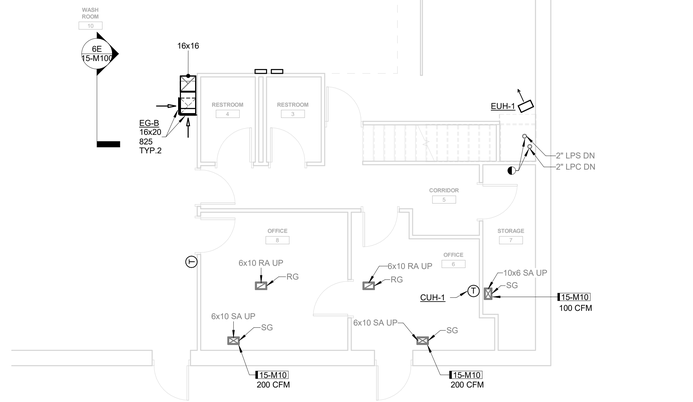
3/16" = 1'-0" 0 8'



PLAN NORTH / TRUE NORTH

1A FIRST FLOOR MECHANICAL PLAN

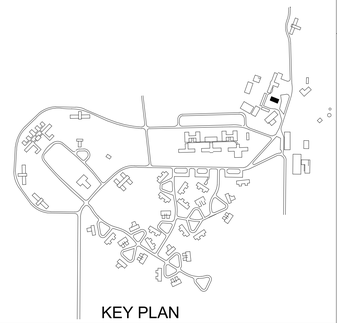
3/16" = 1'-0" 0 8'



PLAN NORTH / TRUE NORTH

6B OFFICE MECHANICAL PLAN

3/16" = 1'-0" 0 8'



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MECHANICAL PLANS

15-M100

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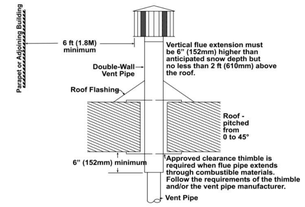
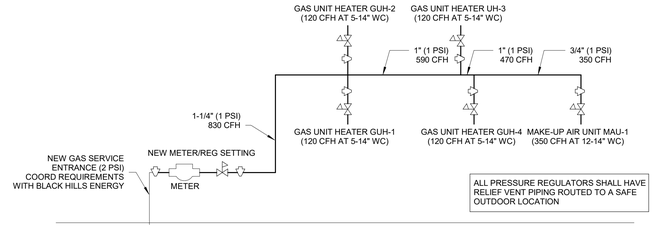
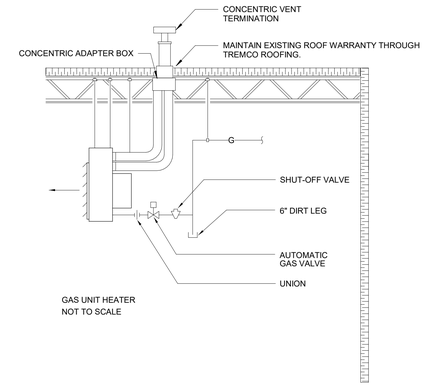


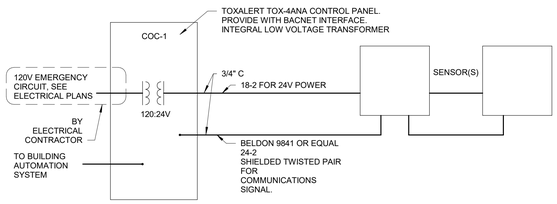
DESIGN BASIS DETAIL OF ROOF PENETRATION. INSTALL PER MANUFACTURER'S INSTRUCTIONS.



4D GAS PIPING SCHEMATIC
NOT TO SCALE



7D GAS UNIT HEATER DETAIL
NOT TO SCALE



1. EACH CO/NO2 CONTROL PANEL CONTROLS ONE ZONE. IN EACH ZONE, THE EXHAUST FANS AND ASSOCIATED MOTORIZED DAMPERS ARE TO OPERATE ON ALARM SIGNAL FROM THE CONTROL PANELS. THE ZONES ARE AS FOLLOWS :

COC-1 - EF-2, EF-5DG, MAU-1

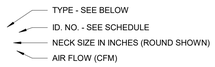
2. ELECTRICAL CONTRACTOR TO EXTEND 120V CONTACT SIGNAL INTO 'AUTO' CONTROL LEG OF COMBINATION STARTER/DISCONNECTS SERVING EXHAUST FANS.

3. 120V CIRCUIT TO CONTROL PANEL COC-1 BY ELECTRICAL CONTRACTOR.

4. LOW VOLTAGE (24V) WIRING, RELAY, TRANSFORMERS AND CONTROLLERS BY TEMPERATURE CONTROLS CONTRACTOR. REFER TO SPECIFIC WIRING REQUIREMENTS OF CO/NO CONTROL PANEL BY MANUFACTURER.

5. ALARM TO BUILDING AUTOMATION SYSTEM WHEN EMERGENCY VENTILATION IS ACTIVATED.

3B CO/NO2 CONTROL PANEL DETAIL
NOT TO SCALE



DIFFUSER, GRILLE, REGISTER NOTATIONS

SG = SUPPLY GRILLE
RG = RETURN GRILLE
EG = EXHAUST GRILLE

DIFFUSERS REGISTERS AND GRILLES SCHEDULE

MARK	MATERIAL	DESCRIPTION	FACE SIZE	FACTORY FINISH	DESIGN BASIS	REMARKS
A	ALUMINUM	LONG THROW, HIGH CAPACITY SUPPLY GRILLE WITH ROTATING DRUM	SEE PLANS	WHITE	TITUS 272FL	
B	ALUMINUM	LOUVERED RETURN GRILLE, 1/2" BLADE SPACING, 35 DEGREE DEFLECTION	SEE PLANS	WHITE	TITUS 355FL	

UNIT HEATER SCHEDULE - GAS

REMARKS:
1. PROVIDE VERTICAL COMBUSTION AIR/VENT KIT WITH CONCENTRIC ADAPTER
2. PROVIDE 30 DEGREE DOWNTURN NOZZLE
3. PROVIDE THERMOSTAT
4. PROVIDE TWO-STAGE GAS VALVE

MARK	AREA SERVED	CFM	EAT (°F)	LAT (°F)	MINIMUM GAS PRESSURE HEATING INPUT (MBH)	MINIMUM GAS PRESSURE HEATING OUTPUT (MBH)	MOUNTING HEIGHT (FT)	ORIENTATION	FAN MOTOR DATA HP	VOLTS	PHASE	DESIGN BASIS	REMARKS
UH-1	GARAGE SPACE	1537	50	110	120	99.6	12'-0"	VERTICAL	1/4	115	1	REZNOR UDZ	
UH-2	GARAGE SPACE	1537	50	110	120	99.6	12'-0"	VERTICAL	1/4	115	1	REZNOR UDZ	
UH-3	GARAGE SPACE	1537	50	110	120	99.6	12'-0"	VERTICAL	1/4	115	1	REZNOR UDZ	
UH-4	GARAGE SPACE	1537	50	110	120	99.6	12'-0"	VERTICAL	1/4	115	1	REZNOR UDZ	

UNIT HEATER SCHEDULE - ELECTRIC

REMARKS:
1. PROVIDE WITH DISCONNECT SWITCH
2. PROVIDE WITH BUILT-IN THERMOSTAT
3. PROVIDE WITH REMOTE THERMOSTAT WITH 7-DAY SCHEDULE CAPABILITIES. INTERLOCK FAN OPERATION WITH MOTORIZED DAMPER TO PROVIDE FRESH AIR DURING OCCUPIED MODES.

MARK	AREA SERVED	CFM	EAT (°F)	LAT (°F)	FAN MOTOR HP	MOUNTING HEIGHT (FT)	ORIENTATION	ELECTRICAL DATA KW	VOLTS	PHASE	FLA	DESIGN BASIS	REMARKS
CUH-1	OFFICES	500	56.5	85	1/25	9'-6"	HORIZONTAL	6	208	3	14.3	TRANE FFDB080	1,3
EUH-1	TUNNEL ENTRANCE	350	60	87	1/100	7'-6"	VERTICAL	3	208	1	14.5	QMARK MUH03-81	1,2

FAN SCHEDULE

REMARKS:
1. PROVIDE WITH WALL GRILLE, WALL BRACKET, BACKDRAFT DAMPER, BIRDSCREEN AND DISCONNECT SWITCH
2. PROVIDE WITH CURB ADAPTER, MOTORIZED DAMPER, BIRDSCREEN AND DISCONNECT SWITCH.

Mark	AREA SERVED	SYSTEM SERVED	FAN TYPE	CFM	ESP (IN H20)	NO FLOW ESP (IN H20)	MOTOR DATA BHP	HP	RPM	DRIVE	ELECTRICAL DATA VOLTS	PHASE	DAMPER TYPE	INLET SONES	DESIGN BASIS	REMARKS
EF-1	PARKING AREA	STANDBY EXHAUST	WALL MOUNTED	250	0.3	0.475	0.03	1/15	1725	DIRECT	120	1	BACKDRAFT	4.9	GREENHECK CUE-070-VG	1
EF-2	PARKING AREA	EMERGENCY EXHAUST	ROOF MOUNTED	1650	0.5	1.41	0.35	1/2	1725	DIRECT	120	1	BACKDRAFT	14.4	GREENHECK G-120-VG	2

DIRECT FIRED MAKE-UP AIR UNIT SCHEDULE

REMARKS:
1. PROVIDE REMOTE CONTROL PANEL.
2. PROVIDE ROOM THERMOSTAT TO RESET DISCHARGE AIR TEMPERATURE TO MAINTAIN ROOM SETPOINT.
3. INTERLOCK WITH CO/NO2 PANEL. MAU-1 SHALL OPERATE WHEN SYSTEM IS IN EMERGENCY EXHAUST MODE.
4. PROVIDE NIGHT THERMOSTAT SET TO 50°F AS BACKUP TO GAS FIRED UNIT HEATERS.
5. INTERLOCK WITH EXISTING OUTSIDE AIR DAMPER. REFURBISH EXISTING DAMPER AND ACTUATOR.

MARK	AREA SERVED	SUPPLY CFM	MINIMUM OA (%)	SUPPLY FAN DATA CFM	RPM	STATIC PRESSURE TOTAL (T.S.P.)	STATIC PRESSURE EXTERNAL (E.S.P.)	TYPE	SUPPLY FAN ELECTRICAL DATA BHP	HP	VOLTS	PHASE	HEATING TYPE	EAT DB (°F)	LAT DB (°F)	MBH	GAS INPUT (MBH)	GAS OUTPUT (MBH)	GAS THERMAL EFFICIENCY	PRE-FILTER TYPE	PRE-FILTER DEPTH (IN)	ELECTRICAL DATA HP	VOLTS	PHASE	MOP	MCA	DESIGN BASIS	REMARKS
MAU-1	DISPATCH GARAGE	3300	100	3300	2025	1.931	1	MIXED FLOW	1.8	2	208	3	DIRECT FIRED NATURAL GAS	-20	70	350	348.7	320.8	92	MERV 8	2	2	208	3	20 A	10.1 A	GREENHECK DGX-P115-H12-MF	

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Iowa Department of Administrative Services
1251 334th St, Woodward, IA 50276

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MECHANICAL SCHEDULES & DETAILS

15-M600

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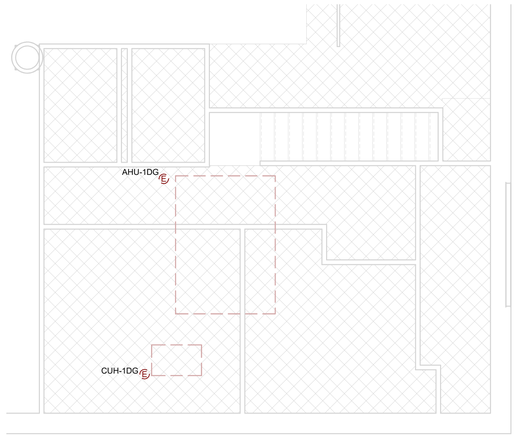
KEYNOTES	
KEY	NOTE
15-E001	REMOVE ELECTRICAL CONNECTION TO VEHICLE EXHAUST SYSTEM.

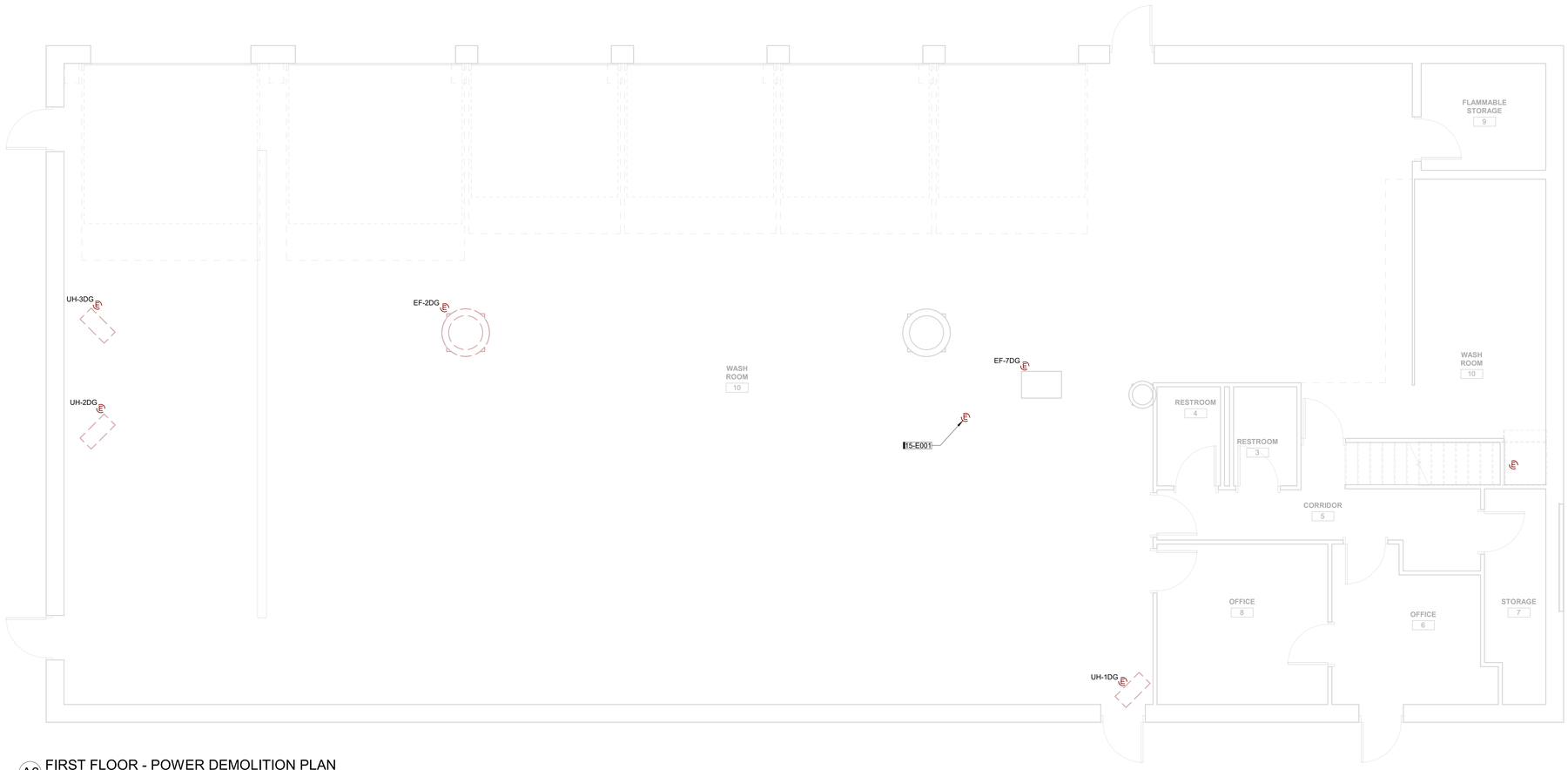


PLAN NORTH

TRUE NORTH

E3 MEZZANINE LEVEL - POWER DEMOLITION PLAN

1/4" = 1'-0" 0' 6'

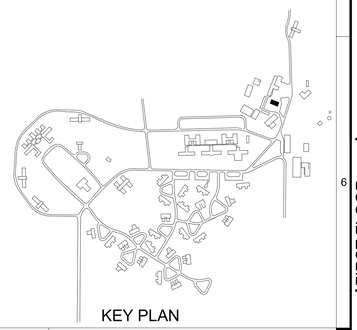


PLAN NORTH

TRUE NORTH

A6 FIRST FLOOR - POWER DEMOLITION PLAN

1/4" = 1'-0" 0' 6'



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FIRST FLOOR AND MEZZANINE LEVEL POWER DEMOLITION PLAN

15-ED201

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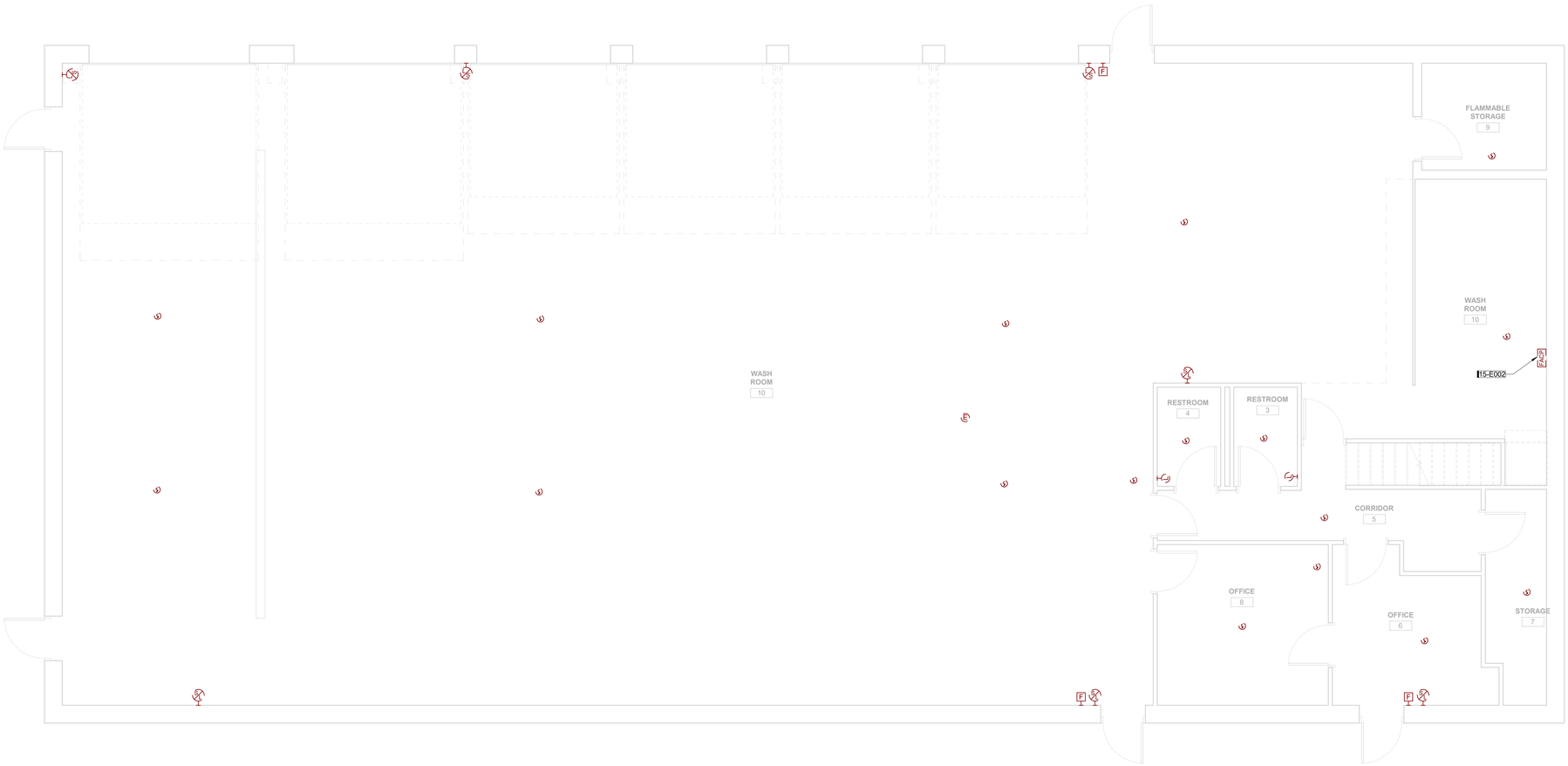
KEYNOTES	
KEY	NOTE
15-E002	SALVAGE EXISTING FIRE ALARM PANEL AND DEVICES. RETURN DEVICES TO OWNER. DEMO EXISTING DEVICES AFTER NEW FIRE ALARM SYSTEM IS TESTED AND OPERATIONAL.

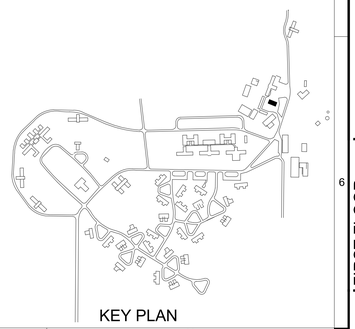


PLAN NORTH

TRUE NORTH

A5 FIRST FLOOR - SYSTEMS DEMOLITION PLAN

1/4" = 1'-0" 0' 6'



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(#9294.01) WRC Fire Alarm Phase 2

Iowa Department of Administrative Services
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FIRST FLOOR SYSTEMS DEMOLITION PLAN

15-ED301

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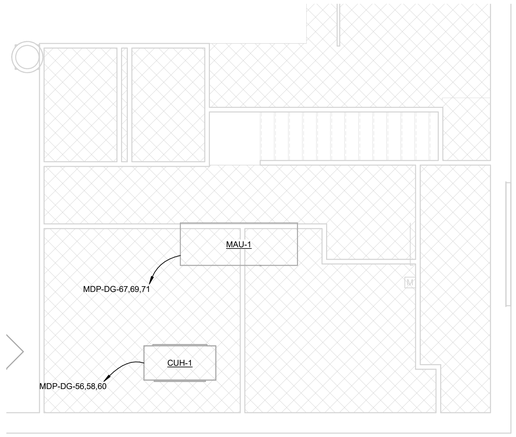
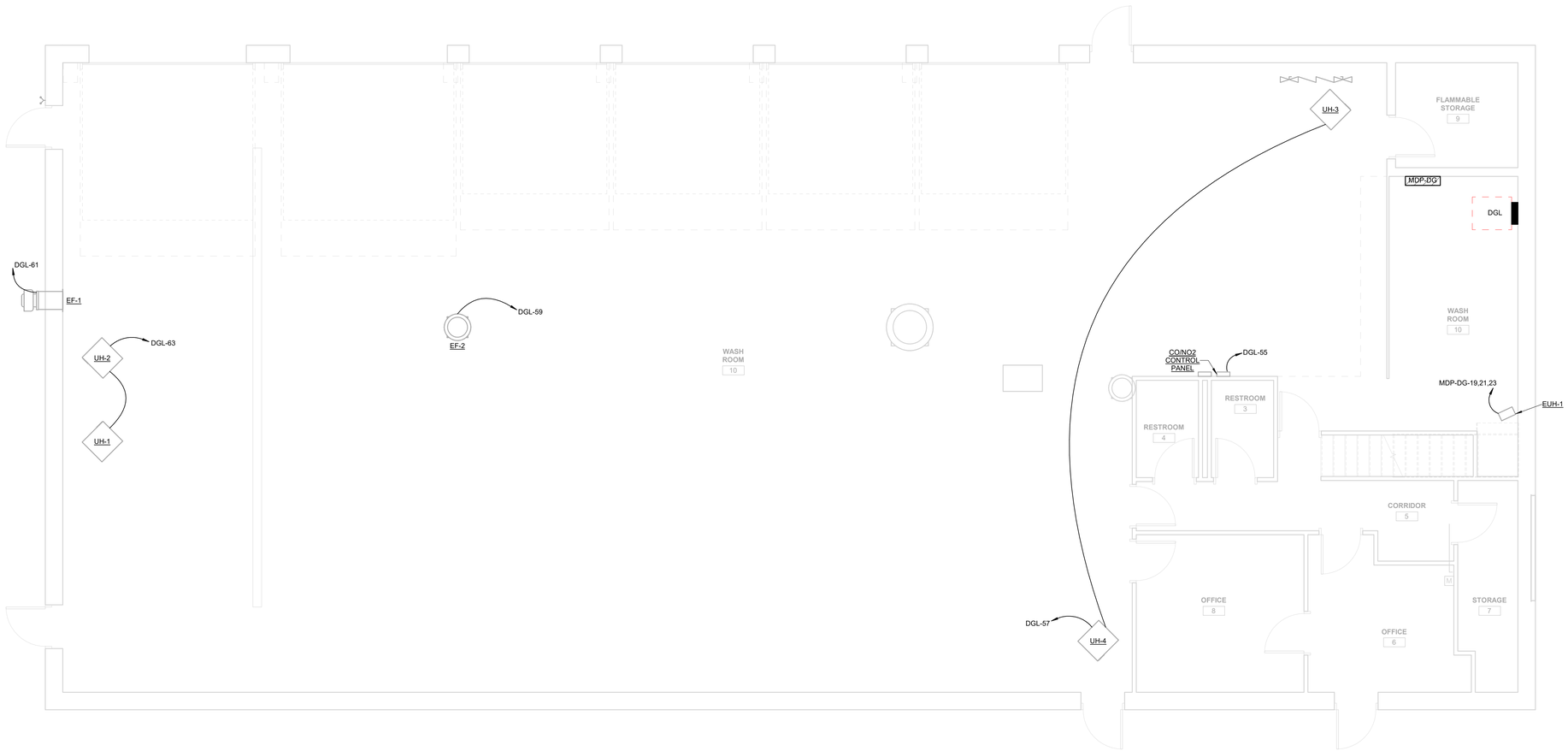


PLAN NORTH

TRUE NORTH

E3 MEZZANINE LEVEL - POWER PLAN

1/4" = 1'-0" 0 6'

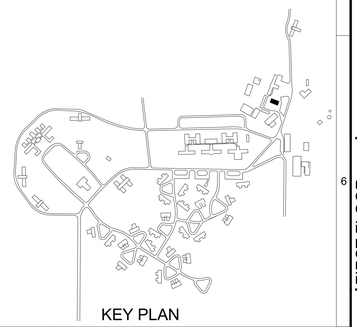


PLAN NORTH

TRUE NORTH

1A FIRST FLOOR - POWER PLAN

1/4" = 1'-0" 0 6'



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FIRST FLOOR AND MEZZANINE LEVEL POWER PLAN

15-E201

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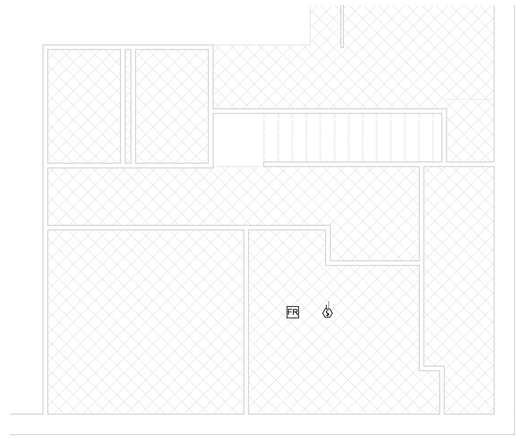
KEYNOTES	
KEY	NOTE
15-E003	EXTEND CIRCUIT FROM EXISTING FACP TO NEW FACP. REUSE EXISTING MULIT-MODE FIBER TO CONNECT NEW FACP.

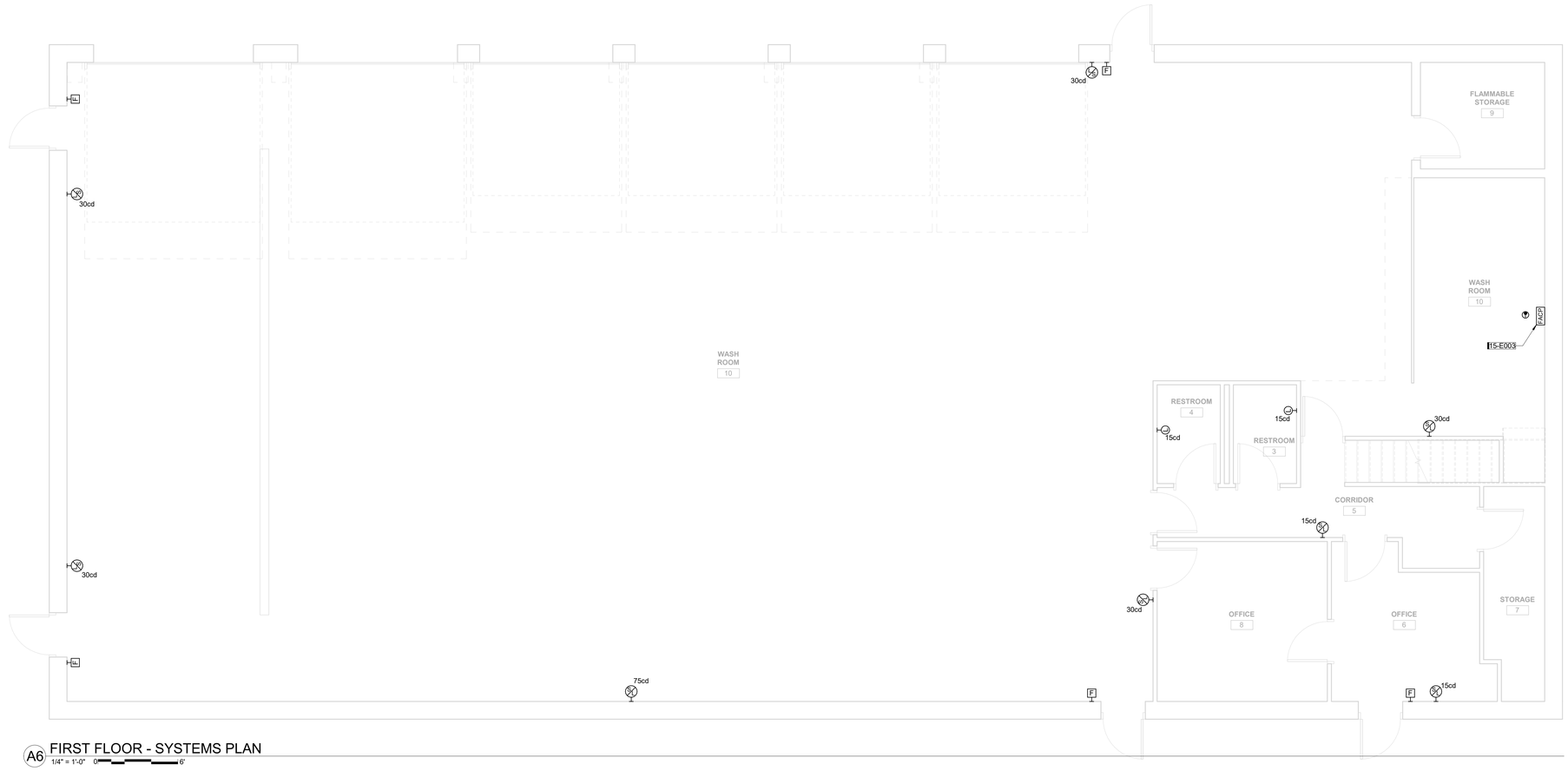


PLAN NORTH

TRUE NORTH

E3 MEZZANINE LEVEL - SYSTEMS PLAN

1/4" = 1'-0" 0 6'

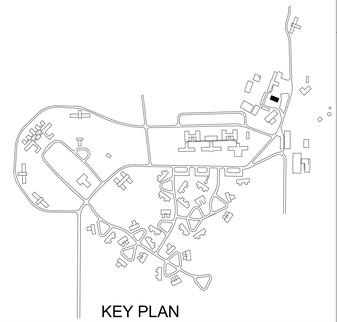


PLAN NORTH

TRUE NORTH

A6 FIRST FLOOR - SYSTEMS PLAN

1/4" = 1'-0" 0 6'



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FIRST FLOOR AND MEZZANINE LEVEL SYSTEMS PLAN

15-E301

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BRANCH PANEL NAME	VOLTAGE	PHASE	WIRE	BUS SIZE	MAIN OCP	AIC RATING
MDP-DG	**208Y/120**	**3**	**4**	**400 AMPS**	**400 A**	**42,000 AMPS SYMMETRICAL**
	CODE: L=LIGHTING, R=RECEPTACLES, E=EQUIPMENT, K=KITCHEN					MOUNTING:
ROOM: WASH ROOM 10	EXISTING WESTINGHOUSE FUSED DISTRIBUTION PANEL...					ENCLOSURE: Type 1
FED FROM:						FEED:

LOAD	CODE	NOTE	POLE	BKR.	CKT #	A	B	C	CKT #	BKR.	POLE	NOTE	CODE	LOAD
OVERHEAD DOOR 1	--	--	3	30 A	1	0.0 / 0.0			2	30 A	3	--	--	OVERHEAD DOOR 2
--	--	--	--	--	3		0.0 / 0.0		4	--	--	--	--	--
--	--	--	--	--	5			0.0 / 0.0	6	--	--	--	--	--
OVERHEAD DOOR 3	--	--	3	30 A	7	0.0 / 0.0			8	30 A	3	--	--	OVERHEAD DOOR 4
--	--	--	--	--	9		0.0 / 0.0		10	--	--	--	--	--
--	--	--	--	--	11			0.0 / 0.0	12	--	--	--	--	--
OVERHEAD DOOR 5	--	--	3	30 A	13	0.0 / 0.0			14	30 A	3	--	--	OVERHEAD DOOR 6
--	--	--	--	--	15		0.0 / 0.0		16	--	--	--	--	--
--	--	--	--	--	17			0.0 / 0.0	18	--	--	--	--	--
EUH-1	E	1	3	20 A	19	1.0 / 0.0			20	30 A	3	--	--	SPARE
--	--	--	--	--	21		1.0 / 0.0		22	--	--	--	--	--
--	--	--	--	--	23			1.0 / 0.0	24	--	--	--	--	--
SPARE	--	--	3	30 A	25	0.0 / 0.0			26	30 A	3	--	--	SPARE
--	--	--	--	--	27		0.0 / 0.0		28	--	--	--	--	--
--	--	--	--	--	29			0.0 / 0.0	30	--	--	--	--	--
SPARE	--	--	3	30 A	31	0.0 / 0.0			32	30 A	3	--	--	AIR COMP.
--	--	--	--	--	33		0.0 / 0.0		34	--	--	--	--	--
--	--	--	--	--	35			0.0 / 0.0	36	--	--	--	--	--
LIGHTING PANEL DGL	--	--	3	200 A	37	0.0 / 0.0			38	400 A	3	--	--	MAIN
--	--	--	--	--	39		0.0 / 0.0		40	--	--	--	--	--
--	--	--	--	--	41			0.0 / 0.0	42	--	--	--	--	--
EXHAUST FAN 1DG	--	--	3	60 A	43	0.0 / 0.0			44	60 A	3	--	--	SPARE
--	--	--	--	--	45		0.0 / 0.0		46	--	--	--	--	--
--	--	--	--	--	47			0.0 / 0.0	48	--	--	--	--	--
EXHAUST FAN 3DG	--	--	3	60 A	49	0.0 / 0.0			50	60 A	3	--	--	EXHAUST FAN 7DG
--	--	--	--	--	51		0.0 / 0.0		52	--	--	--	--	--
--	--	--	--	--	53			0.0 / 0.0	54	--	--	--	--	--
EXHAUST FAN 5DG	--	--	3	60 A	55	0.0 / 2.0			56	20 A	3	1	E	CUH-1
--	--	--	--	--	57		0.0 / 2.0		58	--	--	--	--	--
--	--	--	--	--	59			0.0 / 2.0	60	--	--	--	--	--
EXISTING LOAD	--	--	3	60 A	61	0.0 / 0.0			62	60 A	3	--	--	EWH-1DG WATER HTR
--	--	--	--	--	63		0.0 / 0.0		64	--	--	--	--	--
--	--	--	--	--	65			0.0 / 0.0	66	--	--	--	--	--
MAU-1	E	1	3	20 A	67	1.0 / 0.0			68	60 A	3	--	--	WELDER RECEPT.
--	--	--	--	--	69		1.0 / 0.0		70	--	--	--	--	--
--	--	--	--	--	71			1.0 / 0.0	72	--	--	--	--	--
CAR-MON EXHAUST FAN	--	--	3	60 A	73	0.0 / 0.0			74					
--	--	--	--	--	75		0.0 / 0.0		76					
--	--	--	--	--	77			0.0 / 0.0	78					
				TOTAL LOAD:		3820.9 VA	3820.9 VA	3820.9 VA						
				TOTAL AMPS:		31.8 A	31.8 A	31.8 A						

LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATED DEMAND (VA)	PANEL TOTALS	
HVAC	2911 VA	100%	2911 VA	**CONNECTED LOAD:**	11462.6 VA
HEATING HVAC	9000 VA	100%	9000 VA	**ESTIMATED DEMAND:**	11462.6 VA
				CONNECTED CURRENT:	31.8 A
				ESTIMATED DEMAND CURRENT:	31.8 A

NOTES:
1. CONNECT TO EXISTING FUSED SWITCH. FUSE SIZE PER MANUFACTURER RECOMMENDATIONS.

BRANCH PANEL NAME	VOLTAGE	PHASE	WIRE	BUS SIZE	MAIN OCP	AIC RATING
DGL	**208Y/120**	**3**	**4**	**225 AMPS**	**MLO**	**10,000 AMPS SYMMETRICAL**
	CODE: L=LIGHTING, R=RECEPTACLES, E=EQUIPMENT, K=KITCHEN					MOUNTING: SURFACE
ROOM: WASH ROOM 10	EXISTING WESTINGHOUSE PANELBOARD					ENCLOSURE: NEMA1
FED FROM:						FEED:

LOAD	CODE	NOTE	POLE	BKR.	CKT #	A	B	C	CKT #	BKR.	POLE	NOTE	CODE	LOAD
PIT PUMP	--	--	1	20 A	1	0.0 / 0.0			2	20 A	1	--	--	FUEL PUMPS
PIT PUMP	--	--	1	20 A	3		0.0 / 0.0		4	20 A	1	--	--	EXISTING LOAD
SPARE	--	--	1	20 A	5			0.0 / 0.0	6	20 A	1	--	--	EXISTING LOAD
SPARE	--	--	1	20 A	7	0.0 / 0.0			8	20 A	1	--	--	EXISTING LOAD
SPARE	--	--	1	20 A	9		0.0 / 0.0		10	20 A	1	--	--	RECEPTACLE UNDER PANEL
EXISTING LOAD	--	--	1	20 A	11			0.0 / 0.0	12	20 A	1	--	--	OFFICE RECEPTACLES
EXAUST CONTROL	--	--	1	20 A	13	0.0 / 0.0			14	20 A	1	--	--	OUTSIDE RECEPTACLES
EXISTING LOAD	--	--	2	20 A	15		0.0 / 0.0		16	20 A	2	--	--	EXISTING LOAD
--	--	--	--	--	17			0.0 / 0.0	18	--	--	--	--	--
EXISTING LOAD	--	--	2	20 A	19	0.0 / 0.0			20	20 A	2	--	--	EXISITNG LOAD
--	--	--	--	--	21		0.0 / 0.0		22	--	--	--	--	--
SPACE	--	--	1	--	23			0.0 / 0.0	24	--	1	--	--	SPACE
OFFICE HEATER	--	--	1	20 A	25	0.0 / 0.0			26	20 A	1	--	--	EXISTING LOAD
EXISTING LOAD	--	--	1	20 A	27		0.0 / 0.0		28	20 A	1	--	--	HEATERS
SOUTHWEST UNIT HEATER	--	--	1	20 A	29			0.0 / 0.0	30	20 A	1	--	--	LIGHTS OVER WORK BENCH
EXISTING LOAD	--	--	1	20 A	31	0.0 / 0.0			32	20 A	1	--	--	RESTROOM & HALL LIGHTS
EXISTING LOAD	--	--	1	20 A	33		0.0 / 0.0		34	20 A	1	--	--	SHOWER ROOM LIGHTS
FLOURESCENT LIGHTS	--	--	1	20 A	35			0.0 / 0.0	36	20 A	1	--	--	OFFICE LIGHTS
JOHNSON CONTROL	--	--	1	20 A	37	0.0 / 0.0			38	20 A	1	--	--	PARTS RM AND LOFT LGT
FIRE ALARM	--	--	1	20 A	39		0.0 / 0.0		40	20 A	1	--	--	OUTSIDE LIGHTS
BENCH RECEPTACLES	--	--	1	20 A	41			0.0 / 0.0	42	20 A	1	--	--	OUTSIDE LIGHTS
BENCH RECEPTACLES	--	--	1	20 A	43	0.0 / 0.0			44	20 A	1	--	--	OUTSIDE LIGHTS
BENCH RECEPTACLES	--	--	1	20 A	45		0.0 / 0.0		46	20 A	1	--	--	OUTSIDE LIGHTS
EXISTING LOAD	--	--	1	20 A	47			0.0 / 0.0	48	20 A	1	--	--	RECEPTACLE SOUTH SIDE
SPARE	--	--	3	15 A	49	0.0 / 0.0			50	20 A	1	--	--	RECEPTACLE SOUTH SIDE
--	--	--	--	--	51		0.0 / 0.0		52	30 A	2	--	--	EXISTING LOAD
--	--	--	--	--	53			0.0 / 0.0	54	--	--	--	--	--
COC-1	E	1	1	20 A	55	0.0 / 0.0			56	--	1	--	--	SPACE
UH-3, UH-4	E	1	1	20 A	57		3.2 / 0.0		58	20 A	1	--	--	EXISTING LOAD
EF-2	E	1	1	20 A	59			0.8 / 0.0	60	--	1	--	--	SPACE
EF-1	E	1	1	20 A	61	0.2 / 0.0			62	60 A	2	--	--	EXISTING LOAD
UH-1, UH-2	E	1	1	20 A	63		3.2 / 0.0		64	--	--	--	--	--
SPACE	--	--	1	--	65			0.0 / 0.0	66	--	1	--	--	SPACE
				TOTAL LOAD:		156.0 VA	6336.0 VA	768.0 VA						
				TOTAL AMPS:		1.3 A	53.6 A	7.2 A						

LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATED DEMAND (VA)	PANEL TOTALS	
MOTORS	924 VA	120.78%	1116 VA	**CONNECTED LOAD:**	7096.9 VA
HEATING HVAC	6336 VA	100%	6336 VA	**ESTIMATED DEMAND:**	7259.9 VA
SPEC	0 VA	0%	0 VA	**CONNECTED CURRENT:**	19.7 A
				ESTIMATED DEMAND CURRENT:	20.2 A

NOTES:
1. PROVIDE NEW BREAKER IN EXISTING PANEL.

ELECTRICAL AND MECHANICAL COORDINATION SCHEDULE

GENERAL NOTES:
MOCP SIZES SHOWN BELOW ARE FOR BIDDING PURPOSES ONLY. VERIFY MOCP WITH EQUIPMENT NAME PLATE DATA PRIOR TO ORDERING EQUIPMENT.
MINIMUM WIRE SIZE SHALL BE #12 AWG AND MINIMUM CONDUIT SIZE SHALL BE 3/4".
INCLUDE A SEPARATE, GREEN, CONDUCTOR IN ALL FEEDER AND BRANCH CIRCUIT CONDUITS.

ABBREVIATIONS:
EC - ELECTRICAL CONTRACTOR
MC - MECHANICAL CONTRACTOR
MFR - MANUFACTURER
TCC - TEMPERATURE CONTROL CONTRACTOR
OWN - OWNER
NF - NON-FUSED DISCONNECT
PWE - PROVIDED WITH EQUIPMENT

REMARKS:

Mark	VOLTAGE	PHASE	FLA	MCA	MOCP	HP	FUSE	WATTAGE	CONDUIT AND WIRE SIZE	CONTROL OR STARTER	CONTROLLER OR STARTER FURNISHED / INSTALLED	DISCONNECT TYPE	DISCONNECT FURNISHED / INSTALLED	AIC RATING	MATERIAL LIST	REMARKS
CUH-1	208 V	3	14.3 A	17.9 A	20 A	1/25	-	6000 W	4#12, 1#12 GND, 3/4" C	--	MC	NF	PWE	--	--	--
EF-1	120 V	1	1.3 A	1.6 A	20 A	1/15	-	156 W	2#12, 1#12 GND, 3/4" C	--	MC	NF	PWE	--	--	--
EF-2	120 V	1	6.4 A	8 A	20 A	1/2	-	768 W	2#12, 1#12 GND, 3/4" C	--	MC	NF	PWE	--	--	--
EUH-1	208 V	1	14.5 A	18.1 A	20 A	1/100	-	3000 W	2#12, 1#12 GND, 3/4" C	--	MC	NF	PWE	--	--	--
MAU-1	208 V	3	8.1 A	10.1 A	20 A	2	-	2910.95 W	3#12, 1#12 GND, 3/4" C	--	MC	NF	PWE	--	--	--
UH-1	120 V	1	13.2 A	16.5 A	20 A	1/4	-	1584 W	2#12, 1#12 GND, 3/4" C	--	MC	NF	PWE	--	--	--
UH-2	120 V	1	13.2 A	16.5 A	20 A	1/4	-	1584 W	2#12, 1#12 GND, 3/4" C	--	MC	NF	PWE	--	--	--
UH-3	120 V	1	13.2 A	16.5 A	20 A	1/4	-	1584 W	2#12, 1#12 GND, 3/4" C	--	MC	NF	PWE	--	--	--
UH-4	120 V	1	13.2 A	16.5 A	20 A	1/4	-	1584 W	2#12, 1#12 GND, 3/4" C	--	MC	NF	PWE	--	--	--

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ELECTRICAL SCHEDULES

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