ALLAMAKEE COMMUNITY SCHOOL DISTRICT - MIDDLE SCHOOL HVAC UPGRADES
PROJECT ADDRESS: 1059 3RD AVE NW, WAUKON, IA 52172
ISSUE FOR BID - FEBRUARY 20, 2026
AXIOM PROJECT #: 9166-10000

PROJECT DIRECTORY

ENGINEER/OWNER'S REP.
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APPLICABLE CODES

1. STATE OF IOWA ADOPTED BUILDING CODE
2. STATE OF IOWA ADOPTED MECHANICAL CODE
3. STATE OF IOWA ADOPTED ENERGY CODE
4. STATE OF IOWA ADOPTED FIRE CODE
5. STATE OF IOWA ADOPTED PLUMBING CODE
6. NATIONAL FIRE PROTECTION ASSOCIATION
   - NFPA 54
   - NFPA 70 (NEC)
7. ANY IOWA STATE & LOCAL COUNTY CODES AND AMENDMENTS TO INTERNATIONAL AND UNIFORM CODES

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ENGINEERING PROJECT SYNOPSIS:

MIDDLE SCHOOL - THIS PROJECT SCOPE INVOLVES MECHANICAL AND ELECTRICAL ENGINEERING WORK TO DEMOLISH AND UPGRADE PORTIONS OF THE EXISTING HVAC SYSTEM AND INCIDENTAL ELECTRICAL CIRCUITS AT WAUKON MIDDLE SCHOOL TO MATCH RECENT CHANGES. THE SCOPE ALSO INCLUDES ELECTRICAL ENGINEERING WORK TO DEMOLISH AND REPLACE SELECTED LIGHT FIXTURES AND ELECTRICAL PANELS AT THIS LOCATION. HVAC SYSTEMS CONSIST OF PACKAGED DOAS AND RTU SYSTEMS AND HOT WATER TERMINAL UNITS, NEW KITCHEN HOOD MAKEUP AIR UNIT AND SPACE HVAC, NEW BOILER CIRCULATORS.

EAST ELEMENTARY SCHOOL - ADDITIONAL SPACE HEAT IN THE GYMNASIUM BY USE OF HOT WATER UNIT HEATERS AND INCIDENTAL ELECTRICAL CIRCUITS.

ARCHITECTURAL PROJECT SYNOPSIS:

MIDDLE SCHOOL - REMOVE AND REPLACE EXISTING WINDOWS ON THE EAST SIDE OF THE BUILDING. REMOVE AND REPLACE VARIOUS ACOUSTICAL CEILINGS, LIGHTING AND REGISTERS. REPLACE MANY EXISTING DOOR SLABS UTILIZING THE EXISTING DOOR HARDWARE WITH SOME DOORS RECEIVING NEW HARDWARE. PAINT WALLS IN SEVERAL CLASSROOMS. REMOVE AND REPLACE THE PROTECTIVE GYMNASIUM STAGE CURTAIN.

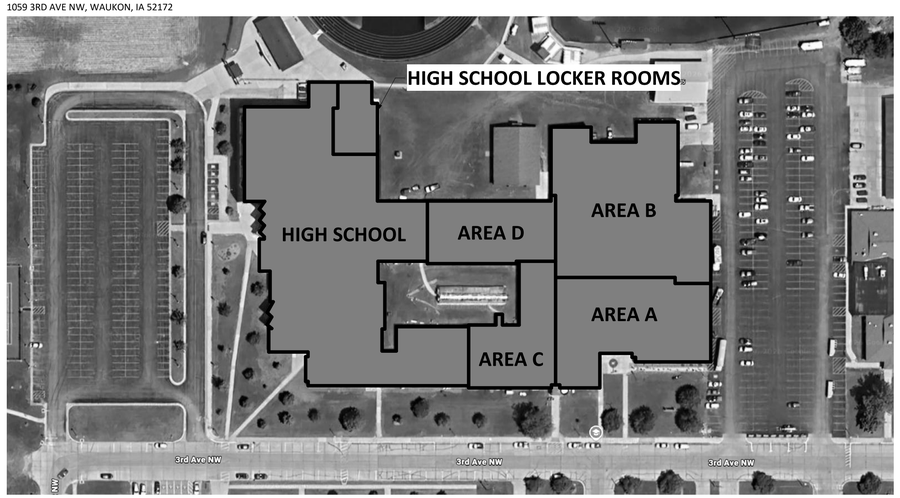
EAST ELEMENTARY SCHOOL - REMOVE AND REPLACE EXISTING WINDOWS ON NORTH END OF GYMNASIUM. INSTALL NEW VINYL COMPOSITE TILE FLOORING IN MANY CLASSROOMS, OFFICES AND THE CAFETERIA. REMOVE AND REPLACE STAIR TREAD AND RISER FINISHES IN SEVERAL OF THE STAIRCASES. REMOVE AND REPLACE THE STAGE CURTAIN IN THE GYMNASIUM.

ALTERNATES:

- **ALTERNATE 1** - BUILDING AUTOMATION CONTROLS FOR BASE BID WORK EXCLUDING CONTROL WORK SPECIFIED UNDER ALTERNATES NOS. 2, 3, 4
- **ALTERNATE 2** - HUMIDIFICATION SUBSYSTEMS FOR BASE BID HVAC UNITS INCLUDING CONTROLS
- **ALTERNATE 3** - TOTAL REMODELING SPECIFIED FOR THE MIDDLE SCHOOL AUDITORIUM AND STAGE INCLUDING HVAC, ELECTRICAL, FIRE SPRINKLERS, HEATING HOT WATER ARCHITECTURAL FINISHES, FIRE ALARM, AND AUTOMATIC CONTROLS FOR HVAC
- **ALTERNATE 4** - NEW HOT WATER UNIT HEATERS, PIPING, CONTROLS AND ELECTRICAL SERVICE FOR THE STAGE AREA AT EAST ELEMENTARY
- **ALTERNATE 5** - NEW STAGE CURTAIN FOR STAGE AT EAST ELEMENTARY
- **ALTERNATE 6** - WINDOW REPLACEMENT AT EAST ELEMENTARY
- **ALTERNATE 7** - NEW FLOOR REPLACEMENT AT EAST ELEMENTARY
- **ALTERNATE 8** - NEW LIGHTS FOR THE STAGE AND GYMNASIUM AT MIDDLE SCHOOL

PROJECT LOCATION - MIDDLE SCHOOL:

1059 3RD AVE NW, WAUKON, IA 52172



PROJECT LOCATION - EAST ELEMENTARY SCHOOL:

107 6TH ST NW, WAUKON, IA 52172



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

FEBRUARY 20, 2026
DATE

VICTOR AMOROSO, JR., P.E.
LICENSE NUMBER 10536

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2026

PAGES OR SHEETS COVERED BY THIS SEAL:

I hereby certify that the portion of this technical submission described below was prepared by me or under my direct supervision and responsible charge. I am a duly registered architect under the laws of the State of Iowa.

FEBRUARY 20, 2026
Date

Robert W. Peck
Registration number: 05326
Pages or sheets covered by this seal: SHEETS A.1 thru A.10, D.1, D.1

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

FEBRUARY 20, 2026
DATE

JOE C. LOMHEIM, P.E.
LICENSE NUMBER 24116

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2026

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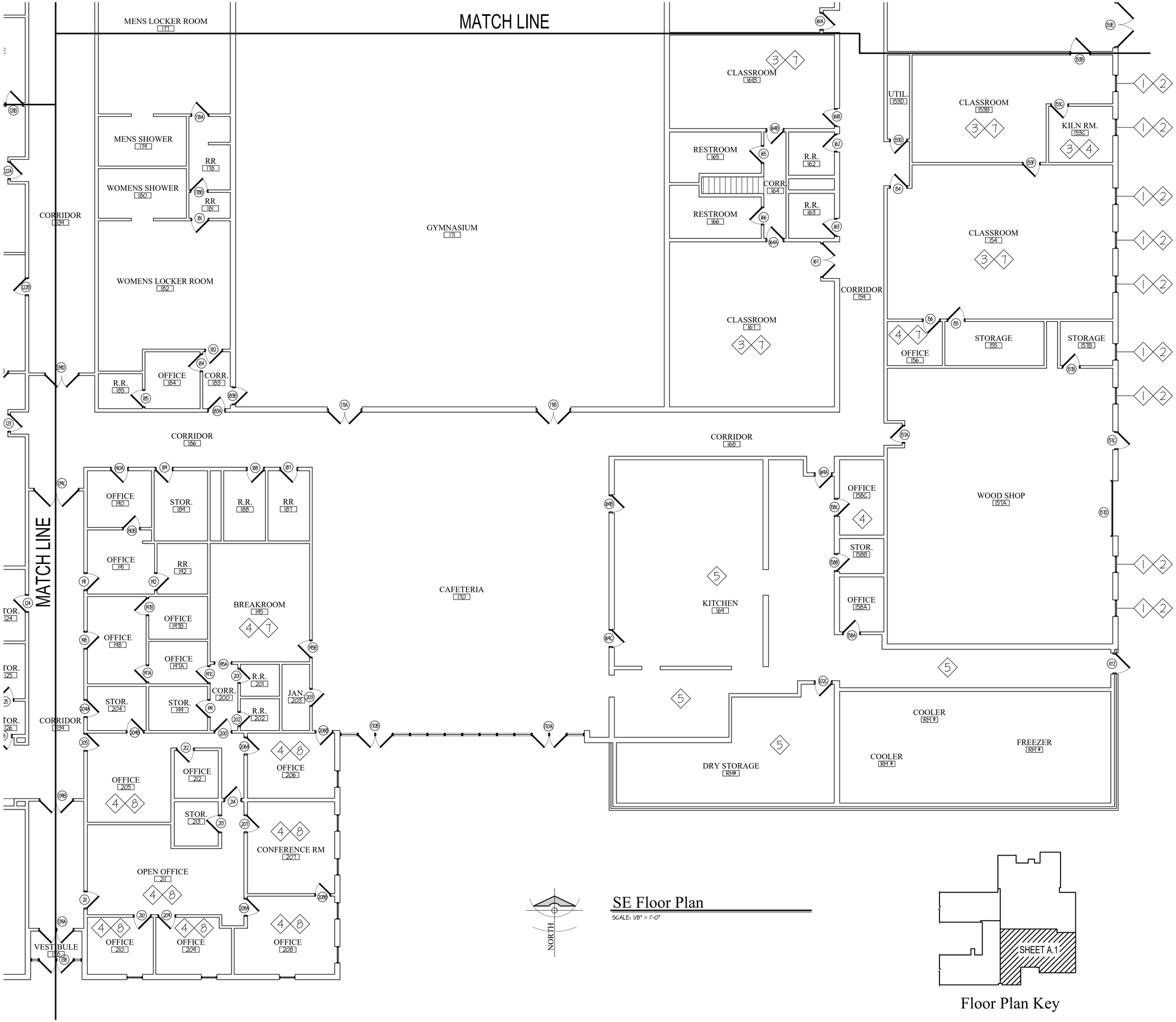
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FEBRUARY 20, 2026
DATE

KEVIN D. MCLAUGHLIN, P.E.
LICENSE NUMBER 29142.

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2027

PAGES OR SHEETS COVERED BY THIS SEAL: ALL 'E' SHEETS, AND ALL 'ME' SHEETS



SE Floor Plan

SCALE: 1/8" = 1'-0"

Floor Plan Key

FLOOR PLAN KEY NOTES:

1. REMOVE EXISTING WINDOW, SEALANTS AND FLASHINGS AS REQUIRED FOR NEW WORK INSTALLATION.
2. INSTALL NEW THERMALLY BROKEN ALUMINUM WINDOW WITH 1" INSULATED, LOW E GLASS. INSTALL FULL HEIGHT ROLLER BLIND WITH VALANCE ON THE INTERIOR.
3. PAINT ROOM, ONE WALL SHALL BE PAINTED AN ACCENT COLOR. COLORS AS SELECTED BY ARCHITECT.
4. PAINT ROOM ALL ONE COLOR. COLOR AS SELECTED BY OWNER.
5. CLEAN EXISTING CEILING AND ROOF STRUCTURE, PAINT CEILING AND ROOF STRUCTURE ELEMENTS USING EPOXY PAINT. COLOR AS SELECTED BY ARCHITECT.
6. PAINT ALL WALLS COLOR #1 FROM SOUTH END FLOOR TO A LINE AT 7' A.F.F. AND COLOR #2 FROM SAME LINE AT 7' A.F.F. TO ACOUSTICAL CEILING CLOUDS. PAINT ALL WALLS, CEILINGS AND STRUCTURE ABOVE ACOUSTICAL CEILING CLOUDS BLACK. WALL COLORS AS SELECTED BY ARCHITECT.
7. REPLACE EXISTING FLOORING WITH 12x12 VINYL COMPOSITE TILE. COLOR AS SELECTED BY ARCHITECT.
8. REPLACE EXISTING FLOORING WITH CARPET TILE. COLOR AS SELECTED BY ARCHITECT.

REVISION DATES

1 ---------- 4 ----------
2 ---------- 5 ----------
3 ---------- 6 ----------

DATE OF ISSUE
2.20.2026

Allamakee CSD Middle School HVAC Upgrade

1061 3rd Avenue, NW, Waukon, Iowa 52172

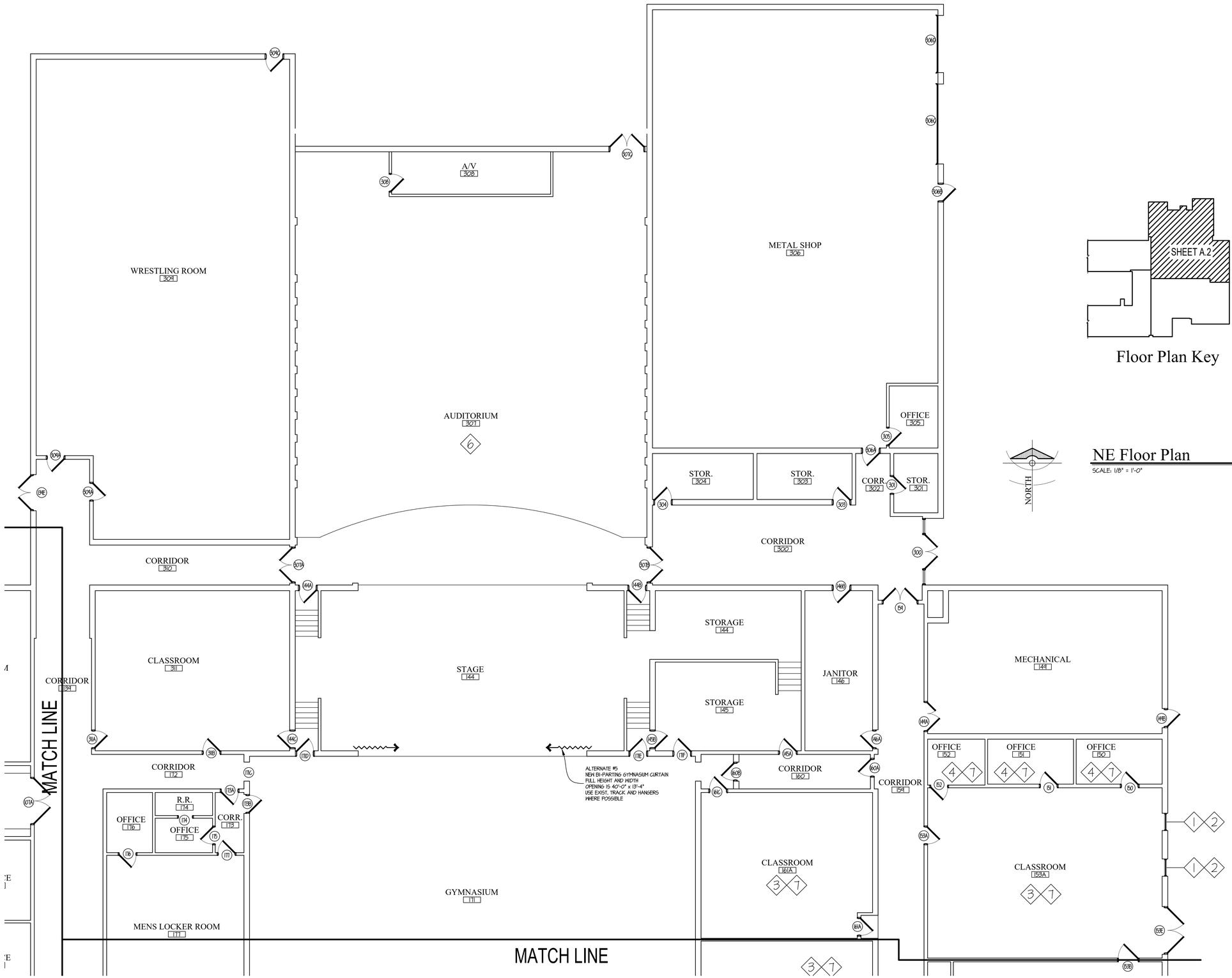
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3745 Center Point Road, NE
Cedar Rapids, Iowa 52402
Tel: 319-298-0400
e-mail: DDI@DesignDynamics.biz

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SHEET TITLE
SE FLOOR PLAN

A.1

PROJECT NUMBER
042-25



NE Floor Plan

SCALE: 1/8" = 1'-0"

Floor Plan Key

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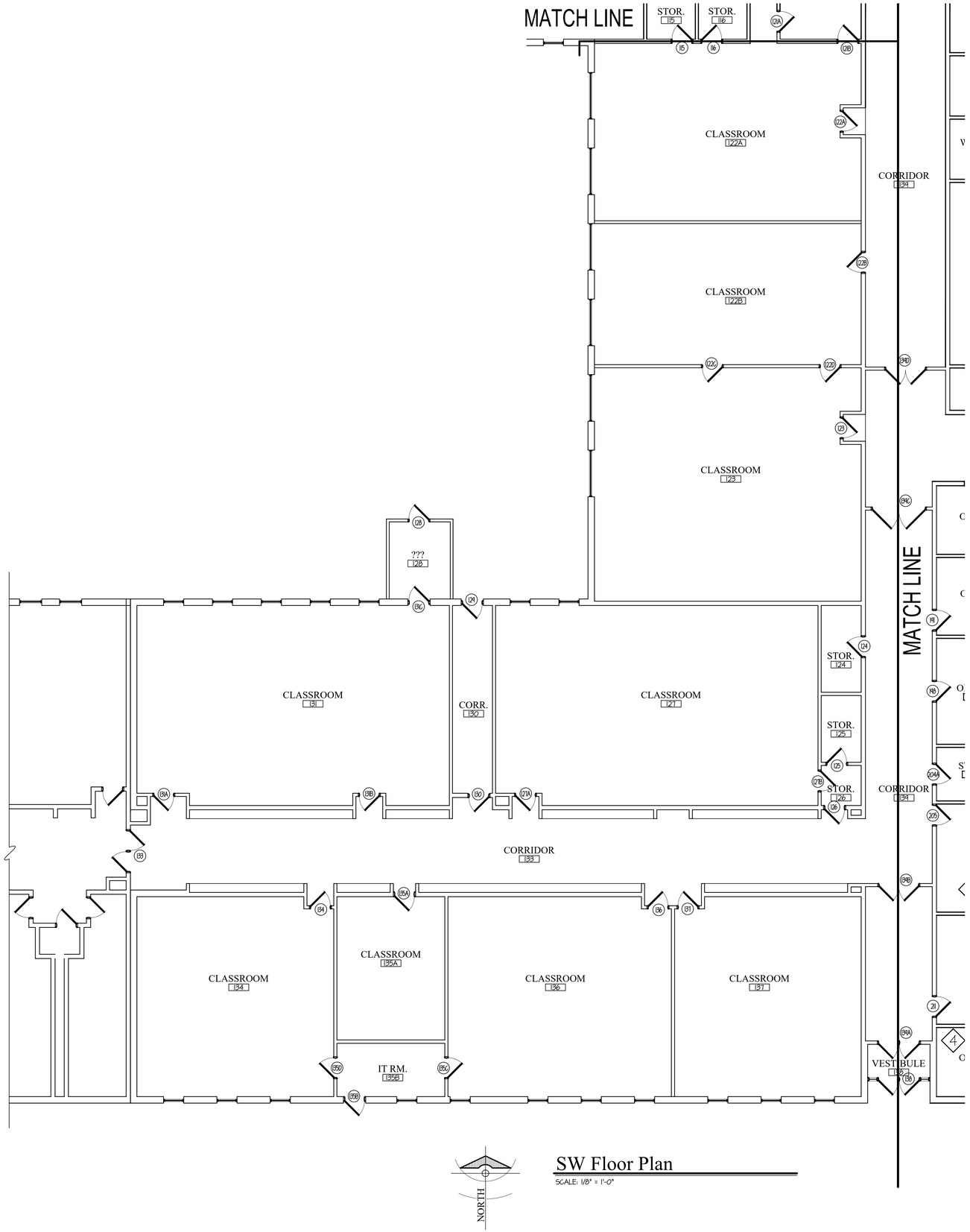
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SHEET TITLE
NE FLOOR PLAN

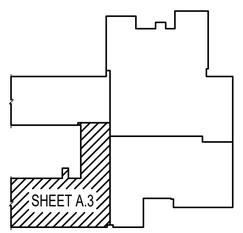
A.2

PROJECT NUMBER
042-25



SW Floor Plan

SCALE: 1/8" = 1'-0"



Floor Plan Key

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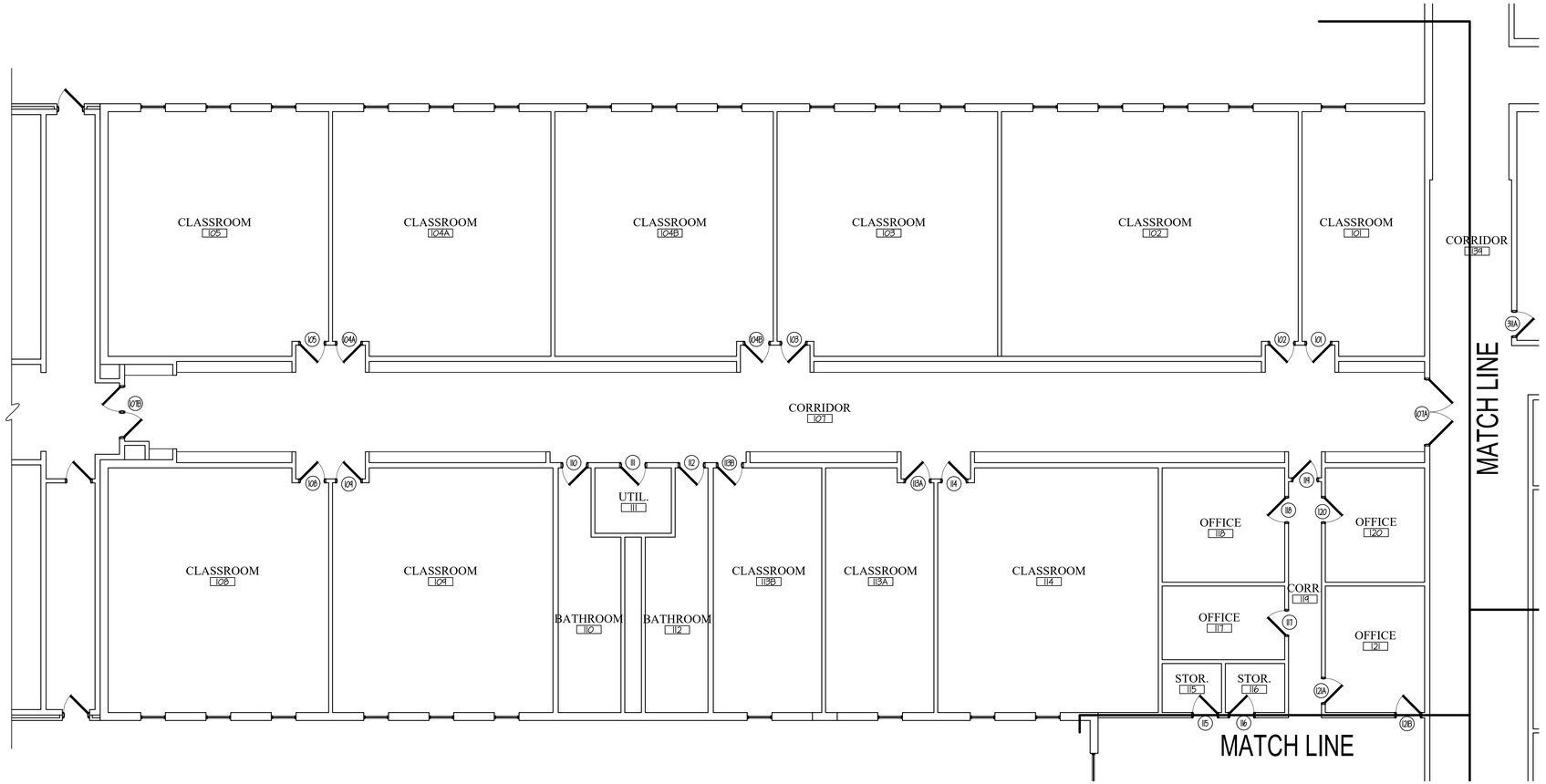
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SHEET TITLE
SW FLOOR PLAN

A.3

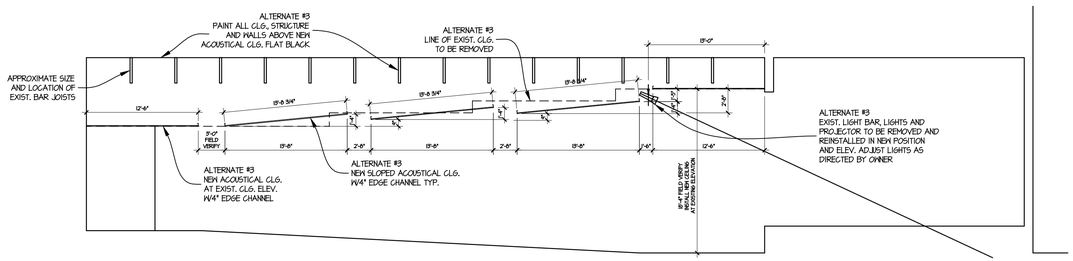
PROJECT NUMBER
042-25



NORTH

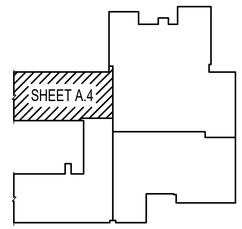
NW Floor Plan

SCALE: 1/8" = 1'-0"



Alternate #3 Auditorium Ceiling Section

SCALE: 1/8" = 1'-0"



Floor Plan Key

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SHEET TITLE
NW FLOOR PLAN

A.4

PROJECT NUMBER
042-25



SE Reflected Ceiling Plan

SCALE: 1/8" = 1'-0"

NORTH

Floor Plan Key

REFLECTED CEILING PLAN NOTES

1. VERIFY FINAL CEILING GRID WITH EXACT ROOM DIMENSIONS.
2. CENTER ALL CEILING GRID IN ROOM. AVOID CUT TILE LESS THAN 4 INCHES WIDE.
3. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR FINAL REGISTER AND LIGHT LOCATIONS.

REFLECTED CEILING PLAN KEY NOTES: ◇2

1. INSTALL NEW 2x2 ACOUSTICAL CEILING AT EXISTING REMOVED CEILING POSITION AND ELEVATION ABOVE FINISHED FLOOR.
2. INSTALL NEW 2x2 ACOUSTICAL CEILING AS HIGH AS POSSIBLE IN THE ROOM AFTER MECHANICAL DUCTWORK AND EQUIPMENT HAS BEE INSTALLED.

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SHEET TITLE
SE RCP

A.5

PROJECT NUMBER
042-25

WRESTLING ROOM
309

A/V
308

NEW 2x2 ACOUSTICAL CLG.
CLG. HGHT. TO MATCH EXIST.

2'-6"

METAL SHOP
306

NEW 2x2 ACOUSTICAL CLG.
CLG. HGHT. VARIES SEE SECTION A/A.4

EQ.

26'-0"

2'-6"

AUDITORIUM
307

OFFICE
305

STOR.
304

STOR.
303

CORR.
302

STOR.
301

ALTERNATE #3
EXIST. LIGHT BAR, LIGHTS AND PROJECTOR TO BE REMOVED AND REINSTALLED IN NEW POSITION AND ELEV. ADJUST LIGHTS AS DIRECTED BY OWNER

CORRIDOR
310

CORRIDOR
300

CLASSROOM
311

STAGE
144

STORAGE
144

STORAGE
145

JANITOR
146

CORRIDOR
134

MECHANICAL
144

OFFICE
152

OFFICE
151

OFFICE
150

CORRIDOR
112

R.R.
114

OFFICE
116

OFFICE
115

CORR.
113

ALTERNATE #5
NEW BI-PARTING GYMNASIUM CURTAIN
FULL HEIGHT AND WIDTH
OPENING IS 40'-0" x 13'-4"
USE EXIST. TRACK AND HANGERS WHERE POSSIBLE

CORRIDOR
160

CORRIDOR
154

CLASSROOM
153

CLASSROOM
153A

GYMNASIUM
111

MENS LOCKER ROOM
117

MATCH LINE

MATCH LINE

SHEET A.2

Floor Plan Key

NORTH

NE Reflected Ceiling Plan

SCALE: 1/8" = 1'-0"

REFLECTED CEILING PLAN NOTES

1. VERIFY FINAL CEILING GRID WITH EXACT ROOM DIMENSIONS.
2. CENTER ALL CEILING GRID IN ROOM. AVOID CUT TILE LESS THAN 4 INCHES WIDE.
3. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR FINAL REGISTER AND LIGHT LOCATIONS.

REFLECTED CEILING PLAN KEY NOTES: ◇

1. INSTALL NEW 2x2 ACOUSTICAL CEILING AT EXISTING REMOVED CEILING POSITION AND ELEVATION ABOVE FINISHED FLOOR.
2. INSTALL NEW 2x2 ACOUSTICAL CEILING AS HIGH AS POSSIBLE IN THE ROOM AFTER MECHANICAL DUCTWORK AND EQUIPMENT HAS BEE INSTALLED.

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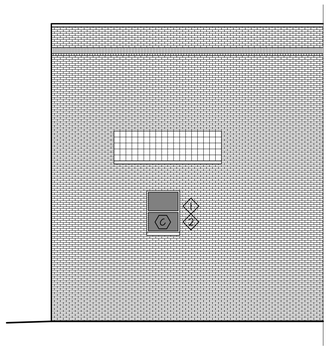
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SHEET TITLE
NE RCP

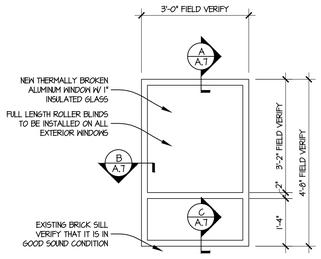
A.6

PROJECT NUMBER
042-25



East Elementary
West Elevation - Alternate No. 6

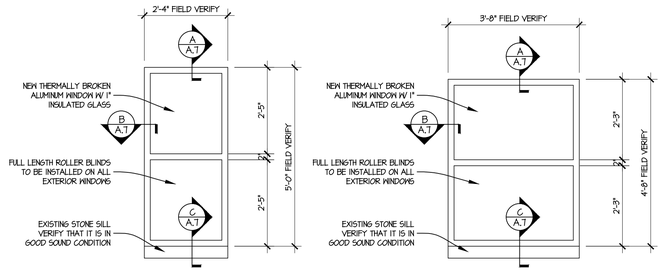
SCALE: 1/8" = 1'-0"



A

Middle School
Typical Window Elevation

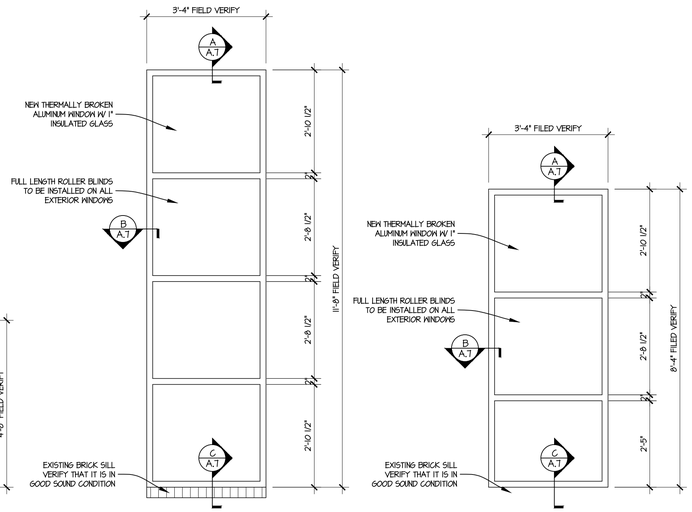
SCALE: 1/2" = 1'-0"



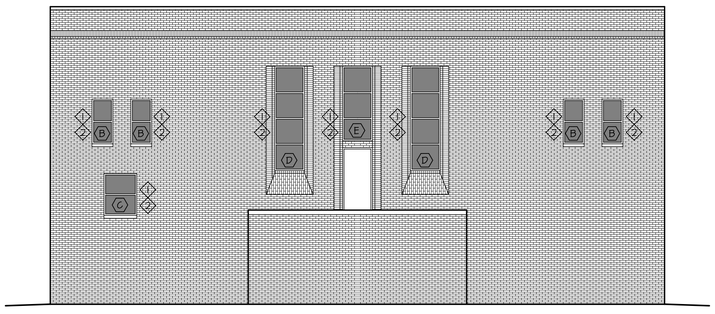
B C

East Elementary School
Window Elevations Alternate #6

SCALE: 1/2" = 1'-0"

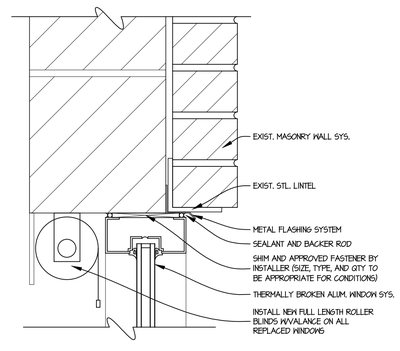


D E



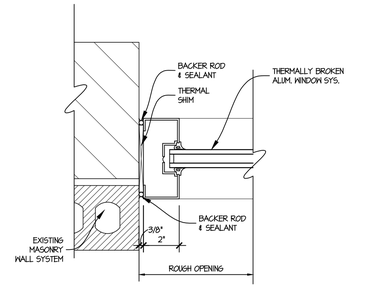
East Elementary
North Elevation - Alternate No. 6

SCALE: 1/8" = 1'-0"



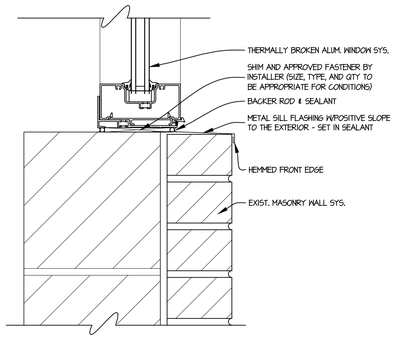
A Window Head Detail

SCALE: 3" = 1'-0"



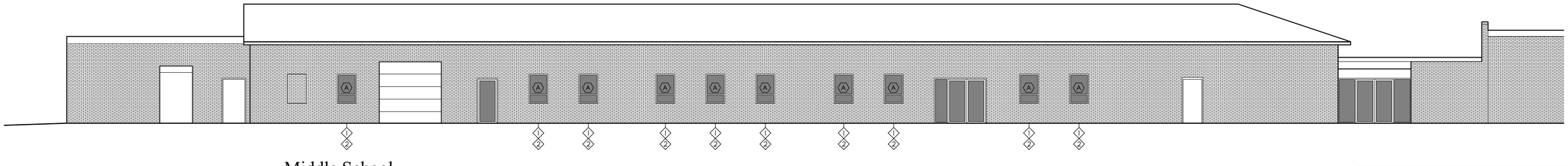
B Window Jamb Detail

SCALE: 3" = 1'-0"



C Window Sill Detail

SCALE: 3" = 1'-0"



Middle School
East Elevation - Base Bid

SCALE: 1/8" = 1'-0"

EXTERIOR ELEVATION KEY NOTES: ◇#

1. REMOVE EXISTING WINDOW, SEALANTS AND FLASHINGS AS REQUIRED FOR NEW WORK INSTALLATION.
2. INSTALL NEW THERMALLY BROKEN ALUMINUM WINDOW WITH 1" INSULATED, LOW E GLASS. INSTALL FULL HEIGHT ROLLER BLIND WITH VALANCE ON THE INTERIOR.

REVISION DATES
1 ---------- 4 ----------
2 ---------- 5 ----------
3 ---------- 6 ----------

DATE OF ISSUE
2.20.2026

Allamakee CSD - Middle School HVAC Upgrade

1061 3rd Avenue, NW, Waukon, Iowa 52172

Design Dynamics, Inc.
119 11th Street SE
Cedar Rapids, Iowa 52403-2371
Tel: 319-298-0400
e-mail: DDI@DesignDynamics.biz

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SHEET TITLE
WDW. ELEV-DETAILS

A.7

PROJECT NUMBER
042-25

DOOR AND FRAME SCHEDULE

DOOR NUMBER	DOOR SIZE W	DOOR SIZE H	DOOR T	DOOR MAT'L	DOOR TYPE	DOOR GLASS	FRAME MAT'L	FRAME TYPE	FRAME GLASS	FRAME DETAIL JM	FRAME DETAIL HD	FRAME DETAIL SILL	HARDWARE AND EXISTING HARDWARE DESIGNATION	DOOR & FRAME LABEL	REMARKS
101	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
102	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
103	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
104A	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
104B	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
105	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
107A	EXIST. DOOR AND FRAME TO REMAIN														
107B	EXIST. DOOR AND FRAME TO REMAIN														
108	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
109	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
110	2'-8"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	2, 3, 5, 6	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
111	3'-0"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	1, 2, 3, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
112	2'-8"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	2, 3, 5, 6	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
113A	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
● 113B	3'-0"	6'-11"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	A	20 MIN	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
114	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
115	EXIST. DOOR AND FRAME TO REMAIN														
116	EXIST. DOOR AND FRAME TO REMAIN														
117	EXIST. DOOR AND FRAME TO REMAIN														
118	EXIST. DOOR AND FRAME TO REMAIN														
119	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
120	EXIST. DOOR AND FRAME TO REMAIN														
121A	EXIST. DOOR AND FRAME TO REMAIN														
121B	EXIST. DOOR AND FRAME TO REMAIN														
122A	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
● 122B	3'-0"	6'-11"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	A	20 MIN	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
122C	EXIST. DOOR AND FRAME TO REMAIN														
122D	EXIST. DOOR AND FRAME TO REMAIN														
123	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
● 124	3'-0"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	B	20 MIN	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
125	EXIST. DOOR AND FRAME TO REMAIN														
● 126	3'-0"	6'-11"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	G	20 MIN	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
127A	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
127B	EXIST. DOOR AND FRAME TO REMAIN														
128	EXIST. DOOR AND FRAME TO REMAIN														
129	EXIST. DOOR AND FRAME TO REMAIN														
130	EXIST. DOOR AND FRAME TO REMAIN														
131A	3'-0"	6'-11"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
131B	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
131C	3'-0"	7'-0"	1 3/4"	I6HM	G	TEMP.	EXIST.	---	-------	----	----	----	1, 2, 3	---	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
133	EXIST. DOOR AND FRAME TO REMAIN														
134	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
135A	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
135B	EXIST. DOOR AND FRAME TO REMAIN														
135C	EXIST. DOOR AND FRAME TO REMAIN														
135D	EXIST. DOOR AND FRAME TO REMAIN														
136	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
137	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
138	EXIST. DOOR AND FRAME TO REMAIN														
139A	EXIST. DOOR AND FRAME TO REMAIN														
139B	EXIST. DOOR AND FRAME TO REMAIN														
139C	EXIST. DOOR AND FRAME TO REMAIN														
139D	EXIST. DOOR AND FRAME TO REMAIN														
139E	EXIST. DOOR AND FRAME TO REMAIN														
140	NOT USED														
141	NOT USED														
142	NOT USED														
143	NOT USED														
144A	EXIST. DOOR AND FRAME TO REMAIN														
144B	EXIST. DOOR AND FRAME TO REMAIN														
144C	EXIST. DOOR AND FRAME TO REMAIN														
145A	EXIST. DOOR AND FRAME TO REMAIN														
145B	EXIST. DOOR AND FRAME TO REMAIN														
146A	EXIST. DOOR AND FRAME TO REMAIN														
146B	EXIST. DOOR AND FRAME TO REMAIN														
149A	EXIST. DOOR AND FRAME TO REMAIN														
149B	EXIST. DOOR AND FRAME TO REMAIN														
● 150	3'-0"	7'-1"	1 3/4"	SGND	C	TEMP.	EXIST.	---	-------	----	----	----	D	---	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
151	3'-0"	7'-1"	1 3/4"	SGND	C	TEMP.	EXIST.	---	-------	----	----	----	1, 2, 3	---	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
● 152	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	E	---	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
153A	3'-0"	6'-11"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
153B	EXIST. DOOR AND FRAME TO REMAIN														
153C	EXIST. DOOR AND FRAME TO REMAIN														
153D	3'-0"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	1, 2, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
153E	EXIST. DOOR AND FRAME TO REMAIN														
153F	3'-0"	7'-1"	1 3/4"	SGND	C	TEMP.	EXIST.	---	-------	----	----	----	1, 2	---	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
154	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
● 155A	3'-0"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	F	---	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
● 155B	3'-0"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	F	---	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
156	3'-0"	7'-1"	1 3/4"	SGND	C	TEMP.	EXIST.	---	-------	----	----	----	I	---	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
157A	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED ON NEW DOOR
● 157B	3'-0"	6'-11"	1 3/4"	SGND	C	TEMP.	EXIST.	---	-------	----	----	----	G	---	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
157C	EXIST. DOOR AND FRAME TO REMAIN														
157D	EXIST. DOOR AND FRAME TO REMAIN														
158A	EXIST. DOOR AND FRAME TO REMAIN														
158B	EXIST. DOOR AND FRAME TO REMAIN														
158C	EXIST. DOOR AND FRAME TO REMAIN														
159	EXIST. DOOR AND FRAME TO REMAIN														
● 160A	3'-0"	7'-0"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	H	20 MIN	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
160B	EXIST. DOOR AND FRAME TO REMAIN														

DOOR AND FRAME SCHEDULE

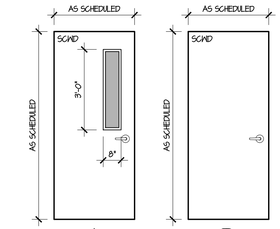
DOOR NUMBER	DOOR SIZE W	DOOR SIZE H	DOOR T	DOOR MAT'L	DOOR TYPE	DOOR GLASS	FRAME MAT'L	FRAME TYPE	FRAME GLASS	FRAME DETAIL JM	FRAME DETAIL HD	FRAME DETAIL SILL	HARDWARE AND EXISTING HARDWARE DESIGNATION	DOOR & FRAME LABEL	REMARKS
161A	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
● 161B	3'-0"	6'-11"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	A	20 MIN	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
161C	EXIST. DOOR AND FRAME TO REMAIN														
162	3'-0"	6'-11"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	1, 2, 3, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
163	3'-0"	6'-11"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	1, 2, 3, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
164A	EXIST. DOOR AND FRAME TO REMAIN														
164B	EXIST. DOOR AND FRAME TO REMAIN														
165	EXIST. DOOR AND FRAME TO REMAIN														
166	EXIST. DOOR AND FRAME TO REMAIN														
167	PR 3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5, 9, 10	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
169A	3'-0"	6'-11"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	1, 2, 3	30 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
169B	3'-0"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	30 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
169C	3'-0"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	30 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
170A	EXIST. DOOR AND FRAME TO REMAIN														
170B	EXIST. DOOR AND FRAME TO REMAIN														
171A	EXIST. DOOR AND FRAME TO REMAIN														
171B	EXIST. DOOR AND FRAME TO REMAIN														
171C	EXIST. DOOR AND FRAME TO REMAIN														
171D	EXIST. DOOR AND FRAME TO REMAIN														
171E	EXIST. DOOR AND FRAME TO REMAIN														
171F	EXIST. DOOR AND FRAME TO REMAIN														
173A	EXIST. DOOR AND FRAME TO REMAIN														
173B	EXIST. DOOR AND FRAME TO REMAIN														
174	EXIST. DOOR AND FRAME TO REMAIN														
175	EXIST. DOOR AND FRAME TO REMAIN														
176	EXIST. DOOR AND FRAME TO REMAIN														
177	EXIST. DOOR AND FRAME TO REMAIN														
178A	EXIST. DOOR AND FRAME TO REMAIN														
178B	EXIST. DOOR AND FRAME TO REMAIN														
181	EXIST. DOOR AND FRAME TO REMAIN														
182	EXIST. DOOR AND FRAME TO REMAIN														
183A	3'-0"	6'-11"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	2, 3, 8	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
183B	EXIST. DOOR AND FRAME TO REMAIN														
184	EXIST. DOOR AND FRAME TO REMAIN														
185	EXIST. DOOR AND FRAME TO REMAIN														
● 187	3'-0"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	B	20 MIN	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
● 188	2'-4"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	J	20 MIN	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
● 189	2'-4"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	J	20 MIN	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
190A	2'-8"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	1, 2, 3, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
190B	2'-8"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	1, 2, 3	---	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
191	3'-0"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	1, 2, 3, 4, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
192	3'-0"	6'-11"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	1, 2, 3	---	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
195A	EXIST. DOOR AND FRAME TO REMAIN														
195B	3'-0"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	1, 2, 3	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
● 197A	3'-0"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	F	---	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
● 197B	3'-0"	6'-11"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	F	---	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
● 197C	3'-0"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	F	---	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
198	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
● 199	3'-0"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	F	---	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
200	3'-0"	7'-1"	1 3/4"	SGND	C	TEMP	EXIST.	---	-------	----	----	----	2, 6	---	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
● 201	2'-6"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	K	---	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
● 202	2'-6"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	K	---	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
203	3'-0"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	I	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
204A	3'-0"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	1, 2, 3, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
204B	3'-0"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	I	---	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
205	3'-0"	7'-1"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	1, 2, 3, 5	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
206A	3'-0"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	I	---	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
● 206B	3'-0"	7'-10"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	B	20 MIN	
● 207	3'-0"	7'-1"	1 3/4"	SGND	A	TEMP	EXIST.	---	-------	----	----	----	F	---	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
● 208A	3'-0"	7'-1"	1 3/4"	SGND	A	TEMP	EXIST.	---	-------	----	----	----	F	---	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
● 208B	3'-0"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	F	---	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
● 209	3'-0"	7'-1"	1 3/4"	SGND	A	TEMP	EXIST.	---	-------	----	----	----	F	---	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
210	EXIST. DOOR AND FRAME TO REMAIN														
211	3'-0"	7'-1"	1 3/4"	SGND	C	FIRE LT.	EXIST.	---	-------	----	----	----	I, 2	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
212	2'-8"	6'-11"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	I, 2	---	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
213	3'-0"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	I, 2	---	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
● 214	3'-0"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	M	---	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
300	EXIST. DOOR AND FRAME TO REMAIN														
301	3'-6"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	1, 2, 3	20 MIN	ALL EXIST. HARDWARE TO BE REMOVED & REINSTALLED
● 303	2'-8"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	L	20 MIN	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
● 304	2'-8"	7'-1"	1 3/4"	SGND	B	---	EXIST.	---	-------	----	----	----	L	20 MIN	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR
305	EXIST. DOOR AND FRAME TO REMAIN														
306A	EXIST. DOOR AND FRAME TO REMAIN														
306B	EXIST. DOOR AND FRAME TO REMAIN														
306C	EXIST. DOOR AND FRAME TO REMAIN														
306D	EXIST. DOOR AND FRAME TO REMAIN														
307A	EXIST. DOOR AND FRAME TO REMAIN														
307B	EXIST. DOOR AND FRAME TO REMAIN														
307C	EXIST. DOOR AND FRAME TO REMAIN														
308	EXIST. DOOR AND FRAME TO REMAIN														
309A	EXIST. DOOR AND FRAME TO REMAIN														
309B	EXIST. DOOR AND FRAME TO REMAIN														
309C	EXIST. DOOR AND FRAME TO REMAIN														
● 311	3'-0"	6'-11"	1 3/4"	SGND	A	FIRE LT.	EXIST.	---	-------	----	----	----	A	20 MIN	SEE SCHEDULE FOR HARDWARE TO BE REPLACED OR ADDED ON NEW DOOR

EXISTING HARDWARE KEY:

1. CYLINDRICAL LOCK SET
2. CLOSER
3. KICK PLATE
4. MAGNETIC HOLD OPEN
5. SMOKE SEAL
6. PUSH AND PULL
7. HOLD OPEN
8. PANIC DEVICE
9. ASTRAGAL
10. COORDINATOR

DOOR NOTES:

1. FIELD VERIFY ALL DOOR SIZES.
2. SEE HARDWARE KEY FOR EXISTING HARDWARE TO BE REINSTALLED ON NEW DOOR SLABS.
3. SEE HARDWARE SCHEDULE FOR NEW DOOR HARDWARE IF REQUIRED.
4. DOORS SHALL BE REINFORCED AT ALL HARDWARE LOCATIONS.
5. ALL CLOSERS TO BE THROUGH BOLTED.
6. ALL WOOD DOORS TO BE OAK, STAINED AND VARNISHED TO MATCH EXISTING FINISH.
7. ALL NEW DOOR KEYING TO MATCH OWNERS MASTER KEY SYSTEM WITH BEST CORES.



Door Types

SCALE: 3/8" = 1'-0"

● HARDWARE GROUPS:

Hardware Group A Door #113B, 122B, 161B, 311
30611 Solid Core Wood Door and Existing Hollow Metal Frame
Existing Cylindrical Lockset
Provide New Closer
Provide new 32x8 Kickplate
Existing Smoke Seal

Hardware Group B Door #124, 187, 206B
3071 Solid Core Wood Door and Existing Hollow Metal Frame
Existing Cylindrical Lockset
Provide New Closer
Provide New 32x8 Kickplate
Provide New Smoke Seal

Hardware Group C Door #126
30611 Solid Core Wood Door and Existing Hollow Metal Frame
Existing Cylindrical Lockset
Provide New Closer
Provide New 32x8 Kickplate
Existing Smoke Seal
Existing Hold Open

Hardware Group D Door #150
3071 Solid Core Wood Door and Existing Hollow Metal Frame
Provide New Passage Function Lockset w/lever handle
Provide New Closer
Provide New 32x8 Kickplate

Hardware Group E Door #152
3071 Solid Core Wood Door and Existing Hollow Metal Frame
Provide New Office Function Lockset w/lever handle
Provide New 32x8 Kickplate

Hardware Group F Door #155A, 155B, 197A, 197B, 197C, 199, 207, 208A, 208B, 209
3071 or 30611 Solid Core Wood Door and Existing Hollow Metal Frame
Provide New Office Function Lockset w/lever handle

Hardware Group G Door #157B
30611 Solid Core Wood Door and Existing Hollow Metal Frame
Provide New Passage Function Lockset w/lever handle
Provide New Closer
Provide New 32x8 Kickplate

Hardware Group H Door #160
3071 Solid Core Wood Door and Existing Hollow Metal Frame
Provide New Office Function Lockset w/lever handle
Existing Closer
Provide New 32x8 Kickplate
Provide New Smoke Seal

Hardware Group J Door #188, 189
2471 Solid Core Wood Door and Existing Hollow Metal Frame
Existing Push and Pull
Provide New Closer
Provide New 32x8 Kickplate
Provide New Smoke Seal

Hardware Group K Door #201, 202
2671 Solid Core Wood Door and Existing Hollow Metal Frame
Provide New Privacy Function Lockset w/lever handle
Provide New Closer
Provide New 24x8 Kickplate

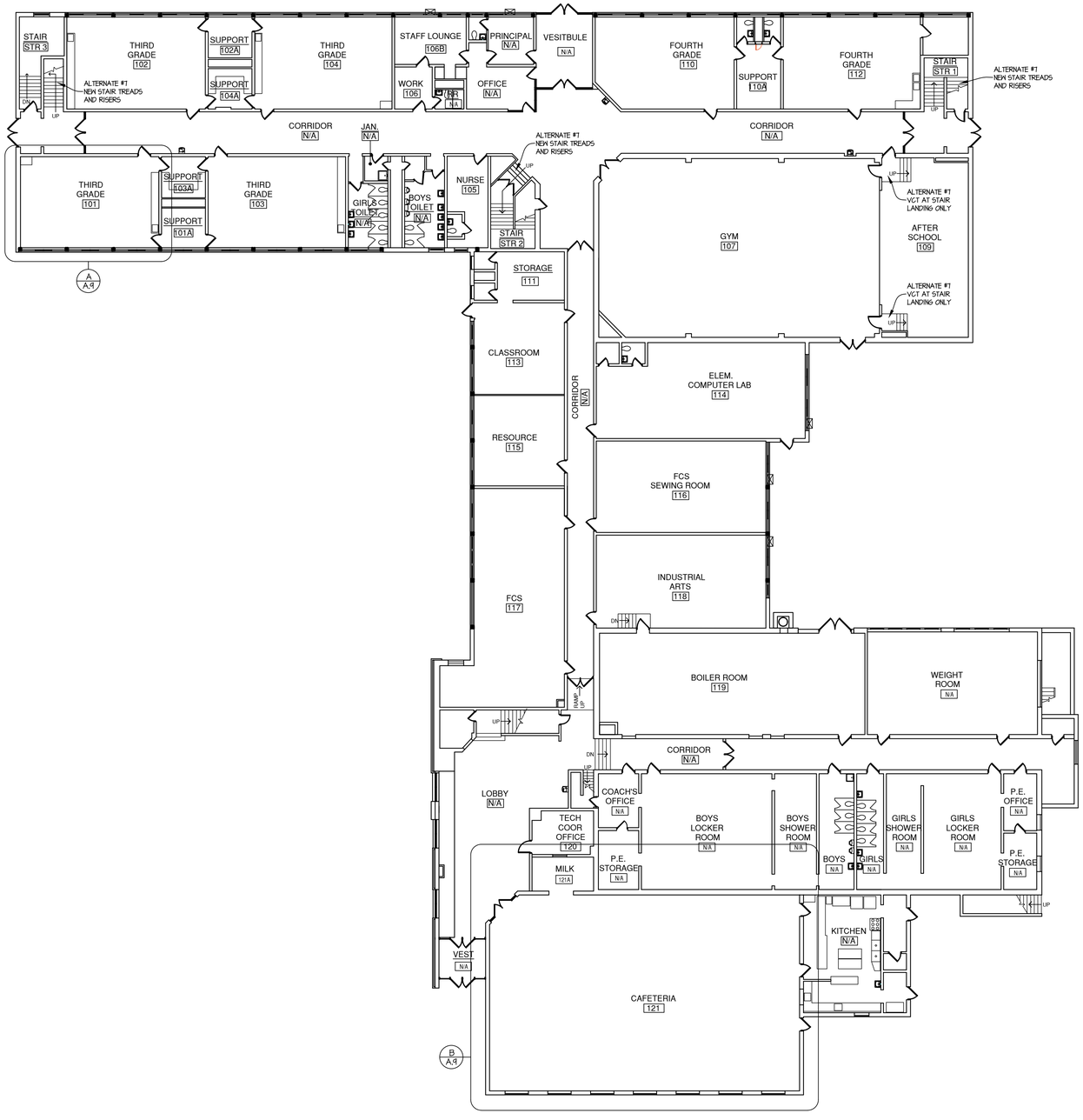
Hardware Group L Door #303, 304
2871 Solid Core Wood Door and Existing Hollow Metal Frame
Provide New Office Function Lockset w/lever handle
Provide New Closer
Provide New Smoke Seal

Hardware Group M Door #214
3071 Solid Core Wood Door and Existing Hollow Metal Frame
Existing Cylindrical Lockset
Provide New Closer
Provide New Hinges

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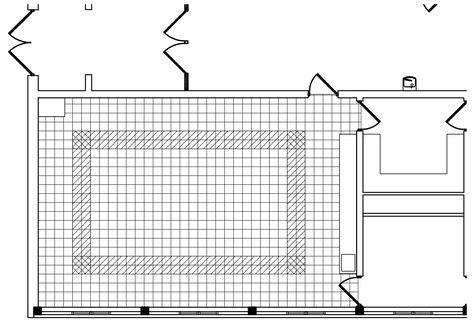
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First Floor Plan

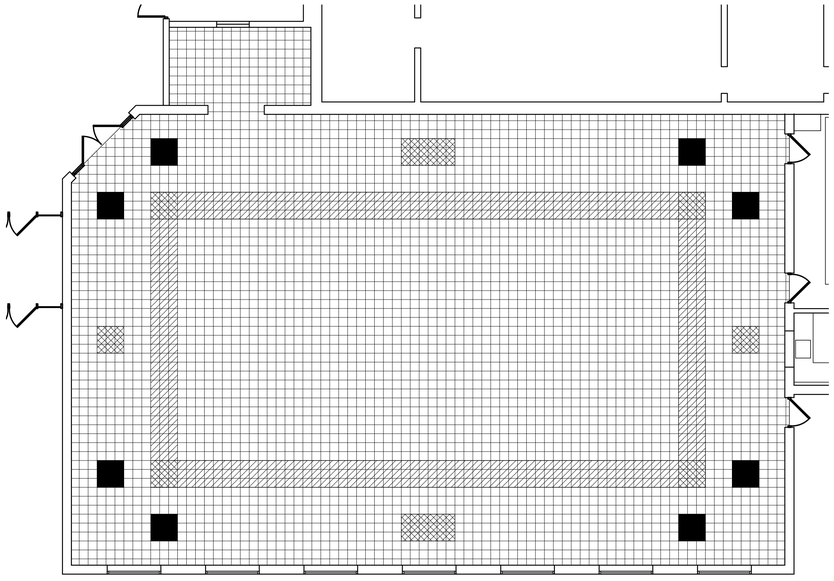
SCALE: 1/16" = 1'-0"

NORTH



A Enlarged Floor Plan - Alternate #7

SCALE: 1/8" = 1'-0"



B Enlarged Floor Plan - Alternate #7

SCALE: 1/8" = 1'-0"

FLOORING LEGEND
COLOR 1
COLOR 2
COLOR 3
COLOR 4

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Allamakee CSD - East Elementary School

107 6th Street, NW, Waukon, Iowa 52172

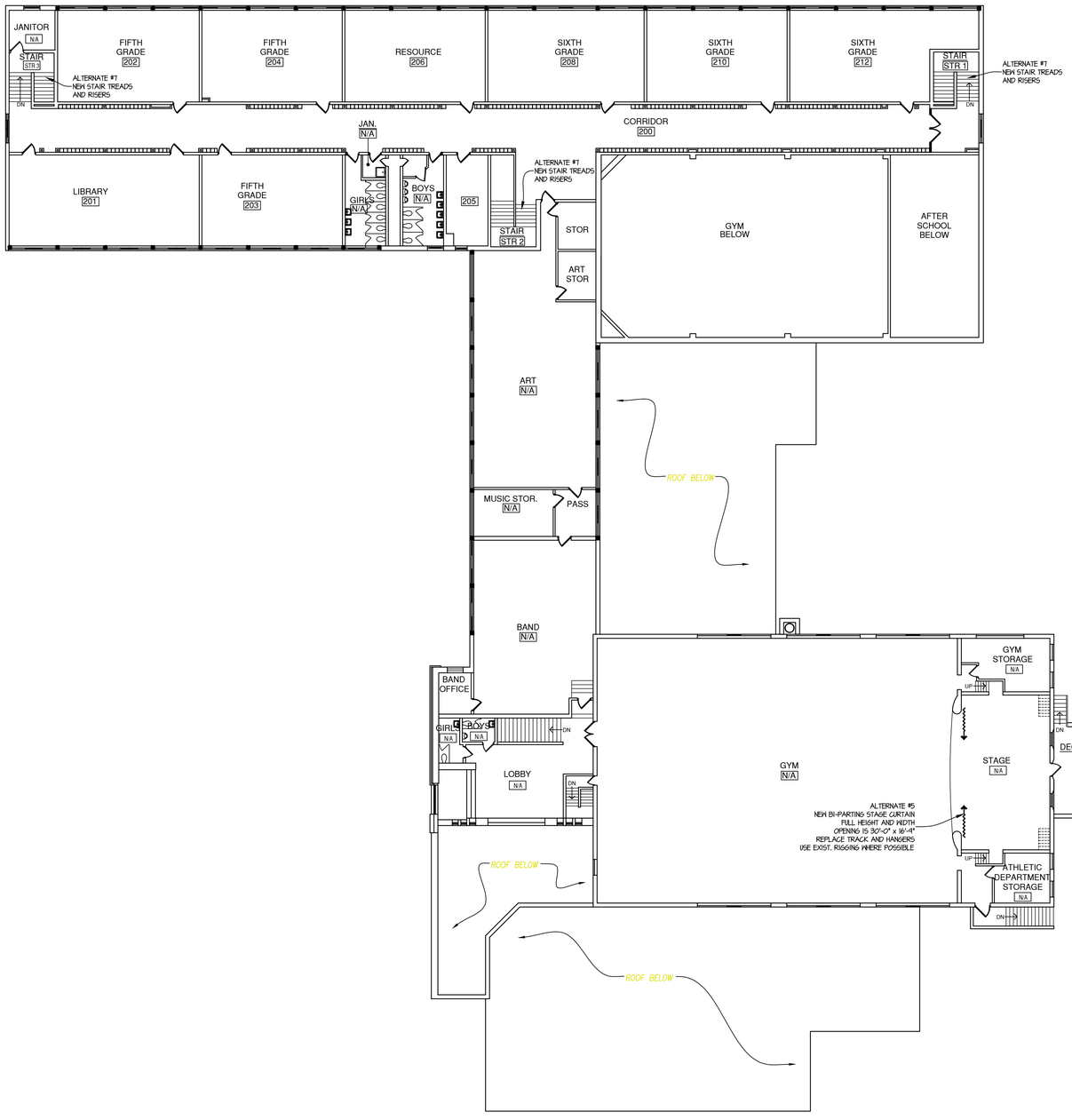
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SHEET TITLE
FIRST FLOOR PLAN

A.9

PROJECT NUMBER
042-25



Second Floor Plan

SCALE: 1/16" = 1'-0"

NORTH

All flooring and base replacement to be Alternate #7

ROOM FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	FLOOR	BASE	N WALL		E WALL		S WALL		W WALL		CEILING		
				MAT'L	FINISH	MAT'L	FINISH	MAT'L	FINISH	MAT'L	FINISH	MAT'L	FINISH	HGT
	FIRST FLOOR													
101	THIRD GRADE	VCT	VB	EXISTING FINISHES TO REMAIN										
101A	SUPPORT	VCT	VB	EXISTING FINISHES TO REMAIN										
102	THIRD GRADE	VCT	VB	EXISTING FINISHES TO REMAIN										
102A	SUPPORT	VCT	VB	EXISTING FINISHES TO REMAIN										
103	THIRD GRADE	VCT	VB	EXISTING FINISHES TO REMAIN										
103A	SUPPORT	VCT	VB	EXISTING FINISHES TO REMAIN										
104	THIRD GRADE	VCT	VB	EXISTING FINISHES TO REMAIN										
104A	SUPPORT	VCT	VB	EXISTING FINISHES TO REMAIN										
105	NURSE	VCT	VB	EXISTING FINISHES TO REMAIN										
106	WORK	VCT	VB	EXISTING FINISHES TO REMAIN										
106B	STAFF LOUNGE	VCT	VB	EXISTING FINISHES TO REMAIN										
109	AFTER SCHOOL	VCT AT STAIR	VB	EXISTING FINISHES TO REMAIN										
110	FOURTH GRADE	VCT	VB	EXISTING FINISHES TO REMAIN										
110A	SUPPORT	VCT	VB	EXISTING FINISHES TO REMAIN										
111	STORAGE	VCT	VB	EXISTING FINISHES TO REMAIN										
112	FOURTH GRADE	VCT	VB	EXISTING FINISHES TO REMAIN										
113	CLASSROOM	VCT	VB	EXISTING FINISHES TO REMAIN										
114	ELEM. COMPUTER LAB	VCT	VB	EXISTING FINISHES TO REMAIN										
119	BOILER ROOM	VCT	VB	EXISTING FINISHES TO REMAIN										
120	TECH OFFICE	VCT	VB	EXISTING FINISHES TO REMAIN										
121	CAFETERIA	VCT	VB	EXISTING FINISHES TO REMAIN										
121A	MILK/BOOK? ROOM	VCT	VB	EXISTING FINISHES TO REMAIN										
STR 1	STAIRS - NORTH	INSTALL NEW FULL WIDTH VINYL TREADS AND RISERS												
STR 2	STAIRS - CENTER	INSTALL NEW FULL WIDTH VINYL TREADS AND RISERS												
STR 3	STAIRS - SOUTH	INSTALL NEW FULL WIDTH VINYL TREADS AND RISERS												
	SECOND FLOOR													
201	LIBRARY	VCT	VB	EXISTING FINISHES TO REMAIN										
202	FIFTH GRADE	VCT	VB	EXISTING FINISHES TO REMAIN										
203	FIFTH GRADE	VCT	VB	EXISTING FINISHES TO REMAIN										
204	FIFTH GRADE	VCT	VB	EXISTING FINISHES TO REMAIN										
205	STORAGE	VCT	VB	EXISTING FINISHES TO REMAIN										
206	RESOURCE	VCT	VB	EXISTING FINISHES TO REMAIN										
208	SIXTH GRADE	VCT	VB	EXISTING FINISHES TO REMAIN										
210	SIXTH GRADE	VCT	VB	EXISTING FINISHES TO REMAIN										
212	SIXTH GRADE	VCT	VB	EXISTING FINISHES TO REMAIN										

ABBREVIATIONS

ACT	3/4" ACOUSTICAL CEILING TILE	HM	HOLLOW METAL	RHM	REINFORCED HOLLOW METAL
CONC	CONCRETE	IGHM	INSULATED GALVANIZED HOLLOW METAL DOOR	SCHD	SOLID CORE WOOD DOOR
CPT	CARPET	OH	OVERHEAD GARAGE DOOR	STN	STAIN
E PAINT	EPOXY PAINT	PLYWD	PLYWOOD	TEMP	TEMPERED GLASS
FRP	1/4" FIBERGLASS REINFORCED PLASTIC	QZT	24" X 24" QUARTZ TILE	VB	VINYL BASE
GYP BD	5/8" TYPE X GYPSUM BOARD	RFD	ROLLING FIRE DOOR	VCT	VINYL COMPOSITE TILE
				WD	WOOD

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1 ---------- 4 ----------
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Allamakee CSD - East Elementary School

107 6th Street, NW, Waukon, Iowa 52172

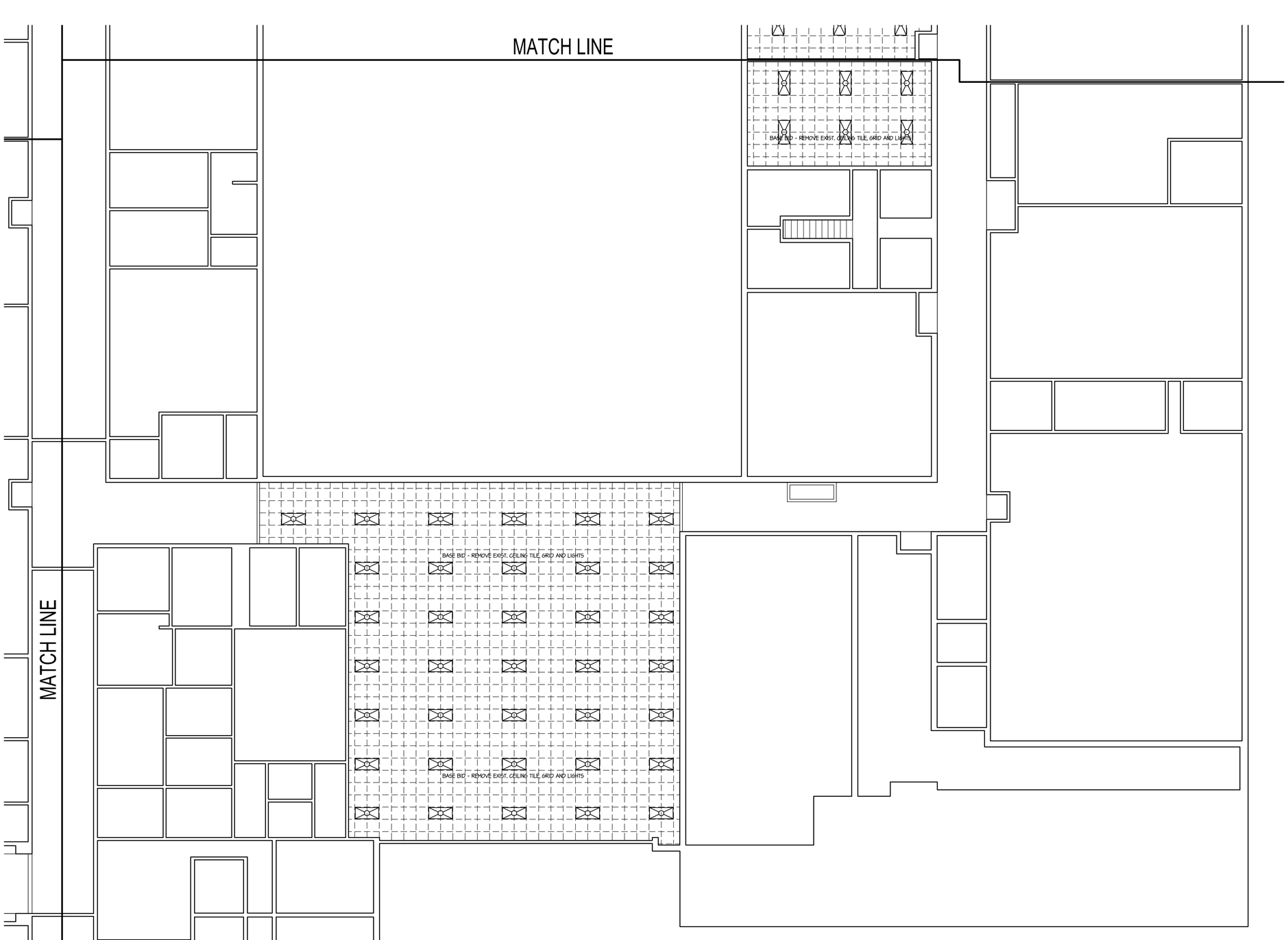
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SHEET TITLE
SECOND FLOOR PLAN

A.10

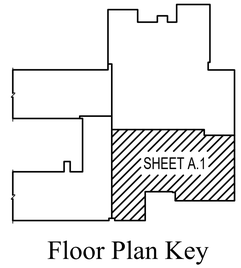
PROJECT NUMBER
042-25



NORTH

SE Reflected Ceiling Plan

SCALE: 1/8" = 1'-0"



Floor Plan Key

REVISION DATES
1 ******** 4 ********
2 ******** 5 ********
3 ******** 6 ********
DATE OF ISSUE
2.20.2026

Allamakee CSD Middle School HVAC Upgrade

106 3rd Avenue, NW, Waukon, Iowa 52172

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SHEET TITLE
SE DEMO RCP

D.1

PROJECT NUMBER
042-25



Floor Plan Key

NE Reflected Ceiling Plan

SCALE: 1/8" = 1'-0"

REVISION DATES
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2 _____ 5 _____
3 _____ 6 _____

DATE OF ISSUE
2.20.2026

Allamakee CSD Middle School HVAC Upgrade

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SHEET TITLE
NE DEMO RCP

D.2

PROJECT NUMBER
042-25



DEMO MECHANICAL & ELECTRICAL PLAN - OVERALL
1/16" = 1'-0"

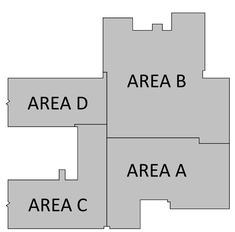
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GENERAL DEMO NOTES:

1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
2. EQUIPMENT SPECIFIED TO BE DEMOLISHED SHALL HAVE THE EQUIPMENTS'S ASSOCIATED COMPONENTS REMOVED AND TERMINATED BACK TO THE RESPECTIVE SOURCE WITHOUT DISRUPTING EXISTING SYSTEMS SPECIFIED TO REMAIN. ASSOCIATED EQUIPMENT COMPONENTS TO BE DEMOLISHED INCLUDE BUT ARE NOT LIMITED TO:
   - A. DUCTWORK (SA/RA/EA/OA)
   - B. HOT WATER SUPPLY AND RETURN PIPING, FITTINGS, AND ACCESSORIES BACK TO HW PIPING HEADERS
   - C. ELECTRICAL COMPONENTS
   - D. THERMOSTAT AND CONTROLS
3. ALL PENETRATIONS FOR DUCTWORK, PIPING, ELECTRICAL AND OTHER UTILITIES SPECIFIED TO BE DEMOLISHED SHALL BE PATCHED AND PAINTED TO MATCH EXISTING CONDITIONS.
4. SEE SHEET D-501, FOR ADDITIONAL INFORMATION ON EXISTING CONDITIONS AND COMPONENTS TO BE REMOVED.

ELECTRICAL DEMO NOTES:

1. EXTREME CARE SHALL BE TAKEN NOT TO DISRUPT ANY ELECTRICAL SERVICES WHICH EXTEND BEYOND BOUNDARIES OF WORK AREA AND ARE TO REMAIN DURING DEMOLITION. POWER TO EQUIPMENT OUTSIDE AREA OF DEMOLITION SHALL NOT BE TURNED OFF WITHOUT PROPER PERMISSION FROM OWNER. ANY CIRCUITS AFFECTED BY THIS DEMOLITION, WHICH ARE SCHEDULED TO REMAIN, SHALL BE PROPERLY REWIRED TO MAINTAIN SERVICE AND COMPLIANCE WITH ALL NATIONAL, STATE, AND LOCAL CODES.
2. THE PLANS INDICATE ONLY AFFECTED EQUIPMENT IN THE DESIGNATED DEMOLITION AREAS OF THIS PROJECT ALTHOUGH NOT EVERY ITEM MAY HAVE BEEN SHOWN. REMOVE NECESSARY ITEMS AS REQUIRED BY THIS DEMOLITION WHETHER OR NOT SHOWN ON PLANS.
3. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE PREMISES AND VERIFYING ALL EXISTING CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC IN NATURE. THE CONTRACTOR SHALL COORDINATE AND ADJUST THE WORK AS REQUIRED TO ENSURE PROPER OPERATION OF ALL INSTALLED EQUIPMENT AND SHALL COORDINATE WITH ALL OTHER TRADES.
4. REMOVE ALL EXISTING WIRING DEVICES, WIRING, CONDUIT, AND RELATED MATERIALS AS NOTED OR INDICATED WITHIN DEMOLITION AREAS. NOT ALL ITEMS MAY BE SHOWN. MODIFY AND REWORK EXISTING CIRCUITRY AS REQUIRED TO MAINTAIN CONTINUITY THROUGH AFFECTED AREAS.
5. REMOVED OR DAMAGED CONDUIT, WIRING, AND FITTINGS SHALL NOT BE REUSED OR RELOCATED FOR NEW INSTALLATIONS.
6. PROVIDE COMPLETE AS-BUILT DRAWINGS AND NEW TYPED PANELBOARD DIRECTORIES IDENTIFYING CIRCUIT NUMBERS AND DESCRIPTIONS.
7. WORK INCLUDED FOR EXISTING EQUIPMENT NOTED TO BE REMOVED SHALL INCLUDE:
   - A. SALVAGING OR DISPOSING OF ALL EQUIPMENT AS DIRECTED BY OWNER OR OWNER'S REPRESENTATIVE.
   - B. REMOVAL OF FEEDER FROM EQUIPMENT TO POINT OF FEED.
   - C. REMOVAL OR RE-CIRCUITING OF ALL BRANCH CIRCUITING AS NOTED ON PLANS.
   - D. REMOVAL OF ALL FITTINGS, SUPPORTS, BRACKETS, ETC.
   - E. PATCHING OF WALLS, FLOORS AND CEILINGS.
   - F. REMOVAL OF FEEDER CONDUIT IF FOUND TO BE UNSALVAGEABLE BY ENGINEER OR OWNER'S REPRESENTATIVE.
8. EXISTING EQUIPMENT NOT SHOWN ON DRAWINGS IS INTENDED TO REMAIN UNLESS OTHERWISE NOTED.
9. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DISCONNECTING AND REMOVING ALL ELECTRICAL CONNECTIONS AND EQUIPMENT REQUIRED FOR THE INSTALLATION OF NEW EQUIPMENT PROVIDED BY THE MECHANICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR TO CONFIRM AND AGREE UPON THIS SCOPE OF WORK PRIOR TO BID SUBMISSION.
10. ANY SPARES MAY BE RE-USED FOR INSTALLATION OF NEW CIRCUITS OR ADDITIONAL LOADS.



MIDDLE SCHOOL BUILDING KEY PLAN

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172

ALLAMAKEE CSD

ISSUED FOR

BIDDING

DATE	02/20/2026

DESCRIPTION	DATE

DRAWN BY	JJR/DMS
CHECKED BY	JCL/KDM
PROJECT NO.	9166-10000

SHEET NAME

DEMO MECHANICAL & ELECTRICAL PLAN - OVERALL

D-101

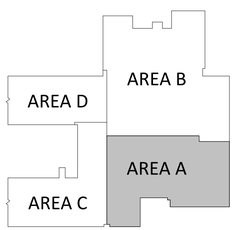
ELECTRICAL DEMO KEYED NOTES

D5	MECHANICAL EQUIPMENT TO BE DEMOED (DIV 15). DIV 16 TO REMOVE ALL ASSOCIATED WIRING, CONDUIT, BOXES AND DISCONNECTS BACK TO SOURCE. IF UNIT IS BEING REPLACED, AND EXISTING CONDUIT IS IN GOOD CONDITION AND SIZED APPROPRIATELY, EXISTING CONDUIT MAY BE RE-USED FOR NEW CONDUCTORS TO PROPOSED EQUIPMENT.

EX. 1"ø NG PIPING ROUTED WITHIN ATTIC SPACE
DEMO EX. HW RADIANT HEATER
DEMO EX. EXHAUST DUCTWORK AND ROOF EXHAUST FAN
DEMO ABANDONED DUCTWORK AND GRILLES, EX. ROOF CURB IS CAPPED.
EX. HWS & HWR TO EX. ROOFTOP UNIT TO REMAIN
DEMO EX. RADIANT HEATER
EX. NG PIPING ROUTED WITHIN ATTIC SPACE
DEMO EX. DUCTED UV
DEMO EX. DUCTED UV
DEMO EX. HWS & HWR BACK TO UTILITY TUNNEL
DEMO EX. TYPE I KITCHEN EXHAUST HOOD
DEMO EX. CEILING DIFFUSERS & GRILLES, TYP.
DEMO EX. THROUGH WALL AC UNIT
DEMO EX. UV
DEMO EX. FLOOR DIFFUSERS, TYP. OF 10.
EXISTING RECEPTACLE TO REMAIN
DEMO EX. AIR HANDLER AND ASSOCIATED COMPONENTS
DEMO EX. DUCTED UV
DEMO EX. EA UP TO EXHAUST FAN
DEMO EX. OA UP TO GRAVITY INTAKE
EX. ATTIC HATCH TO REMAIN
EX. CONDENSATE EXHAUST HOOD
EX. TRANSFER WITH FIRE DAMPER TO REMAIN
DRY STORAGE DUCTWORK TO REMAIN AND BE REUSED
EX. TYPE II KITCHEN EXHAUST HOOD TO REMAIN
EXISTING COVE HEATER TO REMAIN
EXISTING CLOTHES WASHER & DRYER TO REMAIN
DEMO EX. WALK-IN COOLER EVAPORATOR AND ASSOCIATED PIPING
DEMO EX. WALK-IN FREEZER EVAPORATOR AND ASSOCIATED PIPING
DEMO EX. DUCTWORK
DEMO EX. TRANSFER DUCTWORK
EX. TRANSFER DUCTWORK TO REMAIN
EX. KILN EXHAUST HOODS
EX. EXHAUST UP TO ROOF EXHAUST FAN
DEMO EX. UV
DEMO EX. OA UP TO GRAVITY INTAKE
DEMO EX. DUCTED BLOWER COIL, DUCTWORK, AND HW PIPING
EX. DUST COLLECTION EXHAUST FAN SYSTEM TO REMAIN
DEMO EX. MAKEUP AIR DUCTWORK AND ASSOCIATED COMPONENTS
EX. DUST COLLECTION BAG SYSTEM TO REMAIN
DEMO EX. EXHAUST FAN DUCTWORK (STUBBED INTO SPACE ABOVE DUST COLLECTION SYSTEM)

M110D M SHOWER
M110C M TOILET
M109D COACH
M109 GIRLS LOCKER ROOM
M109C W TOILET
M109B COACH
M109A W TOILET
M109D W SHOWER
M102 FRONT OFFICE
M102A CONF
M102B PRINCIPAL
M100E STORAGE
M100D CONFERENCE / BOARD ROOM
M100 DISTRICT OFFICE
M100C SUPERINTENDENT OFFICE
M100A OFFICE
M100B BUSINESS MANAGER
106 CAFETERIA / STUDY HALL
E153 SHOP CLASSROOM
E153B SHOP OFFICE
E153A TOILET
E151C PASS
E151B AG OFFICE
E151A TOILET
E007 CORRIDOR
E151 AG CLASSROOM
M107 KITCHEN
M107C JAN.
M107B TOILET
M107A OFFICE
M107E DRY STORAGE
E154B KILN
E152 INDUSTRIAL CLASSROOM
E157A INDUSTRIAL OFFICE
E152B INDUSTRIAL CLASSROOM
E152A DEMO
E150 WOODSHOP
E150B DUST COLLECTION
KITCHEN EXHAUST

72" 36"



MIDDLE SCHOOL BUILDING KEY PLAN

DEMO MECHANICAL & ELECTRICAL PLAN - AREA A
1/8" = 1'-0"

N

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

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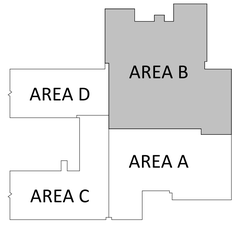
SHEET NAME
DEMO MECHANICAL & ELECTRICAL PLAN - AREA A

D-101A

ELECTRICAL DEMO KEYED NOTES

D4	EXISTING PAD MOUNTED TRANSFORMER IN DETERIORATED CONDITION AND SHALL BE COMPLETELY REMOVED INCLUDING ALL ASSOCIATED WIRING AND GROUNDING COMPONENTS. THE EXISTING CONCRETE PAD IS UNDERSIZED AND DOES NOT MEET CURRENT UTILITY OR CODE REQUIREMENTS. CONTRACTOR SHALL DEMOLISH AND DISPOSE OF THE EXISTING CONCRETE PAD IN ITS ENTIRETY. EC TO MAINTAIN ALL SAFETY MEASURES AND PROVIDE TEMPORARY PROTECTION, BARRICADES AND REQUIRED NOTICES DURING TRANSFORMER REMOVAL AND PAD REPLACEMENT. EC TO COORDINATE WITH OWNER PRIOR TO ANY DEMOLITION OR TERMINATION OF SERVICE TO BUILDING.
D5	MECHANICAL EQUIPMENT TO BE DEMOED (DIV 15). DIV 16 TO REMOVE ALL ASSOCIATED WIRING, CONDUIT, BOXES AND DISCONNECTS BACK TO SOURCE. IF UNIT IS BEING REPLACED, AND EXISTING CONDUIT IS IN GOOD CONDITION AND SIZED APPROPRIATELY, EXISTING CONDUIT MAY BE RE-USED FOR NEW CONDUCTORS TO PROPOSED EQUIPMENT.
D8	DEMO EXISTING PANEL. DE-ENERGIZE ALL FEEDERS AND BRANCH CIRCUITS SERVING THE EXISTING FLUSH-MOUNTED PANEL PRIOR TO WORK. COORDINATE OUTAGES WITH OWNER. IDENTIFY, TAG, AND DOCUMENT ALL EXISTING CIRCUITS PRIOR TO DISCONNECTION FOR RECONNECTION TO NEW SURFACE-MOUNTED PANEL. REMOVE EXISTING PANEL, BREAKERS, TRIM, GROUNDING/BONDING, AND ASSOCIATED CONDUITS. REMOVE ABANDONED CONDUCTORS IN COMPLIANCE WITH NEC. MAINTAIN GROUNDING AND BONDING CONTINUITY AND PROTECT ADJACENT SYSTEMS DURING DEMOLITION. PROVIDE TEMPORARY POWER AS REQUIRED. PATCH AND RESTORE WALL SURFACES TO MATCH EXISTING CONDITIONS.

EX. RTU TO REMAIN
EX. FENCING ENCLOSURE
EX. NG
EX. NG DOWN BELOW GRADE
DEMO EX. UV
DEMO EX. ABANDONED UV
DEMO EX. CEILING GRILLES, TYP.
M116 AUDITORIUM
DEMO EX. ABANDONED UV
DEMO EX. ABANDONED UV
DEMO EX. DEMO EX. HWS & HWR BACK TO UTILITY TUNNEL HW PIPING
DEMO EX. DUCTED UV, DUCTWORK, AND HW PIPING
EX. OA UP TO GRAVITY INTAKE
EX. SA
EX. HWR DOWN INTO UTILITY TUNNEL
DEMO EX. BOILER PUMP, TYP. OF 3
EX. HWS DOWN INTO UTILITY TUNNEL
EX. NG DOWN BELOW GRADE
EX. HWS LOOP PUMPS
EX. BOILER, TYP.
EX. COMMERCIAL CLOTHES DRYER TO REMAIN
EX. COMMERCIAL CLOTHES WASHER TO REMAIN
EX. 4" NG
EX. HWS & HWR DOWN INTO UTILITY TUNNEL
EX. EA UP TO ROOF EXHAUST FAN TO REMAIN
DEMO EX. EA GRILLE
DEMO EX. NG METER (16,000 CFH @ 2PSI)
EX. GEN
EX. HWS & HWR UP TO EX. RTU
DEMO EX. EXHAUST GRILLE AND DUCTWORK
DEMO ABANDONED DUCTWORK AND GRILLES, EX. ROOF CURB IS CAPPED.
EX. 1"ø NG PIPING ROUTED WITHIN ATTIC SPACE
DEMO EX. HW UNIT HEATER
DEMO EX. RADIANT HEATER
DEMO EX. HW RADIANT HEATER
EX. OA UP TO GRAVITY INTAKE
DEMO EX. DUCTED UV, DUCTWORK, AND HW PIPING
EX. 4" NG
DEMO EX. OA UP TO GRAVITY INTAKE
DEMO EX. DUCTED BLOWER COIL, DUCTWORK, AND HW PIPING
EX. TRANSFER TO REMAIN TO BE REUSED
EX. OA UP TO GRAVITY INTAKE
DEMO EX. DUCTED UV, DUCTWORK, AND HW PIPING



MIDDLE SCHOOL BUILDING KEY PLAN

DEMO MECHANICAL & ELECTRICAL PLAN - AREA B
1/8" = 1'-0"

N

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR
BIDDING

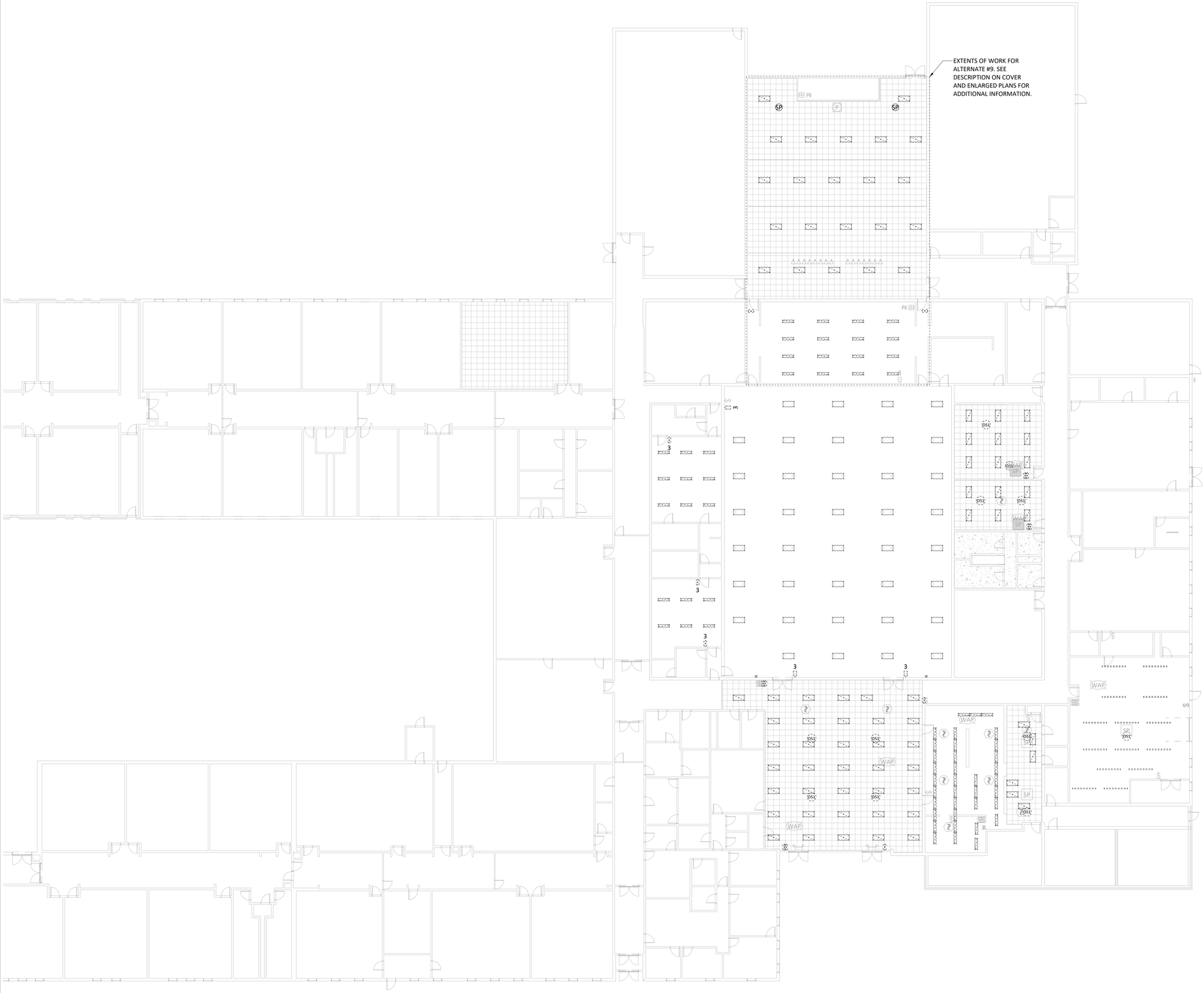
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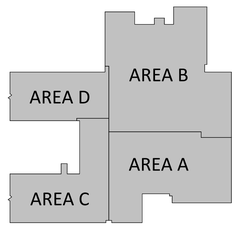
SHEET NAME
DEMO MECHANICAL & ELECTRICAL PLAN - AREA B

D-101B



LIGHTING DEMO NOTES

1. REMOVE ALL EXISTING LIGHT FIXTURES IN AREAS INDICATED ON THE DEMOLITION PLANS. FIXTURES SHALL BE REMOVED IN THEIR ENTIRETY UNLESS NOTED TO REMAIN OR BE RELOCATED.
2. DISCONNECT AND REMOVE ASSOCIATED BRANCH CIRCUIT WIRING BACK TO THE NEAREST ACCESSIBLE JUNCTION BOX. CAP AND LABEL REMAINING CONDUCTORS APPROPRIATELY PER CODE.
3. REMOVE ALL EXISTING LIGHTING CONTROL DEVICES, INCLUDING WALL SWITCHES, DIMMERS, OCCUPANCY SENSORS, DAYLIGHT SENSORS, AND RELATED CONTROL WIRING UNLESS SPECIFICALLY NOTED OTHERWISE.
4. COORDINATE ALL FIXTURE AND CONTROL REMOVALS WITH THE NEW LIGHTING LAYOUT TO ENSURE COMPATIBILITY WITH THE NEW SWITCHING AND CONTROL SYSTEM.
5. MAINTAIN SAFE AND ADEQUATE TEMPORARY LIGHTING DURING DEMOLITION AND CONSTRUCTION.
6. RETURN ALL CEILINGS TO A SAFE CONDITION AFTER DEVICE REMOVAL. PROVIDE BLANK PLATES OR TEMPORARY COVERS AT ANY BOX OPENINGS UNTIL NEW DEVICES ARE INSTALLED.
7. VERIFY ALL CIRCUITS FEEDING REMOVED FIXTURES AND IDENTIFY MULTI-WIRE BRANCH CIRCUITS PRIOR TO DEMOLITION. ENSURE CIRCUITS ARE FULLY DE-ENERGIZED.
8. ALL REMOVED FIXTURES AND CONTROLS SHALL BE DISPOSED OF OFF-SITE UNLESS REQUESTED BY OWNER TO BE SALVAGED.
9. IDENTIFY AND REPORT UNFORESEEN CONDITIONS, SUCH AS CONCEALED JUNCTION BOXES, UNDOCUMENTED WIRING, INACCESSIBLE CONDUITS, OR DAMAGED CEILINGS, BEFORE PROCEEDING.
10. MAINTAIN EMERGENCY AND EGRESS LIGHTING UNTIL THE NEW SYSTEM IS INSTALLED AND ACCEPTED. DO NOT INTERRUPT LIFE-SAFETY LIGHTING WITHOUT OWNER/ENGINEER APPROVAL.
11. COORDINATE DEMOLITION WORK WITH SCHOOL OPERATIONS TO AVOID DISRUPTION DURING OCCUPIED HOURS AND COMPLY WITH DISTRICT SAFETY PROTOCOLS.
12. WHERE EXISTING CEILING TILES, GRIDS, OR ACCESS PANELS ARE REMOVED OR DAMAGED, PROVIDE TEMPORARY PROTECTION AND COORDINATE WITH CEILING CONTRACTOR FOR FINAL RESTORATION.
13. OTHER CEILING-MOUNTED EQUIPMENT:
    - A. WHERE INDICATED ON THE DRAWINGS, REMOVE AND RE-INSTALL CEILING-MOUNTED DEVICES INCLUDING FIRE ALARM DEVICES, WIRELESS ACCESS POINTS, PAGING SYSTEMS, SPEAKERS, PROJECTORS, AND CEILING MOUNTED RECEPTACLES. NOTE THAT NOT ALL DEVICES MAY BE SHOWN, IT IS THE INTENT TO RE-INSTALL ALL EXISTING CEILING MOUNTED DEVICES UNLESS OTHERWISE NOTED.
    - B. COORDINATE REMOVAL WITH APPROPRIATE TRADES (FIRE ALARM, IT, SECURITY, A/V, ETC.) TO ENSURE PROPER DISCONNECTION, LABELING AND RELOCATION.
    - C. PROTECT ALL DEVICES NOTED TO REMAIN DURING DEMOLITION PROCESS.
    - D. DO NOT DISTURB EXISTING FIRE ALARM, SECURITY, PAGING, DATA, OR OTHER COMMUNICATION CABLING. ANY ACCIDENTAL DAMAGE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. DEVICES REMOVED AS PART OF CEILING WORK SHALL BE RE-INSTALLED AFTER NEW CEILING HAS BEEN INSTALLED. THIS INCLUDES FIRE ALARM, WIRELESS ACCESS POINTS, PAGING SYSTEMS, SPEAKERS, CLOCKS, PROJECTORS AND CEILING MOUNTED RECEPTACLES.
    - E. ITEMS BEING REMOVED AND RE-INSTALLED SHALL BE LOCATED AS CLOSE TO ORIGINAL POSITION AS POSSIBLE.



MIDDLE SCHOOL BUILDING KEY PLAN

DEMO LIGHTING PLAN - OVERALL
1/16" = 1'-0"

N

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AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172

ALLAMAKEE CSD

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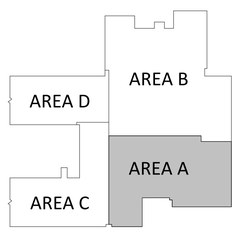
DEMO LIGHTING PLAN - OVERALL

D-110

ELECTRICAL DEMO KEYED NOTES

D1	REMOVE AND RE-INSTALL CEILING MOUNTED DEVICES IN THIS AREA. NOTE THAT ALL DEVICES REQUIRING RE-INSTALLATION MAY BE SHOWN. CONTRACTOR TO VERIFY CEILING MOUNTED DEVICES PRIOR TO BIDDING. RE-INSTALLED DEVICES AS CLOSE TO ORIGINAL LOCATION AS POSSIBLE.
D2	EXISTING CEILING AND CEILING MOUNTED DEVICE TO REMAIN. DEMO EXISTING LIGHTING IN THIS ROOM. NEW LIGHTS TO CONNECT TO EXISTING CIRCUITING AND CONTROLS.





MIDDLE SCHOOL BUILDING KEY PLAN

DEMO LIGHTING PLAN - AREA A
1/8" = 1'-0"

N

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MIDDLE SCHOOL HVAC UPGRADE

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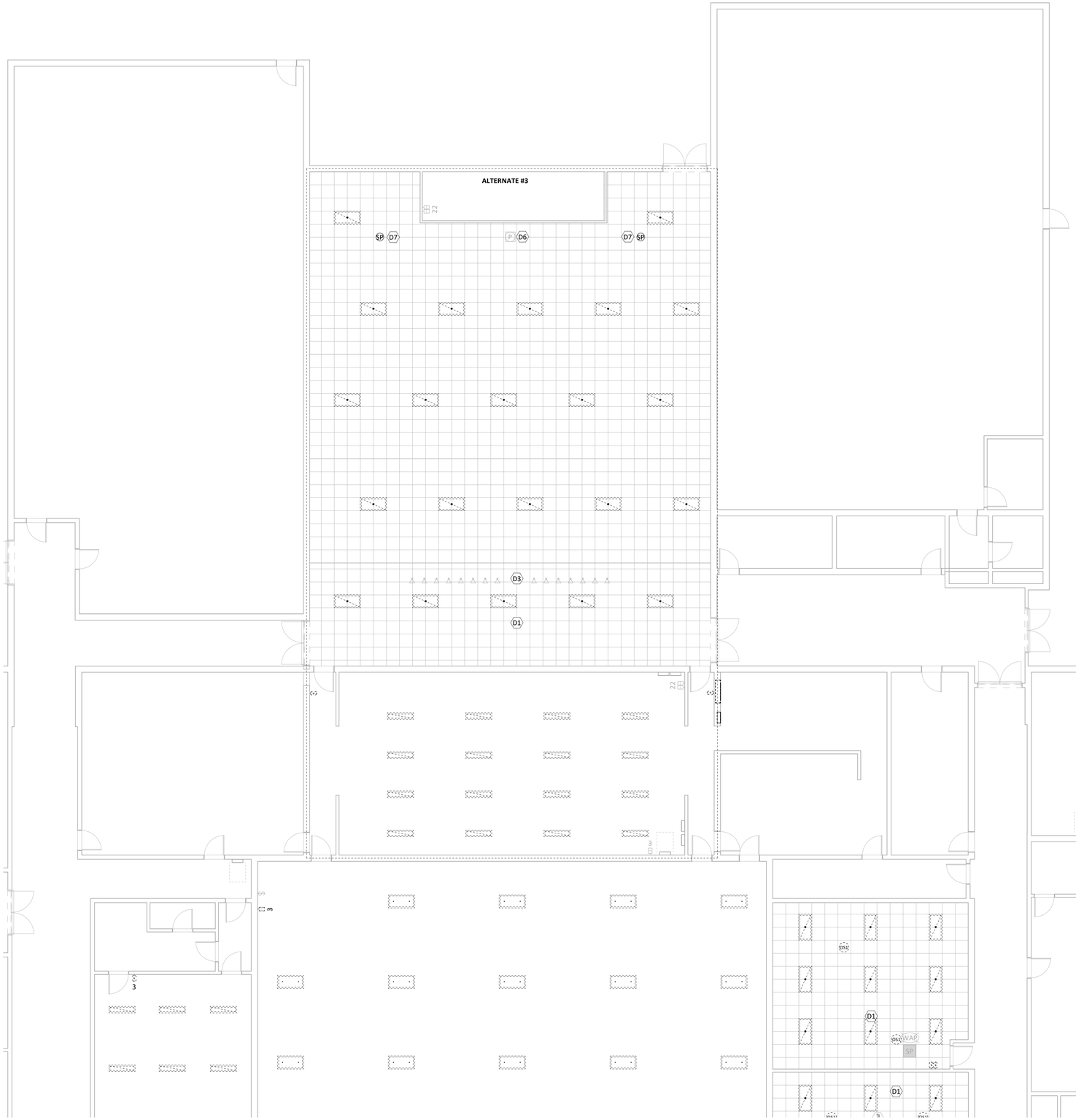
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PROJECT NO.	9166-10000

SHEET NAME

DEMO LIGHTING PLAN - AREA A

NOT FOR CONSTRUCTION

D-110A

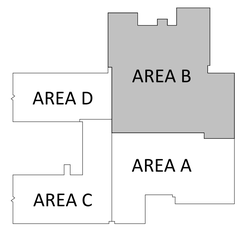


ELECTRICAL DEMO KEYED NOTES

D1	REMOVE AND RE-INSTALL CEILING MOUNTED DEVICES IN THIS AREA. NOTE THAT ALL DEVICES REQUIRING RE-INSTALLATION MAY BE SHOWN. CONTRACTOR TO VERIFY CEILING MOUNTED DEVICES PRIOR TO BIDDING. RE-INSTALLED DEVICES AS CLOSE TO ORIGINAL LOCATION AS POSSIBLE.
D3	EXISTING STAGE LIGHTING AND ASSOCIATED WIRING TO BE REMOVED AND RE-INSTALLED ONCE CEILING WORK IS COMPLETED
D6	REMOVE AND RE-INSTALL EXISTING PROJECTOR AND ASSOCIATED RECEPTACLE.
D7	DEMO EXISTING SPEAKER. SEE ELECTRICAL PLANS FOR NEW SPEAKER TO BE PROVIDED.

ALTERNATE DEMO NOTES

ALT-#3	1. DEMO ALL LIGHTING IN AUDITORIUM AND STAGE EXCEPT STAGE LIGHTING, STAGE LIGHTING TO BE REMOVED AND REINSTALLED. 2. REMOVE LIGHTING CONTROLS IN AUDITORIUM, TO BE REPLACED WITH NEW. 3. REMOVE ALL FIRE ALARM , SPEAKERS, WAPS AND OTHER CEILING MOUNTED EQUIPMENT. EQUIPMENT TO BE RE-INSTALLED ONCE CEILING WORK IS COMPLETED. 4. NOT ALL DEVICES AND EQUIPMENT MAY BE SHOWN, CONTRACTOR TO FAMILIARIZE THEMSELVES WITH SITE PRIOR TO BIDDING TO ACCOUNT FOR DEVICES TO BE RE-INSTALLED. 5. SEE PROPOSED PLANS FOR ADDITIONAL INFORMATION FOR NEW LIGHTING, LIGHTING CONTROLS AND HVAC EQUIPMENT ASSOCIATED WITH THIS ALTERNATE.



MIDDLE SCHOOL BUILDING KEY PLAN

DEMO LIGHTING PLAN - AREA B
1/8" = 1'-0"

N

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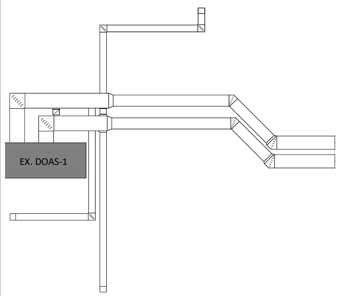
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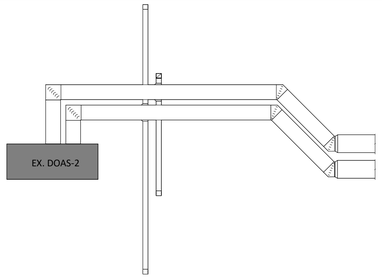
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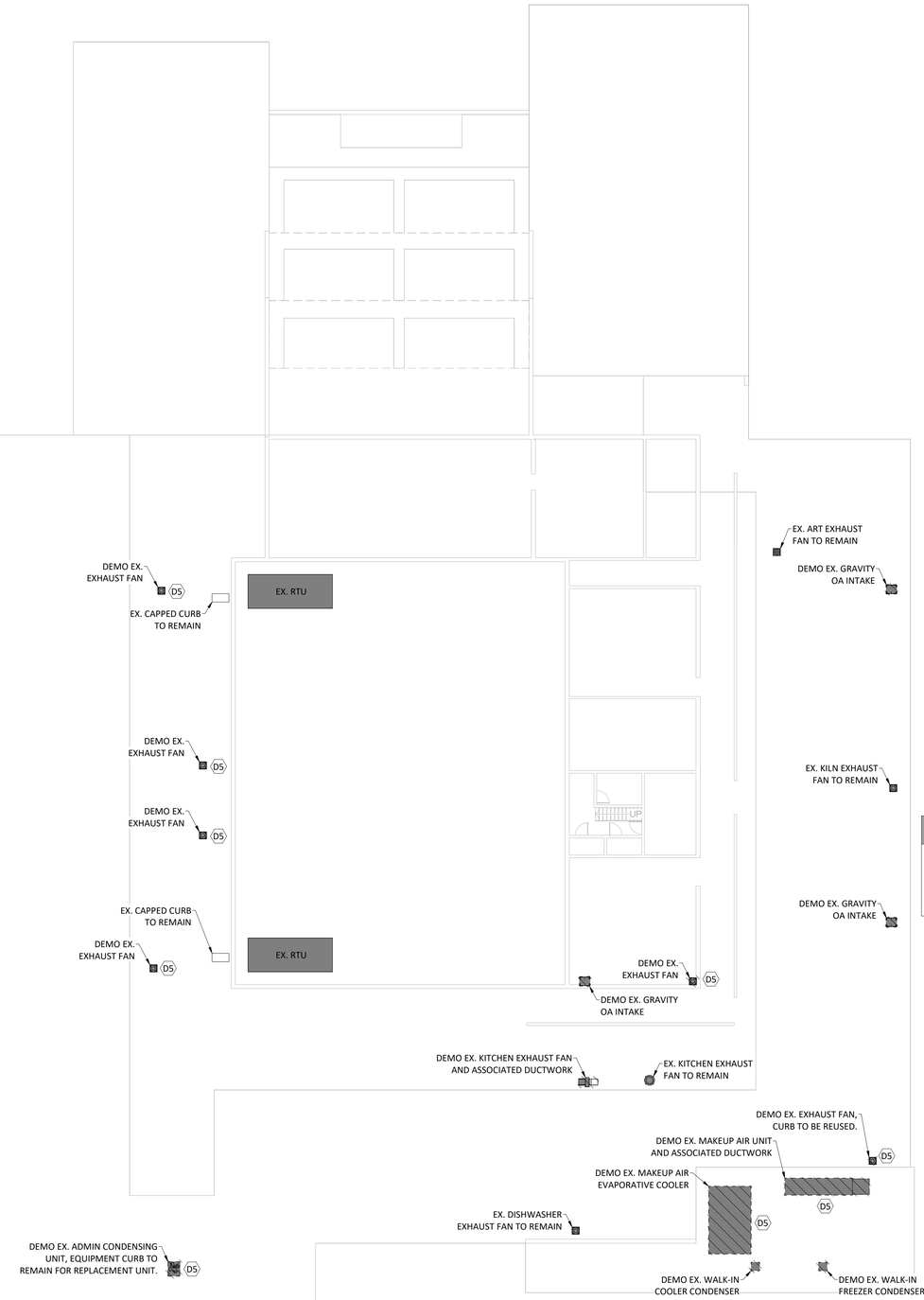
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DEMO LIGHTING PLAN - AREA B

D-110B







DEMO MECHANICAL & ELECTRICAL ROOF PLAN - OVERALL
1/16" = 1'-0"

N

GENERAL DEMO NOTES:

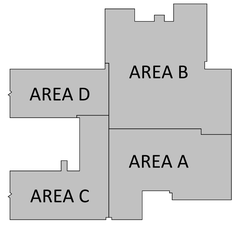
1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
2. EQUIPMENT SPECIFIED TO BE DEMOLISHED SHALL HAVE THE EQUIPMENTS'S ASSOCIATED COMPONENTS REMOVED AND TERMINATED BACK TO THE RESPECTIVE SOURCE WITHOUT DISRUPTING EXISTING SYSTEMS SPECIFIED TO REMAIN. ASSOCIATED EQUIPMENT COMPONENTS TO BE DEMOLISHED INCLUDE BUT ARE NOT LIMITED TO:
   A. DUCTWORK (SA/RA/EA/OA)
   B. HOT WATER SUPPLY AND RETURN PIPING, FITTINGS, AND ACCESSORIES
   C. ELECTRICAL COMPONENTS
   D. THERMOSTAT AND CONTROLS
3. ALL PENETRATIONS FOR DUCTWORK, PIPING, ELECTRICAL AND OTHER UTILITIES SPECIFIED TO BE DEMOLISHED SHALL BE PATCHED AND PAINTED TO MATCH EXISTING CONDITIONS.
4. SEE SHEETS D-501 & D-502, FOR ADDITIONAL INFORMATION ON EXISTING CONDITIONS AND COMPONENTS TO BE REMOVED.

ELECTRICAL DEMO NOTES:

1. EXTREME CARE SHALL BE TAKEN NOT TO DISRUPT ANY ELECTRICAL SERVICES WHICH EXTEND BEYOND BOUNDARIES OF WORK AREA AND ARE TO REMAIN DURING DEMOLITION. POWER TO EQUIPMENT OUTSIDE AREA OF DEMOLITION SHALL NOT BE TURNED OFF WITHOUT PROPER PERMISSION FROM OWNER. ANY CIRCUITS AFFECTED BY THIS DEMOLITION, WHICH ARE SCHEDULED TO REMAIN, SHALL BE PROPERLY REWIRED TO MAINTAIN SERVICE AND COMPLIANCE WITH ALL NATIONAL, STATE, AND LOCAL CODES.
2. THE PLANS INDICATE ONLY AFFECTED EQUIPMENT IN THE DESIGNATED DEMOLITION AREAS OF THIS PROJECT ALTHOUGH NOT EVERY ITEM MAY HAVE BEEN SHOWN. REMOVE NECESSARY ITEMS AS REQUIRED BY THIS DEMOLITION WHETHER OR NOT SHOWN ON PLANS.
3. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE PREMISES AND VERIFYING ALL EXISTING CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC IN NATURE. THE CONTRACTOR SHALL COORDINATE AND ADJUST THE WORK AS REQUIRED TO ENSURE PROPER OPERATION OF ALL INSTALLED EQUIPMENT AND SHALL COORDINATE WITH ALL OTHER TRADES.
4. REMOVE ALL EXISTING WIRING DEVICES, WIRING, CONDUIT, AND RELATED MATERIALS AS NOTED OR INDICATED WITHIN DEMOLITION AREAS. NOT ALL ITEMS MAY BE SHOWN. MODIFY AND REWORK EXISTING CIRCUITRY AS REQUIRED TO MAINTAIN CONTINUITY THROUGH AFFECTED AREAS.
5. REMOVED OR DAMAGED CONDUIT, WIRING, AND FITTINGS SHALL NOT BE REUSED OR RELOCATED FOR NEW INSTALLATIONS.
6. PROVIDE COMPLETE AS-BUILT DRAWINGS AND NEW TYPED PANELBOARD DIRECTORIES IDENTIFYING CIRCUIT NUMBERS AND DESCRIPTIONS.
7. WORK INCLUDED FOR EXISTING EQUIPMENT NOTED TO BE REMOVED SHALL INCLUDE:
   A. SALVAGING OR DISPOSING OF ALL EQUIPMENT AS DIRECTED BY OWNER OR OWNER'S REPRESENTATIVE.
   B. REMOVAL OF FEEDER FROM EQUIPMENT TO POINT OF FEED.
   C. REMOVAL OR RE-CIRCUITING OF ALL BRANCH CIRCUITING AS NOTED ON PLANS.
   D. REMOVAL OF ALL FITTINGS, SUPPORTS, BRACKETS, ETC.
   E. PATCHING OF WALLS, FLOORS AND CEILINGS.
   F. REMOVAL OF FEEDER CONDUIT IF FOUND TO BE UNSALVAGEABLE BY ENGINEER OR OWNER'S REPRESENTATIVE.
8. EXISTING EQUIPMENT NOT SHOWN ON DRAWINGS IS INTENDED TO REMAIN UNLESS OTHERWISE NOTED.
9. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DISCONNECTING AND REMOVING ALL ELECTRICAL CONNECTIONS AND EQUIPMENT REQUIRED FOR THE INSTALLATION OF NEW EQUIPMENT PROVIDED BY THE MECHANICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR TO CONFIRM AND AGREE UPON THIS SCOPE OF WORK PRIOR TO BID SUBMISSION.
10. ANY SPARES MAY BE RE-USED FOR INSTALLATION OF NEW CIRCUITS OR ADDITIONAL LOADS.

ELECTRICAL DEMO KEYED NOTES

D5	MECHANICAL EQUIPMENT TO BE DEMOED (DIV 15). DIV 16 TO REMOVE ALL ASSOCIATED WIRING, CONDUIT, BOXES AND DISCONNECTS BACK TO SOURCE. IF UNIT IS BEING REPLACED, AND EXISTING CONDUIT IS IN GOOD CONDITION AND SIZED APPROPRIATELY, EXISTING CONDUIT MAY BE RE-USED FOR NEW CONDUCTORS TO PROPOSED EQUIPMENT.



MIDDLE SCHOOL BUILDING KEY PLAN

NOT FOR CONSTRUCTION

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MIDDLE SCHOOL HVAC UPGRADE

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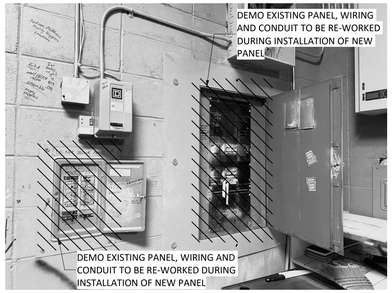
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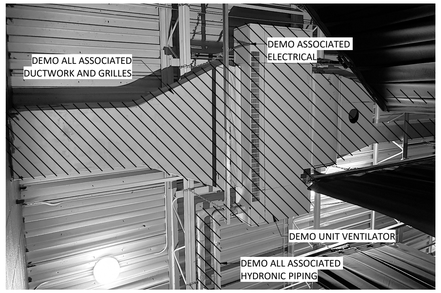
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DEMO MECHANICAL & ELECTRICAL ROOF PLAN - OVERALL

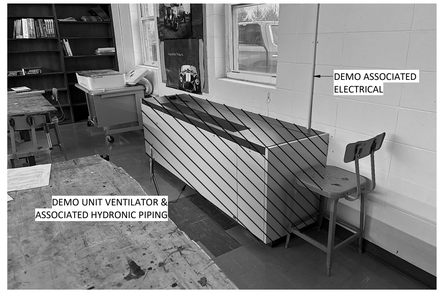
D-201



EX. PANELS A & DB 12 D-501
NTS



EX. STAGE DUCTED UV 8 D-501
NTS



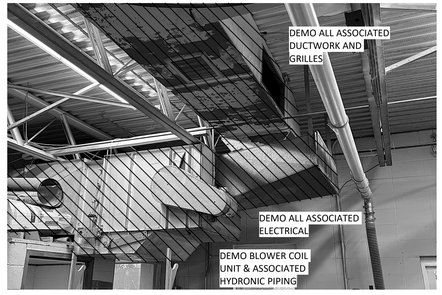
EX. INDUSTRIAL CLASSROOM UV 4 D-501
NTS



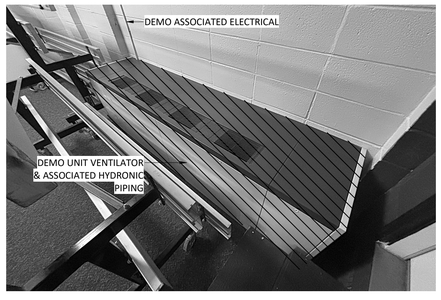
EX. PAD MOUNT TRANSFORMER 11 D-501
NTS



EX. BOILER PUMPS, TYPICAL OF 3 7 D-501
NTS



EX. WOODSHOP BLOWER COIL 3 D-501
NTS



EX. AUDITORIUM UV, TYPICAL OF 2 10 D-501
NTS



EX. ARTROOM BLOWER COIL 6 D-501
NTS



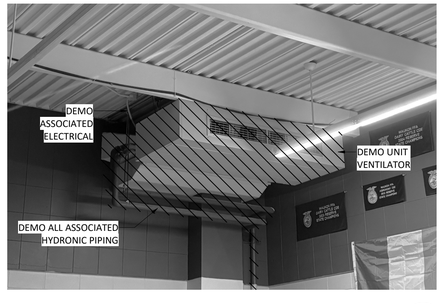
EX. AG CLASSROOM EXHAUST 2 D-501
NTS



EX. AUDITORIUM ABANDONED UV, TYPICAL OF 4 9 D-501
NTS



EX. LOCKER ROOM HEATER 5 D-501
NTS



EX. AG CLASSROOM UV 1 D-501
NTS

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SHEET NAME

EXISTING CONDITIONS - DEMO PHOTOS

D-501

FIRE PROTECTION SYMBOLS

D	DRAIN
FP	FIRE PROTECTION PIPING
	PIPE CAP
	PIPE DOWN
	PIPE UP
	NEW CONNECTION
	UNION/FLANGE
	DIRECTION OF FLOW
	SHUTOFF VALVE - NORMALLY OPEN (NO)
	AUTOMATIC DRAIN VALVE
	ANGLE VALVE
	BUTTERFLY VALVE W. MONITOR SWITCH
	CHECK VALVE
	INSPECTOR TEST AND DRAIN VALVE
P	PRESSURE GAUGE (FURNISHED W. BALL VALVE
	MONITOR SWITCH
	FIRE DEPARTMENT CONNECTION (FDC)
NO BORDER	LIGHT HAZARD - OCCUPANCY
	ORDINARY GROUP 1 HAZARD - OCCUPANCY
	ORDINARY GROUP 2 HAZARD - OCCUPANCY

PIPING SYSTEM ABREV.

FP	FIRE PROTECTION (FP)
CD	CONDENSATE DRAIN (CD)
CA	COMPRESSED AIR
CO_2	CARBON DIOXIDE (CO_2)

NFPA 13 HAZARD PIPE SCHEDULE

TABLE 23.5.2.2.1 LIGHT HAZARD PIPE SCHEDULE

STEEL		COPPER	
1 in.	2 sprinklers	1 in.	2 sprinklers
1-1/4 in.	3 sprinklers	1-1/4 in.	3 sprinklers
1-1/2 in.	5 sprinklers	1-1/2 in.	5 sprinklers
2 in.	10 sprinklers	2 in.	12 sprinklers
2-1/2 in.	30 sprinklers	2-1/2 in.	40 sprinklers
3 in.	60 sprinklers	3 in.	65 sprinklers
3-1/2 in.	100 sprinklers	3-1/2 in.	115 sprinklers
4 in.	See Section 8.2	4 in.	See Section 8.2

TABLE 23.5.3.4 ORDINARY HAZARD PIPE SCHEDULE

STEEL		COPPER	
1 in.	2 sprinklers	1 in.	2 sprinklers
1-1/4 in.	3 sprinklers	1-1/4 in.	3 sprinklers
1-1/2 in.	5 sprinklers	1-1/2 in.	5 sprinklers
2 in.	10 sprinklers	2 in.	12 sprinklers
2-1/2 in.	20 sprinklers	2-1/2 in.	25 sprinklers
3 in.	40 sprinklers	3 in.	45 sprinklers
3-1/2 in.	65 sprinklers	3-1/2 in.	75 sprinklers
4 in.	100 sprinklers	4 in.	115 sprinklers
5 in.	160 sprinklers	5 in.	180 sprinklers
6 in.	275 sprinklers	6 in.	300 sprinklers
8 in.	See Section 8.2	8 in.	See Section 8.2

NFPA13 TABLE 15.3.1(a) EXPOSED BARREL LENGTHS FOR DRY SPRINKLERS (U.S. CUSTOMARY UNITS)

AMBIENT TEMPERATURE EXPOSED TO DISCHARGE END OF SPRINKLER (°F)	MINIMUM EXPOSED BARREL LENGTH WHEN EXPOSED TO 40°F (IN.)	MINIMUM EXPOSED BARREL LENGTH WHEN EXPOSED TO 50°F (IN.)	MINIMUM EXPOSED BARREL LENGTH WHEN EXPOSED TO 60°F (IN.)
40	0	0	0
30	0	0	0
20	4	0	0
10	8	1	0
0	12	3	0
-10	14	4	1
-20	14	6	3
-30	16	8	4
-40	18	8	4
-50	20	10	6
-60	20	10	6

15.3 - DRY SPRINKLERS
15.3.1* - WHERE DRY SPRINKLERS ARE CONNECTED TO WET PIPE SPRINKLER SYSTEMS PROTECTING AREAS SUBJECT TO FREEZING TEMPERATURES, THE MINIMUM EXPOSED LENGTH OF THE BARREL OF THE DRY SPRINKLER SHALL BE IN ACCORDANCE WITH TABLE 15.3.1(a).
15.3.2 - THE MINIMUM EXPOSED LENGTH SHALL BE MEASURED ALONG THE LENGTH OF THE DRY SPRINKLER FROM THE FACE OF THE FITTING TO WHICH THE DRY SPRINKLER IS INSTALLED TO THE INSIDE SURFACE OF THE INSULATION, WALL, OR CEILING LEADING TO THE COLD SPACE, WHICHEVER IS CLOSEST TO THE FITTING.
15.3.3* - WHERE DRY SPRINKLERS ARE CONNECTED TO WET PIPE SPRINKLER SYSTEMS PROTECTING INSULATED FREEZER STRUCTURES, THE CLEARANCE SPACE AROUND THE SPRINKLER BARREL SHALL BE SEALED.
15.3.4* - DRY SPRINKLERS SHALL ONLY BE INSTALLED IN FITTINGS AS SPECIFIED BY THE MANUFACTURER.

FIRE PROTECTION GENERAL NOTES

1. FPC SHALL COORDINATE PHASING OF SPRINKLER WORK WITH THE GC PRIOR TO STARTING WORK.
2. PROVIDE ALTERATIONS TO THE EXISTING FIRE PROTECTION SYSTEM AS REQUIRED TO ACCOMMODATE THE NEW FLOOR PLAN AND NEW CEILING TYPES. PROVIDE A COMPLETE WET TYPE SYSTEM INCLUDING NEW MAINS, BRANCHES, HEADS, VALVES, AND ACCESSORIES CONFORMING TO ALL NFPA13 REQUIREMENTS. REUSE EXISTING SYSTEM EQUIPMENT WHERE APPLICABLE. THE SYSTEM SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS AND AS PER REQUIREMENTS OF THE STATE BUILDING CODE, LOCAL FIRE DEPARTMENT, AND ALL FEDERAL, STATE, AND LOCAL AUTHORITIES, NFPA, AND FM GLOBAL.
3. THE SPRINKLER SYSTEM SHALL BE DESIGNED BASED UPON ACTUAL WATER FLOW TEST DATA OBTAINED AT OR NEAR THE JOB SITE.
4. REFER TO REFLECTED CEILING PLANS FOR ADDITIONAL INFORMATION REGARDING SPRINKLER HEAD LOCATION AND COORDINATION ELEMENTS (LIGHTS, DIFFUSERS, ETC.)A, UNLESS NOTED OTHERWISE.
5. FPC SHALL COORDINATE WITH THE EC FOR PROPER INSTALLATION OF THE FIRE PROTECTION SYSTEMS ALARM DEVICES INVOLVED WITH FIRE PROTECTION SYSTEM.
6. IN ROOMS WITH CEILINGS ALL SPRINKLER SYSTEM PIPING SHALL BE CONCEALED ABOVE THE SUSPENDED CEILING SYSTEM, UNLESS NOTED OTHERWISE. WRITTEN AUTHORIZATION SHALL BE OBTAINED FROM THE ARCHITECT PRIOR TO EXPOSING ANY PIPING IN ANY ROOM WHICH HAS A SUSPENDED CEILING.
7. FPC SHALL PROVIDE ALL ADDITIONAL SPRINKLER HEADS AS REQUIRED TO ENSURE AN APPROVED FIRE PROTECTION SYSTEM AT NO ADDITIONAL COST TO THE OWNER.
8. AUXILIARY DRAINS SHALL BE EXPOSED WITH 1" DRAIN VALVES. WHEN 5 OR MORE GALLONS ARE TRAPPED, FPC SHALL PROVIDE FIXED PIPING TO AN ADEQUATELY SIZED RECEPTOR WHICH IS CAPABLE OF ACCEPTING THE FULL FLOW OF THE DRAIN. WHEN LESS THAN 5 GALLONS ARE TRAPPED, A HOSE BIBB SHALL BE PROVIDED AT THE DRAIN VALVE.
9. AUXILIARY DRAINS SHALL NOT BE LOCATED ABOVE PLASTER OR GYPSUM BOARD CEILING SYSTEMS. ONLY BY A SPECIFIC WRITTEN INSTRUCTION FROM THE ENGINEER WILL A VARIANCE BE PROVIDED.
10. AN INSPECTOR'S TEST CONNECTION SHALL BE PROVIDED FOR EACH FIRE SPRINKLER ZONE. FPC SHALL PROVIDE FIXED PIPING FROM THE TEST CONNECTION TO AN ADEQUATELY SIZED RECEPTOR WHICH IS CAPABLE OF ACCEPTING THE FULL FLOW OF THE TEST. EXTERIOR DISCHARGE OF THE TEST CONNECTION SHALL BE PERMITTED.
11. SHOW ALL ROOM NUMBERS ON SHOP DRAWING PLANS.
12. ROUTE SPRINKLER PIPING SUCH THAT IT DOES NOT RUN ABOVE ELECTRICAL PANELS, SWITCHGEAR, OR SIMILAR EQUIPMENT. SPRINKLER MAINS SHALL NOT RUN THROUGH ELECTRICAL OR COMMUNICATION ROOMS. SPRINKLER HEADS, IF REQUIRED, IN THESE ROOMS SHALL BE SERVED BY A DEDICATED BRANCH LINE FOR EACH ROOM.
13. THIS DRAWING INDICATES A GENERAL PIPING ARRANGEMENT AND SUGGESTED SIZING ONLY. FPC SHALL DETERMINE THE ACTUAL PIPE SIZING REQUIRED AND COORDINATE WORK WITH ALL OTHER TRADES TO AVOID CONFLICTS. FIRE PROTECTION PLAN IS FOR **GENERAL PURPOSE/REFERENCE ONLY.** FIRE SPRINKLER CONTRACTOR SHALL DESIGN AND LAYOUT WET-PIPE SYSTEM FOR APPROVAL BY THE AHJ.
14. FPC SHALL PREPARE HYDRAULIC CALCULATIONS BASED UPON THE CONFIGURATION OF THE ACTUAL SYSTEM DESIGN AS SHOWN ON THIS CONTRACTOR'S SHOP DRAWINGS.

GENERAL VIEW SYMBOLS & KEY

- 1 / ITC — REVISION NUMBER / REVISION DESCRIPTOR - REFER TO REVISION LOG FOR FULL DESCRIPTION
- POINT WHERE NEW CONNECTS TO EXISTING
- 1 — KEYNOTE - INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL
- BREAK/CONTINUATION LINE
- DEMOLITION HATCH
- EQUIPMENT TO BE RELOCATED HATCH
- INDICATES DIRECTION OF TRUE NORTH; PLAN NAME; PLAN SCALE — PLAN VIEW, 1/8" = 1'-0"
- DETAIL NUMBER; DETAIL NAME; DETAIL SCALE; PAGE NUMBER — PLAN VIEW, 1, 1/8" = 1'-0", P-501

CONTRACTOR ABBREVIATION KEY

G.C.	GENERAL CONTRACTOR	F.P.C.	FIRE PROTECTION CONTRACTOR
M.C.	MECHANICAL CONTRACTOR	FDC	FIRE DEPARTMENT CONNECTION
P.C.	PLUMBING CONTRACTOR	L.C.	LANDSCAPE CONTRACTOR
E.C.	ELECTRICAL CONTRACTOR	F.S.C.	FOOD SERVICE CONTRACTOR
C.C.	CIVIL CONTRACTOR		

FIRE/SMOKE BARRIER DESIGNATIONS

THE LINE TYPES SHOWN ARE FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR SHALL VERIFY RATINGS WITH THE LATEST SET OF ARCHITECTURAL PLANS AND FURNISH ALL MATERIALS REQUIRED TO COMPLY WITH THOSE RATINGS WHETHER SHOWN OR NOT.

ALL [FLOOR, FLOOR CEILING, AND ROOF CEILING] ASSEMBLIES SHALL BE DESIGNATED AS 2 HOUR FIRE, BARRIER(S), UNLESS NOTED OTHERWISE ON THE PLANS. RATINGS WERE ACQUIRED FROM THE ARCHITECTURAL PLANS DATED.

2 HOUR FIRE BARRIER	— — — — — —

EQUIPMENT ABBREVIATIONS

BFP	BACKFLOW PREVENTER	LH	LIGHT HAZARD OCCUPANCY
FP	FIRE PROTECTION	OH1	ORDINARY GROUP HAZARD 1
FDC	FIRE DEPARTMENT CONNECTION	OH2	ORDINARY GROUP HAZARD 2
ACC	ACCELERATOR	FP	FIRE PUMP
ADV	AUTOMATIC DRIP VALVE	N.O.	NORMALLY OPEN
AS	AIR SUPERVISORY PRESSURE SWITCH	N.C.	NORMALLY CLOSED
BF	INDICATING BUFFERFLY VALVE	IT	INSPECTORS TEST & DRAIN VALVE
CK	SWING CHECK VALVE	MS	OS&Y SUPERVISORY SWITCH
FS	FLOW SWITCH	PS	WATERFLOW PRESSURE SWITCH
UMC	UNIVERSAL MANIFOLD CHECK ASSEMBLY		

PROJECT GENERAL NOTES

1. DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHER TRADES WILL PERMIT.
2. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
3. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
4. REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.
5. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.
6. EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.
7. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY, AUDIO/VISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS.
8. SEAL ALL FLOOR AND WALL PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING AND DUCTS PENETRATE. PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE SEALED AIRTIGHT WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER FOR OUTDOOR USE.
9. CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.
10. WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED OPENINGS WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL RELEVANT SPECIFICATION SECTIONS. SEAL SLEEVE PERIMETER TO BE WATERTIGHT.
11. PROVIDE SLEEVES AND/OR OPENINGS TO RUN PIPES AND DUCTS THROUGH FOUNDATIONS, FLOORS, WALLS, AND ROOF.
12. EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY BETWEEN DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND REQUIRED SERVICE CLEARANCES. COORDINATE LAYOUT OF EQUIPMENT, PIPING, DUCTWORK, ETC.
13. DO NOT BLOCK EQUIPMENT SERVICE CLEARANCES.
14. MAINTAIN MINIMUM 3'-0" CLEARANCE IN FRONT OF ALL ELECTRICAL PANELS, MOTOR STARTERS, SWITCHES AND DISCONNECTS.
15. DO NOT ROUTE DUCTWORK OR PIPING OVER ELECTRICAL PANELS.
16. PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL EXTEND MINIMUM 6-INCH BEYOND ALL SIDES OF EQUIPMENT.
17. DO NOT SUPPORT EQUIPMENT, PIPING, OR DUCTWORK FROM METAL DECKING OR OTHER NON-STRUCTURAL BUILDING ELEMENTS. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.
18. WHERE FLOOR DRAINS OCCUR WITHIN THE LIMITS OF CONSTRUCTION, PREVENT CONSTRUCTION DEBRIS FROM ENTERING DRAIN BODY BY SEALING DRAIN OPENING PRIOR TO START OF WORK. UNSEAL DRAINS AT COMPLETION OF CONSTRUCTION.
19. COORDINATE INSTALLATION OF PIPING, DUCTWORK, CONDUIT, LIGHTS, CABLE TRAY, STRUCTURE, AND EQUIPMENT TO PREVENT CONFLICTS.
20. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL THE CONDITIONS BOTH EXISTING AND THOSE ILLUSTRATED BY THESE DOCUMENTS AS WELL AS THOSE WHICH CAN BE REASONABLY ANTICIPATED INCLUDING, BUT NOT LIMITED TO ARCHITECTURAL, ELECTRICAL, VENTILATION, PLUMBING, AND OTHER SYSTEMS INVOLVED ON THIS PROJECT.
21. FINAL PRODUCT SHALL BE A COMPLETE AND FUNCTIONING SYSTEM, AND SHALL CONFORM TO ALL REQUIREMENTS OF APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO THE **INTERNATIONAL FIRE CODE**, **NFPA 13**, **INTERNATIONAL BUILDING CODE**, AND **INTERNATIONAL MECHANICAL CODE**.
22. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT EDITION OF ALL APPLICABLE CODES AND LOCAL CODES AS APPLIED BY THE AUTHORITY HAVING JURISDICTION.
23. ALL ROOF MOUNTED EQUIPMENT SHALL BE A MINIMUM 10'-0" FROM EDGE OF ROOF.
24. LOCATE DUCTWORK, PIPING, AND MECHANICAL EQUIPMENT AWAY FROM THE SPACE ABOVE ELECTRICAL PANELS, TRANSFORMERS, AND OTHER ELECTRICAL EQUIPMENT.
25. PENETRATIONS OF RATED ASSEMBLIES SHALL BE FIRE STOPPED. FIRE STOPPING SHALL BE AN APPROVED MATERIAL AND SHALL BE U.L. LISTED.
26. MAINTAIN CLEAR ACCESS TO SERVICE EQUIPMENT AND OTHER ACCESSORIES REQUIRING SERVICE, VISUAL INSPECTION OR HAND OPERATION. WHERE INDICATED OR REQUIRED, PROVIDE ACCESS PANELS OF THE TYPE SELECTED TO SUIT MATERIALS IN WHICH INSTALLED.
27. PIPE SIZES SHOWN SHALL BE CONTINUED IN THE DIRECTION OF FLOW UNTIL ANOTHER SIZE IS SHOWN.
28. FOR DETAILS, EQUIPMENT CONNECTIONS, AND PIPE SIZES NOT SHOWN ON THE SEGMENTS, REFER TO DETAILS, SCHEDULES, AND SPECIFICATIONS.
29. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS, AT A LEVEL OF QUALITY AND WORKMANSHIP CONSISTENT WITH THE SPECIFICATIONS.
30. LOCATIONS OF PIPING, DUCTWORK, AND EQUIPMENT AS INDICATED ON THE DRAWING, ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. WORK SHALL BE COORDINATED WITH ALL OTHER TRADES TO AVOID INTERFERENCE IN THE FIELD.
31. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND SHALL ARRANGE FOR ALL INSPECTIONS AS REQUIRED.
32. PROVIDE ONE YEAR WARRANTY FOR ALL WORKMANSHIP AND MATERIALS AFTER THE DATE OF FINAL ACCEPTANCE.

APPLICABLE CODES

1. STATE OF IOWA ADOPTED BUILDING CODE
2. STATE OF IOWA ADOPTED FIRE CODE
3. STATE OF IOWA ADOPTED PLUMBING CODE
4. NFPA 13 - STANDARD FOR INSTALLATION OF SPRINKLER SYSTEMS
5. ANY AND ALL AMENDMENTS TO THE CODE BY THE STATE OF IOWA AND THE LOCAL AHJ

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172

ALLAMAKEE CSD

ISSUED FOR

BIDDING

DATE	02/20/2026

DESCRIPTION	DATE

DRAWN BY	JJR
CHECKED BY	JCL
PROJECT NO.	9166-10000

SHEET NAME

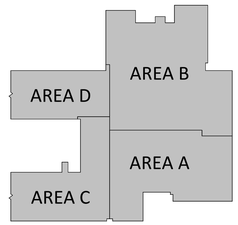
FIRE PROTECTION NOTES & SYMBOLS ALT. #3

FP000



FIRE PROTECTION GENERAL NOTES:

1. COORDINATE FIRE PROTECTION SYSTEM ROUTING WITH ALL TRADES TO ENSURE ROUTING DOES NOT PREVENT COMPLETION OF OTHER WORK.
2. IF ANY OCCUPIED AREAS WITH EXPOSED STRUCTURE, F.P.C. TO ROUTE PIPING AS HIGH AS POSSIBLE AND COORDINATE EXACT ROUTING WITH ALL OTHER TRADES.
3. ALL EXPOSED SPRINKLER SYSTEM PIPING AND COMPONENTS LOCATED SHALL HAVE A FINISH TO MATCH THE ASSOCIATED ROOMS FINISH. REFER TO ARCHITECTURAL PLANS FOR ROOM FINISHES.
4. NEW ZONE FIRE PROTECTION PIPE ROUTING FROM EXISTING FIRE PUMP ROOM SHOWN FOR GENERAL LAYOUT. DETERMINE EXACT NUMBER OF SPRINKLERS, PIPE SIZING, AND PIPE ROUTING.
5. PROVIDE SWAY BRACING ON NEW ZONE FIRE PROTECTION PIPING AT ALL ELBOWS TO PROTECT PIPING AND HANGER/SUPPORTS FROM INTERNAL FORCES WHEN FIRE PUMP ENERGIZES.
6. F.P.C. SHALL PROVIDE THRUST RESTRAINTS ON ARMOVER SPRINKLER HEAD CONNECTIONS OVER 24" IN DEVELOPED LENGTH TO PREVENT PIPE MOVEMENT OR JOINT SEPARATION FROM WATER SURGE AND HIGH-PRESSURE ACTIVATION WHEN FIRE PUMP ENERGIZES.
7. SPRINKLERS SHALL BE INSTALLED AT THE FRONT END OF GYM-SIDE STAGE AT CLOSE INTERVALS - 6-FOOT SPACING - TO PROVIDE BARRIER PROTECTION.
8. CENTER SPRINKLERS IN CEILING TILES IN BOTH DIRECTION IN ALL AREAS. IN AREAS WITH 2X4 CEILING TILES, CENTER USING A 2X2 CEILING PATTERN.
9. NEW SPRINKLER SHALL BE QUICK RESPONSE TYPE, UNLESS NOTED OTHERWISE. F.P.C. SHALL NOT MIX STANDARD RESPONSE SPRINKLERS WITH QUICK RESPONSE SPRINKLERS IN UNPARTITIONED SPACES.
10. REFER TO DETAIL 1 | FP501 FOR EXISTING FIRE PROTECTION RISER DIAGRAM AND NEW ZONE FIRE PROTECTION GENERAL CONNECTION POINT.
11. ROUTE ALL WET SYSTEM FIRE PROTECTION PIPING IN PLENUM SPACES BENEATH INSULATION. DO NOT ROUTE WET SYSTEM FIRE PROTECTION PIPING IN UNCONDITIONED PLENUM SPACES.
12. COORDINATE NEW SPRINKLER HEAD LOCATIONS WITH LIGHT FIXTURES, LIGHT ASSEMBLIES, AUDIO EQUIPMENT, DIFFUSERS, FIRE ALARM COMPONENTS, PLUMBING, STRUCTURAL COMPONENTS AND ANY ARCHITECTURAL ELEMENTS.
13. PROVIDE THE FOLLOWING SPRINKLER HEADS:
    A. FULLY-RECESSED SPRINKLER HEADS - AREAS WITH ACT DROP CEILINGS
    B. UPRIGHT - AREAS WITHOUT ANY CEILING (OPEN TO STRUCTURE)
    C. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR COORDINATION.
14. F.P.C. TO PROVIDE AND INSTALL SPRINKLER HEADS AS REQUIRED BY CODE ABOVE AND BELOW HANGING MECHANICAL EQUIPMENT, AND LARGE DUCTWORK. REFER TO NFPA13 FOR EXACT REQUIREMENTS ON OBSTRUCTIONS AND DUCTWORK SIZE REQUIRED TO BE PROTECTED.



MIDDLE SCHOOL BUILDING KEY PLAN

FIRE PROTECTION PLAN - OVERALL - ALT. #3
1/16" = 1'-0"

N

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172

ALLAMAKEE CSD

ISSUED FOR	
BIDDING	
DATE	02/20/2026

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CHECKED BY	JCL
PROJECT NO.	9166-10000

SHEET NAME

FIRE PROTECTION PLAN - OVERALL ALT. #3

FP101

NFPA 13 HAZARD PIPE SCHEDULE

TABLE 23.5.2.2.1 LIGHT HAZARD PIPE SCHEDULE

STEEL		COPPER	
1 in.	2 SPRINKLERS	1 in.	2 SPRINKLERS
1-1/4 in.	3 SPRINKLERS	1-1/4 in.	3 SPRINKLERS
1-1/2 in.	5 SPRINKLERS	1-1/2 in.	5 SPRINKLERS
2 in.	10 SPRINKLERS	2 in.	12 SPRINKLERS
2-1/2 in.	30 SPRINKLERS	2-1/2 in.	40 SPRINKLERS
3 in.	60 SPRINKLERS	3 in.	65 SPRINKLERS
3-1/2 in.	100 SPRINKLERS	3-1/2 in.	115 SPRINKLERS
4 in.	SEE SECTION 8.2	4 in.	SEE SECTION 8.2

1. ZONE 3 FP PIPE SIZING AT 3" ASSUMED GREATER THAN (>) 30 SPRINKLERS AND LESS THAN (<) 60 SPRINKLERS AND SCHEDULE 10 OR 40 STEEL PIPING TO PROVIDE PROPER FIRE PROTECTION COVERAGE OF NEW ZONE 3 - MIDDLE SCHOOL AUDITORIUM.
2. FPC SHALL VERIFY AND CONFIRM QUANTITY OF SPRINKLER HEADS REQUIRED AND SIZE NEW ZONE 3 PIPING ACCORDINGLY.

EXISTING FIRE AND JOCKEY PUMP SCHEDULE

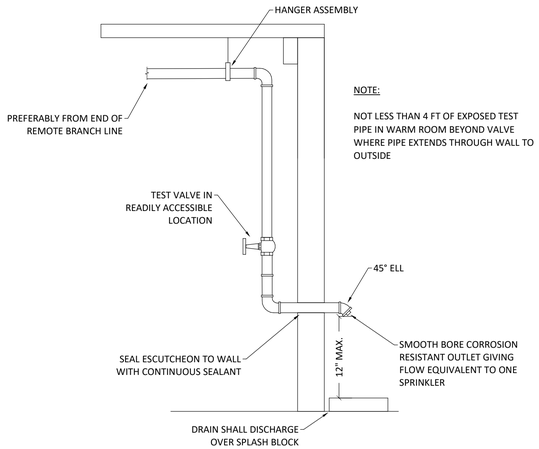
PLAN MARK	*FLOWRATE (GPM)*	*HEAD LOSS (FT. HEAD)*	*INLET SIZE (DIA.)*	*RPM*	*ELECTRICAL*			*MANUFACTURER/ MODEL NO.*	*NOTES*
					HP	*VOLTS*	*PH*		
FP-1	*750*	*92.2*	*5"*	*1770*	*25*	*480*	*3*	*FAIRBANKS MORSE 4" 1823AF*	
JP-1	*5*	*115.2*	*1-1/4"*	*1770*	*3/4*	*208*	*3*	*FAIRBANKS MORSE PVM2-30*	

1. EXISTING FIRE PUMP AND JOCKEY PUMP INFORMATION ARE SHOWN FOR REFERENCE TO NICET III DESIGNER FIRE PROTECTION CONTRACTOR (FPC) TO UTILIZE WHEN DESIGNING THE NEW MIDDLE SCHOOL AUDITORIUM ZONE (3) FIRE PROTECTION SYSTEM.

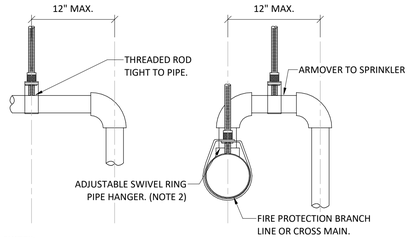
FIRE SPRINKLER USAGE SCHEDULE

PLAN SYMBOL	AREA TYPE (NOTE 5)	AREA HAZARD	SPRINKLER				TEMPERATURE RATING (DEG. F)	MANUFACTURER | MODEL	NOTES
			TAG NAME (NOTES 3 & 4)	TYPE	RESPONSE CATEGORY	FINISH			
○	SPACES WITHOUT CEILINGS	SEE PLANS	SPR-1	UPRIGHT	QUICK	ROUGH BRASS	155	VICTAULIC | V2704	ALL
◉	SPACES WITH CEILINGS	SEE PLANS	SPR-2	CONCEALED	QUICK	WHITE	155	VICTAULIC | VK4611	ALL

1. SPRINKLER SHALL HAVE COLOR CODED BULB THERMAL ELEMENT.
2. ALL SPRINKLER SHALL BE UL LISTED.
3. CONTRACTOR TO VERIFY SPRINKLER REQUIREMENTS BASED ON ACTUAL INSTALLATION, USAGE, ARCHITECTURAL CEILING PLAN AND NFPA 13 REQUIREMENTS.
4. TAG NAME IS PRIMARILY FOR IDENTIFYING SPRINKLERS IN SUBMITTALS. IT MAY OR MAY NOT BE FOUND ELSEWHERE ON THE DRAWINGS. CONTRACTOR TO SUBMIT ALL SPRINKLER TYPES TO BE USED.
5. AREAS ARE GENERAL IN NATURE. CONTRACTOR TO MATCH UNSCHEDULED AREAS TO SIMILAR SPACES.



WET SYSTEM TEST CONNECTION DETAIL 3 / FP501
NTS

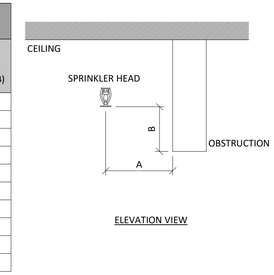


NOTES:
1. ALSO APPLIES TO ARMOVER WHERE CUMULATIVE HORIZONTAL LENGTH IS GREATER THAN 12".
2. CLEVIS HANGERS AND ADJUSTABLE SWIVEL RING HANGERS WITH SURGE SUPPRESSORS ARE ALSO ACCETPABLE, SEE NFPA 13.

SPRINKLER PIPE HANGER DETAIL 5 / FP501
NTS

BEAM OBSTRUCTION RULE

DISTANCE FROM SPRINKLERS TO SIDE OF OBSTRUCTION (A)	MAX. ALLOWABLE DISTANCE OF DEFLECTOR ABOVE BOTTOM OF OBSTRUCTION (B)
< 1'-0"	0"
1'-0" < 1'-6"	2-1/2"
1'-6" < 2'-0"	3-1/2"
2'-0" < 2'-6"	5-1/2"
2'-6" < 3'-0"	7-1/2"
3'-0" < 3'-6"	9-1/2"
3'-6" < 4'-0"	12"
4'-0" < 4'-6"	14"
4'-6" < 5'-0"	16-1/2"
≥ 5'-0"	18"



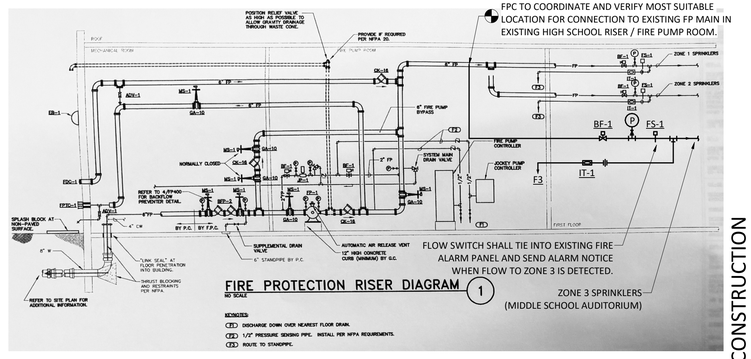
ELEVATION VIEW

FIRE SPRINKLER TYP. OBSTRUCTION DETAIL 2 / FP501
NTS



SPRINKLER HEAD MOUNTING DETAIL 4 / FP501
NTS

CONNECT NEW 3" FP ZONE 3 PIPING TO EXISTING 6" FP MAIN.
FPC TO COORDINATE AND VERIFY MOST SUITABLE LOCATION FOR CONNECTION TO EXISTING FP MAIN IN EXISTING HIGH SCHOOL RISER / FIRE PUMP ROOM.



FLOW SWITCH SHALL TIE INTO EXISTING FIRE ALARM PANEL AND SEND ALARM NOTICE WHEN FLOW TO ZONE 3 IS DETECTED.

ZONE 3 SPRINKLERS (MIDDLE SCHOOL AUDITORIUM)

FIRE PROTECTION RISER DIAGRAM 1 / FP501
NO SCALE

KEYNOTES:
(F1) DISCHARGE DOWN OVER NEAREST FLOOR DRAIN.
(F2) 1/2" PRESSURE SENSING PIPE. INSTALL PER NFPA REQUIREMENTS.
(F3) ROUTE TO STANDPIPE.

EXISTING FIRE PROTECTION RISER DIAGRAM 1 / FP501
NTS

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE
1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR
BIDDING

DATE	02/20/2026
DESCRIPTION	DATE

DRAWN BY	JJR
CHECKED BY	JCL
PROJECT NO.	9166-10000

SHEET NAME
FIRE PROTECTION DETAILS & SCHEDULES ALT. #3

FP501

CONTRACTOR ABBREVIATION KEY

G.C.	GENERAL CONTRACTOR	F.P.C.	FIRE PROTECTION CONTRACTOR
M.C.	MECHANICAL CONTRACTOR	FDC	FIRE DEPARTMENT CONNECTION
P.C.	PLUMBING CONTRACTOR	L.C.	LANDSCAPE CONTRACTOR
E.C.	ELECTRICAL CONTRACTOR	F.S.C.	FOOD SERVICE CONTRACTOR
C.C.	CIVIL CONTRACTOR		

ABBREVIATIONS

Ø	ROUND	LWT	LEAVING WATER TEMPERATURE
AC	AIR CONDITIONING	MA	MIXED AIR
AFF	ABOVE FINISHED FLOOR	MBH	ONE THOUSAND BTU PER HOUR
AP	ACCESS PANEL	MFR	MANUFACTURER
BTUH	BRITISH THERMAL UNITS PER HOUR	MIN	MINIMUM
CD	CEILING DIFFUSER	MUA	MAKE-UP/AIR
CFM	CUBIC FEET PER MINUTE	NC	NORMALLY CLOSED
CLG	CEILING	NO	NORMALLY OPEN
DB	DRY BULB	NTS	NOT TO SCALE
DN	DOWN	OA	OUTSIDE AIR
EAT	ENTERING AIR TEMPERATURE	PD	PRESSURE DROP
EG	EXHAUST GRILLE	PRV	PRESSURE REDUCING VALVE
ELEC	ELECTRICAL	PSI	POUNDS PER SQUARE INCH
EQUIP	EQUIPMENT	PSIG	POUNDS PER SQUARE INCH GAUGE
EWT	ENTERING WATER TEMPERATURE	R	DUCT RISER
EA	EXHAUST AIR	RA	RETURN AIR
EXIST	EXISTING	RCP	RADIANT CEILING PANEL
F	DEGREES FAHRENHEIT	RD	ROOF DRAIN
FD	FIRE DAMPER	RG	RETURN GRILLE
FPM	FEET PER MINUTE	RH	RELATIVE HUMIDITY
FS	FLOOR SINK	RLA	RELIEF AIR
FT	FOOT/FEET	SF	SQUARE FOOT
GAL	GALLON	SA	SUPPLY AIR
GC	GENERAL CONTRACTOR	SD	SMOKE DAMPER
GPM	GALLONS PER MINUTE	SP	STATIC PRESSURE
HP	HORSE POWER	T	THERMOSTAT
IN	INCH	TG	TRANSFER GRILLE
LB	POUND	TYP	TYPICAL
LAT	LEAVING AIR TEMPERATURE	VAV	VARIABLE AIR VOLUME
LP	LOW PRESSURE	WB	WET BULB
LPG	LIQUEFIED PETROLEUM GAS		

EQUIPMENT ABBREVIATIONS

AHU	AIR HANDLING UNIT	FCU	FAN COIL UNIT
AS	AIR SEPARATOR	HWP	HEATING WATER PUMP
B	BOILER	ERV	ENERGY RECOVERY UNIT
CH	CHILLER	HRU	HEAT RECOVERY UNIT
CT	COOLING TOWER	PRV	POWER ROOF VENTILATOR
CUH	CABINET UNIT HEATER	RF/EF	RETURN/EXHAUST FAN
EF	EXHAUST FAN	RTU	ROOFTOP UNIT
EDC	ELECTRIC DUCT COIL	SP	SUMP PUMP
ET	EXPANSION TANK	UH	UNIT HEATER

GENERAL VIEW SYMBOLS & KEY

- 1 / ITC — REVISION NUMBER / REVISION DESCRIPTOR - REFER TO REVISION LOG FOR FULL DESCRIPTION
- POINT WHERE NEW CONNECTS TO EXISTING
- 1 — KEYNOTE
- BREAK/CONTINUATION LINE
- DEMOLITION HATCH
- EQUIPMENT TO BE RELOCATED HATCH
- INDICATES DIRECTION OF TRUE NORTH; PLAN NAME; PLAN SCALE — PLAN VIEW, 1/8" = 1'-0"; N
- DETAIL NUMBER; DETAIL NAME; DETAIL SCALE; PAGE NUMBER — PLAN VIEW, 1/8" = 1'-0"; 1; P-501

PIPING SYSTEM ABBREV.

CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
CD	CONDENSATE DRAIN
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
GWS	GEOTHERMAL WATER SUPPLY
GWR	GEOTHERMAL WATER RETURN
WWS	WELL WATER SUPPLY
WWR	WELL WATER RETURN
HWS	HEATING WATER SUPPLY
HWR	HEATING WATER RETURN
HPLS	HEAT PUMP LOOP SUPPLY
HPLR	HEAT PUMP LOOP RETURN
G	NATURAL GAS
PG	PROPANE GAS
RL	REFRIGERANT LIQUID
RG	REFRIGERANT GAS
HPS	HIGH PRESSURE STEAM
LPS	LOW PRESSURE STEAM

DUCT SYMBOLS

- 18X12 — RECTANGULAR DUCT SIZE TAG (WIDTH X HEIGHT)
- 18/12 — OVAL DUCT SIZE TAG (WIDTH / HEIGHT)
- 18"ø — ROUND DUCT SIZE TAG (DIAMETER)
- DUCT SIZE — EXISTING DUCT
- 18X12 SA — SUPPLY AIR (SA)
- 18X12 RA — RETURN AIR (RA)
- 18X12 OA — OUTSIDE AIR (OA)
- 18X12 EA — EXHAUST AIR (EA)
- 18X12 GEA — GREASE EXHAUST AIR (GEA)
- 16X12 — ACOUSTICAL LINING DUCT DIMENSIONS FOR NET FREE AREA
- FLEX DUCT
- HIDDEN DUCT - DASHED DUCT BELOW SOLID DUCT
- DUCT TAP WITH BOOT AND MANUAL VOLUME DAMPER
- 45° — MANUAL VOLUME DAMPER (MVD)
- BDD — BACKDRAFT DAMPER
- FD/SD — FIRE DAMPER (FD); SMOKE DAMPER (SD); COMBINATION FIRE/SMOKE DAMPER (FD/SD)
- M — MOTOR OPERATED DAMPER
- AP / AD — DUCT ACCESS PANEL (AP) SIDEWALL DUCT ACCESS DOOR (AD)
- DUCT ELBOW WITH TURNING VANES
- RECTANGULAR SUPPLY/OUTSIDE AIR DUCT RISER
- RECTANGULAR SUPPLY/OUTSIDE AIR DUCT DROP
- ROUND SUPPLY/OUTSIDE AIR DUCT RISER
- ROUND SUPPLY/OUTSIDE AIR DUCT DROP
- RECTANGULAR RETURN AIR DUCT RISER
- RECTANGULAR RETURN AIR DUCT DROP
- ROUND RETURN AIR DUCT RISER
- ROUND RETURN AIR DUCT DROP
- RECTANGULAR EXHAUST AIR DUCT RISER
- RECTANGULAR EXHAUST AIR DUCT DROP
- ROUND EXHAUST AIR DUCT RISER
- ROUND EXHAUST AIR DUCT DROP
- S / R — STANDARD BRANCH FOR SUPPLY & RETURN - 45°
- R — INCLINED RISE (R) OR DROP (D) ARROW IN DIRECTION OF AIRFLOW
- R / W — RADIUSED ELBOW - R ≥ 1.5 x W
- GRILLE OR DIFFUSER ON SIDE OF DUCT
- GRILLE OR DIFFUSER BELOW DUCT
- A / 3A — TRANSITION PIECE

PIPING SYMBOLS

- MANUAL ISOLATION VALVE
- GATE VALVE
- GLOBE VALVE
- PLUG VALVE
- ANGLE GATE VALVE
- BALANCING VALVE
- SOLENOID VALVE
- PRESSURE REDUCING VALVE
- CIRCUIT SETTER
- BALL VALVE
- BUTTERFLY VALVE
- STRAINER
- UNION
- CHECK VALVE
- CAP
- PLUG VALVE
- FLEXIBLE PIPE CONNECTION
- DUCT SOUND ATTENUATOR
- PIPE RISER
- PIPE DROP
- INLINE PUMP
- PIPE FLOW DIRECTION ARROW
- FLOW DIRECTION IN PIPE
- FLEXIBLE CONNECTION
- PRESSURE/TEMPERATURE (P/T) TEST PLUG
- M — METER
- PRESSURE GAUGE
- AUTOMATIC AIR VENT
- MANUAL AIR VENT W/ VALVE
- DRAIN W/ HOSE CONNECTION, CAP, & VALVE
- P — PRESSURE SENSOR W/ WELL
- T — TEMPERATURE SENSOR W/ WELL
- THERMOMETER W/ WELL (FILLED TYPE)
- DP — DIFFERENTIAL PRESSURE SENSOR
- UNION / FLANGE
- SHUTOFF VALVE, NORMALLY OPEN
- SHUTOFF VALVE, NORMALLY CLOSED
- BALANCING VALVE
- CONTROL VALVE, TWO-WAY
- CHECK VALVE
- SAFETY RELIEF VALVE
- "WYE" STRAINER W/ SHUTOFF VALVE AND HOSE CONNECTION CAP UNION / FLANGE.
- ELECTRICAL PANEL SHOWN FOR COORDINATION

HVAC SYMBOLS

- T — THERMOSTAT
- TS — TEMPERATURE SENSOR
- H — HUMIDISTAT
- SD — SMOKE DETECTOR
- CO_2 — CARBON DIOXIDE (CO_2) SENSOR
- CEILING SUPPLY DIFFUSER
- CEILING RETURN GRILLE
- CEILING EXHAUST GRILLE
- LINEAR SLOT DIFFUSER WITH BOOT

DIFFUSERS, REGISTERS, AND GRILLES TAG

- CD-1 — DIFFUSER TYPE SEE SCHEDULE
- 10/350 — AIRFLOW (CFM)
- DUCT CONNECTION SIZE
- RG-1 — DIFFUSER TYPE SEE SCHEDULE
- 12X10/250 — AIRFLOW (CFM)
- DUCT CONNECTION SIZE
- LD-1 — DIFFUSER TYPE SEE SCHEDULE
- 12X10/250 — AIRFLOW (CFM)
- DUCT CONNECTION SIZE

AIR TERMINAL UNIT (VAV BOX) TAG

- VAV-X-Y
- "Y" REPRESENTS ROOM VAV SERVES / IS INSTALLED
- "X" REPRESENTS CAPACITY/TYPE

HVAC GENERAL NOTES

1. DIFFUSERS, REGISTERS AND GRILLE LOCATIONS SHALL BE COORDINATED WITH LOCATIONS OF LIGHTS, SPRINKLER HEADS, ARCHITECTURAL FEATURES, STRUCTURAL ELEMENTS, ETC.
2. SUPPLY AND RETURN PIPING TO COILS ARE THE SAME SIZE.
3. CONTRACTOR SHALL LOCATE THERMOSTATS AND TEMPERATURE SENSORS AT 4'-0" AFF UNLESS NOTED OTHERWISE.
4. ALIGN THERMOSTATS WITH LIGHT SWITCHES WHEN IN CLOSE PROXIMITY TO EACH OTHER.
5. REFER TO HVAC DRAWINGS FOR THERMOSTAT AND TEMPERATURE SENSOR LOCATIONS.
6. PROVIDE ACCESS DOORS AT ALL DUCT MOUNTED EQUIPMENT.
7. MANUAL VOLUME DAMPERS SHALL BE PROVIDED ON ALL SUPPLY, RETURN AND EXHAUST BRANCH DUCTS.
8. ALL DUCTWORK, UNLESS OTHERWISE NOTED, SHALL BE 1/2" PRESSURE CLASS PER SMACNA.
9. SUPPORT ALL DUCTWORK IN ACCORDANCE WITH **INTERNATIONAL MECHANICAL CODE.** ANY SUSPENDED MATERIALS SHALL BE DIRECTLY SUPPORTED BY THE BUILDING STRUCTURE.
10. SUPPORT ALL PIPING IN ACCORDANCE WITH **INTERNATIONAL MECHANICAL CODE.** ANY SUSPENDED MATERIALS SHALL BE DIRECTLY SUPPORTED BY THE BUILDING STRUCTURE.
11. ALL DUCTWORK INSTALLED IN UNCONDITIONED SPACE MUST BE INSULATED PER **IECC** REQUIREMENTS. CONCEALED DUCTWORK MAY BE EXTERNALLY INSULATED WITH FIBER BOARD OR BLANKET OR MAY BE INTERNALLY INSULATED WITH ACOUSTICAL DUCT LINING.
12. ALL MAIN DUCTWORK SHALL BE GALVANIZED SHEET METAL CONSTRUCTED IN ACCORDANCE WITH SMACNA STANDARDS, RUNOUTS FROM MAIN/BRANCH DUCTS MAY BE FLEXIBLE DUCT CONFORMING TO THE REQUIREMENTS OF UL 181 FOR CLASS 1 FLEXIBLE AIR DUCTS. MAXIMUM LENGTH OF FLEXIBLE DUCT PER RUNOUT TO BE 5'-0", UNLESS OTHERWISE NOTED.
13. PROVIDE DIFFUSERS AND REGISTERS WITH 4-WAY BLOW PATTERN UNLESS OTHERWISE NOTED.
14. PROVIDE A MIN. 4" HOUSEKEEPING PAD FOR ALL FLOOR MOUNTED EQUIPMENT, SUCH AS AIR HANDLING UNITS, PUMPS, AND BOILERS. PAD SHALL EXTEND MIN. 6" BEYOND ALL SIDES OF EQUIPMENT.
15. MC SHALL BE REQUIRED TO REPLACE FILTERS ON HVAC EQUIPMENT AFTER ALL DUST PRODUCING CONSTRUCTION HAS BEEN COMPLETED AND PRIOR TO THE FINAL PUNCH LIST.
16. INSTALL, SUPPORT, AND BRACE ALL HVAC DUCTWORK AND ACCESSORIES PER "HVAC DUCT CONSTRUCTION STANDARDS" BY SMACNA, ANSI/SMACNA 006-2006 AND "SEISMIC RESTRAINT MANUAL GUIDELINES FOR MECHANICAL SYSTEMS" BY SMACNA, ANSI/SMACNA 001-2008.
17. MAINTAIN MINIMUM SEPARATION BETWEEN OUTSIDE AIR INTAKES OR OTHER OPENINGS INTO THE BUILDING AND OTHER ELEMENTS AS REQUIRED AND AS FOLLOWS:
    A. PLUMBING VENTS AND EXHAUST OUTLETS: 10'-0" SEPARATION
    B. ENVIRONMENTAL AIR OUTLETS AND DOMESTIC DRYER VENTS: 3'-0" SEPARATION
18. CONDENSATE FROM COOLING COILS SHALL BE ROUTED TO NEAREST FLOOR DRAIN OR OTHER ACCEPTABLE TERMINATION. REFER TO PLANS FOR SIZING AND LOCATION OF THE TERMINATION FOR THE CONDENSATE DRAIN.
19. MECHANICAL CONTRACTOR SHALL VERIFY LOCATION OF ALL PENETRATIONS FOR PLUMBING AND MECHANICAL PIPING WITH ARCHITECT & OWNER PRIOR TO INSTALLATION.
20. REFRIGERANT PIPING FOR COOLING COIL SHALL BE INSULATED PER **IECC 2012** STANDARDS.
21. PROVIDE MANUAL SHUT-OFF VALVE FOR NATURAL GAS PIPING, IN AN ACCESSIBLE LOCATION.
22. PROVIDE DIRT LEG IN NATURAL GAS PIPING CONNECTION TO EQUIPMENT. REFER TO DETAIL FOR ADDITIONAL INFORMATION.
23. PROVIDE PRESSURE REGULATING VALVE FOR ALL GAS-FIRED EQUIPMENT GAS CONNECTIONS. REFER TO DETAIL FOR ADDITIONAL INFORMATION.

PROJECT GENERAL NOTES

1. DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHER TRADES WILL PERMIT.
2. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
3. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
4. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING, PRIOR TO FINAL BID, ALL EXISTING CONDITIONS FOR PLUMBING AND MECHANICAL SYSTEMS WITHIN SPACE AND WITHIN CLOSE PROXIMITY OF SPACE.
5. THE MECHANICAL CONTRACTOR SHALL PERFORM SERVICE AND REPAIR ON THE EXISTING EQUIPMENT AND ITS ACCESSORIES AS FOLLOWS: CLEAN ALL COILS, REPLACE THE FILTERS AND BELTS, INSPECT, REPAIR, OR REPLACE THE ECONOMIZERS, DRIVES AND FAN BEARINGS, MOTORS, CONTROL COMPONENTS, VALVES AND ANY OTHER ITEM NECESSARY FOR A COMPLETE AND PROPER OPERATING SYSTEM. THIS CONTRACTOR SHALL ALSO VISIT THE SITE, PRIOR TO FINAL BIDDING, AND VERIFY ALL EXISTING SITE CONDITIONS. PROVIDE ALL MATERIAL AND COMPONENTS AS NEEDED TO BRING THE UNITS TO FULL COMPLIANCE OF THE OWNERSHIP CRITERIA AND LOCAL AUTHORITY HAVING JURISDICTION.
6. REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.
7. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.
8. EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.
9. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY, AUDIO/VISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS.
10. SEAL ALL FLOOR AND WALL PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING AND DUCTS PENETRATE. PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE SEALED AIRTIGHT WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER FOR OUTDOOR USE.
11. CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.
12. WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED OPENINGS WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL RELEVANT SPEC SECTIONS. SEAL SLEEVE PERIMETER TO BE WATERTIGHT.
13. EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY BETWEEN DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND REQUIRED SERVICE CLEARANCES. COORDINATE LAYOUT OF EQUIPMENT, PIPING, DUCTWORK, ETC.
14. DO NOT BLOCK EQUIPMENT SERVICE CLEARANCES.
15. MAINTAIN MINIMUM 3'-0" CLEARANCE IN FRONT OF ALL ELECTRICAL PANELS, MOTOR STARTERS, SWITCHES AND DISCONNECTS.
16. DO NOT ROUTE DUCTWORK OR PIPING OVER ELECTRICAL PANELS.
17. PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL EXTEND MINIMUM 6-INCH BEYOND ALL SIDES OF EQUIPMENT.
18. DO NOT SUPPORT EQUIPMENT, PIPING, OR DUCTWORK FROM METAL DECKING OR OTHER NON-STRUCTURAL BUILDING ELEMENTS. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.
19. WHERE FLOOR DRAINS OCCUR WITHIN THE LIMITS OF CONSTRUCTION, PREVENT CONSTRUCTION DEBRIS FROM ENTERING DRAIN BODY BY SEALING DRAIN OPENING PRIOR TO START OF WORK. UNSEAL DRAINS AT COMPLETION OF CONSTRUCTION.
20. COORDINATE INSTALLATION OF PIPING, DUCTWORK, CONDUIT, LIGHTS, CABLE TRAY, STRUCTURE, AND EQUIPMENT TO PREVENT CONFLICTS.
21. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL THE CONDITIONS BOTH EXISTING AND THOSE ILLUSTRATED BY THESE DOCUMENTS AS WELL AS THOSE WHICH CAN BE REASONABLY ANTICIPATED INCLUDING, BUT NOT LIMITED TO ARCHITECTURAL, ELECTRICAL, VENTILATION, PLUMBING, AND OTHER SYSTEMS INVOLVED ON THIS PROJECT.
22. FINAL PRODUCT SHALL BE A COMPLETE AND FUNCTIONING SYSTEM, AND SHALL CONFORM TO ALL REQUIREMENTS OF APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO THE **INTERNATIONAL BUILDING CODE** AND **INTERNATIONAL MECHANICAL CODE**.
23. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT EDITION OF ALL APPLICABLE CODES AND LOCAL CODES AS APPLIED BY THE AUTHORITY HAVING JURISDICTION.
24. ALL ROOF MOUNTED EQUIPMENT SHALL BE A MINIMUM 10'-0" FROM EDGE OF ROOF.
25. LOCATE DUCTWORK, PIPING, AND MECHANICAL EQUIPMENT AWAY FROM THE SPACE ABOVE ELECTRICAL PANELS, TRANSFORMERS, AND OTHER ELECTRICAL EQUIPMENT.
26. PENETRATIONS OF RATED ASSEMBLIES SHALL BE FIRE STOPPED. FIRE STOPPING SHALL BE AN APPROVED MATERIAL AND SHALL BE U.L. LISTED.
27. PROVIDE SLEEVES AND/OR OPENINGS TO RUN PIPES AND DUCTS THROUGH FOUNDATIONS, FLOORS, WALLS, AND ROOF.
28. MAINTAIN CLEAR ACCESS TO SERVICE EQUIPMENT AND OTHER ACCESSORIES REQUIRING SERVICE, VISUAL INSPECTION OR HAND OPERATION. WHERE INDICATED OR REQUIRED, PROVIDE ACCESS PANELS OF THE TYPE SELECTED TO SUIT MATERIALS IN WHICH INSTALLED.
29. PIPE SIZES SHOWN SHALL BE CONTINUED IN THE DIRECTION OF FLOW UNTIL ANOTHER SIZE IS SHOWN.
30. FOR DETAILS, EQUIPMENT CONNECTIONS, AND PIPE SIZES NOT SHOWN ON THE SEGMENTS, REFER TO DETAILS, SCHEDULES, AND SPECIFICATIONS.
31. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS, AT A LEVEL OF QUALITY AND WORKMANSHIP CONSISTENT WITH THE SPECIFICATIONS.
32. LOCATIONS OF PIPING, DUCTWORK, AND EQUIPMENT AS INDICATED ON THE DRAWING, ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. WORK SHALL BE COORDINATED WITH ALL OTHER TRADES TO AVOID INTERFERENCE IN THE FIELD.
33. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND SHALL ARRANGE FOR ALL INSPECTIONS AS REQUIRED.
34. PROVIDE ONE YEAR WARRANTY FOR ALL WORKMANSHIP AND MATERIALS AFTER THE DATE OF FINAL ACCEPTANCE.

APPLICABLE CODES

1. STATE OF IOWA ADOPTED BUILDING CODE
2. STATE OF IOWA ADOPTED MECHANICAL CODE
3. STATE OF IOWA ADOPTED ENERGY CONSERVATION CODE
4. STATE OF IOWA ADOPTED FIRE CODE
5. STATE OF IOWA ADOPTED GAS CODE
6. STATE OF IOWA ADOPTED PLUMBING CODE
7. NATIONAL ELECTRICAL CODE
8. NFPA 90A - STANDARD FOR THE INSTALLATION OF AIR-CONDITIONING AND VENTILATING SYSTEMS
9. NFPA 96 - STANDARD FOR VENTILATION CONTROL AND FIRE PROTECTION OF COMMERCIAL COOKING OPERATIONS
10. ANY AND ALL AMENDMENTS TO THE CODE BY THE STATE OF IOWA AND THE LOCAL AHJ

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR
BIDDING

DATE	02/20/2026

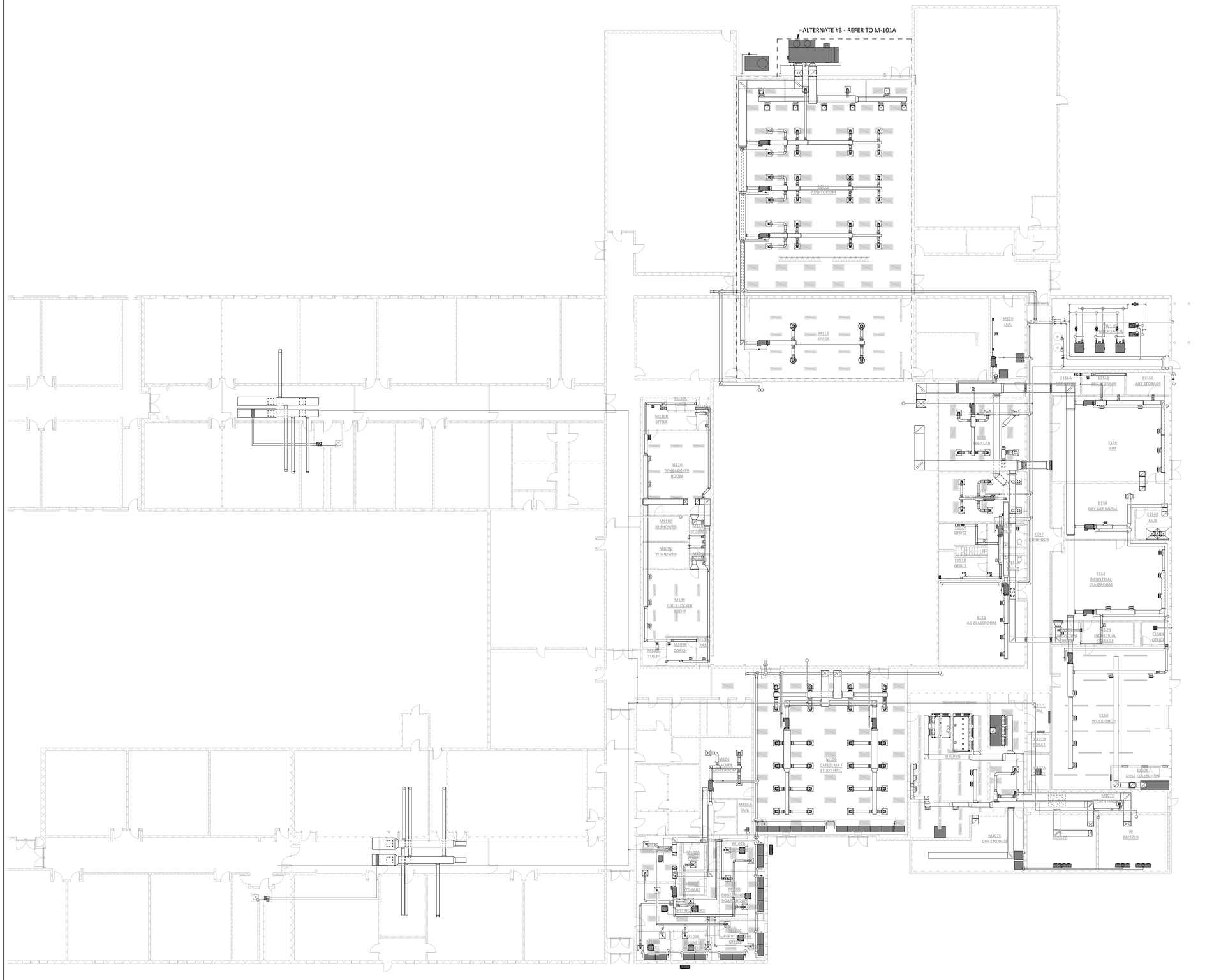
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CHECKED BY	JCL
PROJECT NO.	9166-10000

SHEET NAME
MECHANICAL NOTES & SYMBOLS

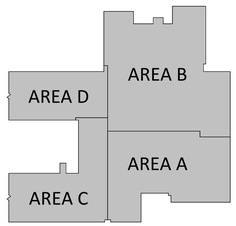
M-000

NOT FOR CONSTRUCTION



GENERAL MECHANICAL NOTES:

1. OVERALL MECHANICAL PLAN SHOWN TO REPRESENT OVERVIEW OF MECHANICAL EQUIPMENT & DUCTWORK ROUTING. REFER TO RESPECTIVE AREA PLANS FOR ADDITIONAL DETAILS.
2. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
3. COORDINATE ALL DUCTWORK AND PIPE ROUTING WITH BUILDING STRUCTURE AND OTHER TRADES PRIOR TO INSTALLATION TO ALLOW FOR PROPER CLEARANCE SPACE.
4. MAINTAIN SERVICE CLEARANCE REQUIREMENTS AROUND ALL MECHANICAL EQUIPMENT AND ELECTRICAL EQUIPMENT. DO NOT ROUTE PIPING OR DUCTWORK IN CLEARANCE SPACE.
5. M.C. SHALL COORDINATE ANY AREA WHERE ACCESS TO EQUIPMENT OR HVAC COMPONENTS ARE REQUIRED TO ALLOW ACCESS FOR MAINTENANCE, OR INSPECTION WITH G.C.



MIDDLE SCHOOL BUILDING KEY PLAN

MECHANICAL PLAN - OVERALL
1/16" = 1'-0"

N

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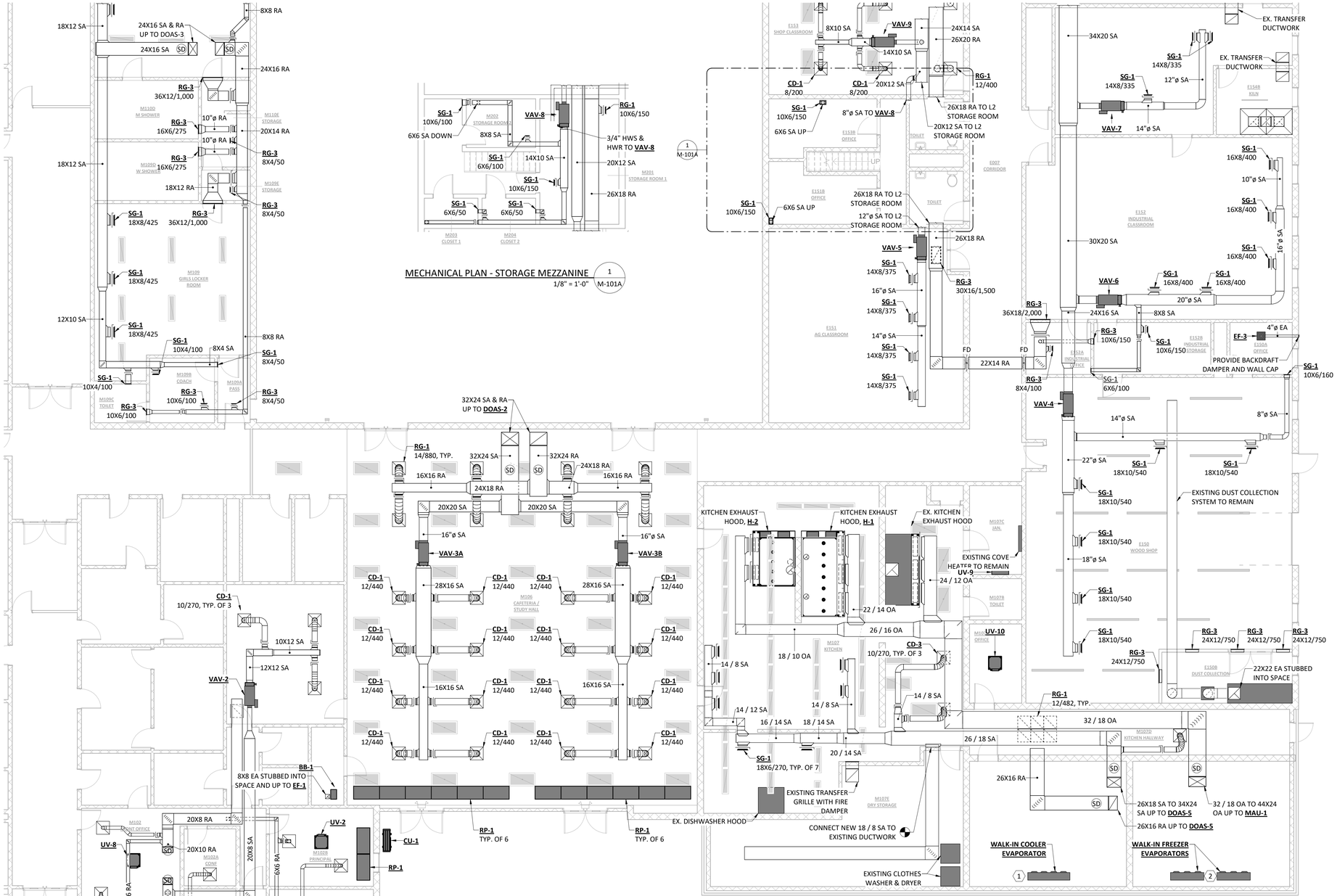
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SHEET NAME

MECHANICAL PLAN - OVERALL

M-101



GENERAL MECHANICAL NOTES:

1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
2. COORDINATE ALL DUCTWORK AND PIPE ROUTING WITH BUILDING STRUCTURE AND OTHER TRADES PRIOR TO INSTALLATION TO ALLOW FOR PROPER CLEARANCE SPACE.
3. MAINTAIN SERVICE CLEARANCE REQUIREMENTS AROUND ALL MECHANICAL EQUIPMENT AND ELECTRICAL EQUIPMENT. DO NOT ROUTE PIPING OR DUCTWORK IN CLEARANCE SPACE.
4. M.C. COORDINATE REFRIGERANT LINE ROUTING FROM CONDENSING UNITS TO THE RESPECTIVE UNITS.
5. MANUAL VOLUME DAMPERS SHALL BE PROVIDED ON ALL SUPPLY, RETURN, AND EXHAUST BRANCH DUCTS.
6. M.C. SHALL COORDINATE ANY AREA WHERE ACCESS TO EQUIPMENT OR HVAC COMPONENTS ARE REQUIRED TO ALLOW ACCESS FOR MAINTENANCE, OR INSPECTION WITH G.C.
7. VAV BOXES WITH MULTIPLE SUPPLY BRANCH DUCTS SHALL BE PROVIDED WITH A MANUAL VOLUME DAMPER ON ALL BRANCHES.
8. VAV BOXES SERVING A SINGLE SUPPLY DIFFUSER SHALL HAVE NO MANUAL VOLUME DAMPERS INSTALLED.
9. NO MANUAL VOLUME DAMPERS SHALL BE INSTALLED UPSTREAM OF VAV BOXES.
10. ALL MANUAL VOLUME DAMPERS SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS FOR PURPOSES OF BALANCING THE AIRFLOW OF THE SYSTEM.
11. IF DUCT SIZE REVISIONS ARE NECESSARY FOR COORDINATION PURPOSES ETC. NEW DUCT SIZE SHALL BE EQUIVALENT TO THE DUCT SIZE INDICATED ON PLANS.
12. REFER TO VARIABLE VOLUME TERMINALS SCHEDULE FOR VAV TERMINAL INLET DUCT SIZES ON SHEET M-601.
13. THE SIZE OF EACH BRANCH DUCT TO A VAV SHALL MATCH THE VAV'S INLET SIZE UNLESS THE BRANCH IS GREATER THAN 6'-0" IN LENGTH, HEN THE BRANCH SHOULD BE INCREASED ONE DUCT SIZE, OR NOTED OTHERWISE.
14. VAV INLET DUCTWORK REQUIREMENTS AS FOLLOWS:
    - A. MINIMUM 3X DIAMETER STRAIGHT INLET DUCT TO EACH VAV BOX.
    - B. IF BRANCH DUCT IS LONGER THAN 3X DIAMETER, BRANCH DUCT SHALL BE SIZED TO ACCOMMODATE AIRFLOW RATE UNTIL THE 3X DIAMETER STRAIGHT DUCT INLET.
    - C. VAV BOX DISCHARGE SHALL INCLUDE A SOUND ATTENUATOR, 3'-0" IN LENGTH.

MECHANICAL KEYNOTES:

1. WALK-IN COOLER REFRIGERATION SYSTEM - EVAPORATOR:
   ONE (1) EVAPORATIVE COIL INSTALLED IN WALK-IN COOLER
   COOLING CAPACITY: 25MBH
   FOUR (4) FANS, 2-SPEED EC
   ELECTRICAL: 15.2A, 120V, 1-PHASE, 60Hz
   REFER TO M-201 FOR ROOF MOUNTED CONDENSING UNIT INFORMATION
   BASIS OF DESIGN: BOHN MODEL BEL0250AS6AMAB0200 LOW P/AIR
2. WALK-IN FREEZER REFRIGERATION SYSTEM - EVAPORATOR:
   TWO (2) EVAPORATIVE COIL INSTALLED IN WALK-IN COOLER
   COOLING CAPACITY: 13.5 MBH
   THREE (3) FANS, 2-SPEED EC
   ELECTRICAL: 15.2A, 208V, 1-PHASE, 60 Hz
   REFER TO M-201 FOR ROOF MOUNT CONDENSING UNIT INFORMATION
   BASIS OF DESIGN: BOHN MODEL BEL0130BS6EMAB0200 P/ELEC

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

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BIDDING	
DATE	02/20/2026

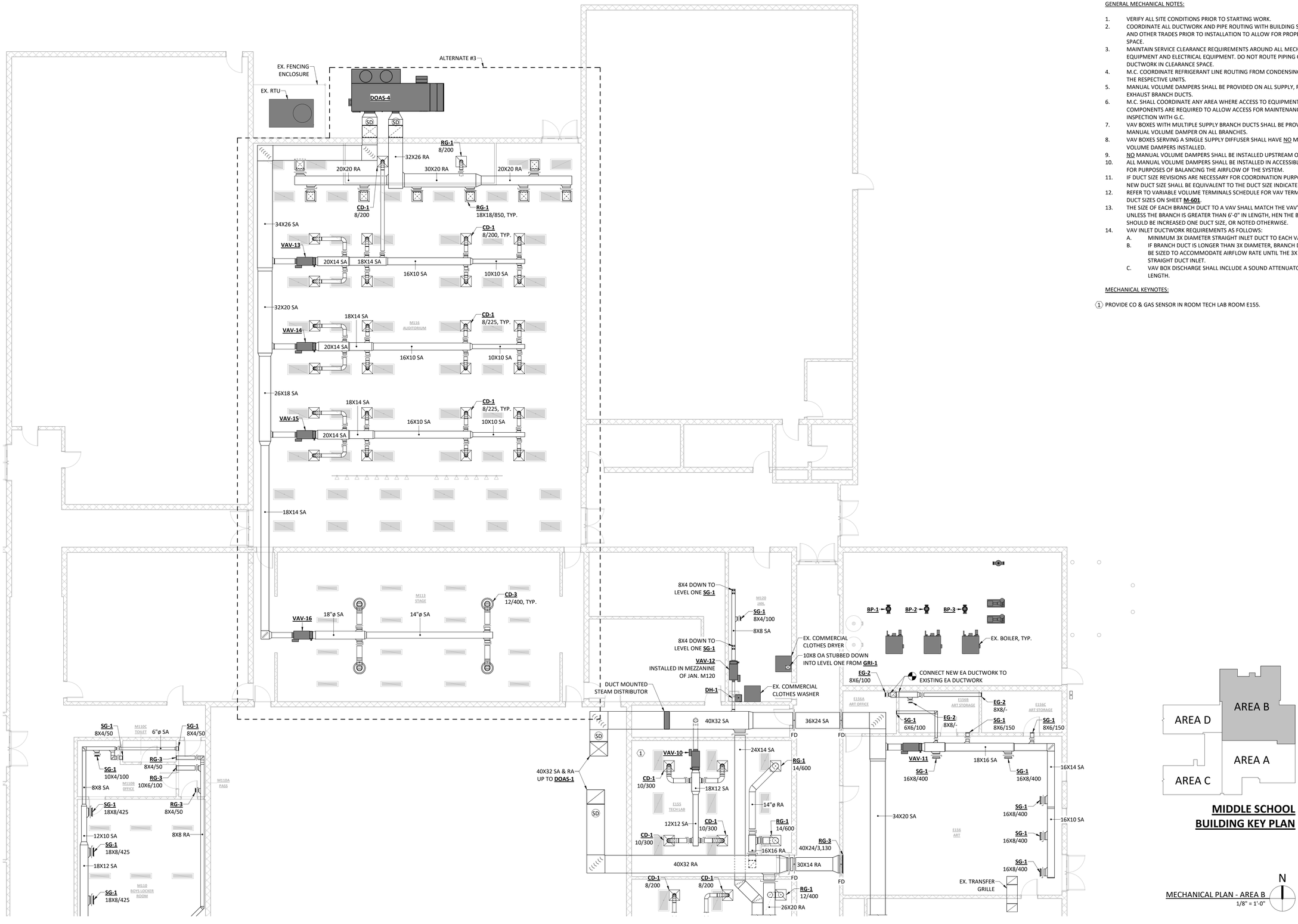
DESCRIPTION	DATE

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CHECKED BY	JCL
PROJECT NO.	9166-10000

SHEET NAME

MECHANICAL PLAN - AREA A

M-101A



GENERAL MECHANICAL NOTES:

1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
2. COORDINATE ALL DUCTWORK AND PIPE ROUTING WITH BUILDING STRUCTURE AND OTHER TRADES PRIOR TO INSTALLATION TO ALLOW FOR PROPER CLEARANCE SPACE.
3. MAINTAIN SERVICE CLEARANCE REQUIREMENTS AROUND ALL MECHANICAL EQUIPMENT AND ELECTRICAL EQUIPMENT. DO NOT ROUTE PIPING OR DUCTWORK IN CLEARANCE SPACE.
4. M.C. COORDINATE REFRIGERANT LINE ROUTING FROM CONDENSING UNITS TO THE RESPECTIVE UNITS.
5. MANUAL VOLUME DAMPERS SHALL BE PROVIDED ON ALL SUPPLY, RETURN, AND EXHAUST BRANCH DUCTS.
6. M.C. SHALL COORDINATE ANY AREA WHERE ACCESS TO EQUIPMENT OR HVAC COMPONENTS ARE REQUIRED TO ALLOW ACCESS FOR MAINTENANCE, OR INSPECTION WITH G.C.
7. VAV BOXES WITH MULTIPLE SUPPLY BRANCH DUCTS SHALL BE PROVIDED WITH A MANUAL VOLUME DAMPER ON ALL BRANCHES.
8. VAV BOXES SERVING A SINGLE SUPPLY DIFFUSER SHALL HAVE NO MANUAL VOLUME DAMPERS INSTALLED.
9. NO MANUAL VOLUME DAMPERS SHALL BE INSTALLED UPSTREAM OF VAV BOXES.
10. ALL MANUAL VOLUME DAMPERS SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS FOR PURPOSES OF BALANCING THE AIRFLOW OF THE SYSTEM.
11. IF DUCT SIZE REVISIONS ARE NECESSARY FOR COORDINATION PURPOSES ETC. NEW DUCT SIZE SHALL BE EQUIVALENT TO THE DUCT SIZE INDICATED ON PLANS.
12. REFER TO VARIABLE VOLUME TERMINALS SCHEDULE FOR VAV TERMINAL INLET DUCT SIZES ON SHEET **M-601**.
13. THE SIZE OF EACH BRANCH DUCT TO A VAV SHALL MATCH THE VAV'S INLET SIZE UNLESS THE BRANCH IS GREATER THAN 6'-0" IN LENGTH, HEN THE BRANCH SHOULD BE INCREASED ONE DUCT SIZE, OR NOTED OTHERWISE.
14. VAV INLET DUCTWORK REQUIREMENTS AS FOLLOWS:
    - A. MINIMUM 3X DIAMETER STRAIGHT INLET DUCT TO EACH VAV BOX.
    - B. IF BRANCH DUCT IS LONGER THAN 3X DIAMETER, BRANCH DUCT SHALL BE SIZED TO ACCOMMODATE AIRFLOW RATE UNTIL THE 3X DIAMETER STRAIGHT DUCT INLET.
    - C. VAV BOX DISCHARGE SHALL INCLUDE A SOUND ATTENUATOR, 3'-0" IN LENGTH.

MECHANICAL KEYNOTES:

(1) PROVIDE CO & GAS SENSOR IN ROOM TECH LAB ROOM E155.

MIDDLE SCHOOL BUILDING KEY PLAN

MECHANICAL PLAN - AREA B
1/8" = 1'-0"

N

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AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE
1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

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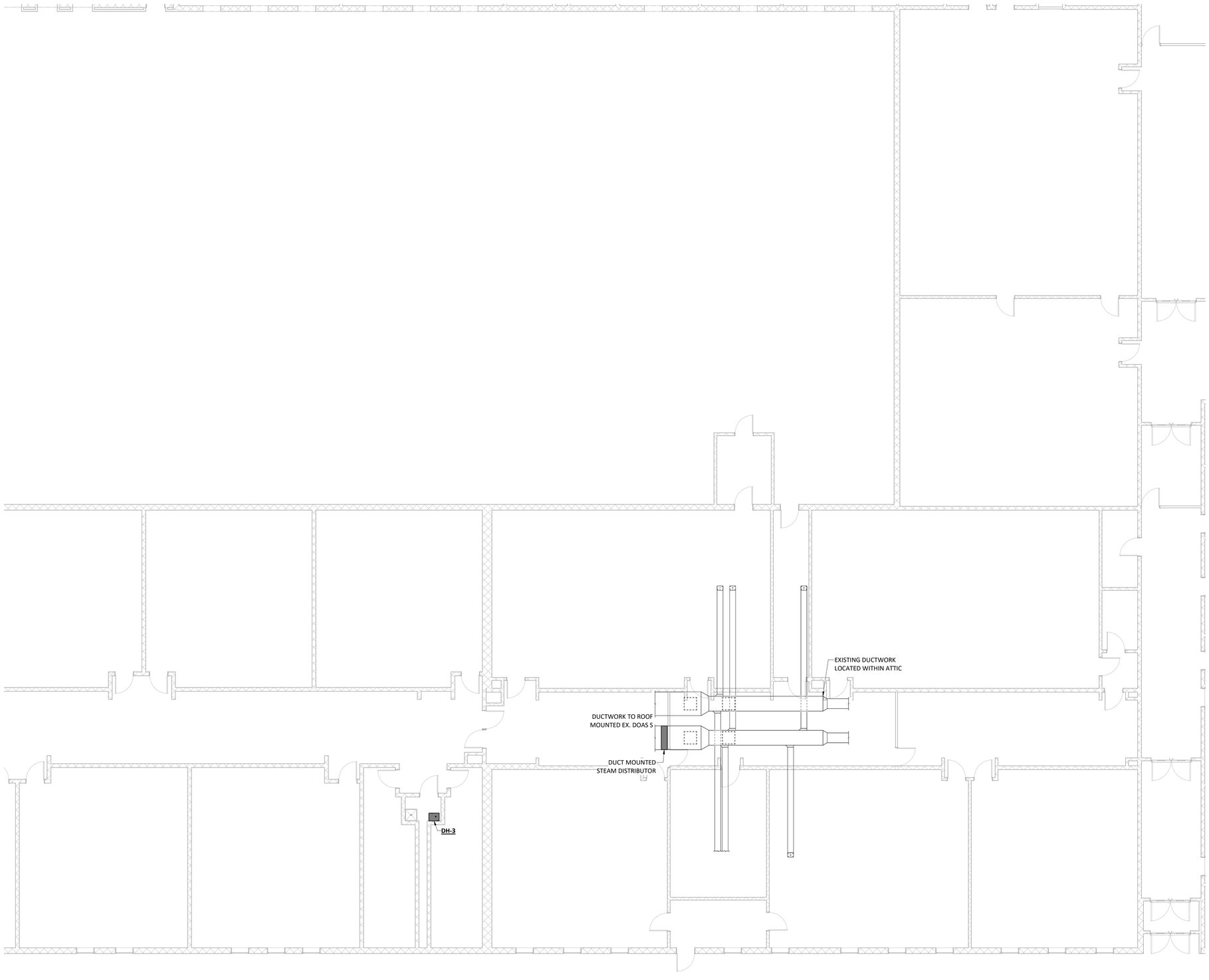
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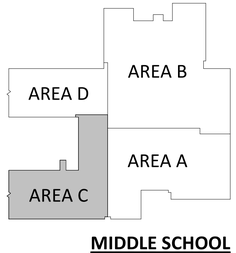
SHEET NAME
MECHANICAL PLAN - AREA B

M-101B

GENERAL MECHANICAL NOTES:

1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
2. COORDINATE ALL DUCTWORK AND PIPE ROUTING WITH BUILDING STRUCTURE AND OTHER TRADES PRIOR TO INSTALLATION TO ALLOW FOR PROPER CLEARANCE SPACE.
3. MAINTAIN SERVICE CLEARANCE REQUIREMENTS AROUND ALL MECHANICAL EQUIPMENT AND ELECTRICAL EQUIPMENT. DO NOT ROUTE PIPING OR DUCTWORK IN CLEARANCE SPACE.
4. M.C. COORDINATE REFRIGERANT LINE ROUTING FROM CONDENSING UNITS TO THE RESPECTIVE UNITS.
5. MANUAL VOLUME DAMPERS SHALL BE PROVIDED ON ALL SUPPLY, RETURN, AND EXHAUST BRANCH DUCTS.
6. M.C. SHALL COORDINATE ANY AREA WHERE ACCESS TO EQUIPMENT OR HVAC COMPONENTS ARE REQUIRED TO ALLOW ACCESS FOR MAINTENANCE, OR INSPECTION WITH G.C.





MIDDLE SCHOOL
BUILDING KEY PLAN

MECHANICAL PLAN - AREA C
1/8" = 1'-0"

N

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MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

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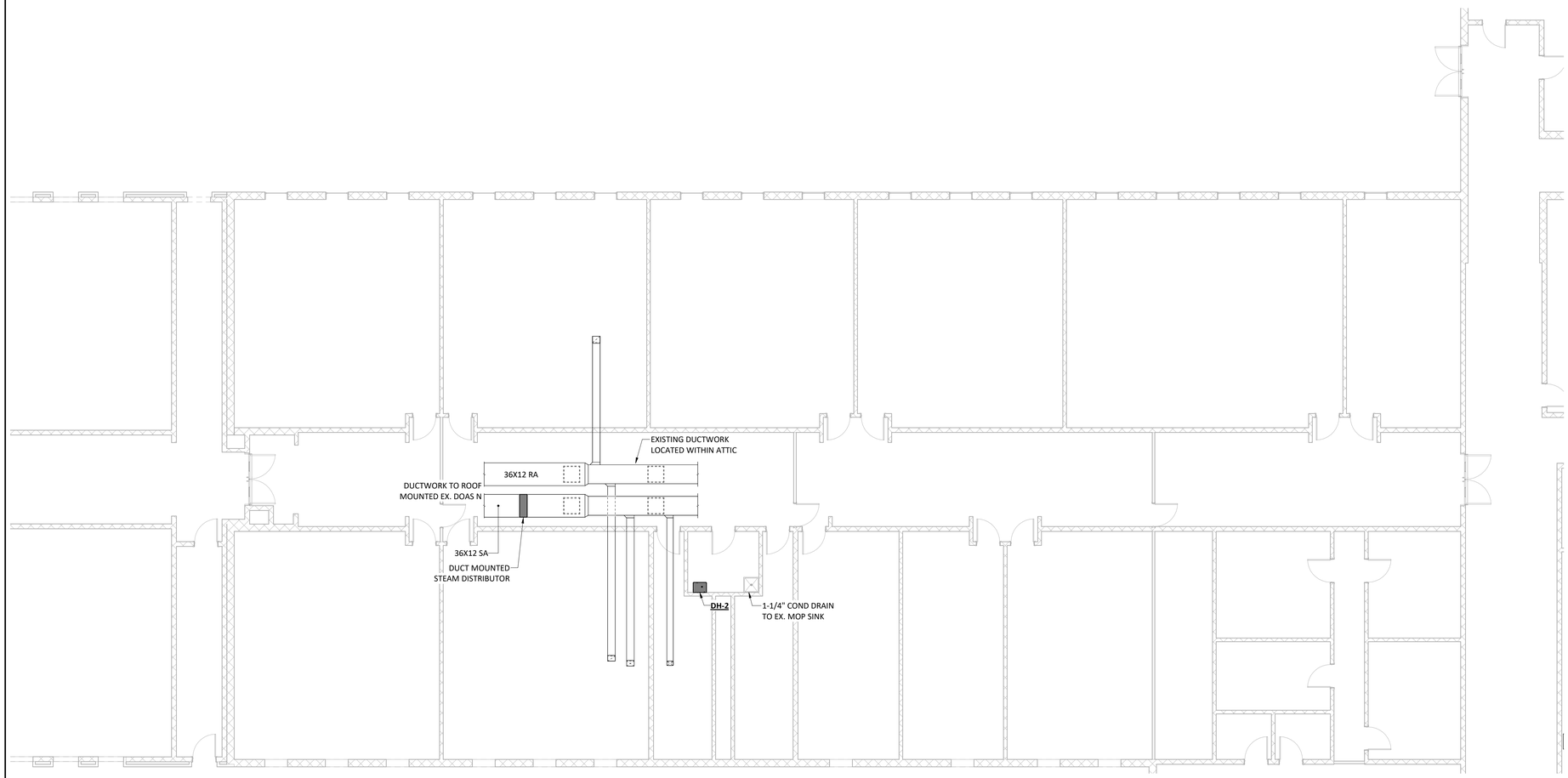
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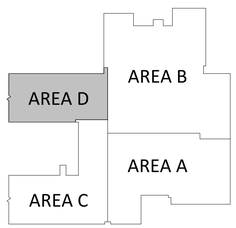
SHEET NAME
MECHANICAL PLAN - AREA C

M-101C

GENERAL MECHANICAL NOTES:

1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
2. COORDINATE ALL DUCTWORK AND PIPE ROUTING WITH BUILDING STRUCTURE AND OTHER TRADES PRIOR TO INSTALLATION TO ALLOW FOR PROPER CLEARANCE SPACE.
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MIDDLE SCHOOL BUILDING KEY PLAN

MECHANICAL PLAN - AREA D
1/8" = 1'-0"

N

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MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172

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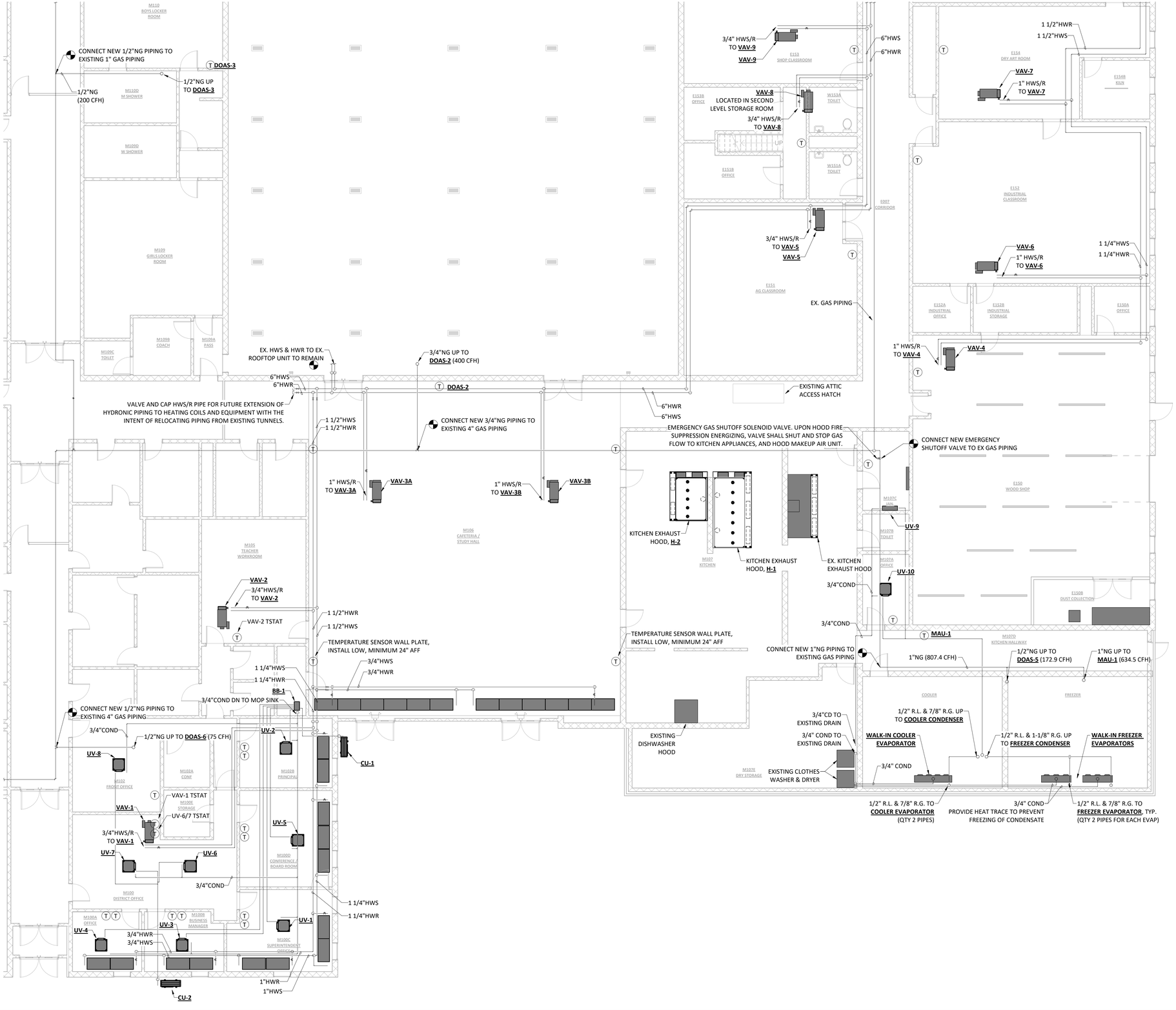
DESCRIPTION	DATE

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SHEET NAME

MECHANICAL PLAN - AREA D

M-101D



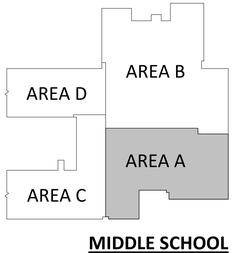
MECHANICAL PIPING & CONTROLS PLAN - AREA A

1/8" = 1'-0"

N

GENERAL MECHANICAL NOTES:

1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
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5. MANUAL VOLUME DAMPERS SHALL BE PROVIDED ON ALL SUPPLY, RETURN, AND EXHAUST BRANCH DUCTS.
6. M.C. SHALL COORDINATE ANY AREA WHERE ACCESS TO EQUIPMENT OR HVAC COMPONENTS ARE REQUIRED TO ALLOW ACCESS FOR MAINTENANCE, OR INSPECTION WITH G.C.



MIDDLE SCHOOL BUILDING KEY PLAN

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MIDDLE SCHOOL HVAC UPGRADE

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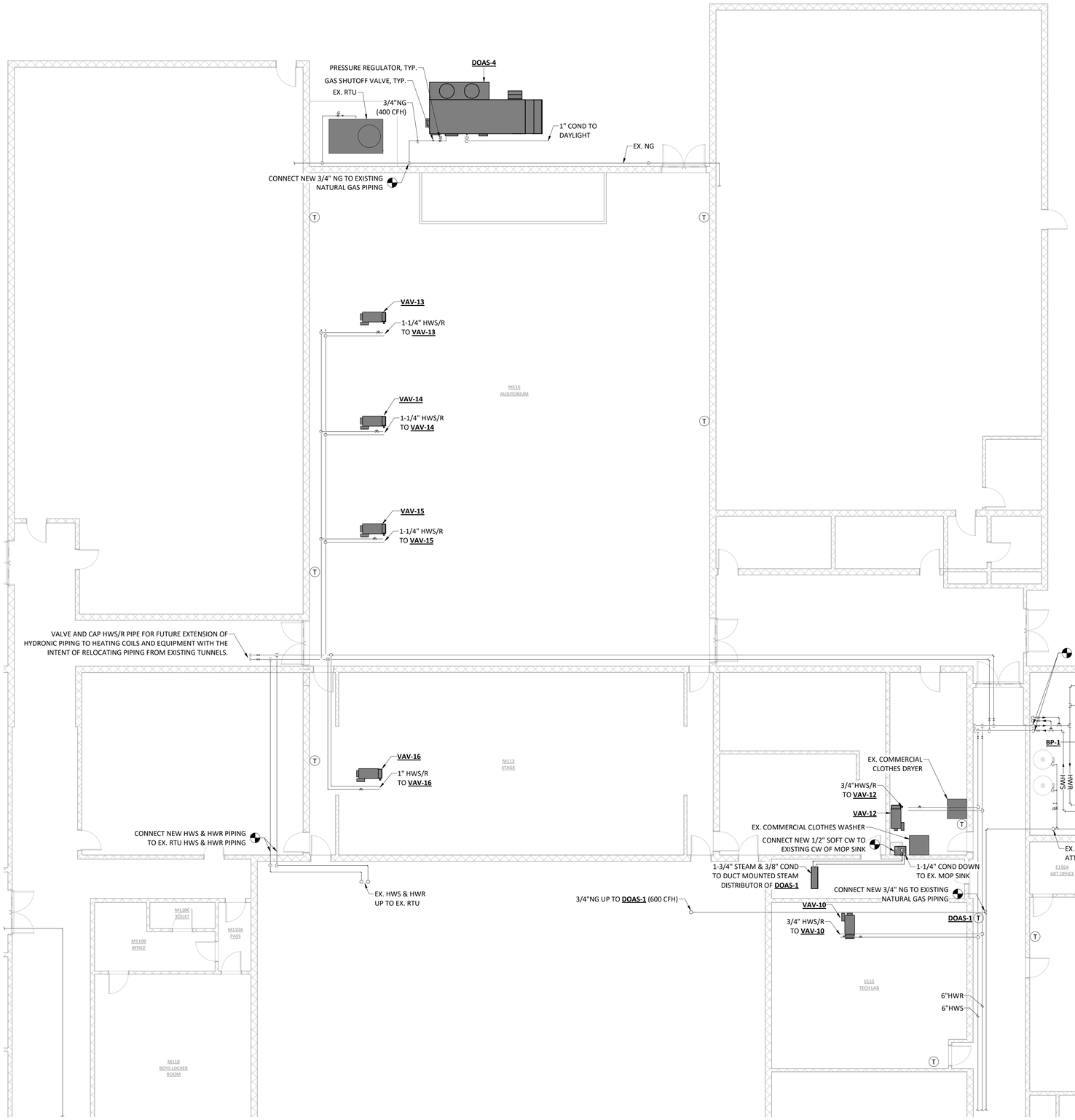
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SHEET NAME

MECHANICAL PIPING & CONTROLS PLAN - AREA A

M-111A



MIDDLE SCHOOL BUILDING KEY PLAN

MECHANICAL PIPING & CONTROLS PLAN - AREA B

1/8" = 1'-0"

N

GENERAL MECHANICAL NOTES:

1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
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GENERAL NATURAL GAS NOTES

1. NATURAL GAS PIPING SIZED PER IFGC 2021 -TABLE 402.4(5): INLET PRESSURE AT 2.0 PSI | PRESSURE DROP OF 1.0 PSI.
   - A. ASSUMED DEVELOPED LENGTH OF PIPING = 1,000 FEET.
   - B. TOTAL EXISTING BUILDING NATURAL GAS LOAD = 23,138 CFH (ESTIMATED FROM EXISTING PLANS, AND PREVIOUS HVAC UPGRADE PROJECT).
   - C. TOTAL ADDED NATURAL GAS LOAD THIS PROJECT (BASE + ALT.) = 2,683 CFH
   - D. TOTAL EXISTING GAS METER CAPACITY =16,000 CFH. (STATED FROM PREVIOUS HVAC UPGRADE PLANS)
   - E. NEW GAS METER CAPACITY = 26,000 CFH.
   - F. GAS PIPE SIZING UTILIZES 1,000 BTUH PER CUBIC FOOT (CFH).
2. PROVIDE EACH NATURAL GAS-FIRED EQUIPMENT WITH MANUAL GAS SHUTOFF VALVE AND A PRESSURE REGULATOR.
3. NATURAL GAS PRESSURE REGULATORS SHALL BE VENTED TO THE EXTERIOR PER MANUFACTURER'S REQUIREMENTS.

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MIDDLE SCHOOL HVAC UPGRADE

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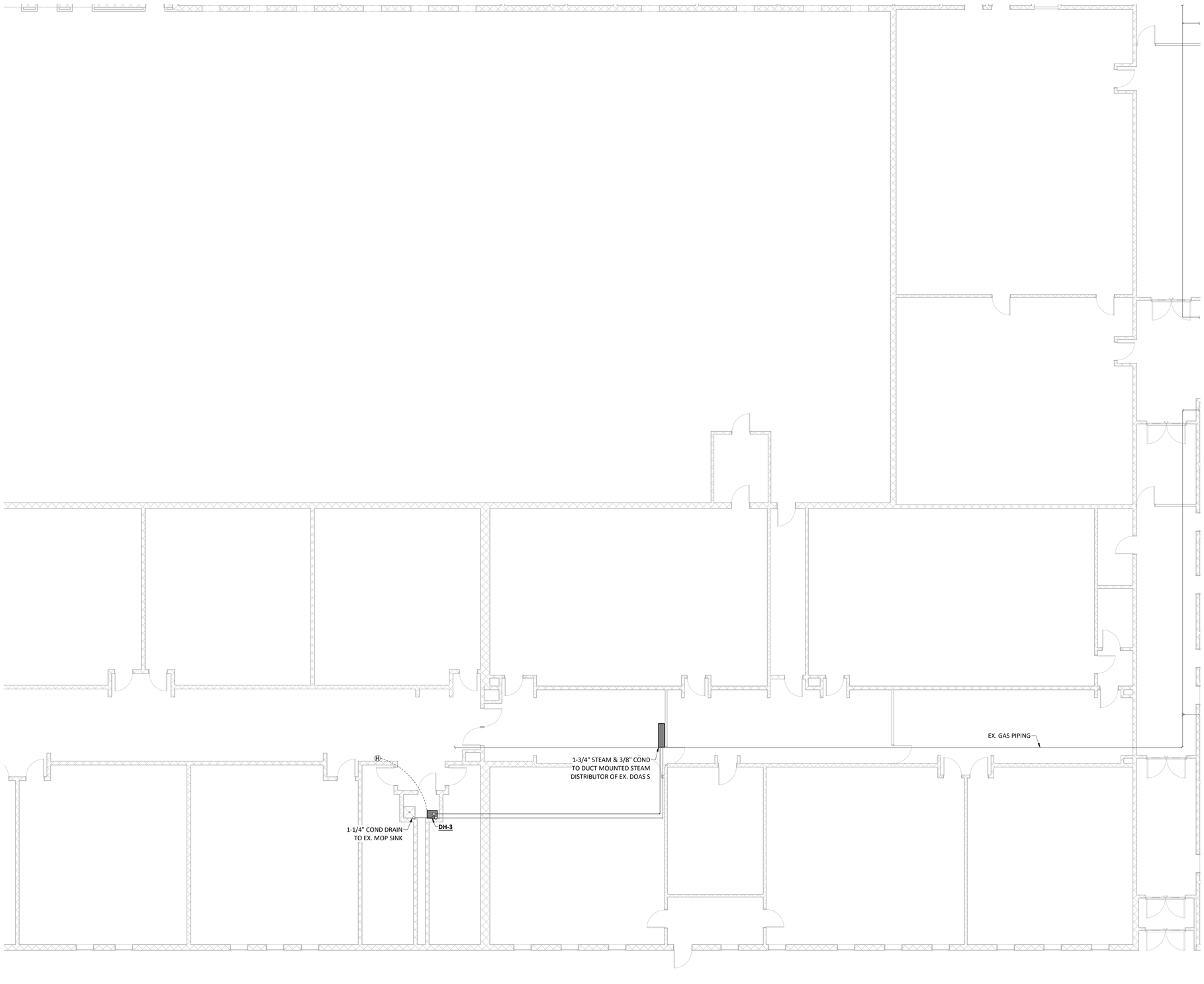
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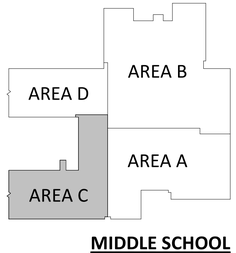
MECHANICAL PIPING & CONTROLS PLAN - AREA B

M-111B

GENERAL MECHANICAL NOTES:

1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
2. COORDINATE ALL DUCTWORK AND PIPE ROUTING WITH BUILDING STRUCTURE AND OTHER TRADES PRIOR TO INSTALLATION TO ALLOW FOR PROPER CLEARANCE SPACE.
3. MAINTAIN SERVICE CLEARANCE REQUIREMENTS AROUND ALL MECHANICAL EQUIPMENT AND ELECTRICAL EQUIPMENT. DO NOT ROUTE PIPING OR DUCTWORK IN CLEARANCE SPACE.
4. M.C. COORDINATE REFRIGERANT LINE ROUTING FROM CONDENSING UNITS TO THE RESPECTIVE UNITS.
5. MANUAL VOLUME DAMPERS SHALL BE PROVIDED ON ALL SUPPLY, RETURN, AND EXHAUST BRANCH DUCTS.
6. M.C. SHALL COORDINATE ANY AREA WHERE ACCESS TO EQUIPMENT OR HVAC COMPONENTS ARE REQUIRED TO ALLOW ACCESS FOR MAINTENANCE, OR INSPECTION WITH G.C.





MIDDLE SCHOOL BUILDING KEY PLAN

MECHANICAL PIPING & CONTROLS PLAN - AREA C
1/8" = 1'-0"

N

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AXIOM CONSULTANTS
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MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172
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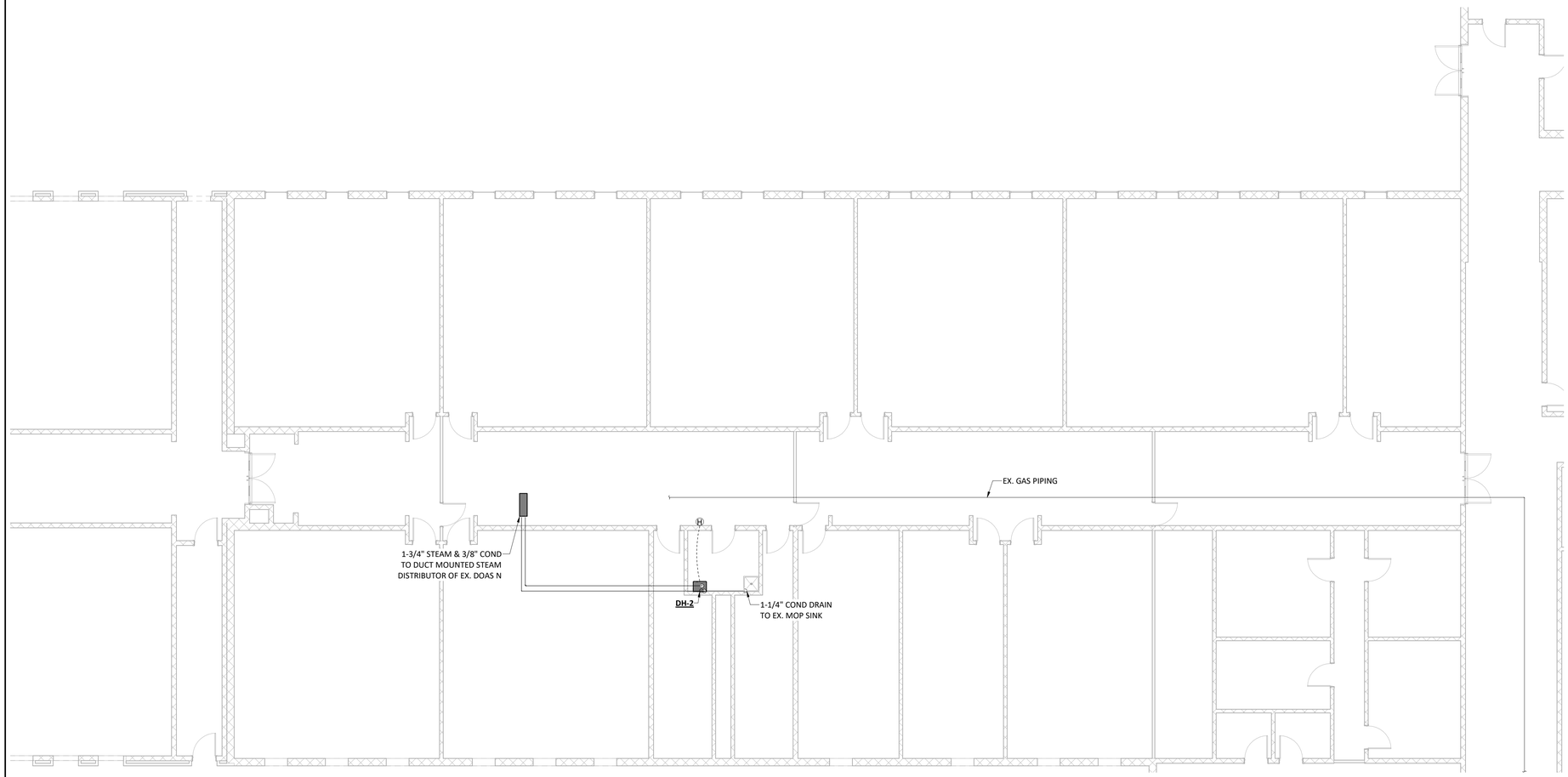
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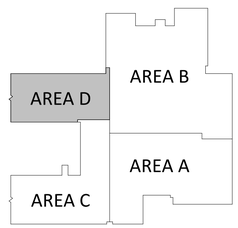
MECHANICAL PIPING & CONTROLS PLAN - AREA C

M-111C

GENERAL MECHANICAL NOTES:

1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
2. COORDINATE ALL DUCTWORK AND PIPE ROUTING WITH BUILDING STRUCTURE AND OTHER TRADES PRIOR TO INSTALLATION TO ALLOW FOR PROPER CLEARANCE SPACE.
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MIDDLE SCHOOL BUILDING KEY PLAN

MECHANICAL PIPING & CONTROLS PLAN - AREA D
1/8" = 1'-0"

N

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AXIOM CONSULTANTS
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MIDDLE SCHOOL HVAC UPGRADE

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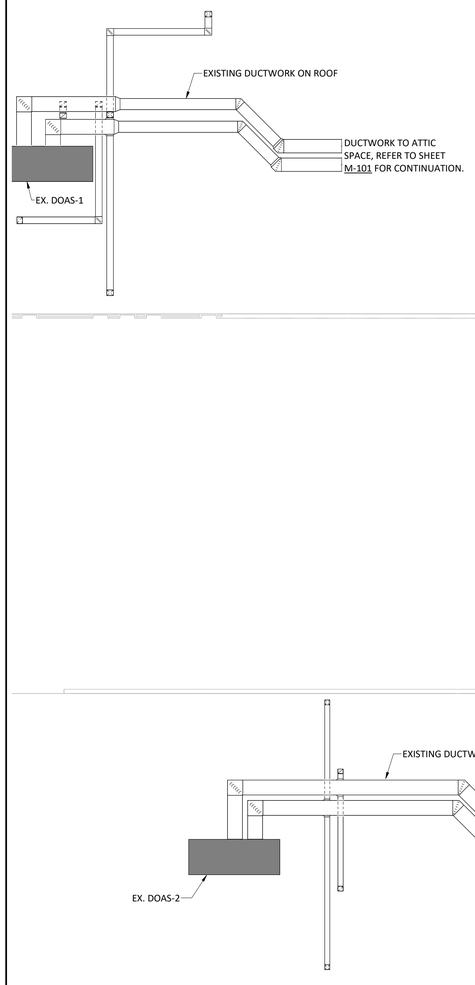
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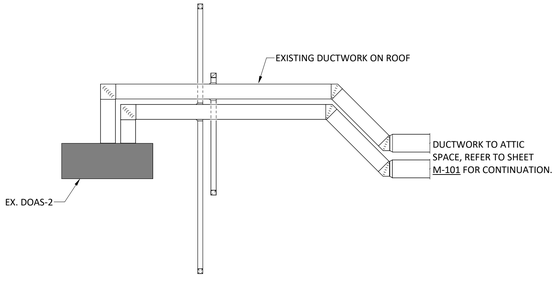
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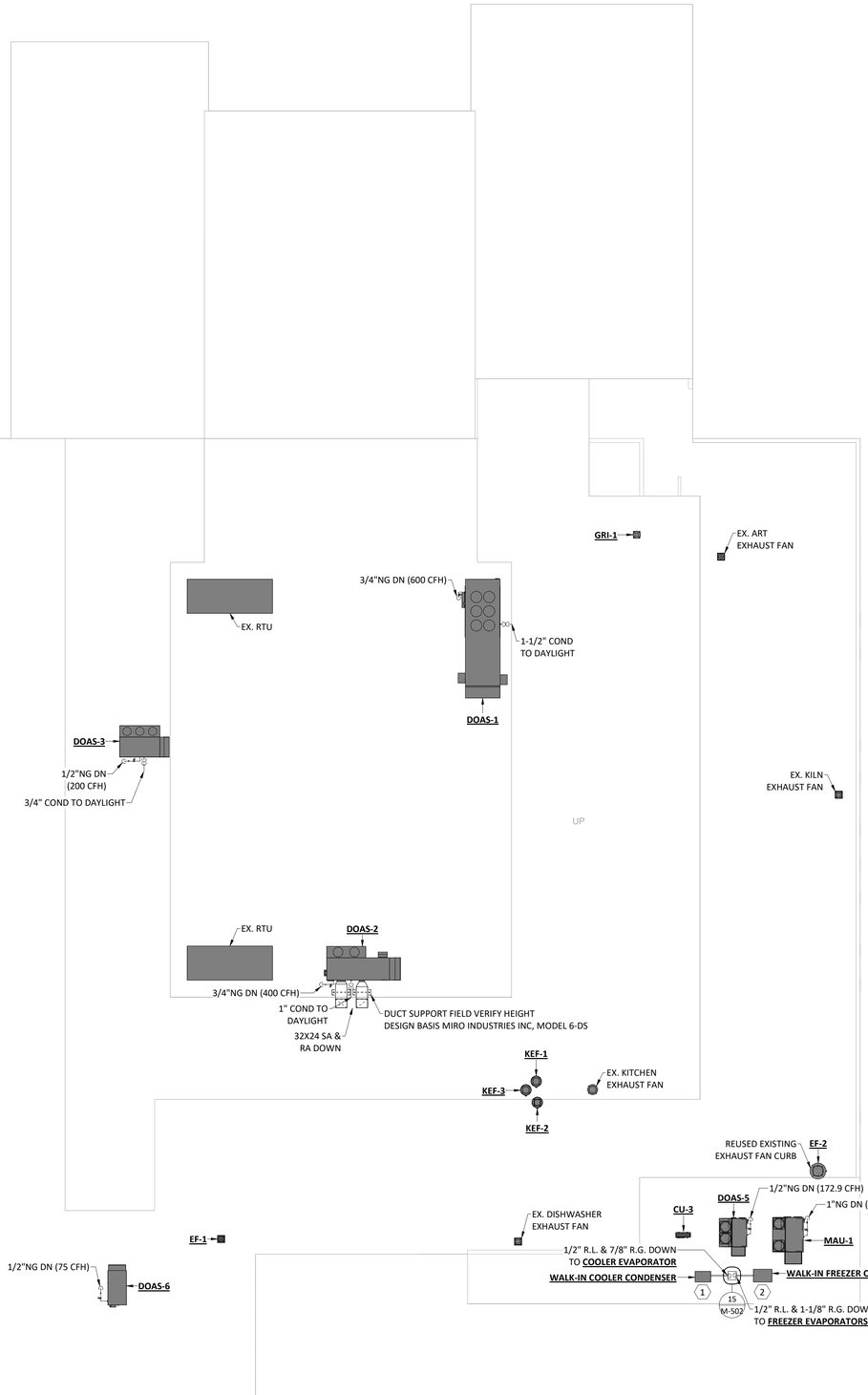
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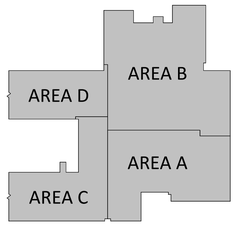
MECHANICAL PIPING & CONTROLS PLAN - AREA D

M-111D









MIDDLE SCHOOL BUILDING KEY PLAN

MECHANICAL ROOF PLAN
1/16" = 1'-0"

N

GENERAL MECHANICAL NOTES:

1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
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3. MAINTAIN SERVICE CLEARANCE REQUIREMENTS AROUND ALL MECHANICAL EQUIPMENT AND ELECTRICAL EQUIPMENT. DO NOT ROUTE PIPING OR DUCTWORK IN CLEARANCE SPACE.
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MECHANICAL KEYNOTES:

1. WALK-IN COOLER REFRIGERATION SYSTEM - CONDENSING:
   ONE (1) CONDENSING UNIT INSTALLED ON FLAT ROOF
   ONE (1) EVAPORATIVE COIL INSTALLED IN WALK-IN COOLER
   COOLING CAPACITY: 25.0 MBH
   ELECTRICAL: 2.0 HP, 208V, 3-PHASE, 60Hz
   BASIS OF DESIGN: BOHN MODEL BCH0027MCACZA0000
2. WALK-IN FREEZER REFRIGERATION SYSTEM - CONDENSING:
   ONE (1) CONDENSING UNIT INSTALLED ON FLAT ROOF
   TWO (2) EVAPORATIVE COIL INSTALLED IN WALK-IN COOLER
   COOLING CAPACITY: 24.3 MBH
   ELECTRICAL: 7.5 HP, 208V, 3-PHASE, 60 Hz
   BASIS OF DESIGN: BOHN MODEL BCH0075LCACZ

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MIDDLE SCHOOL HVAC UPGRADE

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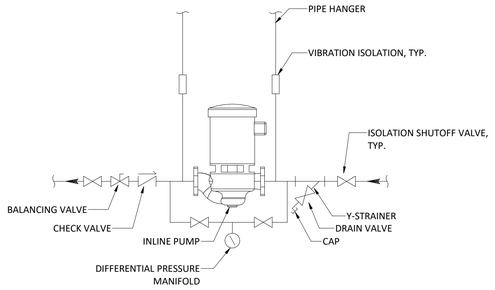
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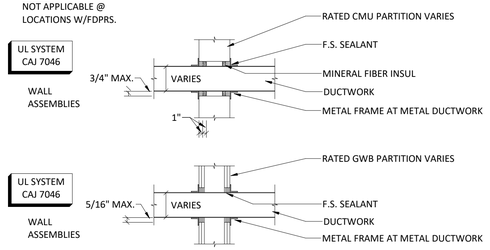
MECHANICAL ROOF PLAN

M-201

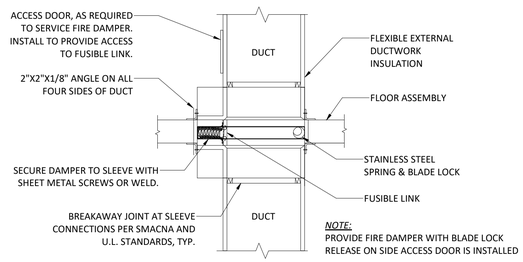
NOT FOR CONSTRUCTION



IN-LINE PUMP DETAIL 16 — NTS M-501

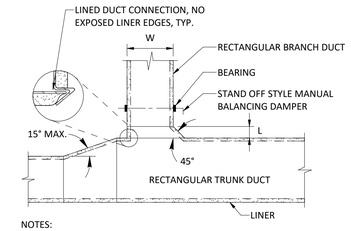


FIRESTOP DETAIL AT UNINSULATED DUCTWORK 12 — NTS M-501



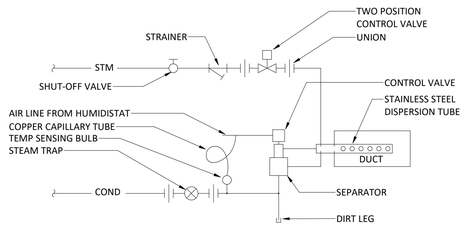
NOTE: PROVIDE FIRE DAMPER WITH BLADE LOCK RELEASE ON SIDE ACCESS DOOR IS INSTALLED

FIRE DAMPER HORIZONTAL MOUNT DETAIL 8 — NTS M-501

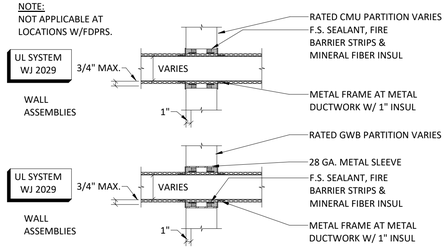


NOTES:
1. PROVIDE VOLUME DAMPERS AT ALL BRANCH DUCTS AS CLOSE TO THE TAKEOFF AS POSSIBLE, WHETHER SHOWN ON PLANS OR NOT.
2. L = 1/4 W (4" MIN.)

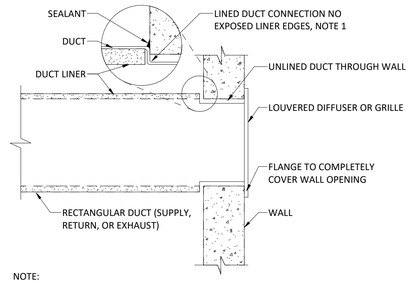
RECTANGULAR BRANCH DUCT TAKE-OFF DETAIL 4 — NTS M-501



HUMIDIFIER PIPING DETAIL - STEAM I 15 — NTS M-501

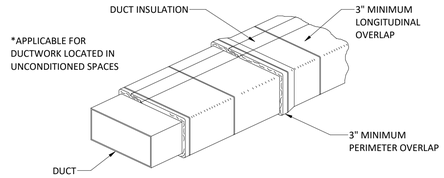


FIRESTOP DETAILS AT INSULATED DUCTWORK 11 — NTS M-501

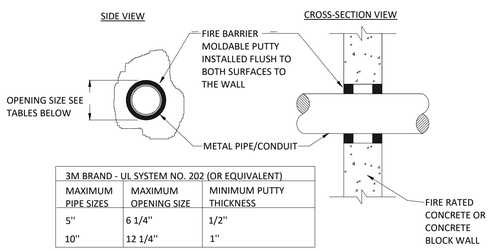


NOTE:
1. METAL NOSING IS REQUIRED FOR DUCT LINER EDGES EXPOSED TO THE AIR STREAM AT ALL TRANSITIONS.

WALL MOUNTED GRILLE/DIFFUSER DETAIL 7 — NTS M-501



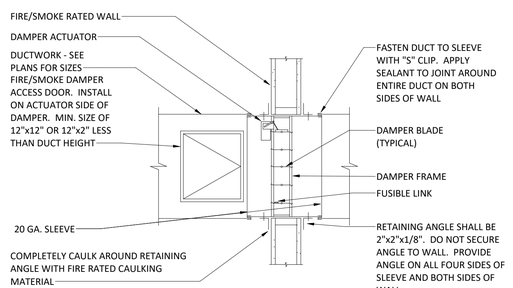
DUCTWORK INSULATION DETAIL 3 — NTS M-501



3M BRAND - UL SYSTEM NO. 202 (OR EQUIVALENT)		
MAXIMUM PIPE SIZES	MAXIMUM OPENING SIZE	MINIMUM PUTTY THICKNESS
5"	6 1/4"	1/2"
10"	12 1/4"	1"

NOTE: MAXIMUM ANNULAR SPACE BETWEEN PIPE AND OPENING NOT TO EXCEED 3/4 INCH.

HORIZONTAL PENETRATION FIRESTOP DETAIL 14 — NTS M-501



COMBINATION FIRE/SMOKE DAMPER INSTALLATION DETAIL 10 — NTS M-501

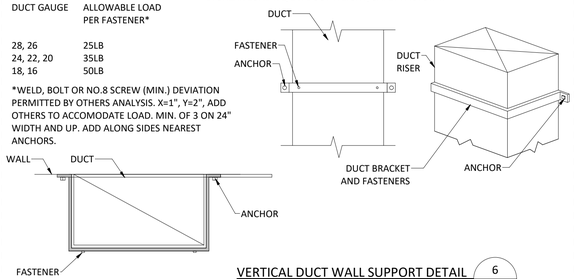
SUGGESETED SIZING

DUCT SIZE	BAND
18X"X12"	1 1/2"X16 GA.
24"X20"	1"X1/8"

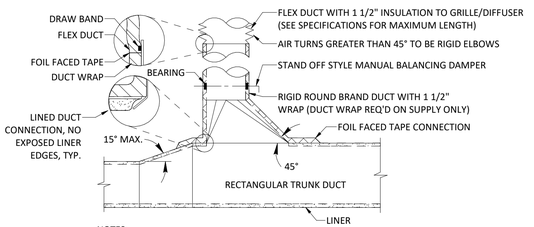
DUCT GAUGE	ALLOWABLE LOAD PER FASTENER*
28, 26	25LB
24, 22, 20	35LB
18, 16	50LB

*WELD, BOLT OR NO.8 SCREW (MIN.) DEVIATION PERMITTED BY OTHERS ANALYSIS. X=1", Y=2", ADD OTHERS TO ACCOMODATE LOAD. MIN. OF 3 ON 24" WIDTH AND UP. ADD ALONG SIDES NEAREST ANCHORS.

NOTES: 1. BRACKETS ARE SIZED FOR 12' OF DUCT, MAXIMUM
2. LOCATE DUCTS AGAINS WALL OR MAXIMUM 2" AWAY FROM WALL.
3. EACH WALL ANCHOR SHALL SATISFY THE FOLLOWING CRITERIA UNLESS ANALYSIS IS MADE:
A. TENSILE LOAD = 3/8 X DUCT WEIGHT; SAFETY FACTOR 4.
B. SHEAR LOAD X 1/2 X DUCT WEIGHT; SAFET FACTOR 4.

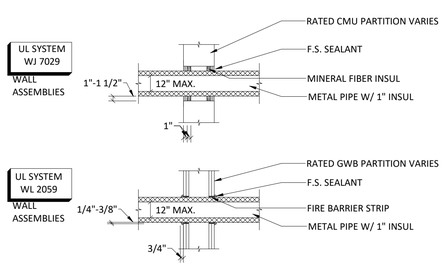


VERTICAL DUCT WALL SUPPORT DETAIL 6 — NTS M-501

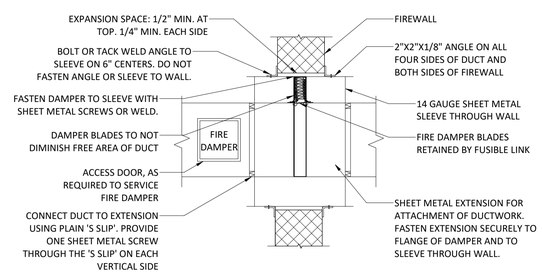


NOTES:
1. PROVIDE VOLUME DAMPERS AT ALL BRANCH DUCTS AS CLOSE TO THE TAKEOFF AS POSSIBLE, WHETHER SHOWN ON PLANS OR NOT.

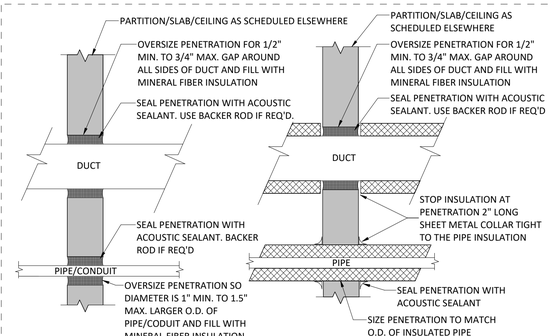
ROUND BRANCH DUCT TAKE-OFF DETAIL 2 — NTS M-501



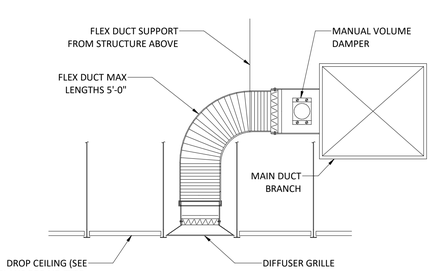
FIRESTOP DETAIL AT INSULATED METAL PIPE 13 — NTS M-501



FIRE DAMPER VERTICAL MOUNT DETAIL 9 — NTS M-501



WALL PENETRATION INSULATION DETAIL 5 — NTS M-501



CEILING DIFFUSER GRILLE DETAIL 1 — NTS M-501

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172

ALLAMAKEE CSD

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BIDDING

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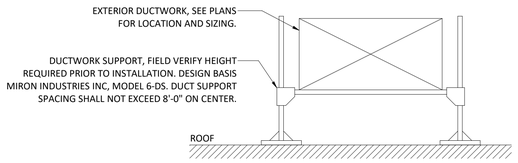
DESCRIPTION	DATE

DRAWN BY	JJR
CHECKED BY	JCL
PROJECT NO.	9166-10000

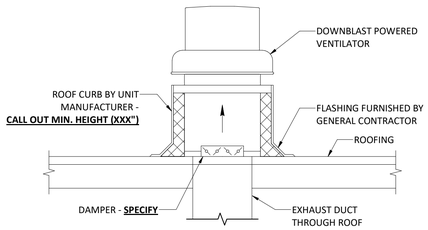
SHEET NAME

MECHANICAL DETAILS

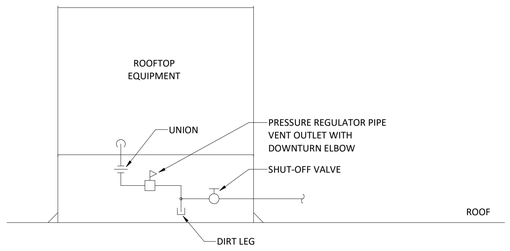
M-501



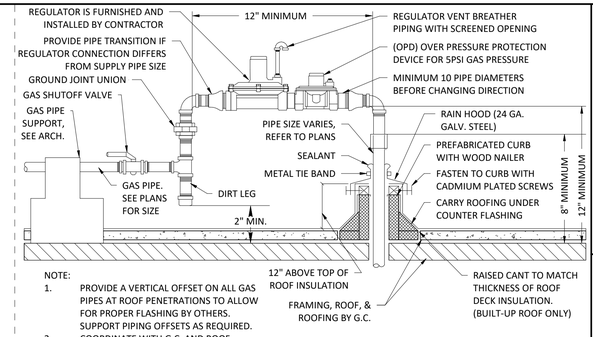
ROOF DUCTWORK SUPPORT DETAIL 16 — NTS M-502



EXHAUST FAN ROOF DOWNBLAST MOUNTING DETAIL 12 — NTS M-502



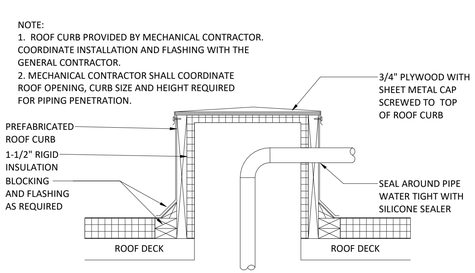
GAS PIPING CONNECTION FOR ROOFTOP DETAIL 8 — NTS M-502



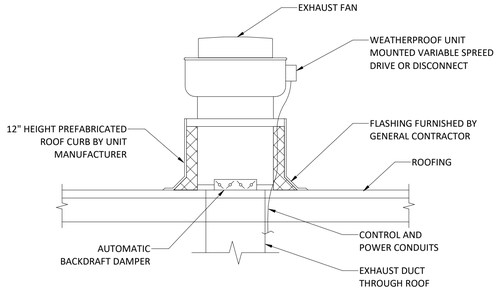
NOTE:
1. PROVIDE A VERTICAL OFFSET ON ALL GAS PIPES AT ROOF PENETRATIONS TO ALLOW FOR PROPER FLASHING BY OTHERS. SUPPORT PIPING OFFSETS AS REQUIRED.
2. COORDINATE WITH G.C. AND ROOF INSTALLER TO MAINTAIN WARRANTY.

GAS PIPE ROOF PENETRATION DETAIL 4 — NTS M-502

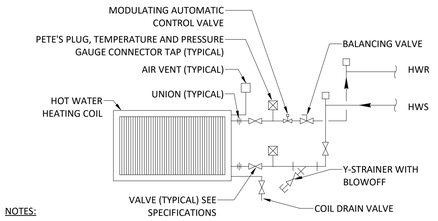
NOTE:
1. ROOF CURB PROVIDED BY MECHANICAL CONTRACTOR. COORDINATE INSTALLATION AND FLASHING WITH THE GENERAL CONTRACTOR.
2. MECHANICAL CONTRACTOR SHALL COORDINATE ROOF OPENING, CURB SIZE AND HEIGHT REQUIRED FOR PIPING PENETRATION.



DOGHOUSE PIPE PENETRATION DETAIL 15 — NTS M-502

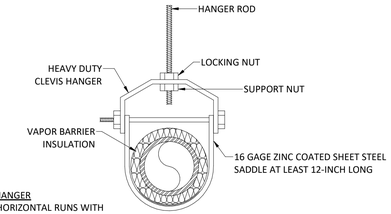


EXHAUST FAN ROOF MOUNTING DETAIL 11 — NTS M-502



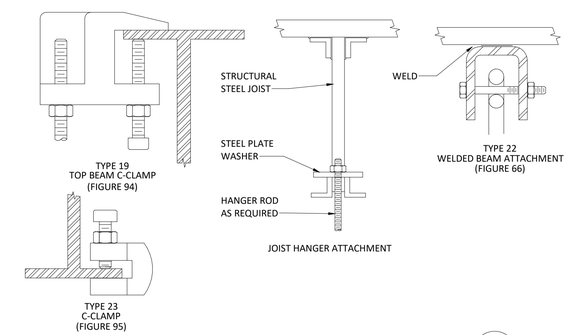
NOTES:
1. INSTALL ISOLATION VALVE, PIPING, AND UNIONS TO ALLOW FOR COIL REMOVAL.
2. CALIBRATED BALANCE VALVES SHALL BE SIZED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS PROVIDING ACCURATE MEASUREMENT OF THE FLOW DESIGNED FOR THE COIL, (TYP.). BALANCE VALVES SHALL BE ORIENTED SO THAT TEST PORTS ARE ON THE SIDE OR TOP OF THE DEVICE WITH A MINIMUM OF FOUR INCHES CLEARANCE TO ACCESS PORT ENDS, (TYP.).
3. PROVIDE TEMPERATURE SENSOR AT INLET AND OUTLET OF AIR HANDLING UNIT COILS, TYP. TEMPERATURE SENSOR TO REPORT TO BAS.

TERMINAL UNIT HEATING WATER COIL PIPING DETAIL 7 — NTS M-502

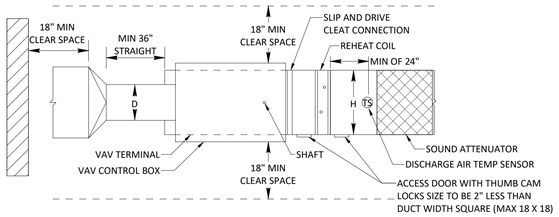


CLEVIS HANGER
SINGLE HORIZONTAL RUNS WITH VAPOR BARRIER INSULATION

SINGLE PIPE CLEVIS HANGER 3 — NTS M-502

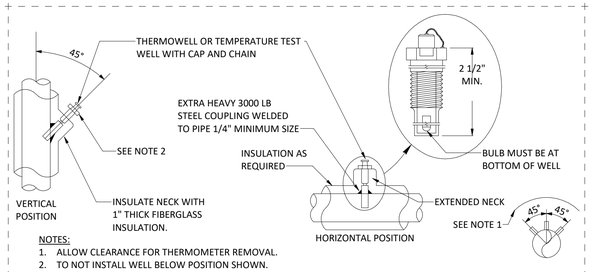


C-CLAMPS, JOIST HANGER ROD, AND WELDED BEAM ATTACHMENTS 14 — NTS M-502



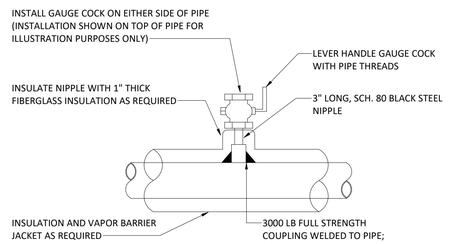
NOTES:
1. CONTROLS TO BE PROVIDED BY CONTRACTOR FOR FACTORY INSTALLATION OR INSTALLED IN FIELD AS DETERMINED BY PROJECT SPECIFICATIONS.
2. SEE PLANS FOR PROPER HAND OF CONTROLS AND REHEAT COIL CONNECTION.
3. DAMPER SHAFT TO INCLUDE PERMANENT SLOT INDICATION OF DAMPER POSITION.
4. MULTI-POINT CENTER AVERAGING VELOCITY SENSOR TO BE PROVIDED FOR ALL TERMINALS.

VAV TERMINATION INSTALLATION DETAIL 10 — NTS M-502

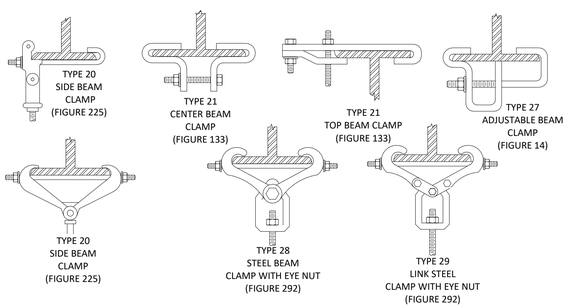


NOTES:
1. ALLOW CLEARANCE FOR THERMOMETER REMOVAL.
2. TO NOT INSTALL WELL BELOW POSITION SHOWN.
3. INSULATION WITH OR WITHOUT VAPOR BARRIER AS REQUIRED.
4. SELECT COUPLING DIAMETER TO ACCOMMODATE TEST WELL.
5. TEST WELL (TYPICAL) TO BOLTON TYPE 600 SERIES OR H.O. TRERICE SERIES 5550 OR 5590 COMPLETE WITH CAP AND CHAIN.
6. TEST WELL ILLUSTRATED; INSTALL THERMOWELL WITH SAME CONSTRAINTS 3/4" MINIMUM SIZE.

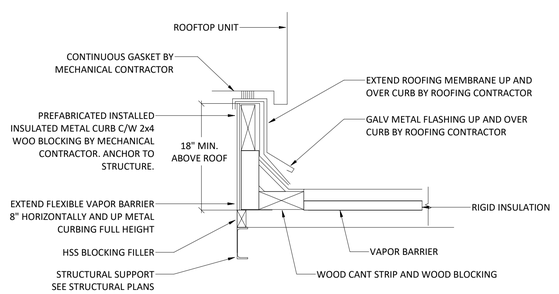
THERMOWELL OR THERMOMETER TEST WELL INSTALLATION 6 — NTS M-502



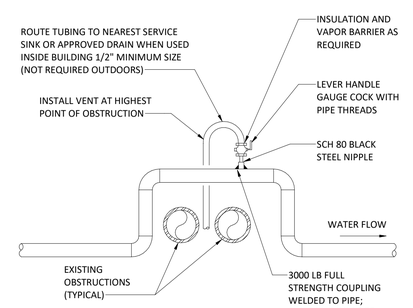
GAUGE COCK INSTALLATION 2 — NTS M-502



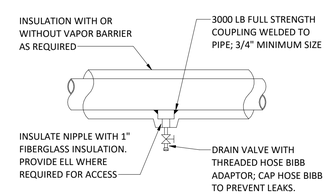
BEAM CLAMPS 13 — NTS M-502



ROOF CURB DETAIL 9 — NTS M-502



HIGH POINT MANUAL AIR VENT 5 — NTS M-502



DRAIN VALVE INSTALLATION 1 — NTS M-502

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172

ALLAMAKEE CSD

ISSUED FOR

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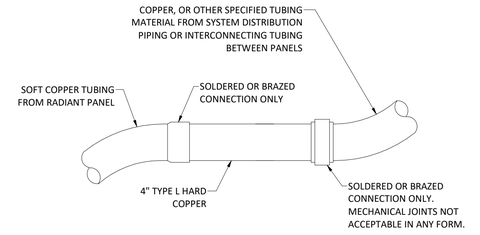
DESCRIPTION	DATE

DRAWN BY	JJR
CHECKED BY	JCL
PROJECT NO.	9166-10000

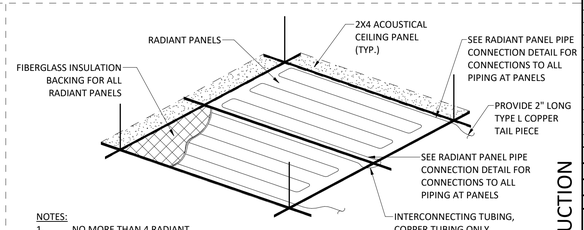
SHEET NAME

MECHANICAL DETAILS

M-502



RADIANT PANEL PIPE CONNECTION DETAIL 2
NTS M-503



NOTES:
1. NO MORE THAN 4 RADIANT PANELS SHALL BE PIPED IN SERIES EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE.

MODULAR RADIANT HEATING PANEL DETAIL 1
NTS M-503

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE
1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR
BIDDING

DATE	02/20/2026

DESCRIPTION	DATE

DRAWN BY	JJR
CHECKED BY	JCL
PROJECT NO.	9166-10000

SHEET NAME
MECHANICAL DETAILS

M-503

VARIABLE AIR VOLUME TERMINALS SCHEDULE

PLAN MARK	MAX. COOLING AIRFLOW (CFM)	INLET SIZE (INCH Ø)	STATIC PRESSURE (IN. W.G.) (1)	HEATING CONDITIONS		HEATING COIL DATA						NC RATING	MANUFACTURER | MODEL	WEIGHT (LBS.)	NOTES
				AIRFLOW (CFM)	APD (IN. W.G.)	ROWS	MBH	FLOW RATE (GPM)	WPD (FT. HD.)	EAT (°F)	LAT (°F)				
VAV-1	400	6	0.42	385	0.40	1	14.8	2	5.6	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF06	32	ALL
VAV-2	815	8	0.65	400	0.2	2	25.8	2.5	0.5	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF08	39	ALL
VAV-3A	3,500	16	0.75	2,600	0.45	2	98.3	5	1.1	61	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF16	94	ALL
VAV-3B	3,500	16	0.75	2,600	0.45	2	98.3	5	1.1	61	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF16	94	ALL
VAV-4	3,400	16	0.75	2,200	0.35	2	83.2	5	1.1	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF16	94	ALL
VAV-5	1,500	12	0.42	900	0.20	2	34.1	3.5	0.7	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF12	66	ALL
VAV-6	2,250	14	0.45	1,400	0.25	2	69.4	5	1.1	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF12	66	ALL
VAV-7	1,000	10	0.65	700	0.25	2	41.3	2.5	1.0	55.0	90.0	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF10	52	ALL
VAV-8	750	8	0.56	500	0.47	2	18.9	2.5	0.5	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF08	39	ALL
VAV-9	800	8	0.68	600	0.38	2	30.8	2.5	0.5	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF08	39	ALL
VAV-10	1,200	10	0.30	600	0.15	1	23.3	1.5	6.3	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF10	48	ALL
VAV-11	2,400	14	0.28	1,800	0.20	1	54.8	3.0	2.4	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF14	75	ALL
VAV-12	300	6	0.17	200	0.12	1	9.5	1.0	1.7	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF06	32	ALL

1. STATIC PRESSURE DROP AT LISTED AIRFLOW RATE THROUGH VAV BOX (DAMPER 100% OPEN).
2. NC RATING IS MAXIMUM DISCHARGE OR RADIATED RATING ALLOWED. NC RATINGS TO BE CALCULATED IN ACCORDANCE WITH AHRI-885.
3. PROVIDE VARIABLE VOLUME TERMINALS WITH SOUND ATTENUATION.
4. HEATING COIL SHALL BE INSTALLED UPSTREAM OF SOUND ATTENUATOR.

MINI-SPLIT MULTI-ZONE HEAT PUMP SCHEDULE

PLAN MARK	AREA SERVED / CONNECTED SYSTEM (INDOOR/OUTDOOR UNIT)	AIRFLOW (CFM)	COOLING CAPACITY (MBH)	REFRIGERANT TYPE	SEER2 / HSPF	HEATING CAPACITY @ 47°F (MBH)	HEATING CAPACITY @ -13°F (MBH)	ELECTRICAL			DIMENSIONS (INCH)			REFRIG (LBS, OZ)	WEIGHT (LBS.)	MANUFACTURER | MODEL	NOTES
								AMP (MCA)	VOLTAGE	Ø	WIDTH	DEPTH	HEIGHT				
UNIT VENTILATOR (INDOOR UNIT)																	
UV-1	SUPERINTENDENT OFFICE (M100C) / CU-1	530	12	(4)	--	14	--	1	208	1	33	33	10	--	46	TRANE CEILING CASSETTE UNIT MODEL PLA-AE12NL	1, 2, 3
UV-2	PRINCIPAL OFFICE (M102B) / CU-1	300	9	(4)	--	11	--	1	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL SLZ-AF09NL	1, 2, 3
UV-3	BUSINESS MGR OFFICE (M100B) / CU-1	300	9	(4)	--	11	--	1	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL SLZ-AF09NL	1, 2, 3
UV-4	OFFICE (M100A) / CU-1	300	9	(4)	--	11	--	1	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL SLZ-AF09NL	1, 2, 3
UV-5	CONF & BOARD ROOM (M100D) / CU-1	335	12	(4)	--	13.5	--	0.36	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL PLFY-L12NFMU-A	1, 2, 3
UV-6	DISTRICT OFFICE (M100) / CU-2	335	12	(4)	--	13.5	--	0.36	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL PLFY-L12NFMU-A	1, 2, 3
UV-7	DISTRICT OFFICE (M100) / CU-2	335	12	(4)	--	13.5	--	0.36	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL PLFY-L12NFMU-A	1, 2, 3
UV-8	FRONT OFFICE (M102) / CU-2	335	12	(4)	--	13.5	--	0.36	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL PLFY-L12NFMU-A	1, 2, 3
UV-9	KITCHEN OFFICE (M107C) / CU-3	190	8	(4)	--	9	--	0.24	208	1	31	10	12	--	25	TRANE WALL MOUNT UNIT MODEL PKFY-L08NLMU-A	1, 2, 3
UV-10	KITCHEN OFFICE (M107A) / CU-3	335	12	(4)	--	13.5	--	0.36	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL PLFY-L12NFMU-A	1, 2, 3
HEAT PUMP (OUTDOOR UNIT)																	
CU-1	ADMIN PERIMETER OFFICES / UV-1 THRU UV-5	--	60	R454B (4)	20/10.5	65	30	55	208	1	42	13	53	6, 10	280	TRANE AIR-COOLED HEAT PUMP MODEL MXZ-SM60NL	3, 5, 6, 7, 8, 9, 10
CU-2	ADMIN INTERIOR OFFICES / UV-6 THRU UV-8	--	60	R454B (4)	20/10.5	65	30	55	208	1	42	13	53	6, 10	280	TRANE AIR-COOLED HEAT PUMP MODEL MXZ-SM60NL	3, 5, 7, 8, 9, 10
CU-3	KITCHEN OFFICES / UV-9 AND UV-10	--	36	R454B (4)	23/12	42	42	55	208	1	42	13	53	6, 10	280	TRANE AIR-COOLED HEAT PUMP MODEL MXZ-SM36NLHZ	3, 5, 7, 8, 9, 10

1. PROVIDE UNIT VENTILATORS WITH BUILT-IN CONDENSATE LIFT MECHANISM. ROUTE CONDENSATE TO NEAREST ACCEPTABLE DRAIN LOCATION, OR TERMINATE ON EXTERIOR OF BUILDING. DIVISION 16 CONTRACTOR SHALL WIRE THE CONDENSATE LIFT PUMP.
2. BUILDING AUTOMATION CONTRACTOR SHALL PROVIDE COMBINATION 3-IN-1 TEMPERATURE, HUMIDITY, AND CO2 SENSOR.
3. REFRIGERANT LINESETS SHALL BE ROUTED IN MOST EFFICIENT PATH AND MINIMAL REFRIGERANT PIPE SHALL BE EXPOSED. ALL REFRIGERANT LINESET SHALL BE INSULATED PER ENERGY CODE REQUIREMENTS. PRE-INSULATED LINESETS ARE ACCEPTABLE.
4. MINI-SPLIT MANUFACTURER SHALL PROVIDE REFRIGERANT TYPE THAT MEETS ALL NEW FEDERAL REQUIREMENTS. REFER TO INTERNATIONAL MECHANICAL CODE, CHAPTER 11 REFRIGERANTS FOR MAXIMUM ALLOWABLE QUANTITY FOR SUBMITTED REFRIGERANT.
5. REFER TO SUBMITTED MANUFACTURER PIPING LENGTH AND ROUTING RESTRICTIONS.
6. PROVIDE WITH 5 PORT BRANCH BOX, MODEL PAC-LMA50BC. BRANCH BOX SHALL BE POWERED THROUGH THE ASSOCIATED HEAT PUMP (OUTDOOR UNIT). ELECTRICAL REQUIREMENTS: 208V, 1-PHASE, 0.003 kW INPUT, 0.15 AMP RUNNING CURRENT.
7. PROVIDE HAIL GUARD.
8. PROVIDE WIND BAFFLE.
9. PROVIDE WALL BRACKET FOR INSTALLATION, MINIMUM 18" ABOVE GRADE.
10. PROVIDE LINE-HIDE COVER ON ALL PIPING EXPOSED ON THE EXTERIOR WALL OF THE BUILDING PRIOR TO PENETRATING INTO INTERIOR SPACE.

DEDICATED OUTSIDE AIR SYSTEM (DOAS) SCHEDULE

PLAN MARK	SUPPLY FAN(S)					EXHAUST FAN(S)					COOLING CAPACITY			SUMMER ENERGY RECOVERY				REFRIGERANT	ELECTRIC PRE-HEAT		GAS HEATING		WINTER DESIGN ENERGY RECOVERY				LAT (°F)	HEAT EXCHANGER MATERIAL	FUEL - NATURAL GAS			DIMENSIONS (INCH)			ELECTRICAL			WEIGHT (LBS.)	MANUFACTURER | MODEL NO.	NOTES
	DESIGN AIRFLOW	ESP / TSP	DRIVE TYPE	MOTOR		DESIGN AIRFLOW	ESP / TSP	DRIVE TYPE	MOTOR		TOTAL (MBH)	SENSIBLE (MBH)	LATENT (MBH)	OUTSIDE AIR (°F)		FRESH AIR (°F)			CAPACITY (KW)	EAT / LAT (DB°F)	INPUT (MBH)	OUTPUT (MBH)	OUTSIDE AIR (°F)		FRESH AIR (°F)				AFUE	GAS SIZE (ø)	MIN.-MAX. INLET PRESSURE	LENGTH	WIDTH	HEIGHT (NOTE 16)	AMPS	VOLTAGE	ø			
				QTY	HP				QTY	HP				EAT (DB)	EAT (WB)	LAT (DB)	LAT (WB)						EAT (DB)	EAT (WB)	LAT (DB)	LAT (WB)													
DOAS-1	13,500	1.7 / 3.4	DIRECT/ VFD	1	10	3,000	1.0 / 1.7	DIRECT/ VFD	1	3	562	371	191	95	78	80	68	R454B	20	-10 / 11	600	486	11	--	46	41	97	STAINLESS STEEL	81%	1"	7"-14" W.C.	338	278	108	268	208	3	10,400	TRANE HORIZON DOAS MODEL OANG055C1	ALL
DOAS-2	7,000	1.0 / 3.35	DIRECT/ VFD	1	10	2,000	1.2 / 2.1	DIRECT/ VFD	1	1.5	215	154	61	95	78	80	69	R454B	15	-10 / 13	400	324	13	--	45	40	105	STAINLESS STEEL	81%	1"	7"-14" W.C.	213	100	62	109	208	3	4,392	TRANE HORIZON DOAS MODEL OADG020C1	ALL
DOAS-3	3,000	1.4 / 3.0	DIRECT/ VFD	1	3	3,000	1.2 / 2.4	DIRECT/ VFD	1	2	203	108	95	95	78	80	69	R454B	20	-10 / 11	200	160	11	NA	NA	NA	101	STAINLESS STEEL	81%	1"	7"-14" W.C.	183	95	68	108	208	3	4,223	TRANE HORIZON DOAS OADGD020C1	1,2,3,4,5,6,7,8,9, 10,13,14,15,16
DOAS-4	*ALTERNATE 3 - REFER TO MECHANICAL SCHEDULES M-603*																*ALTERNATE 3 - REFER TO MECHANICAL SCHEDULES M-603*												*ALTERNATE 3 - REFER TO MECHANICAL SCHEDULES M-603*										
DOAS-5	3,400	0.5 / -	DIRECT/ VFD	1	3	2,890	N/A	N/A	N/A	N/A	139	94	45	85	78	N/A	N/A	R454B	N/A	N/A	173	140	-10	NA	NA	NA	90	STAINLESS STEEL	81%	3/4"	7"-14" W.C.	108	81	61	62	208	3	2,036	ECON-AIR RTU MODEL EARTU2-I.200-18-10T	1,2,3,4,5,6,7,8,9, 10,13,14,15,16
DOAS-6	1,200	1.7 / 2.46	DIRECT/ VFD	1	1	585	1.2 / 1.72	DIRECT/ VFD	1	2	45	30	15	95	78	80	68	R454B	5.0	-10 / 7	75	60	7	4	54	46	108	STAINLESS STEEL	81%	3/4"	7"-14" W.C.	161	52	55	34	208	3	1,964	TRANE HORIZON DOAS MODEL OABD048A3-C1	ALL
MAU-1	4,925	0.5 / -	DIRECT/ VFD	1	5	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	85	78	N/A	N/A	R454B	N/A	N/A	635	514	-10	NA	NA	NA	75	STAINLESS STEEL	81%	1"	7"-14" W.C.	133	90	69	15.8	208	3	892	CAPTIVEAIRE MAU MODEL A3-D.500-24D	1,2,3,4,5,6,7,8,9, 10,13,14,15,16

1. SUPPLY FAN AND EXHAUST FAN MOTORS SHALL BE DIRECT-DRIVE WITH FACTORY INSTALLED VARIABLE FREQUENCY DRIVES.
2. UNITS SHALL BE MULTI-ZONE VAV CONTROLS.
3. PROVIDE THE FOLLOWING MOTORIZED CONTROL DAMPERS: OUTSIDE AIR, EXHAUST AIR, ENERGY RECOVERY WHEEL BYPASS, AND RECIRCULATION AIRSTREAMS.
4. DIRECT EXPANSION (DX) COOLING COIL: SHALL BE TYPE 6-ROW.
5. PROVIDE UNITS WITH MODULATING HOT GAS REHEAT (HGRH) COIL DOWNSTREAM OF DX COOLING COIL TO PROVIDE DEHUMIDIFICATION.
6. PROVIDE UNITS WITH FACTORY MOUNTED AND WIRED UV LIGHTS BETWEEN EVAPORATOR COIL AND THE HGRH COIL.
7. PROVIDE 2-INCH MERV8 PRE-FILTER UPSTREAM OF THE ENERGY RECOVERY WHEEL.
8. PROVIDE 2-INCH MERV13 PRIMARY FILTER UPSTREAM OF DX COOLING COIL DOWNSTREAM OF THE RECIRCULATING MODULATING DAMPER.
9. COMPRESSORS SHALL BE DIGITAL-SCROLL, MINIMUM OF 2-CIRCUITS.
10. PRIMARY HEATING SECTION SHALL BE INDIRECT-FIRED GAS BURNER AND SHALL BE STAINLESS STEEL, INDUCED DRAFT COMBUSTION AND USE A DIRECT SPARK IGNITION SYSTEM.
11. SECONDARY HEATING SHALL BE STAGED ELECTRIC HEATING COIL UPSTREAM OF THE ENERGY RECOVERY WHEEL ON THE OUTSIDE AIRSTREAM. CONTROL SHALL BE ON/OFF.
12. ENERGY RECOVERY SECTION SHALL BE A TOTAL ENERGY RECOVERY WHEEL WITH FROST PROTECTION AND VARIABLE FREQUENCY DRIVE.
13. PROVIDE FACTORY MOUNT NON-FUSED DISCONNECT.
14. PROVIDE POWERED CONVENIENCE OUTLET.
15. PROVIDE UNITS WITH HAIL GUARDS ON THE CONDENSER COIL.
16. PROVIDE UNITS WITH ROOF CURB. CURB SHALL MAINTAIN MINIMUM 18" CLEAR ABOVE ROOF AND INSULATION FINISHED ELEVATION.

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE
1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR
BIDDING

DATE	02/20/2026
DESCRIPTION	DATE

DRAWN BY: JJR
CHECKED BY: JCL
PROJECT NO.: 9166-10000

SHEET NAME
MECHANICAL SCHEDULES

M-601

AIRFLOW MATRIX

ROOM NAME	ROOM #	AREA (FT2)	SUPPLY	RETURN	MIN. VENTILATION RATES				ZONE DISTRIBUTION EFFECTIVENESS (Ez)	IMC CALCULATED VENTILATION (CFM)	TOTAL EXHAUST (CFM)	SYSTEM
					OCCUPANCY	CFM/PERSON	CFM/FT2	EXHAUST				
AG CLASSROOM	E151	882 SF	1500 CFM	1500 CFM	30	10.0 CFM	0.12 CFM	0 CFM	0.8	507 CFM	0 CFM	DOAS-1
ART	E156	1225 SF	2000 CFM	2000 CFM	20	10.0 CFM	0.12 CFM	0 CFM	0.8	434 CFM	0 CFM	DOAS-1
ART OFFICE	E156A	81 SF	100 CFM	0 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	19 CFM	100 CFM	DOAS-1
ART STORAGE	E156B	118 SF	150 CFM	0 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	9 CFM	150 CFM	DOAS-1
ART STORAGE	E156C	119 SF	150 CFM	0 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	9 CFM	150 CFM	DOAS-1
CLOSET 1	M203	33 SF	50 CFM	0 CFM	0	0.0 CFM	0.00 CFM	0 CFM	0.8	0 CFM	0 CFM	DOAS-1
CLOSET 2	M204	33 SF	50 CFM	0 CFM	0	0.0 CFM	0.00 CFM	0 CFM	0.8	0 CFM	0 CFM	DOAS-1
CORRIDOR	E007	1507 SF	800 CFM	800 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	113 CFM	0 CFM	DOAS-1
DRY ART ROOM	E154	587 SF	1000 CFM	1000 CFM	10	10.0 CFM	0.12 CFM	0 CFM	0.8	213 CFM	0 CFM	DOAS-1
DUST COLLECTION	E150B	158 SF	50 CFM	0 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	12 CFM	50 CFM	DOAS-1
INDUSTRIAL CLASSROOM	E152	1132 SF	2000 CFM	2000 CFM	25	10.0 CFM	0.12 CFM	0 CFM	0.8	482 CFM	0 CFM	DOAS-1
INDUSTRIAL OFFICE	E152A	80 SF	100 CFM	100 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	19 CFM	0 CFM	DOAS-1
INDUSTRIAL STORAGE	E152B	144 SF	150 CFM	150 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	11 CFM	0 CFM	DOAS-1
JAN.	M120	332 SF	300 CFM	0 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	25 CFM	0 CFM	DOAS-1
KILN	E154B	119 SF	0 CFM	0 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	9 CFM	800 CFM	DOAS-1
OFFICE	E150A	77 SF	250 CFM	0 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	6 CFM	0 CFM	DOAS-1
OFFICE	E151B	137 SF	150 CFM	150 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	23 CFM	0 CFM	DOAS-1
OFFICE	E153B	135 SF	150 CFM	150 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	23 CFM	0 CFM	DOAS-1
SHOP CLASSROOM	E153	511 SF	800 CFM	800 CFM	20	10.0 CFM	0.12 CFM	0 CFM	0.8	327 CFM	0 CFM	DOAS-1
STORAGE ROOM 1	M201	236 SF	150 CFM	150 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	18 CFM	0 CFM	DOAS-1
STORAGE ROOM 2	M202	81 SF	100 CFM	0 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	6 CFM	0 CFM	DOAS-1
TECH LAB	E155	753 SF	1200 CFM	1200 CFM	20	10.0 CFM	0.12 CFM	0 CFM	0.8	363 CFM	0 CFM	DOAS-1
WOOD SHOP	E150	1892 SF	3400 CFM	0 CFM	20	10.0 CFM	0.12 CFM	0 CFM	0.8	534 CFM	3400 CFM	DOAS-1
CAFETERIA / STUDY HALL	M106	3134 SF	7000 CFM	7000 CFM	130	7.5 CFM	0.18 CFM	0 CFM	0.8	1924 CFM	0 CFM	DOAS-2
OFFICE	M110B	148 SF	100 CFM	100 CFM	1	5.0 CFM	0.06 CFM	0 CFM	0.8	17 CFM	70 CFM	DOAS-3
BOYS LOCKER ROOM	M110	705 SF	1275 CFM	1000 CFM	0	0.0 CFM	0.00 CFM	450 CFM	0.8	0 CFM	450 CFM	DOAS-3
COACH	M109B	100 SF	100 CFM	100 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	20 CFM	0 CFM	DOAS-3
GIRLS LOCKER ROOM	M109	593 SF	1275 CFM	1000 CFM	0	0.0 CFM	0.00 CFM	375 CFM	0.8	0 CFM	375 CFM	DOAS-3
M SHOWER	M110D	145 SF	0 CFM	275 CFM	0	0.0 CFM	0.00 CFM	200 CFM	0.8	0 CFM	250 CFM	DOAS-3
PASS	M110A	53 SF	50 CFM	50 CFM	0	0.0 CFM	0.00 CFM	0 CFM	0.8	0 CFM	0 CFM	DOAS-3
PASS	M109A	50 SF	50 CFM	50 CFM	0	0.0 CFM	0.00 CFM	0 CFM	0.8	0 CFM	0 CFM	DOAS-3
STORAGE	M109E	35 SF	0 CFM	50 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	3 CFM	0 CFM	DOAS-3
STORAGE	M110E	99 SF	0 CFM	50 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	7 CFM	0 CFM	DOAS-3
TOILET	M110C	40 SF	50 CFM	50 CFM	0	0.0 CFM	0.00 CFM	70 CFM	0.8	0 CFM	70 CFM	DOAS-3
TOILET	M109C	48 SF	100 CFM	100 CFM	0	0.0 CFM	0.00 CFM	70 CFM	0.8	0 CFM	70 CFM	DOAS-3
W SHOWER	M109D	145 SF	0 CFM	275 CFM	0	0.0 CFM	0.00 CFM	200 CFM	0.8	0 CFM	250 CFM	DOAS-3
AUDITORIUM	M116	4438 SF	5400 CFM	7000 CFM	400	5.0 CFM	0.06 CFM	0 CFM	0.8	2833 CFM	0 CFM	DOAS-4
STAGE	M113	1740 SF	1600 CFM	0 CFM	30	10.0 CFM	0.06 CFM	0 CFM	0.8	506 CFM	0 CFM	DOAS-4
BUSINESS MANAGER	M100B	139 SF	150 CFM	150 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	23 CFM	0 CFM	DOAS-6
CONF	M102A	70 SF	100 CFM	100 CFM	1	5.0 CFM	0.06 CFM	0 CFM	0.8	12 CFM	0 CFM	DOAS-6
CONFERENCE / BOARD ROOM	M100D	268 SF	400 CFM	400 CFM	8	5.0 CFM	0.06 CFM	0 CFM	0.8	70 CFM	0 CFM	DOAS-6
DISTRICT OFFICE	M100	451 SF	400 CFM	400 CFM	4	5.0 CFM	0.06 CFM	0 CFM	0.8	59 CFM	0 CFM	DOAS-6
FRONT OFFICE	M102	318 SF	250 CFM	250 CFM	4	5.0 CFM	0.06 CFM	0 CFM	0.8	49 CFM	0 CFM	DOAS-6
OFFICE	M100A	124 SF	150 CFM	150 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	22 CFM	0 CFM	DOAS-6
PRINCIPAL	M102B	193 SF	200 CFM	200 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	27 CFM	0 CFM	DOAS-6
STORAGE	M100E	65 SF	100 CFM	100 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	5 CFM	0 CFM	DOAS-6
SUPERINTENDENT OFFICE	M100C	247 SF	250 CFM	250 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	31 CFM	0 CFM	DOAS-6
TEACHER WORKROOM	M105	389 SF	815 CFM	815 CFM	20	5.0 CFM	0.12 CFM	0 CFM	0.8	180 CFM	0 CFM	DOAS-6
JAN.	M106A	60 SF	0 CFM	0 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	5 CFM	70 CFM	EF-1
DRY STORAGE	M107E	573 SF	400 CFM	400 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	43 CFM	0 CFM	MAU-1
JAN.	M107C	110 SF	100 CFM	100 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	8 CFM	0 CFM	MAU-1
KITCHEN	M107	1839 SF	7470 CFM	7470 CFM	10	7.5 CFM	0.12 CFM	4800 CFM	0.8	370 CFM	4800 CFM	MAU-1
KITCHEN HALLWAY	M107D	353 SF	300 CFM	300 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	26 CFM	0 CFM	MAU-1
OFFICE	M107A	98 SF	100 CFM	100 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	20 CFM	0 CFM	MAU-1
TOILET	M107B	51 SF	50 CFM	0 CFM	0	0.0 CFM	0.00 CFM	70 CFM	0.8	0 CFM	70 CFM	MAU-1

GRAVITY ROOF INTAKE VENTILATOR SCHEDULE

PLAN MARK	AIRFLOW (CFM)	EXTERNAL STATIC PRESSURE	APPLICATION	MOUNTING	DUCT CONNECTION SIZE (W" X D")	OVERALL HOOD SIZE (W" X L" X H")	MANUFACTURER | MODEL	NOTES
GRI-1	400	0.13	INTAKE	ROOF	10" X 10"	18.75" X 18.75" X 10.25"	LOREN COOK GRAVITY INTAKE VENTILATOR | 8 PR	ALL

1. INSTALL INTAKE VENTILATOR, GRI-1 ON MANUFACTURER'S PROVIDED CURB CAP.

RADIANT HEATING PANEL SCHEDULE

PLAN MARK	HEATING PERFORMANCE (BTUH / LF)	HW SUPPLY SIZE	FLOWRATE (GPM)	WATER PD / 100 FT OF 0.505 ID TUBE (FT HEAD)	MEAN WATER TEMP MWT (°F)	ΔT °F	NUMBER OF PASSES	DIMENSIONS (INCH)				MOUNTING / INSTALLATION	AREA SERVED	MANUFACTURER | MODEL	NOTES
								LENGTH	WIDTH	THICKNESS	TUBE ID				
RP-1	430	3/4"	2.05	12.9	180	20	4	48	24	0.08	0.505	LAY-IN 2X4 ACT CEILING	REFER TO PLANS	AERO TECH RADIANT LINEAR EXTRUDED PANELS - MODEL AXO	ALL

1. HEATING PERFORMANCE BASED ON PERIMETER RADIANT PANELS.
2. PROVIDE WALL-MOUNTED THERMOSTATS, SEE PLANS FOR LOCATIONS AND PAIRING.
3. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION REQUIREMENTS IN ARCHITECT'S CEILING TYPE.

VIBRATION ISOLATION SCHEDULE

PLAN MARK	EQUIPMENT DESCRIPTION	BASE TYPE	ISOLATION TYPE	MINIMUM DEFLECTION	NOTES
DOAS	DEDICATED OUTSIDE AIR SYSTEM	A	3	2"	1, 2, 3
BP	INLINE CIRCULATING PUMPS	A	3	0.75"	1, 2
CONDENSER	CONDENSING UNITS	A	4	1.5"	1, 2

1. SEE SPECIFICATION SECTION 15 240 FOR BASE TYPE AND ISOLATOR TYPE DESCRIPTIONS.
2. TYPICAL FOR ALL UNITS OF THIS TYPE.
3. FOR UNITS WITH FANS INTERNALLY ISOLATED WITH SPRING ISOLATORS, EXTERNAL ISOLATORS MAY BE OMITTED. INTERNAL FAN ISOLATION SHALL BE MINIMUM 2" DEFLECTION.
4. PROVIDE ISOLATORS FOR THE FIRST THREE PIPE SUPPORTS.

CIRCULATING PUMP SCHEDULE

PLAN MARK	FLOW RATE (GPM)	HEAD LOSS (FT. HEAD)	INLET SIZE (DIA.)	ELECTRICAL			MOUNT TYPE	MANUFACTURER/ MODEL NO.	SYSTEM	NOTES
				HP	VOLTAGE	ø				
BP-1	135.0	30.0	3"	1-1/2	208	3	IN-LINE	TACO CIRCULATING PUMP MODEL KV3006	BOILER CIRCULATOR	ALL
BP-2	135.0	30.0	3"	1-1/2	208	3	IN-LINE	TACO CIRCULATING PUMP MODEL KV3006	BOILER CIRCULATOR	ALL
BP-3	135.0	30.0	3"	1-1/2	208	3	IN-LINE	TACO CIRCULATING PUMP MODEL KV3006	BOILER CIRCULATOR	ALL

1. BOILER PUMPS SHALL BE CAPABLE OF CIRCULATING 30% PROPYLENE GLYCOL / 70% WATER MIXTURE WORKING FLUID.
2. PUMP SELECTIONS SHALL HAVE THE ABILITY FOR AT LEAST ONE (1) IMPELLER SIZE INCREASE.
3. PUMPS SHALL BE PROVIDED WITH CHECK VALVE DOWN STREAM OF PUMP.

EXHAUST FAN SCHEDULE

PLAN MARK	AIRFLOW (CFM)	STATIC PRESSURE	EXHAUST TYPE	ELECTRICAL				MOUNTING	MANUFACTURER | MODEL	NOTES
				HP	AMPS	VOLTAGE	Ø			
EF-1	70	0.15	GENERAL	0.04	0.3	120	1	ROOF	LOREN COOK ROOF EXHAUST FAN MODEL 70C10DH	1 & 5
EF-2	3,400	0.20	INDUSTRIAL	1.25	11.0	208	1	ROOF	LOREN COOK ROOF INDUSTRIAL EF MODEL 225 VCRD-XP	2, 3, & 5
EF-3	180	0.15	GENERAL	0.06	0.4	120	1	CEILING	LOREN COOK CEILING EXHAUST FAN MODEL GC-148	1 & 5
KEF-1	1,010	0.73	TYPE I	0.5	6.3	115	1	ROOF	ECON-AIR ROOF KITCHEN EF MODEL EADU50H	4 & 5
KEF-2	1,010	0.73	TYPE I	0.5	6.3	115	1	ROOF	ECON-AIR ROOF KITCHEN EF MODEL EADU50H	4 & 5
KEF-3	1,050	0.60	TYPE I	0.5	6.3	115	1	ROOF	ECON-AIR ROOF KITCHEN EF MODEL EADU50H	4 & 5

1. EXHAUST FAN EF-1 & EF-3 SHALL ENERGIZE WITH THE LIGHT SWITCH.
2. EXHAUST FAN EF-2 TO ENERGIZE WITH THE ASSOCIATED HVAC UNIT, DOAS-1
3. EXHAUST FAN EF-2 SHALL BE INSTALLED ON THE EXISTING FAN ROOF CURB.
4. KITCHEN EXHAUST FANS KEF-1, KEF-2, & KEF-3 SHALL BE INSTALLED ON 18" TALL HINGED ROOF CURB.
5. SEE MANUFACTURER'S MANUALS FOR INSTALL AND MOUNTING REQUIREMENTS.

KITCHEN EXHAUST HOOD SCHEDULE

PLAN MARK	HOOD LENGTH	EXHAUST TYPE	APPLIANCE DUTY	DESIGN EXHAUST CFM/FT	TOTAL EXHAUST (CFM)	EXHAUST CONNECTION (ø)	TOTAL MAKEUP AIR (CFM)	DIMENSIONS			WEIGHT (LBS.)	MANUFACTURER | MODEL	NOTES
								LENGTH	WIDTH	HEIGHT			
H-1	12'-3"	TYPE I	HEAVY	165	2,020	10" (QTY. 2)	1,805	12'-3"	5'-6" + 14"	2'-0"	1,125	CAPTIVEAIRE | 6624 EX-2-PSP-F	ALL
H-2	7'-6"	TYPE I	HEAVY	140	1,050	10" (QTY. 1)	915	7'-6"	5'-6" + 12"	2'-0"	783	CAPTIVEAIRE | 6624 EX-2-PSP-F	ALL
EX. HOOD PLENUM	11'-0"	N/A	N/A	N/A	N/A	N/A	1,800	11'-0"	14"	1'-0"	100	CAPTIVEAIRE | 1412 MISC-PSP	ALL

1. MAKEUP AIR SHALL BE PROVIDED VIA MAU-1. KITCHEN EXHAUST HOODS, H-1, H-2, & EX. HOODS SHALL OPERATE WITH MAU-1.

DIFFUSER/REGISTER/GRILLE (DRG) SCHEDULE

PLAN MARK	FACE SIZE	INLET SIZE	BLADE DEFLECTION	INSTALLATION / MOUNTING	MATERIAL	COLOR / FINISH	MANUFACTURER/ MODEL	NOTES
CD-1	24" X 24"	SEE PLANS	--	DROP CEILING	ALUMINUM	WHITE (4)	PRICE INDUSTRIES CEILING DIFFUSER | MODEL SPD	1, 2, 3, 4, & 5
CD-2	12" X 12"	SEE PLANS	--	DROP CEILING	ALUMINUM	WHITE (4)	PRICE INDUSTRIES CEILING DIFFUSER | MODEL SPD	1, 2, 3, 4, & 5
CD-3	24" X 24"	SEE PLANS	--	DROP CEILING	ALUMINUM	WHITE (4)	PRICE INDUSTRIES PERFORATED CEILING DIFFUSER | MODEL PDS	1, 2, 3, 4, & 5
SG-1	INLET SIZE + 2"	SEE PLANS	0°	SIDEWALL/ EXPOSED	ALUMINUM	WHITE (4)	PRICE INDUSTRIES SUPPLY GRILLE | MODEL 610	1, 2, 3, 4, & 5
RG-1	24" X 24"	SEE PLANS	--	DROP CEILING	ALUMINUM	WHITE (4)	PRICE IND PERFORATED RETURN DIFFUSER | MODEL PDDR	1, 2, 3, 4, & 5
RG-2	12" X 12"	SEE PLANS	--	DROP CEILING	ALUMINUM	WHITE (4)	PRICE IND PERFORATED RETURN DIFFUSER | MODEL PDDR	1, 2, 3, 4, & 5
RG-3	INLET SIZE + 1-3/4"	SEE PLANS	45°	SIDEWALL/ EXPOSED	ALUMINUM	WHITE (4)	PRICE INDUSTRIES RETURN GRILLE | MODEL 610Z	1, 2, 3, 4, & 5
EG-1	24" X 24"	SEE PLANS	--	DROP CEILING	ALUMINUM	WHITE (4)	PRICE IND PERFORATED RETURN DIFFUSER | MODEL PDDR	1, 2, 3, 4, & 5
EG-2	INLET SIZE + 1-3/4"	SEE PLANS	45°	SIDEWALL/ EXPOSED	ALUMINUM	WHITE (4)	PRICE INDUSTRIES RETURN GRILLE | MODEL 610Z	1, 2, 3, 4, & 5

1. CONTRACTOR SHALL DETERMINE PROPER MARGIN STYLE TO MATCH CEILING CONSTRUCTION.
2. ALL RUN OUT DUCTWORK TO DIFFUSERS SHALL BE NECK SIZE, UNLESS OTHERWISE NOTED.
3. CONTRACTOR SHALL DETERMINE PROPER MARGIN STYLE TO MATCH CEILING CONSTRUCTION. REFER TO ARCHITECTURAL DETAILS FOR FINISH AND DESIRED LOOK.
4. CONFIRM COLOR AND FINISH WITH ARCHITECT TO ENSURE DESIGN INTENT IS ACHIEVED FOR EACH SPACE.
5. ALL DIFFUSERS/REGISTERS/GRILLES SHALL BE PROVIDED WITH INTEGRAL DAMPER OR MEANS FOR ADJUSTING AIRFLOW AT THE OUTLET.

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ALLAMAKEE CSD

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MECHANICAL SCHEDULES

M-602

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VARIABLE AIR VOLUME TERMINALS SCHEDULE - ALTERNATE #3

PLAN MARK	MAX. COOLING AIRFLOW (CFM)	INLET SIZE (INCH Ø)	STATIC PRESSURE (IN. W.G.) (1)	HEATING CONDITIONS		HEATING COIL DATA						NC RATING	MANUFACTURER | MODEL	WEIGHT (LBS.)	NOTES
				AIRFLOW (CFM)	APD (IN. W.G.)	ROWS	MBH	FLOW RATE (GPM)	WPD (FT. HD.)	EAT (°F)	LAT (°F)				
VAV-13	1,800	12	0.59	1,100	0.31	2	70	8	3.2	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF12	66	ALL
VAV-14	1,800	12	0.59	1,100	0.31	2	70	8	3.2	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF12	66	ALL
VAV-15	1,800	12	0.59	1,100	0.31	2	70	8	3.2	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF12	66	ALL
VAV-16	1,600	12	0.49	900	0.25	2	58.8	5	1.3	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF12	66	ALL

1. STATIC PRESSURE DROP AT LISTED AIRFLOW RATE THROUGH VAV BOX (DAMPER 100% OPEN).
2. NC RATING IS MAXIMUM DISCHARGE OR RADIATED RATING ALLOWED. NC RATINGS TO BE CALCULATED IN ACCORDANCE WITH AHRI-885.
3. PROVIDE VARIABLE VOLUME TERMINALS WITH SOUND ATTENUATION.
4. HEATING COIL SHALL BE INSTALLED UPSTREAM OF SOUND ATTENUATOR.

ELECTRIC STEAM DUCT HUMIDIFIER SCHEDULE - ALTERNATE #2

PLAN MARK	HUMIDIFICATION CAPACITY (LBS/HR)	SUPPLY DUCT SIZE (W" x H")	SUPPLY AIRFLOW (CFM)	WATER SUPPLY SIZE	DRAIN SIZE	STEAM OUTLET SIZE	CONDENSATE DRAIN SIZE	ELECTRICAL				DIMENSIONS (INCH)			WEIGHT (LBS.)	SYSTEM	INSTALL LOCATION	MANUFACTURER | MODEL	NOTES
								INPUT KW	AMP	VOLTAGE	ø	WIDTH	DEPTH	HEIGHT					
DH-1	50.0	40 X 32	14,000	1/2"ø	1-1/4"ø	1-3/4"ø	1/2"ø	18.7	51.9	208	3	20.9	15.8	30.7	150	DOAS-1	CLASSROOM LEVEL 2 STORAGE	CONDAIR STEAM HUMIDIFIER MODEL EL 050	ALL
DH-2	50.0	30 X 18	7,000	1/2"ø	1-1/4"ø	1-3/4"ø	1/2"ø	18.7	51.9	208	3	20.9	15.8	30.7	150	EX. DOAS N	JANITOR CLOSET	CONDAIR STEAM HUMIDIFIER MODEL EL 050	ALL
DH-3	50.0	30 X 18	7,000	1/2"ø	1-1/4"ø	1-3/4"ø	1/2"ø	18.7	51.9	208	3	20.9	15.8	30.7	150	EX. DOAS S	JANITOR CLOSET	CONDAIR STEAM HUMIDIFIER MODEL EL 050	ALL

1. REFER TO CONTROL SEQUENCE, SHEET M-802, FOR SEQUENCE OF OPERATION.
2. PROVIDE HUMIDIFIERS WITH SHORT ABSORPTION STEAM MANIFOLD SIZED TO ASSOCIATED SYSTEM DUCTWORK. SEE PLANS FOR LOCATION AND DUCT SIZE.
3. PROVIDE DRAIN PANS FOR HUMIDIFIER UNIT AND ABSORPTION MANIFOLD. DRAIN PANS SHALL BE 24 GAUGE GALVANIZED STEEL AND SHALL EXTEND 3" BEYOND THE PROFILE IN ALL DIRECTIONS.
4. PROVIDE 5 MICROMETER INLINE WATER FILTER ON THE WATER SUPPLY LINE UPSTREAM OF THE HUMIDIFIER.
5. PROVIDE ANTI-SIPHON VACUUM BREAKER FOR HUMIDIFIER.
6. STEAM TRAP REQUIRED EVERY 15FT FOR LONG STEAM LINE RUNS. STEAM LINE MUST RISE A MINIMUM OF 12 IN. STRAIGHT UP BEFORE RUNNING TO THE STEAM DISTRIBUTOR. REFER TO MANUFACTURER'S INSTALLATION MANUAL FOR ADDITIONAL STEAM LINE REQUIREMENTS.

DEDICATED OUTSIDE AIR SYSTEM (DOAS) SCHEDULE - ALTERNATE #3

PLAN MARK	SUPPLY FAN(S)					EXHAUST FAN(S)					COOLING CAPACITY			SUMMER ENERGY RECOVERY				REFRIGERANT	ELECTRIC PRE-HEAT		GAS HEATING		WINTER DESIGN ENERGY RECOVERY				LAT (°F)	HEAT EXCHANGER MATERIAL	FUEL - NATURAL GAS			DIMENSIONS (INCH)			ELECTRICAL			WEIGHT (LBS.)	MANUFACTURER | MODEL NO.	NOTES
	DESIGN AIRFLOW	ESP / TSP	DRIVE TYPE	MOTOR		DESIGN AIRFLOW	ESP / TSP	DRIVE TYPE	MOTOR		TOTAL (MBH)	SENSIBLE (MBH)	LATENT (MBH)	OUTSIDE AIR (°F)		FRESH AIR (°F)			CAPACITY (KW)	EAT / LAT (DB°F)	INPUT (MBH)	OUTPUT (MBH)	OUTSIDE AIR (°F)		FRESH AIR (°F)				AFUE	GAS SIZE (ø)	MIN.-MAX. INLET PRESSURE	LENGTH	WIDTH	HEIGHT (NOTE 16)	AMPS	VOLTAGE	ø			
				QTY	HP				QTY	HP				EAT (DB)	EAT (WB)	LAT (DB)	LAT (WB)						EAT (DB)	EAT (WB)	LAT (DB)	LAT (WB)													
DOAS-4	7,000	1.0 / 3.8	DIRECT/ VFD	1	10	3,400	1.2 / 2.6	DIRECT/ VFD	1	3	219	150	69	95	78	81	69	R454B	15	-10 / 13	400	324	13	--	45	40	99	STAINLESS STEEL	81%	1"	7"-14" W.C.	213	100	62	113	208	3	4,380	TRANE HORIZON DOAS OADGD020C1	ALL

1. SUPPLY FAN AND EXHAUST FAN MOTORS SHALL BE DIRECT-DRIVE WITH FACTORY INSTALLED VARIABLE FREQUENCY DRIVES.
2. UNITS SHALL BE MULTI-ZONE VAV CONTROLS.
3. PROVIDE THE FOLLOWING MOTORIZED CONTROL DAMPERS: OUTSIDE AIR, EXHAUST AIR, ENERGY RECOVERY WHEEL BYPASS, AND RECIRCULATION AIRSTREAMS.
4. DIRECT EXPANSION (DX) COOLING COIL: SHALL BE TYPE 6-ROW.
5. PROVIDE UNITS WITH MODULATING HOT GAS REHEAT (HGRH) COIL DOWNSTREAM OF DX COOLING COIL TO PROVIDE DEHUMIDIFICATION.
6. PROVIDE UNITS WITH FACTORY MOUNTED AND WIRED UV LIGHTS BETWEEN EVAPORATOR COIL AND THE HGRH COIL.
7. PROVIDE 2-INCH MERV8 PRE-FILTER UPSTREAM OF THE ENERGY RECOVERY WHEEL.
8. PROVIDE 2-INCH MERV13 PRIMARY FILTER UPSTREAM OF DX COOLING COIL DOWNSTREAM OF THE RECIRCULATING MODULATING DAMPER.
9. COMPRESSORS SHALL BE DIGITAL-SCROLL, MINIMUM OF 2-CIRCUITS.
10. PRIMARY HEATING SECTION SHALL BE INDIRECT-FIRED GAS BURNER AND SHALL BE STAINLESS STEEL, INDUCED DRAFT COMBUSTION AND USE A DIRECT SPARK IGNITION SYSTEM.
11. SECONDARY HEATING SHALL BE STAGED ELECTRIC HEATING COIL UPSTREAM OF THE ENERGY RECOVERY WHEEL ON THE OUTSIDE AIRSTREAM. CONTROL SHALL BE ON/OFF.
12. ENERGY RECOVERY SECTION SHALL BE A TOTAL ENERGY RECOVERY WHEEL WITH FROST PROTECTION AND VARIABLE FREQUENCY DRIVE.
13. PROVIDE FACTORY MOUNT NON-FUSED DISCONNECT.
14. PROVIDE POWERED CONVENIENCE OUTLET.
15. PROVIDE UNITS WITH HAIL GUARDS ON THE CONDENSER COIL.
16. PROVIDE UNITS WITH ROOF CURB. CURB SHALL MAINTAIN MINIMUM 18" CLEAR ABOVE ROOF AND INSULATION FINISHED ELEVATION.

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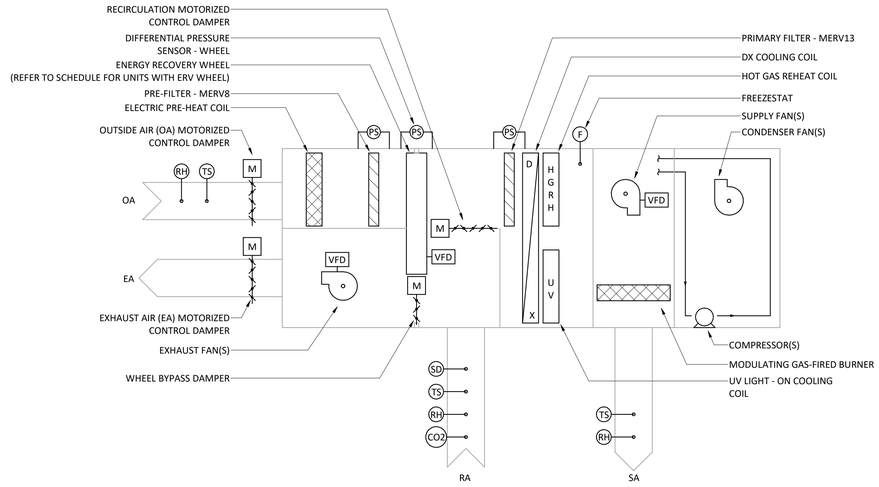
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DATE	02/20/2026
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PROJECT NO. 9166-10000

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M-603



DEDICATED OUTSIDE AIR SYSTEM (DOAS) CONTROL DIAGRAM

NOT TO SCALE

DEDICATED OUTSIDE AIR SYSTEM (DOAS) CONTROL SEQUENCE

THE DEDICATED OUTSIDE AIR SYSTEM CONSISTS OF SUPPLY FAN(S), EXHAUST FAN(S), OUTSIDE AIR AND EXHAUST AIR MOTORIZED CONTROL DAMPERS, ELECTRIC PRE-HEAT COIL, ENERGY RECOVER WHEEL, MODULATING INDIRECT FIRED GAS-FIRED BURNER, DIRECT EXPANSION (DX) COOLING COIL, UV LIGHT AND HOT GAS REHEAT (DEHUMIDIFICATION) COIL.

1. RUN CONTROL
   - A. WHEN THE SYSTEM IS INDEXED TO THE "AUTO" POSITION BY THE BUILDING AUTOMATION SYSTEM (BAS), THE SUPPLY FAN AND EXHAUST FAN SHALL START SIMULTANEOUSLY AND RUN CONTINUOUSLY. WHEN THE H.O.A. SELECTION IS INDEXED TO THE "OFF" POSITION, THE SUPPLY FAN AND THE EXHAUST FAN SHALL DE-ENERGIZE, THE OUTDOOR AIR CONTROL DAMPER SHALL FULLY CLOSE, THE RECIRCULATING CONTROL DAMPER SHALL FULLY OPEN. UPON INITIATION OF THE START SIGNAL FOR THE SYSTEM, THE RECIRCULATING CONTROL DAMPER SHALL START IN THE OPEN POSITION AND THE OUTSIDE AIR CONTROL DAMPER SHALL START IN THE CLOSED POSITION. THE DOAS UNIT SHALL NOT ENERGIZE UNTIL EITHER DAMPERS ARE PROVEN OPEN.
   - B. EXHAUST FAN SYSTEM SHALL BE CONTROLLED BY DEMAND CONTROL VENTILATION (DCV) AS MEASURED BY THE CO2 SENSOR IN THE RETURN AIR DUCT. THE OUTSIDE AIR CONTROL DAMPER AND EXHAUST FAN SHALL MODULATE TO MAINTAIN CO2 SET POINT OF 800 PPM (ADJ).
2. HEATING MODE SEQUENCE:
   - A. DURING THE OCCUPIED HEATING MODE, THE SUPPLY AIR DISCHARGE AIR TEMPERATURE (DAT) SHALL BE ROOM NEUTRAL. THE INDIRECT FIRED GAS-FIRED BURNER SHALL MODULATE TO MAINTAIN A RETURN TEMPERATURE SET POINT OF 70F (ADJ).
   - B. LOW TEMPERATURE EMERGENCY - IF THE RETURN AIR TEMPERATURE SENSOR FALLS BELOW 60F (ADJ) EXCEEDING 2 MINUTES, THE SYSTEM SHALL AUTOMATICALLY GO INTO BUILDING LOW TEMPERATURE EMERGENCY MODE. IF THE RETURN AIR TEMPERATURE SENSOR READING FALLS BELOW 55F (ADJ) FOR MORE THAN 1 MINUTE, THE SYSTEM SHALL DE-ENERGIZE.
   - C. PROVIDE A FREEZE STAT THAT DE-ENERGIZES THE UNIT IF DAT FALLS BELOW 50F (ADJ).
   - D. BUILDING LOW TEMPERATURE EMERGENCY - DURING BUILDING LOW TEMPERATURE EMERGENCY MODE (OUTSIDE AMBIENT AIR BELOW -20F (ADJ)), THE DCV SYSTEM SHALL BE DISABLED. THE DOAS UNIT SHALL ENTER INTO RECIRCULATING MODE BY CLOSING THE OUTSIDE AIR CONTROL DAMPER, DE-ENERGIZING THE EXHAUST FAN AND OPENING THE RECIRCULATING CONTROL DAMPER. DURING THE BUILDING LOW TEMPERATURE EMERGENCY MODE, THE DOAS UNIT SHALL MODULATE THE GAS BURNER TO MAINTAIN 68F (ADJ) RETURN AIR TEMPERATURE SET POINT. ONCE THE EMERGENCY HAS BEEN CLEARED (OUTSIDE AMBIENT TEMPERATURE GREATER THAN -5F (ADJ)) THE DOAS UNIT SHALL RETURN TO NORMAL OPERATION.
   - E. THE SYSTEM SHALL UTILIZE ELECTRIC PRE-HEAT WHENEVER THE OUTSIDE AIR TEMPERATURE IS BELOW THE LOW SET POINT OF THE TEMPERATURE SENSOR LOCATED IN THE OUTSIDE AIR INTAKE. ACTUAL SET POINT SHALL BE DETERMINED DURING SYSTEM CHECKOUT.
   - F. DURING THE UNOCCUPIED MODE, THE SUPPLY FAN AND EXHAUST FAN SHALL BE DE-ENERGIZED, THE RECIRCULATING CONTROL DAMPER SHALL OPEN AND THE OUTSIDE AIR DAMPER SHALL CLOSE. FOR 15 MINUTES OUT OF EVER HOUR, THE SUPPLY FAN SHALL RUN TO CIRCULATE AIR THROUGH THE FILTERS.
3. HEATING MODE MORNING WARM-UP AND DAILY AIR FLUSH
   - A. FOR 2 HOURS PRIOR TO THE BUILDING BEING OCCUPIED EACH DAY, THE SYSTEM SHALL OPERATE AS A ONCE-THROUGH SYSTEM TO PROVIDE A DAILY AIR FLUSH. DURING THIS PERIOD, THE RETURN AIR TEMPERATURE SET POINT SHALL BE SET TO 75F (ADJ). OCCUPANCY SCHEDULE SHALL BE DETERMINED BY DISTRICT STAFF.
4. COOLING MODE
   - A. DURING THE OCCUPIED COOLING MODE, THE DX COOLING COIL SHALL MODULATE TO MAINTAIN A RETURN AIR TEMPERATURE OF 70F (ADJ), THE HOT GAS REHEAT COIL SHALL MODULATE TO MAINTAIN A RETURN AIR RELATIVE HUMIDITY OF 50%RH (ADJ).
   - B. ECONOMIZER MODE - SYSTEM SHALL INDEX TO ECONOMIZER MODE WHEN OUTDOOR AMBIENT AIR TEMPERATURE IS BETWEEN 45F AND 60F (ADJ), AND CLOSE THE RETURN AIR DAMPER. MECHANICAL COOLING AND REHEAT SHALL BE PROVIDED FOR DE-HUMIDIFICATION ONLY AND SHALL BE CONTROLLED BY THE RETURN AIR TEMPERATURE SENSOR. THE ECONOMIZER CYCLE SHALL RUN UNTIL THE HUMIDITY IN THE RETURN DUCT FALLS OUTSIDE OF SET POINT +/- 2%RH (ADJ) OR THE TEMPERATURE FALLS OUTSIDE OF SET POINT +/- 2F (ADJ).
   - C. DURING THE UNOCCUPIED MODE, THE DX COOLING COIL SHALL BE DE-ENERGIZED, THE OUTSIDE AIR CONTROL DAMPER SHALL CLOSE, AND THE RECIRCULATING CONTROL DAMPER SHALL OPEN. FOR 15 MINUTES OUT OF EVERY HOUR, THE SUPPLY FAN SHALL RUN TO CIRCULATE AIR THROUGH THE FILTERS.
   - D. COOLING MODE DAILY AIR FLUSH - FOR 2 HOURS PRIOR TO THE BUILDING BEING OCCUPIED EACH DAY, THE SYSTEM SHALL OPERATE AS A ONCE-THROUGH SYSTEM TO PROVIDE A DAILY AIR FLUSH. DURING THIS PERIOD, THE RETURN AIR TEMPERATURE SET POINT SHALL BE SET TO 75F (ADJ) AND THE RETURN AIR RELATIVE HUMIDITY SET TO 50%RH (ADJ).
   - E. HIGH BUILDING TEMPERATURE EMERGENCY MODE - IF THE RETURN TEMPERATURE RISES ABOVE 80F (ADJ), THE UNIT SHALL CLOSE THE OUTSIDE AIR CONTROL DAMPER AND OPEN THE RECIRCULATING CONTROL DAMPER AND SEND AN ALARM TO THE BAS.
5. SMOKE CONTROL MODE
   - A. IF SMOKE IS DETECTED IN THE RETURN AIR DUCT, THE UNIT SHALL DE-ENERGIZE AND SEND A SIGNAL TO THE FIRE ALARM PANEL.
   - B. PROVIDE A MANUAL OVERRIDE FOR SMOKE CONTROL MODE THAT CLOSES THE RECIRCULATING CONTROL DAMPER AND OPENS THE OUTSIDE AIR CONTROL DAMPER TO PUT THE UNIT IN ONCE-THROUGH OPERATION.
6. CARBON MONOXIDE (CO) / NATURAL GAS (NG) DETECTED:
   - A. PROVIDE CO/NG SENSOR IN FIRST ROOM SERVED BY DOAS UNIT.
   - B. UPON ACTIVATION UNIT SHALL DE-ENERGIZE AND SEND SIGNAL TO THE FIRE ALARM PANEL.
7. HIGH RELATIVE HUMIDITY MODE (GREATER THAN 80% RH(ADJ)) - THE UNIT SHALL ENTER RECIRCULATION MODE, WITH OUTSIDE AIR CONTROL DAMPER CLOSED AND RECIRUCLATING CONTROL DAMPER OPEN, EXHAUST FAN DE-ENERGIZED, AND SUPPLY FAN ENERGIZED.
8. INFECTIOUS DISEASE CONTROL MODE - ENABLED/DISABLED THROUGH THE BAS.
   - A. WHEN THIS CONTROL MODE IS ENABLED, THE UNIT SHALL OPEN THE OUTSIDE AIR CONTROL DAMPER, CLOSE THE RECIRCULATING CONTROL DAMPER.
   - B. DURING THE INFECTIOUS DISEASE CONTROL MODE, THE DCV SHALL BE DISABLED, AND THE UNIT SHALL MAXIMIZE VENTILATION AIR WHERE PERMISSIBLE. REFER TO THE CONTROL HIERARCHY BELOW.
9. CONTROL HIERARCHY (HIGHEST PRIORITY TO LOWEST PRIORITY)
   - A. SMOKE CONTROL MODE
   - B. FREEZE-STAT
   - C. SYSTEM LOW TEMPERATURE EMERGENCY MODE
   - D. BUILDING LOW TEMPERATURE EMERGENCY MODE
   - E. HIGH RELATIVE HUMIDITY MODE
   - F. INFECTIOUS DISEASE CONTROL MODE
   - G. DEMAND CONTROL VENTILATION
   - H. NORMAL OPERATION
10. ALL SET POINTS SHALL BE ADJUSTABLE.

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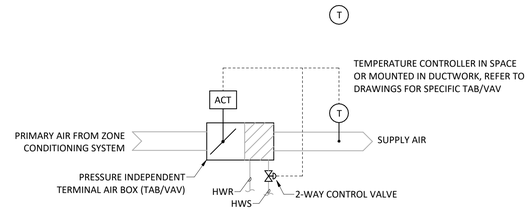
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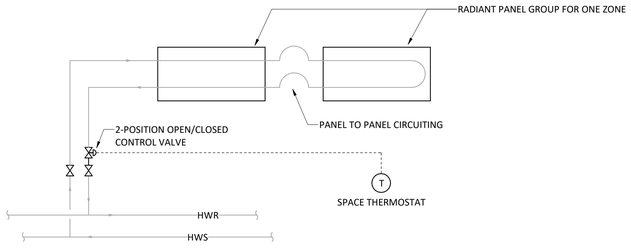


TERMINAL AIR BOX (TAB) / VARIABLE AIR VOLUME (VAV) BOX CONTROL DIAGRAM

NOT TO SCALE

SEQUENCE OF OPERATION

1. VARIABLE FLOW TERMINAL AIR BOXES SHALL PROVIDE COOLING, HEATING AND VENTILATION AIR TO SPACES TO THE CONNECTED ZONES BY VARYING THE AIRFLOW TO AND FROM THE ROOM AND MODULATING THE HEATING COIL TWO-WAY CONTROL VALVE TO MAINTAIN THE TEMPERATURE SET POINT OR BY PROVIDING CONSTANT DEHUMIDIFICATION FLOW.
2. MODULATE THE TERMINAL AIR BOX FROM MAXIMUM SCHEDULED AIR FLOW TO MINIMUM SCHEDULED AIR FLOW IN RESPONSE TO MECHANICAL COOLING MODE. THE HEATING HOT WATER CONTROL VALVE SHALL MODULATE OPEN AND CLOSED TO MAINTAIN THE TEMPERATURE CONTROLLER SET POINT. THE REVERSE SEQUENCE SHALL OCCUR UPON A RISE ABOVE SET POINT.
3. THE BUILDING AUTOMATION SYSTEM (BAS) SHALL CONTROL THE ACTUAL SET POINT OF THE VENTILATION ZONE SERVED BY THE TAB/VAV. THE OCCUPIED/UNOCCUPIED MODE SHALL BE SCHEDULED THROUGH THE BAS SYSTEM.
4. PROVIDE A TEMPERATURE BULB IN THE TAB/VAV BOX DISCHARGE FOR INDICATION OF THE BOX PERFORMANCE TO THE BAS AND CONTROL SET POINT.
5. THE HOT WATER HEATING CONTROL VALVES SHALL BE CLOSED IF THE SUPPLY TEMPERATURE IS BELOW 100°F (ADJUSTABLE).
6. TAB/VAV BOX DISCHARGE AIR TEMPERATURE SHALL BE CONTROLLED TO MATCH THE FOLLOWING TEMPERATURES:
   A. SUMMER - AS SCHEDULED IN TAB/VAV SCHEDULE.
   B. WINTER - AS SCHEDULED IN TAB/VAV SCHEDULE.

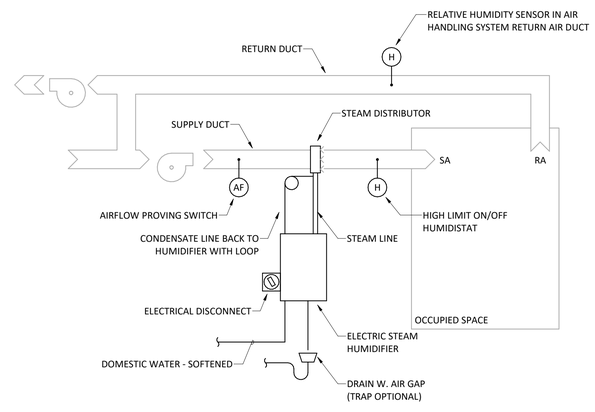


RADIANT HEATING PANELS

NOT TO SCALE

SEQUENCE OF OPERATION

1. RADIANT HEATING PANELS SHALL PROVIDE SUPPLEMENTARY HEATING TO ROOMS OR ZONES AS INDICATED ON THE PLANS.
2. PROVIDE A THERMOSTAT CONTROLLER IN THE ROOM TO MODULATE THE HOT WATER RETURN CONTROL VALVE OPEN/CLOSED TO MAINTAIN SPACE THERMOSTAT SET POINT. IF SPACE TEMPERATURE SET POINT FALLS BELOW SET POINT MINUS 2F (ADJ), THE CONTROL VALVE SHALL OPEN. IF THE SPACE SET POINT RISES SET POINT PLUS 2F, THE CONTROL VALVE SHALL CLOSE. THE BUILDING AUTOMATION SYSTEM (BAS) SHALL MONITOR THE SPACE TEMPERATURE.
3. THE CONTROL VALVE SHALL BE 2-POSITION OPEN/CLOSED.
4. CONTROL VALVE OPENING AND CLOSING SPEED SHALL BE 'RELATIVELY' SLOW TO PREVENT WATER HAMMER AND RADIANT PANEL NOISE. DESIGN PROFESSIONAL AND/OR OWNER SHALL BE SOLE JUDGES OF SATISFACTORY VALVE SPEED.
5. THERMOSTAT SHALL NOT BE LOCATED AT A WALL THAT IS EXPOSED TO THE OUTSIDE ATMOSPHERE.
6. ALL SET POINTS SHALL BE ADJUSTABLE.



HUMIDIFICATION SYSTEM - ALTERNATE #2

SEQUENCE OF OPERATION

1. THE HUMIDITY SHALL BE CONTROLLED BASED ON RETURN AIR RELATIVE HUMIDITY FOR EACH AIR HANDLING SYSTEM (RTU, DOAS). TO PREVENT CONDENSATION, THE RETURN AIR RELATIVE HUMIDITY SET POINT SHALL BE BASED ON OUTSIDE AIR TEMPERATURE RESET.
   A. OUTSIDE AMBIENT TEMPERATURE = -20F, RH SET POINT SHALL BE 15% (ADJ)
   B. OUTSIDE AMBIENT TEMPERATURE = 20F, RH SET POINT SHALL BE 35% (ADJ)
2. UPON A CALL FOR HUMIDITY AND PROOF OF AIRFLOW FROM AIR HANDLING SYSTEM, THE ELECTRIC HUMIDIFIER SHALL MODULATE THE STEAM SUPPLY TO THE DUCT TO MAINTAIN RETURN RELATIVE HUMIDITY SET POINT.
3. HUMIDIFIER SHALL BE LOCKED OUT WHEN AIR HANDLING SYSTEM IS IN COOLING MODE, OR IF SUPPLY FAN IS DE-ENERGIZED.
4. PROVIDE A HIGH HUMIDITY ALARM IF THE RETURN AIR RELATIVE HUMIDITY EXCEEDS SET POINT +5%RH (ADJ).
5. HUMIDIFIER SHALL BE DE-ENERGIZED IF THE WATER LEVEL IN THE BOILER FALLS BELOW MINIMUM SAFE LEVELS AS DETERMINED BY THE MANUFACTURER.
6. ALL SET POINTS SHALL BE ADJUSTABLE.

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE
1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR
BIDDING

DATE	02/20/2026
DESCRIPTION	DATE

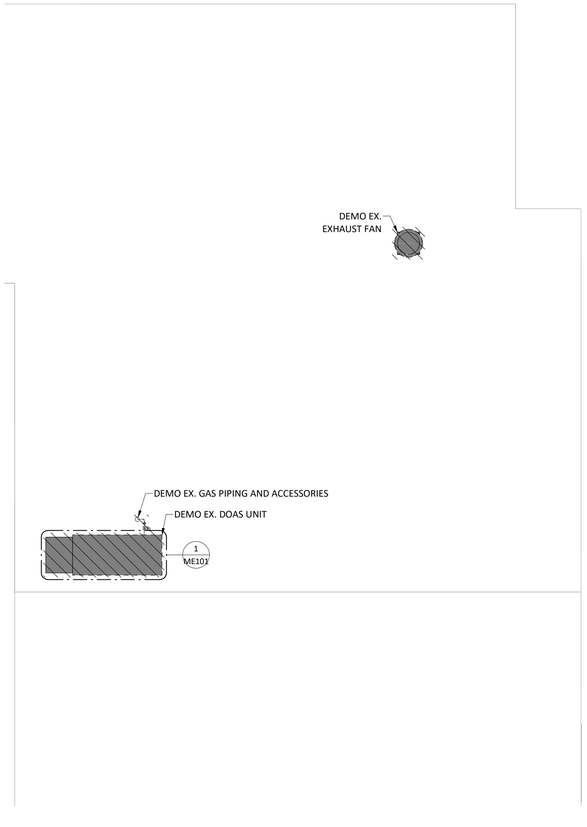
DRAWN BY	JJR
CHECKED BY	JCL
PROJECT NO.	9166-10000

SHEET NAME
HVAC CONTROLS

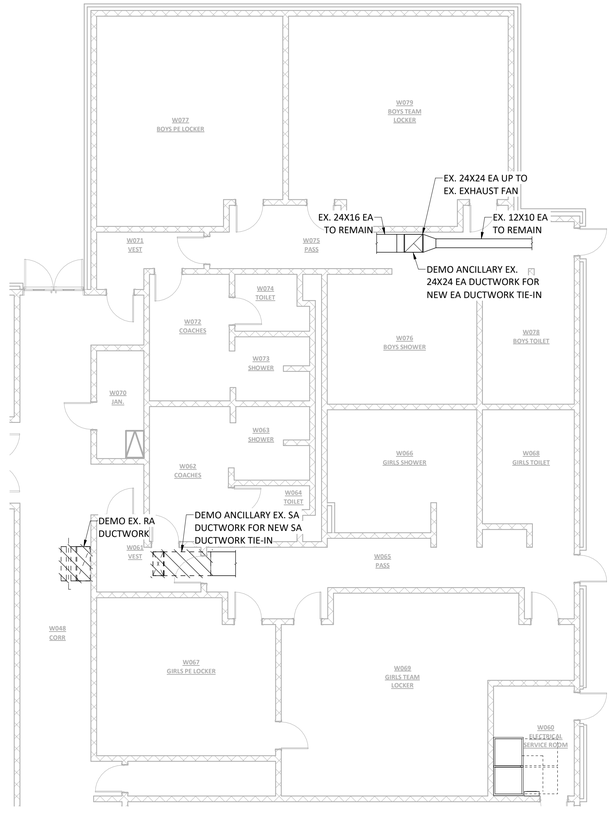
M-802



EX. MAKEUP AIR UNIT 1
NTS ME101



DEMO MECHANICAL & ELECTRICAL ROOF PLAN - HIGH SCHOOL
1/8" = 1'-0"



DEMO MECHANICAL & ELECTRICAL PLAN - HIGH SCHOOL
1/8" = 1'-0"

GENERAL DEMO NOTES:

1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
2. EQUIPMENT SPECIFIED TO BE DEMOLISHED SHALL HAVE THE EQUIPMENTS'S ASSOCIATED COMPONENTS REMOVED AND TERMINATED BACK TO THE RESPECTIVE SOURCE WITHOUT DISRUPTING EXISTING SYSTEMS SPECIFIED TO REMAIN. ASSOCIATED EQUIPMENT COMPONENTS TO BE DEMOLISHED INCLUDE BUT ARE NOT LIMITED TO:
   A. DUCTWORK (SA/RA/EA/OA)
   B. HOT WATER SUPPLY AND RETURN PIPING, FITTINGS, AND ACCESSORIES BACK TO HW PIPING HEADERS
   C. ELECTRICAL COMPONENTS
   D. THERMOSTAT AND CONTROLS
3. ALL PENETRATIONS FOR DUCTWORK, PIPING, ELECTRICAL AND OTHER UTILITIES SPECIFIED TO BE DEMOLISHED SHALL BE PATCHED AND PAINTED TO MATCH EXISTING CONDITIONS.
4. All EXISTING DUCTWORK AND ASSOCIATED DIFFUSERS, REGISTERS, AND GRILLES BEING REUSED SHALL BE INSPECTED AND CLEANED.

ELECTRICAL DEMO NOTES:

1. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE PREMISES AND VERIFYING ALL EXISTING CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC IN NATURE. THE CONTRACTOR SHALL COORDINATE AND ADJUST THE WORK AS REQUIRED TO ENSURE PROPER OPERATION OF ALL INSTALLED EQUIPMENT AND SHALL COORDINATE WITH ALL OTHER TRADES.
2. REMOVE ALL EXISTING WIRING DEVICES, WIRING, CONDUIT, AND RELATED MATERIALS AS NOTED OR INDICATED WITHIN DEMOLITION AREAS. NOT ALL ITEMS MAY BE SHOWN. MODIFY AND REWORK EXISTING CIRCUITRY AS REQUIRED TO MAINTAIN CONTINUITY THROUGH AFFECTED AREAS.
3. REMOVED OR DAMAGED CONDUIT, WIRING, AND FITTINGS SHALL NOT BE REUSED OR RELOCATED FOR NEW INSTALLATIONS.
4. PROVIDE COMPLETE AS-BUILT DRAWINGS AND NEW TYPED PANELBOARD DIRECTORIES IDENTIFYING CIRCUIT NUMBERS AND DESCRIPTIONS.
5. WORK INCLUDED FOR EXISTING EQUIPMENT NOTED TO BE REMOVED SHALL INCLUDE:
   A. SALVAGING OR DISPOSING OF ALL EQUIPMENT AS DIRECTED BY OWNER OR OWNER'S REPRESENTATIVE.
   B. REMOVAL OF FEEDER FROM EQUIPMENT TO POINT OF FEED.
   C. REMOVAL OR RE-CIRCUITING OF ALL BRANCH CIRCUITING AS NOTED ON PLANS.
   D. REMOVAL OF ALL FITTINGS, SUPPORTS, BRACKETS, ETC.
   E. PATCHING OF WALLS, FLOORS AND CEILINGS.
   F. REMOVAL OF FEEDER CONDUIT IF FOUND TO BE UNSALVAGEABLE BY ENGINEER OR OWNER'S REPRESENTATIVE.
6. EXISTING EQUIPMENT NOT SHOWN ON DRAWINGS IS INTENDED TO REMAIN UNLESS OTHERWISE NOTED.
7. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DISCONNECTING AND REMOVING ALL ELECTRICAL CONNECTIONS AND EQUIPMENT REQUIRED FOR THE INSTALLATION OF NEW EQUIPMENT PROVIDED BY THE MECHANICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR TO CONFIRM AND AGREE UPON THIS SCOPE OF WORK PRIOR TO BID SUBMISSION.

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A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

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ALLAMAKEE CSD

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CHECKED BY	JCL
PROJECT NO.	9166-10000

SHEET NAME
DEMO MECHANICAL & ELECTRICAL PLANS - HIGH SCHOOL

ME101

NOT FOR CONSTRUCTION

GENERAL MECHANICAL NOTES:

1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
2. COORDINATE ALL DUCTWORK AND PIPE ROUTING WITH BUILDING STRUCTURE AND OTHER TRADES PRIOR TO INSTALLATION TO ALLOW FOR PROPER CLEARANCE SPACE.
3. MAINTAIN SERVICE CLEARANCE REQUIREMENTS AROUND ALL MECHANICAL EQUIPMENT AND ELECTRICAL EQUIPMENT. DO NOT ROUTE PIPING OR DUCTWORK IN CLEARANCE SPACE.
4. M.C. SHALL COORDINATE ANY AREA WHERE ACCESS TO EQUIPMENT OR HVAC COMPONENTS ARE REQUIRED TO ALLOW ACCESS FOR MAINTENANCE, OR INSPECTION WITH G.C.
5. All EXISTING DUCTWORK AND ASSOCIATED DIFFUSERS, REGISTERS, AND GRILLES BEING REUSED SHALL BE INSPECTED AND CLEANED.

MOTOR AND EQUIPMENT SCHEDULE

EQUIP TAG	NOTES: EQUIPMENT TAGS NOTED AS ## & ## ARE WIRED TO SAME CIRCUIT. AMPACITY SHOWN IS TOTAL CIRCUIT AMPS.									STARTER/DISCONNECT E-FURNISHED BY ELECTRICAL CONTRACTOR M-FURNISHED BY MECHANICAL CONTRACTOR					
	DESCRIPTION	AMP	VOLTAGE	# OF POLES	WIRE SIZE	CONDUIT	PANEL	MCA	MOCP	DISC	SW AMPS	FUSE AMPS	NEMA RATING	NOTES	REMARKS
DOAS-1	DEDICATED OUTSIDE AIR SYSTEM	42.0 A	480 V	3	3-#4, 1-#10	1"	SB-HS	48.7	60 A	M					
EF-1	EXHAUST FAN	3.0 A	480 V	3	3-#12, 1-#12	3/4"	H1	3.75	15 A	N/A					

EXHAUST FAN SCHEDULE

PLAN MARK	AIRFLOW (CFM)	STATIC PRESSURE	EXHAUST TYPE	ELECTRICAL				MOUNTING	MANUFACTURER | MODEL	NOTES
				HP	AMPS	VOLTAGE	Ø			
EF-1	3,080	0.9	GENERAL	1.5	1.5	460	3	ROOF	LOREN COOK ROOF EXHAUST FAN MODEL 195 ACED	1 & 5

1. EXHAUST FAN **EF-1** SHALL ENERGIZE WITH THE **DOAS-1**.
2. EXHAUST FAN **EF-1** TO ENERGIZE WITH THE ASSOCIATED HVAC UNIT, **DOAS-1**.
3. EXHAUST FAN **EF-1** SHALL BE INSTALLED ON THE EXISTING FAN ROOF CURB.
4. SEE MANUFACTURER'S MANUALS FOR INSTALL AND MOUNTING REQUIREMENTS.

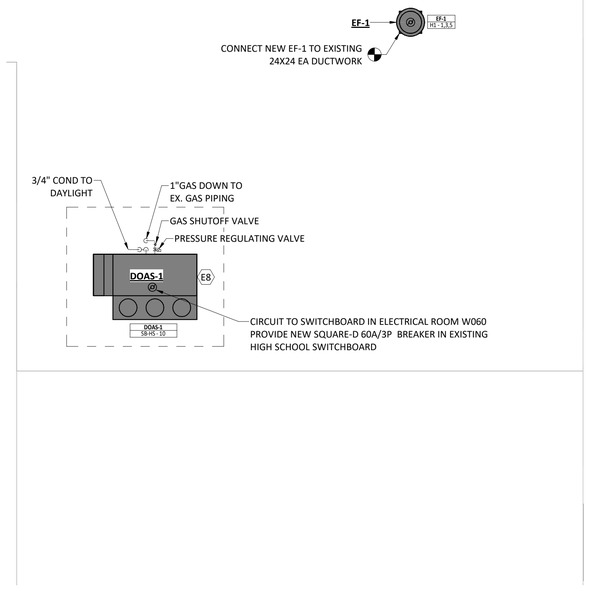
DEDICATED OUTSIDE AIR SYSTEM (DOAS) SCHEDULE

PLAN MARK	SUPPLY FAN(S)					EXHAUST FAN(S)					COOLING CAPACITY			SUMMER ENERGY RECOVERY				REFRIGERANT	ELECTRIC PRE-HEAT		GAS HEATING		WINTER DESIGN ENERGY RECOVERY				LAT (°F)	HEAT EXCHANGER MATERIAL	FUEL - NATURAL GAS			DIMENSIONS (INCH)			ELECTRICAL			WEIGHT (LBS.)	MANUFACTURER | MODEL NO.	NOTES
	DESIGN AIRFLOW	ESP	DRIVE TYPE	MOTOR		DESIGN AIRFLOW	ESP	DRIVE TYPE	MOTOR		TOTAL (MBH)	SENSIBLE (MBH)	LATENT (MBH)	OUTSIDE AIR (°F)		FRESH AIR (°F)			CAPACITY (KW)	EAT / LAT (DB°F)	INPUT (MBH)	OUTPUT (MBH)	OUTSIDE AIR (°F)		FRESH AIR (°F)				AFUE	GAS SIZE (ø)	MIN.-MAX. INLET PRESSURE	LENGTH	WIDTH	HEIGHT (NOTE 7)	AMPS	VOLTAGE	ø			
				QTY	HP				QTY	HP				EAT (DB)	EAT (WB)	LAT (DB)	LAT (WB)						EAT (DB)	EAT (WB)	LAT (DB)	LAT (WB)													
DOAS-1	3,140	1.4	DWDI / VFD	1	3.0	3,140	1.2	DWDI / VFD	1	2.0	203.7	108.7	95.0	95.0	78.0	80.7	69.5	R-454B	20	-10 / 11	200	160	11	8	52	43	100	STAINLESS STEEL	81%	1"	7"-14" W.C.	183	95	68	48.7	480	3	4,223	TRANE HORIZON OADGD020	ALL

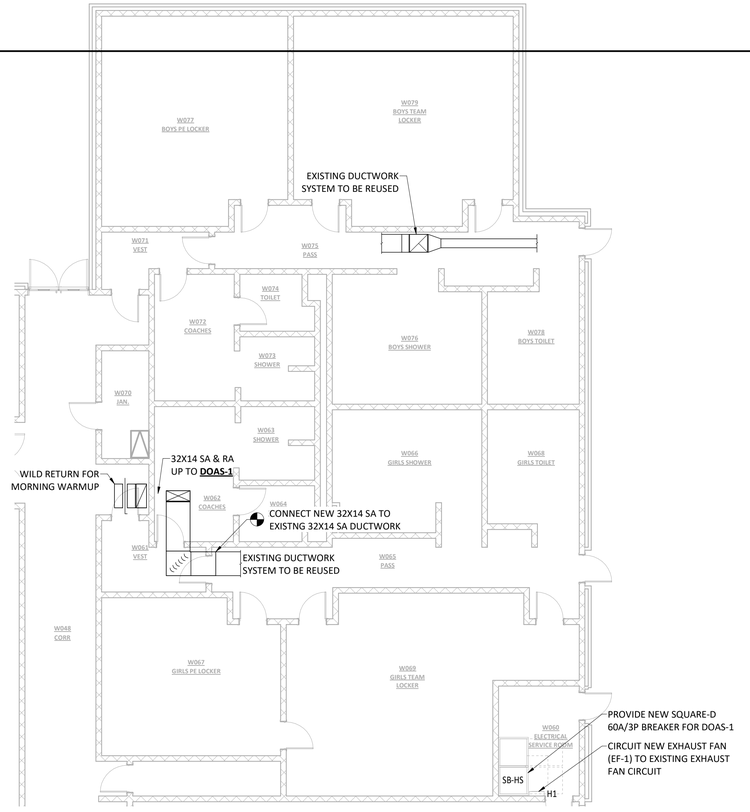
1. SUPPLY FAN AND EXHAUST FAN MOTORS SHALL BE DIRECT-DRIVE WITH FACTORY INSTALLED VARIABLE FREQUENCY DRIVES.
2. UNIT SHALL BE MULTI-ZONE VAV CONTROLS.
3. PROVIDE THE FOLLOWING MOTORIZED CONTROL DAMPERS: OUTSIDE AIR, EXHAUST AIR, AND RECIRCULATION AIRSTREAMS.
4. DIRECT EXPANSION (DX) COOLING COIL: SHALL BE TYPE 6-ROW.
5. PROVIDE UNIT WITH MODULATING HOT GAS REHEAT (HGRH) COIL DOWNSTREAM OF DX COOLING COIL TO PROVIDE DEHUMIDIFICATION.
6. PROVIDE UNIT WITH FACTORY MOUNTED AND WIRED UV LIGHTS BETWEEN EVAPORATOR COIL AND THE HGRH COIL.
7. PROVIDE 2-INCH MERV8 PRE-FILTER ON OUTSIDE AIRSTREAM.
8. PROVIDE 2-INCH MERV13 PRIMARY FILTER UPSTREAM OF DX COOLING COIL DOWNSTREAM OF THE RECIRCULATING MODULATING DAMPER.
9. COMPRESSORS SHALL BE DIGITAL-SCROLL, MINIMUM OF 2-CIRCUITS.
10. PRIMARY HEATING SECTION SHALL BE INDIRECT-FIRED GAS BURNER AND SHALL BE STAINLESS STEEL, INDUCED DRAFT COMBUSTION AND USE A DIRECT SPARK IGNITION SYSTEM.
11. SECONDARY HEATING SHALL BE STAGED ELECTRIC HEATING COIL IN THE OUTSIDE AIRSTREAM. CONTROL SHALL BE ON/OFF.
12. PROVIDE FACTORY MOUNT NON-FUSED DISCONNECT.
13. PROVIDE POWERED CONVENIENCE OUTLET.
14. PROVIDE UNITS WITH HAIL GUARDS ON THE CONDENSER COIL.
15. PROVIDE UNITS WITH ROOF CURB. CURB SHALL MAINTAIN MINIMUM 18" CLEAR ABOVE ROOF AND INSULATION FINISHED ELEVATION.

ELECTRICAL KEYED NOTES

E8	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL DUCT SMOKE DETECTOR ON THE RETURN AND SUPPLY SIDE OF THE DOAS UNITS AND SUPPLY SIDE OF MAU UNIT. CONNECT NEW DUCT SMOKE DETECTOR TO THE EXISTING FIRE ALARM CONTROL PANEL LOCATED IN ROOM W060 IN THE HIGH SCHOOL. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL DUCT SMOKE DETECTOR TEST RESET SWITCH. CONTRACTOR TO INSTALL (1) DUCT SMOKE DETECTOR TEST RESET SWITCH PER DOAS/MAU UNIT.



MECHANICAL & ELECTRICAL ROOF PLAN - HIGH SCHOOL
1/8" = 1'-0"



MECHANICAL & ELECTRICAL PLAN - HIGH SCHOOL
1/8" = 1'-0"

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MECHANICAL & ELECTRICAL PLANS - HIGH SCHOOL

ME102

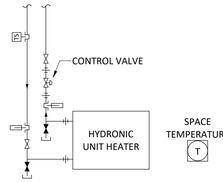
NOT FOR CONSTRUCTION



ELEMENTARY STAGE PANEL 2
NTS ME103

GENERAL MECHANICAL NOTES:

1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
2. COORDINATE ALL DUCTWORK AND PIPE ROUTING WITH BUILDING STRUCTURE AND OTHER TRADES PRIOR TO INSTALLATION TO ALLOW FOR PROPER CLEARANCE SPACE.
3. MAINTAIN SERVICE CLEARANCE REQUIREMENTS AROUND ALL MECHANICAL EQUIPMENT AND ELECTRICAL EQUIPMENT. DO NOT ROUTE PIPING OR DUCTWORK IN CLEARANCE SPACE.
4. M.C. SHALL COORDINATE ANY AREA WHERE ACCESS TO EQUIPMENT OR HVAC COMPONENTS ARE REQUIRED TO ALLOW ACCESS FOR MAINTENANCE, OR INSPECTION WITH G.C.



UNIT HEATER (**UH-1 & 2** (HW)) - ANALOG I/O
A. AI = SPACE TEMP, SPACE TEMP SETPOINT |
AO = FAN SPEED, ON/OFF COMMAND, CONTROL VALVE

UNIT HEATER (**UH-1 & 2** (HW)) - BINARY I/O
A. BI = FAN STATUS | BO = FAN START/STOP

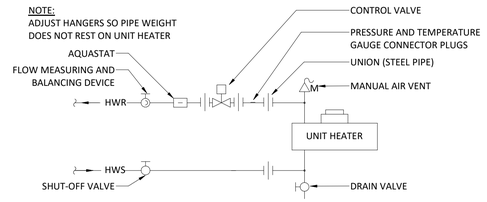
UNIT HEATER (**UH-1 & 2** (HW)) - SOFTWARE
A. OCCUPANCY SCHEDULE, SETPOINTS

UNIT HEATER (**UH-1 & 2** (HW)) - MINIMUM ALARMS
A. FAN FAILURE
B. SPACE TEMP, 10°(ADJ) FROM SETPOINT FOR 10 MINS (ADJ)
C. LOW SUPPLY WATER TEMP

UNIT HEATER SEQUENCE OF OPERATION:

A. GENERAL:
1. REFER TO THE OCCUPANCY AND SET POINT SCHEDULE FOR A DESCRIPTION OF ALL OCCUPANCY MODES AND SET POINTS.
2. EACH SPACE SERVED SHALL BE PROVIDED WITH A TEMPERATURE SENSOR.

B. GAS UNIT HEATERS:
1. THE GAS UNIT HEATER SHALL BE ON WHENEVER THERE IS A CALL FOR HEATING.



HOT WATER UNIT HEATER PIPING DETAIL 1
NTS ME103

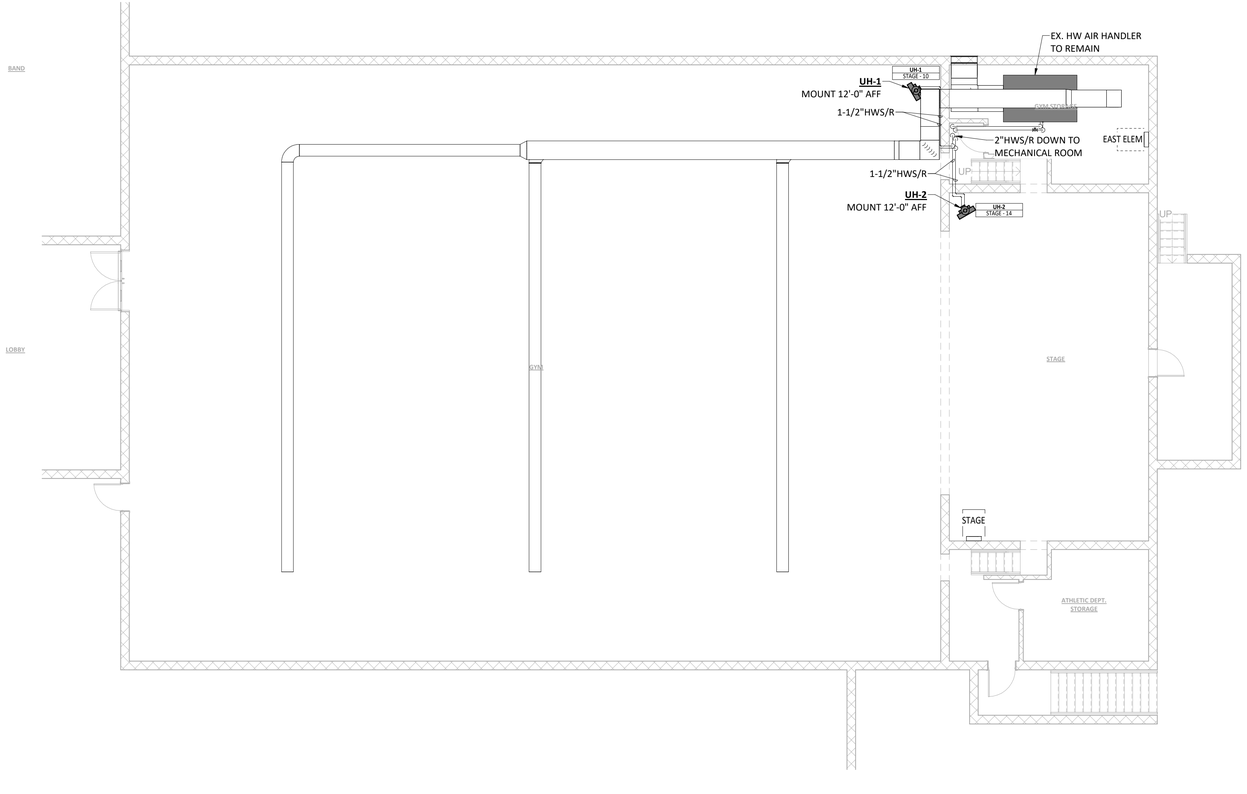
EAST ELEMENTARY MOTOR AND EQUIPMENT SCHEDULE

EQUIP TAG	NOTES: EQUIPMENT TAGS NOTED AS ## & ## ARE WIRED TO SAME CIRCUIT. AMPACITY SHOWN IS TOTAL CIRCUIT AMPS.								STARTER/DISCONNECT E-FURNISHED BY ELECTRICAL CONTRACTOR M-FURNISHED BY MECHANICAL CONTRACTOR					
	DESCRIPTION	AMP	VOLTAGE	# OF POLES	WIRE SIZE	CONDUIT	PANEL/MCC	MOCP	DISC	SW AMPS	FUSE AMPS	NEMA RATING	NOTES	REMARKS
UH-1	UNIT HEATER	7.2 A	120 V	1	1-#12, 1-#12, 1-#12	3/4''	STAGE	15 A						
UH-2	UNIT HEATER	7.2 A	120 V	1	1-#12, 1-#12, 1-#12	3/4''	STAGE	15 A						

HOT WATER UNIT HEATER SCHEDULE - ALTERNATE #4

PLAN MARK	HEATING CAPACITY (BTU/HR)	AIRFLOW (CFM)	CONNECTION SIZE	FLOWRATE (GPM)	WATER PD (FT. HEAD)	EWT (°F)	TEMP. DROP (Δ°F)	ELECTRICAL			DIMENSIONS (INCHES)			AREA SERVED	MANUFACTURER | MODEL	NOTES
								HP	VOLTAGE	ø	WIDTH	DEPTH	HEIGHT			
UH-1	105,891	2,900	1-1/2"ø	14.9	0.79	160°F	20°F	1/3	120	1	24-5/8	13-3/4	29	GYM	TRANE HYDRONIC UNIT HEATER MODEL | S-204	ALL
UH-2	105,891	2,900	1-1/2"ø	14.9	0.79	160°F	20°F	1/3	120	1	24-5/8	13-3/4	29	GYM	TRANE HYDRONIC UNIT HEATER MODEL | S-204	ALL

1. PROVIDE WALL MOUNT PROGRAMMABLE THERMOSTAT.
2. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR MOUNTING HEIGHT AND INSTALLATION REQUIREMENTS.



MECHANICAL & ELECTRICAL PLAN - EAST ELEMENTARY
1/8" = 1'-0"

N

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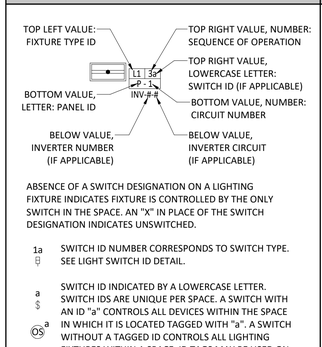
ME103

ELECTRICAL ABBREVIATIONS

1P	1 POLE (2P, 3P, 4P, ETC.)
AF	AMP FRAME
ALT	ALTERNATE
AT	AMP TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
AV	AUDIO VISUAL
AWG	AMERICAN WIRE GAUGE
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CCTV	CLOSED CIRCUIT TELEVISION
CP	CIRCULATING PUMP
CT	CURRENT TRANSFORMER
CU	COPPER
DET	DETAIL
DISC	DISCONNECT
DIST	DISTRIBUTION
DT	DOUBLE THROW
EC	ELECTRICAL CONTRACTOR
ELEC	ELECTRIC, ELECTRICAL
ELEV	ELEVATOR
ELU	EMERGENCY LIGHTING UNIT
EM	EMERGENCY
EMS	ENERGY MANAGEMENT SYSTEM
EMT	ELECTRICAL METALLIC TUBING
EQUIP	EQUIPMENT
EXIST	EXISTING
FACP	FIRE ALARM CONTROL PANEL
FU	FUSE
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
GND	GROUND
GRS	GALVANIZED RIGID STEEL (CONDUIT)
HP	HORSEPOWER
HV	HIGH VOLTAGE
HVAC	HEATING, VENTILATING AND AIR
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
J-BOX	JUNCTION BOX
KV	KILOVOLT
KVA	KILOVOLT-AMPERE
KVAR	KILOVOLT-AMPERE REACTIVE
KW	KILOWATT
KWH	KILOWATT HOUR
LCP	LIGHTING CONTROL PANEL
LV	LOW VOLTAGE
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MH	MANHOLE
MIC	MICROPHONE
MIN	MINIMUM
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MSBD	MAIN SWITCHBOARD
MTS	MANUAL TRANSFER SWITCH
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NL	NIGHT LIGHT
NTS	NOT TO SCALE
OC	ON CENTER
PA	PUBLIC ADDRESS
PB	PULL BOX OR PUSHBUTTON
PH	PHASE
PNL	PANEL
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE (CONDUIT)
PWR	POWER
R-R	REMOVE AND REINSTALL
RCPT	RECEPTACLE
RM	ROOM
SPEC	SPECIFICATION
STD	STANDARD
SWBD	SWITCHBOARD
TL	TWIST LOCK
TR	TAMPER RESISTANT
TV	TELEVISION
TYP	TYPICAL
V	VOLT
VA	VOLT-AMPERES
W	WATT
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
XFMR	TRANSFORMER
AFF	ABOVE FINISHED FLOOR
AFI	ARC FAULT CIRCUIT INTERRUPTER
AL	ALUMINUM
VFD	VARIABLE FREQUENCY DRIVE
@	AT
'	FEET
"	INCHES
#	NUMBER

ELECTRICAL ANNOTATIONS

LIGHTING TAGS

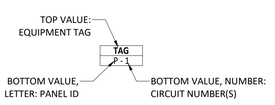


ABSENCE OF A SWITCH DESIGNATION ON A LIGHTING FIXTURE INDICATES FIXTURE IS CONTROLLED BY THE ONLY SWITCH IN THE SPACE. AN "X" IN PLACE OF THE SWITCH DESIGNATION INDICATES UNSWITCHED.

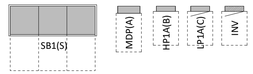
1a — SWITCH ID NUMBER CORRESPONDS TO SWITCH TYPE. SEE LIGHT SWITCH ID DETAIL.

a — SWITCH ID INDICATED BY A LOWERCASE LETTER. SWITCH IDS ARE UNIQUE PER SPACE. A SWITCH WITH AN ID "a" CONTROLS ALL DEVICES WITHIN THE SPACE IN WHICH IT IS LOCATED TAGGED WITH "a". A SWITCH WITHOUT A TAGGED ID CONTROLS ALL LIGHTING FIXTURES WITHIN A SPACE. ID TAGS MAY BE USED ON CONTROL DEVICES OTHER THAN SWITCHES, SUCH AS OCCUPANCY SENSORS OR CONTACTORS.

EQUIPMENT TAGS



POWER DISTRIBUTION EQUIPMENT



SOLID FILL INDICATES PROPOSED SWITCHBORAD, DISTRIBUTION, BRANCH PANEL OR LOAD CENTER. DASHED BOX INDICATES CODE-REQUIRED CLEARANCE (WIDTH AND DEPTH).
DOOR INDICATES FRONT OF RECESSED PANEL.
HATCHED FILL INDICATES EMERGENCY PANEL OR INVERTER.

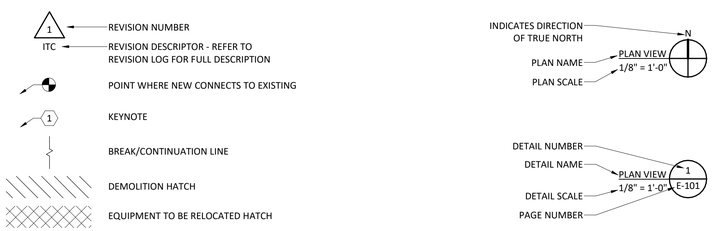
PANELBOARDS ARE ASSIGNED AN ABBREVIATED INDICATOR (OR PANEL ID) FOR USE WITH CIRCUIT NUMBERS. PANEL ID IS LISTED WITHIN THE PANEL SCHEDULE AND IN THE PANEL ABBREVIATION SCHEDULE.

EQUIPMENT IS TAGGED WITH PANEL NAME AND WITH PANEL ID IN PARENTHESES. PANEL ID IS INTENDED AS A DESIGN DOCUMENTATION AID ONLY. DO NOT INCLUDE PANEL ID IN FIELD-APPLIED CIRCUIT DIRECTORIES OR LABELS.

DEVICES AND FIXTURES ARE TAGGED WITH PANEL ID AND CIRCUIT NUMBER. FOR EXAMPLE, A DEVICE TAGGED WITH "A1" INDICATES THE DEVICE IS CIRCUITED TO PANEL DESIGNATED "A," CIRCUIT NUMBER 1. THE PANEL SCHEDULE CIRCUIT NUMBER CONTAINS BOTH THE PANEL ABBREVIATION AND THE CIRCUIT NUMBER.

T1 — TRANSFORMER: TYPICALLY TRANSFORMER NAMES BEGIN WITH OR CONTAIN THE LETTER "T". SEE SINGLE-LINE DIAGRAM FOR DESCRIPTION AND REQUIREMENTS.

GENERAL VIEW SYMBOLS & KEY



ELECTRICAL SYMBOL LEGEND

LIGHTING SYMBOLS

- LIGHTING FIXTURES, TYPICAL, RECTANGULAR (VARIOUS SYMBOLS)
  FILLED CIRCLES INDICATE RECESSED.
  OPEN CIRCLES INDICATE SURFACE-MOUNTED.
  DIAGONAL LINE INDICATES LENSED.
  OUTER DOTS INDICATE SUSPENDED.
- LIGHTING FIXTURES, TYPICAL, ROUND (VARIOUS SYMBOLS)
  CENTER DOT INDICATES PENDANT.
  DIAGONAL LINE INDICATES LENSED.
  CHEVRON INDICATES WALL WASH.
- WALL-MOUNTED FIXTURES, TYPICAL (VARIOUS SYMBOLS)
- STRIP FIXTURE
- DIRECTIONAL LIGHT, TRACK LIGHT, FLOOD LIGHT
- LINEAR LIGHT, TAPE LIGHT
- EMERGENCY LIGHTING UNIT, CEILING-MOUNTED, INTEGRAL BATTERY
- EMERGENCY LIGHTING UNIT, CEILING-MOUNTED, REMOTE BATTERY
- EMERGENCY LIGHTING UNIT, WALL-MOUNTED, INTEGRAL BATTERY
- EMERGENCY LIGHTING UNIT, WALL-MOUNTED, REMOTE BATTERY
- EXIT LIGHT, CEILING-MOUNTED. SHADING AND ARROWS INDICATE FACES AND DIRECTIONAL CHEVRONS.
- EXIT LIGHT, WALL-MOUNTED. SHADING AND ARROWS INDICATE FACES AND DIRECTIONAL CHEVRONS.
- EXIT/ELU COMBO
- POLE/AREA LIGHTS
- POST-TOP AREA LIGHT
- BOLLARD LIGHT
- PROPOSED LIGHT FIXTURE
- DIAGONAL HATCH INDICATES LIGHT ON A CRITICAL CIRCUIT.
- LINE VOLTAGE SWITCH
- LOW VOLTAGE SWITCH

SWITCH MODIFIERS:

3: 3-WAY	OS: OCCUPANCY SENSOR
4: 4-WAY	VS: VACANCY SENSOR
K: KEYED	M: MOTOR-RATED
D: DIMMING	3M: 3 PHASE MOTOR-RATED
T: TIMER	SP: SPECIAL SWITCH, TYPE AS
V: VOLUME	INDICATED

FOR LOW VOLTAGE SWITCH TYPES, SEE LIGHTING CONTROL SHEET

- LC — LIGHTING CONTACTOR
- OS — OCCUPANCY SENSOR
- DL — DAYLIGHT HARVESTING SENSOR
- PC — PHOTOCELL
- TC — TIMECLOCK
- DAYLIGHTING ZONE

POWER SYMBOLS

WALL CEILING FLOOR

- SIMPLEX RECEPTACLE
- DUPLEX RECEPTACLE
- QUADRUPLEX RECEPTACLE
- SPECIAL RECEPTACLE, TYPE AS INDICATED

RECEPTACLE MODIFIERS:
##": HEIGHT AFF OC
AC: ABOVE COUNTER
GFI: GROUND-FAULT CIRCUIT INTERRUPTER
WP: WEATHERPROOF IN-USE COVER
M: MULLION MOUNTED

- HALF SHADING INDICATES SPLIT (TYPICALLY SWITCHED)
- OUTSIDE SHADING INDICATES EMERGENCY CIRCUIT
- CENTER SHADING INDICATES ISOLATED GROUND
- MULTIOUTLET ASSEMBLY
  FILLED SQUARES INDICATE 120V OUTLET
  OPEN SQUARES INDICATE WITH USB
- CORD REEL, DEVICE VARIES
- DROP CORD, DEVICE VARIES
- J — JUNCTION BOX
- F1 — FLOOR BOX, SEE SCHEDULE FOR TYPE
- HC — ADA PUSH BUTTON
- M — POWER METER
- SAFETY SWITCH, (ELEC PROVIDED)
- SAFETY SWITCH, (PROVIDED W/ EQUIPMENT)
- MOTOR STARTER
- COMBINATION STARTER/DISCONNECT
- CONTACTOR
- EPO — EMERGENCY PUSH BUTTON

POWER DEVICE AND EQUIPMENT TAGS

- a — ELECTRICAL DEVICE TAGS: UPPERCASE LETTER(S) INDICATES PANEL ID AND CIRCUIT NUMBER. LOWERCASE LETTER INDICATES DESIGNATION OF CONTROLLING SWITCH (WHERE APPLICABLE).
- M — MOTOR CONNECTION
- E — EQUIPMENT CONNECTION
- SP — SPEAKER

WIRING

- SOLID, ARCED LINES CONNECTING EQUIPMENT, DEVICES, OR FIXTURES INDICATE UNSWITCHED POWER CIRCUITING. WIRES ARE ONLY INTENDED TO INDICATE TO WHAT CIRCUIT DEVICES ARE CONNECTED. ACTUAL CONNECTIONS, CIRCUIT ROUTING, INSTALLATION, JUNCTION BOXES, ETC. SHALL BE FIELD-DETERMINED BY THE CONTRACTOR.
- DASHED, ARCED LINES CONNECTING EQUIPMENT, DEVICES.
- HOME RUN TO BRANCH CIRCUIT PANELBOARD. THE EQUIPMENT NAME AND CIRCUIT NUMBER(S) ARE INDICATED, SEPARATED BY A HYPHEN. HOMERUNS ARE ONLY INTENDED TO INDICATE PANEL AND CIRCUIT NUMBER. ACTUAL HOMERUN LOCATION SHALL BE FIELD-DETERMINED BY THE CONTRACTOR.

CONSTRUCTION PHASING

EXISTING TO REMAIN	EXISTING TO REMAIN
EXISTING TO BE DEMOLISHED	EXISTING TO BE DEMOLISHED
NEW	NEW

ELECTRICAL SYSTEM ABBREV.

UNDERGROUND ELECTRIC	EXISTING UNDERGROUND ELECTRIC
SURFACE RACEWAY/OVERHEAD ELECTRIC	EXISTING SURFACE RACEWAY/OVERHEAD ELECTRIC
UNDERGROUND LOW VOLTAGE	EXISTING UNDERGROUND LOW VOLTAGE

ELECTRICAL GENERAL NOTES

1. THE NOTES BELOW ARE COMMONLY REQUIRED ITEMS AS OUTLINED IN THE PROJECT MANUAL. CONTRACTORS MUST REFER TO THE PROJECT MANUAL AND STANDARD DETAILS FOR COMPLETE SPECIFICATIONS, INCLUDING ALL MATERIAL AND CONSTRUCTION METHODS NOT LISTED HERE.
2. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND DETAILS. ARCHITECTURAL ELEVATIONS AND DETAILS TAKE PRECEDENCE OVER LOCATIONS SHOWN ON ELECTRICAL DRAWINGS.
3. PROVIDE CABLE OR CONDUIT AND WIRE AS REQUIRED TO ACHIEVE CIRCUITING SHOWN. SIZE CONDUCTORS PER NEC AMPACITY AND WIRE FILL CRITERIA. PROVIDE DEDICATED NEUTRAL AND GROUND CONDUCTORS FOR CIRCUITING, UNLESS NOTED OTHERWISE. INCREASE BRANCH CIRCUIT AND/OR FEEDER CONDUCTORS INCLUDING EQUIPMENT GROUNDING CONDUCTORS PROPORTIONALLY FOR NO MORE THAN 3% VOLTAGE DROP ON BRANCH CIRCUITS AND 2% ON FEEDERS PER ENERGY CODE.
4. IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO COORDINATE INSTALLATION OF ELECTRICAL SYSTEMS AND THOSE REQUIRING ELECTRICAL CONNECTIONS TO MAINTAIN NEC REQUIRED CLEARANCES, INCLUDED BUT NOT LIMITED TO AREAS ABOVE ACCESSIBLE CEILINGS.
5. ELECTRICAL WORK SHALL BE PERFORMED UNDER THE SUPERVISION OF A LICENSED MASTER ELECTRICIAN. CONTRACTOR TO PAY FOR ALL PERMITS, FEES INSPECTION AND TESTING ASSOCIATED WITH THIS WORK.
6. MATERIALS FURNISHED FOR THIS PROJECT SHALL BE NEW, COMMERCIAL GRADE, FREE OF DEFECTS, AND LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY UNLESS NOTED OTHERWISE.
7. TV OUTLETS, VOLUME CONTROLS, TELEPHONE OUTLETS, DATA OUTLETS, AND FIRE ALARM DEVICES SHALL CONSIST OF A BACK BOX WITH CONDUIT STUBBED ABOVE THE ACCESSIBLE CEILING, SEE STUB UP DETAIL. VERIFY SIZE OF BACK BOX REQUIRED WITH DEVICE TO BE INSTALLED. LOCATE BACK BOXES 6" FROM ADJACENT POWER RECEPTACLE INTENDED FOR COMPUTER USE.
8. MATERIALS AND INSTALLATION, AT A MINIMUM, ARE TO CONFORM WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE, THE LATEST EDITION OF NFPA, AND THE LATEST EDITION OF THE LOCAL CODES AND ORDINANCES. INCLUDING ALL AMENDMENTS TO THE NEC EQUIPMENT, WHERE APPLICABLE, WILL BE LISTED WITH THE UNDERWRITERS LABORATORIES, INC. QUALITY AND WORKMANSHIP ESTABLISHED BY DRAWINGS AND SPECIFICATIONS ARE NOT TO BE REDUCED BY THE ABOVE MENTIONED CODES.
9. BIDDERS ARE TO VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND SATISFY THEMSELVES AS TO THE NATURE AND SCOPE OF WORK. THE SUBMISSION OF A BID WILL BE EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE. LATER CLAIMS FOR LABOR, EQUIPMENT, OR MATERIALS REQUIRED, OR FOR DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD AN EXAMINATION BEEN MADE, WILL NOT BE ALLOWED.
10. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM, AND PROVIDE ALL NECESSARY DEVICES AND COMPONENTS FOR EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.
11. AT PROJECT COMPLETION AND BEFORE THE FINAL OBSERVATION OF THE WORK, PROVIDE TO THE OWNER WRITTEN, ORAL AND HANDS-ON DEMONSTRATION OF THE OPERATION, FUNCTION AND MAINTENANCE OF EACH PIECE OF EQUIPMENT PROVIDED UNDER THE CONTRACT. INSTRUCTION TO THE OWNER SHALL BE SUFFICIENT FOR THE OWNER TO COMPLETELY UNDERSTAND THE OPERATION AND MAINTENANCE FOR EACH PIECE OF EQUIPMENT.
12. ELECTRICAL CONTRACTOR SHALL PROVIDE SUPPORTS FOR ALL ELECTRICAL EQUIPMENT. EQUIPMENT SHALL BE SUPPORTED DIRECTLY FROM BUILDING STRUCTURAL MEMBERS. DO NOT ATTACH EQUIPMENT TO HVAC DUCTWORK, CEILING GRIDS AND CEILING SUPPORT MEMBERS, PIPING OR OTHER EQUIPMENT. GROUND OR SLAB MOUNTED EQUIPMENT SHALL BE MOUNTED ON A SEPARATE FOUR INCH HIGH CONCRETE SLAB.
13. UNLESS OTHERWISE NOTED ON THE DRAWINGS OR REQUIRED BY THE ARCHITECT, THE FOLLOWING MOUNTING HEIGHTS SHALL APPLY:

TOGGLE SWITCHES	4'-0" TO CENTER
RECEPTACLES, DATA AND TELEPHONE OUTLETS	1'-3" TO BOTTOM
PANELBOARDS	6'-6" MAXIMUM TO TOP
MOTOR CONTROL EQUIPMENT, DISCONNECT SWITCHES	5'-0" MAXIMUM TO CENTERLINE
WIREWAYS, TOP FEED (ADJUSTABLE)	4'-0" MAXIMUM TO BOTTOM
WIREWAYS, BOTTOM FEED (ADJUSTABLE)	5'-6" MAXIMUM TO BOTTOM
WIRING DEVICES ABOVE COUNTERS, BENCHES	0'-8" ABOVE TOP TO BOTTOM OF DEVICE

14. ALL MOUNTING HEIGHTS MAY BE ADJUSTED IN THE FIELD. COORDINATE HEIGHTS OF ALL EQUIPMENT WITH SCREEN WALLS, FENCING, MURALS AND OTHER ARCHITECTURAL FEATURES, WITH ARCHITECT BEFORE ROUGH-IN. THIS WILL INCLUDE WALL AND RACK MOUNTED EQUIPMENT INSIDE OR OUTSIDE.
15. THE ELECTRICAL CONTRACTOR SHALL MEET AND COORDINATE THE TEMPORARY AND PERMANENT POWER WITH THE LOCAL POWER COMPANY AT THE SITE PRIOR TO CONSTRUCTION. AT THAT TIME, THE CONTRACTOR SHALL COORDINATE ALL RELATED WORK WITH THE UTILITY COMPANY'S RESPONSIBILITIES TO MEET THE OWNER'S SCHEDULE. THE COST FOR THESE SERVICES SHALL BE PAID FOR BY THE GENERAL CONTRACTOR.
16. FURNISH AND INSTALL DISCONNECT SWITCHES, WIRING AND CONNECTIONS OF HVAC SYSTEM AS SHOWN ON PLANS. ELECTRICAL CONTRACTOR SHALL VERIFY AND COORDINATE WITH MECHANICAL CONTRACTOR REGARDING SUPPLY AND INSTALLATION OF ALL REQUIRED CONTROLS. TEMPERATURE CONTROLS SHALL BE UNDER DIVISION 15 WORK.
17. THE DISCONNECT SWITCH, FUSE SIZES, BREAKER SIZES, CONDUIT AND WIRE SHOWN FOR ALL HVAC ARE SIZED PER THE MANUFACTURER AND MODEL NUMBER LISTED ON THESE PLANS. THE GENERAL CONTRACTOR SHALL BARE ANY ADDITIONAL COST INCURRED IF EQUIPMENT PROVIDED DOES NOT MATCH ELECTRICAL REQUIREMENTS FOR BASIS OF DESIGN.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR SEALING ALL CONDUIT PENETRATIONS MADE THROUGH FIRE RATED WALLS, CEILINGS, SLABS ETC. PENETRATION SEALS SHALL BE PER U.L. ASSEMBLY STANDARDS.
19. THE ELECTRICAL CONTRACTOR SHALL BALANCE THE LOAD OF THE COMPLETED PROJECT SUCH THAT NO PANELBOARD OR DISTRIBUTION DEVICE IS OVERLOADED, AND SO THAT THE LOAD BETWEEN PHASES IS WITHIN 15% OF EACH OTHER.
20. LOCATION OF PANELBOARDS AND OTHER PIECES OF ELECTRICAL EQUIPMENT AS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED IN THE FIELD WITH THE LOCATION OF PIPES, VENTILATION DUCTS AND MECHANICAL EQUIPMENT TO AVOID INTERFERENCE. ANY CONFLICTS DERIVING FROM EQUIPMENT INSTALLATION SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE ENGINEER.
21. ALL PULL BOXES AND JUNCTION BOXES SHALL BE SIZED PER THE LATEST EDITION OF THE NEC.
22. PROVIDE GFCI PROTECTION FOR ALL RECEPTACLES LOCATED IN DAMP OR WET LOCATIONS. THIS INCLUDES EXTERIOR, KITCHEN AND WITHIN SIX FEET OF SINK OR WATER SOURCE.
23. CONTRACTOR TO SCHEDULE ELECTRICAL BOX ROUGH IN WALK THROUGH PRIOR TO INSTALLING BOXES TO COORDINATE WITH ARCHITECTURAL FEATURES AND OWNER REQUIREMENTS.
24. THE ELECTRICAL CONTRACTOR SHALL SUPPORT EACH LIGHTING FIXTURE DIRECTLY FROM BUILDING STRUCTURAL MEMBERS INDEPENDENT OF ANY CEILINGS OR OTHER INSTALLED ITEM. PROVIDE SUPPLEMENTAL ANGLE OR CHANNEL TRAPEZE SUPPORTS REQUIRED TO SPAN ACROSS PIPING, DUCTWORK OR OTHER OBJECTS WHERE DIRECT ABOVE THE FIXTURE SUPPORT IS NOT POSSIBLE. DO NOT ATTACH TO THE DUCTWORK; ALL SUPPORT AND WEIGHT OF THE FIXTURE MUST BE BORNE BY THE STRUCTURE. THESE SUPPORTS SHALL BE INSTALLED BY THE ELECTRICAL CONTRACTOR AS REQUIRED BY FIELD CONDITIONS WITHOUT ADDITIONAL COST.
25. ALL EXIT SIGNS AND NIGHT LIGHTS SHALL BE CONNECTED TO THE LOCAL CIRCUIT AHEAD OF ANY SWITCHING.
26. COORDINATE MOUNTING HEIGHT OF ALL WALL MOUNTED EXTERIOR LIGHTS WITH ARCHITECTURAL ELEVATIONS PRIOR TO ROUGH-IN.
27. PROVIDE FIRE RATED BOXES FOR FIXTURES THAT ARE INSTALLED IN ANY FIRE RATED CEILINGS OR LOCATIONS WHERE THE FIXTURE COMES IN CONTACT WITH INSULATION.
28. FIXTURE SUPPORT SYSTEMS AND HARDWARE SHALL BE AS RECOMMENDED BY THE FIXTURE MANUFACTURER.
29. FIELD VERIFY MOUNTING REQUIREMENTS AND CONDITIONS PRIOR TO SHOP DRAWING SUBMITTAL. FOR EXAMPLE, CUSTOM ARMS WILL BE REQUIRED TO MOUNT TO EXISTING STANDARDS AND ADAPTATION TO SURFACE OR FLUSH BOXES AND STEM/YOKE LENGTHS TO BE FIELD DETERMINED.
30. PROVIDE WATER TIGHT FITTINGS AND BOXES FOR FIXTURES, RECEPTACLES AND EQUIPMENT LOCATED IN WET LOCATIONS AND EXTERIOR OF BUILDING.
31. PROVIDE LIGHTING CONTROLS THROUGHOUT FOR A COMPLETE AND OPERATIONAL SYSTEM IN COMPLIANCE WITH ASRAE, IECC AND AHJ.
32. ALL LIGHT FIXTURES SHOWN WITH '*' SHALL BE POWERED VIA NORMAL AND EMERGENCY CIRCUIT. PROVIDE UL-924 TRANSFER DEVICES AS REQUIRED FOR OPERATION. ALL EXIT SIGNS SHALL BE POWERED WITH INTEGRAL BATTERY.
33. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS FOR FIXTURE PLACEMENT. REFER TO LIGHTING SCHEDULE FOR MOUNTING HEIGHT.
34. EC SHALL REFER TO THE TECHNOLOGY PLANS FOR ADDITIONAL CONDUIT ROUTING REQUIREMENTS AND COORDINATION DETAILS RELEVANT TO DIVISION 16 ELECTRICAL SCOPE. THESE PLANS CONTAIN CRITICAL INFORMATION NECESSARY FOR PROPER INTEGRATION WITH LOW-VOLTAGE SYSTEMS AND MUST BE REVIEWED TO ENSURE ACCURATE COORDINATION AND INSTALLATION.

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR

BIDDING

DATE	02/20/2026
DESCRIPTION	DATE

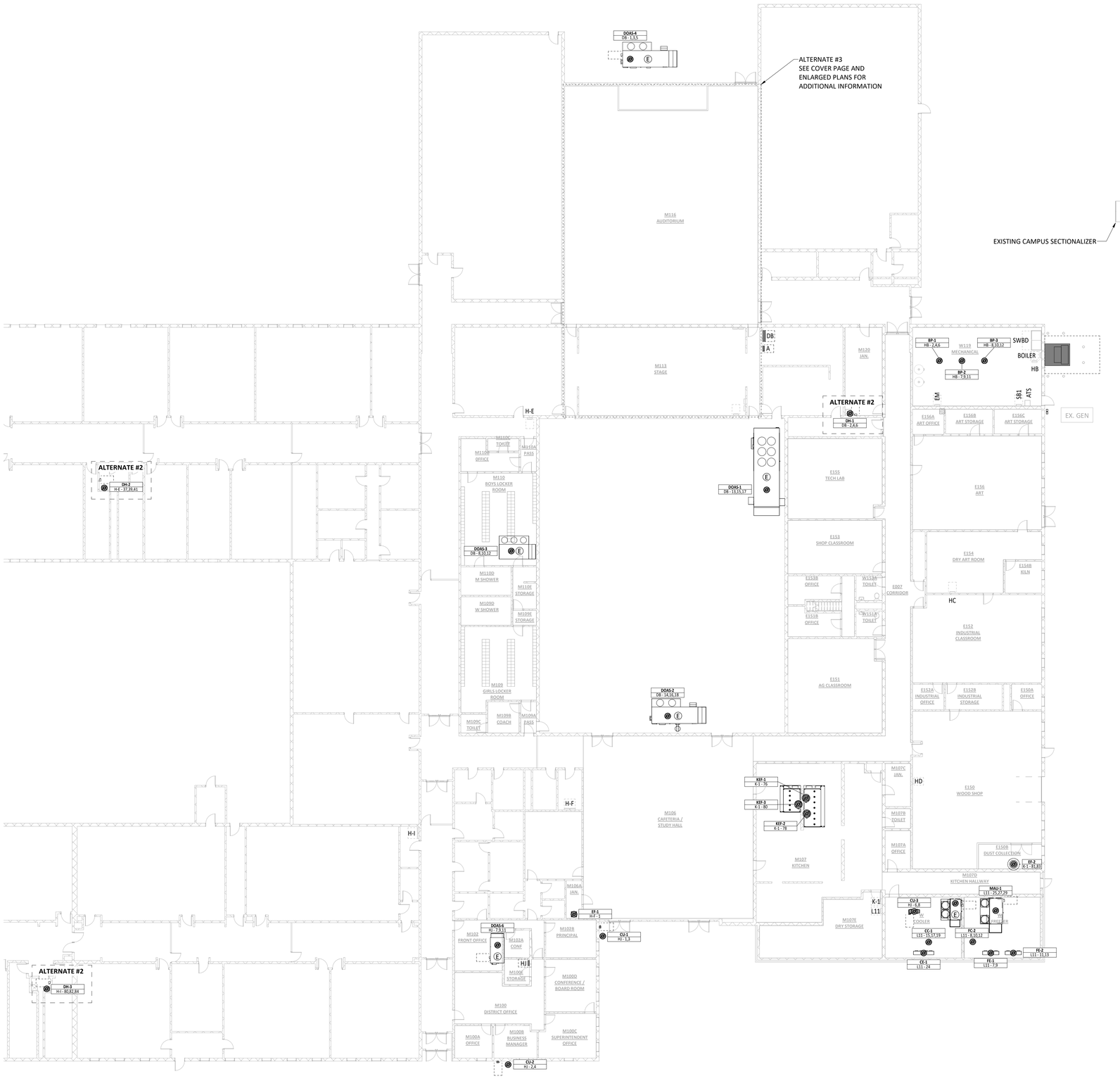
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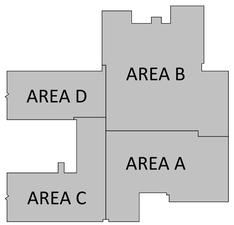
SHEET NAME

ELECTRICAL SYMBOLS

E-000

NOT FOR CONSTRUCTION





MIDDLE SCHOOL BUILDING KEY PLAN

ELECTRICAL PLAN - OVERALL
1/16" = 1'-0"
1
E-101

NOT FOR CONSTRUCTION

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A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172

ALLAMAKEE CSD

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BIDDING

DATE	02/20/2026
DESCRIPTION	DATE

DRAWN BY	DMS
CHECKED BY	KDM
PROJECT NO.	9166-10000

SHEET NAME

ELECTRICAL PLAN - OVERALL

E-101

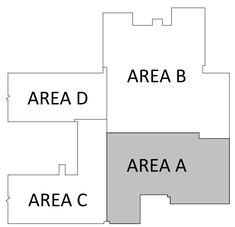


ALTERNATE NOTES

ALT-#2	PROVIDE CONDUIT AND CONDUCTORS TO NEW DUCT HUMIDIFIER(S). REFER TO MOTOR AND EQUIPMENT SCHEDULE ON SHEET E-601 FOR CONDUIT, CONDUCTOR AND DISCONNECT SIZING. PROVIDE NEW 70A/3P BREAKER IN ASSOCIATED PANEL

ELECTRICAL KEYED NOTES

E4	PROVIDE AN ADRESSABLE MONITOR MODULE TO INTERFACE WITH THE KITCHEN HOOD FIRE SUPPRESSION SYSTEM. UPON ACTIVATION OF THE SUPPRESSION SYSTEM, THE MONITOR MODULE SHALL INITIATE A GENERAL FIRE ALARM CONDITION THROUGH THE FIRE ALARM CONTROL PANEL (FACP). MODULE SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72 AND MANUFACTURER REQUIREMENTS. COORDINATE WIRING AND TERMINATION REQUIREMENTS WITH THE KITCHEN HOOD SUPPRESSION CONTRACTOR.
E5	EXISTING RECEPTACLES MOUNTED UNDER HOOD SHALL BE RE-INSTALLED ONCE NEW HOOD IS INSTALLED. PROVIDE CAT6 CABLE TO CONTROL PANEL TO TIE INTO BUILDING AUTOMATION SYSTEM. SEE DETAILS ON SHEETS E-503 AND E-504 FOR POWER, CONTROL AND FIRE ALARM WIRING.
E7	ELECTRICAL CONTRACTOR TO WIRE CONTROL PANEL TO SHUNT TRIP COIL TO SHUT OFF EQUIPMENT UNDER HOOD IN FIRE CONDITION. ELECTRICAL CONTRACTOR TO WIRE CONTROL PANEL TO N.C. CONCTACTS OF GAS SOLENOID TO SHUT OFF GAS IN FIRE CONDITON. ELECTRICAL CONTRACTOR TO WIRE CONTROL PANEL TO SUPPLY FANS/MAKE-UP AIR FANS TO SHUT OFF IN FIRE CONDITION. ELECTRICAL CONTRACTOR TO WIRE CONTROL PANEL TO EXHAUST FANS, HOOD LIGHTS, AND TEMPERATURE SENSOR. EXHAUST FANS TO BE WIRED TO UNIT INTERLOCK SO THAT EXHAUST FANS ENERGIZE AUTOMATICALLY WHEN COOKING APPLIANCES ARE IN USE.



MIDDLE SCHOOL BUILDING KEY PLAN

ELECTRICAL PLAN - AREA A
1/8" = 1'-0"

N

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MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172

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DATE	02/20/2026

DESCRIPTION	DATE

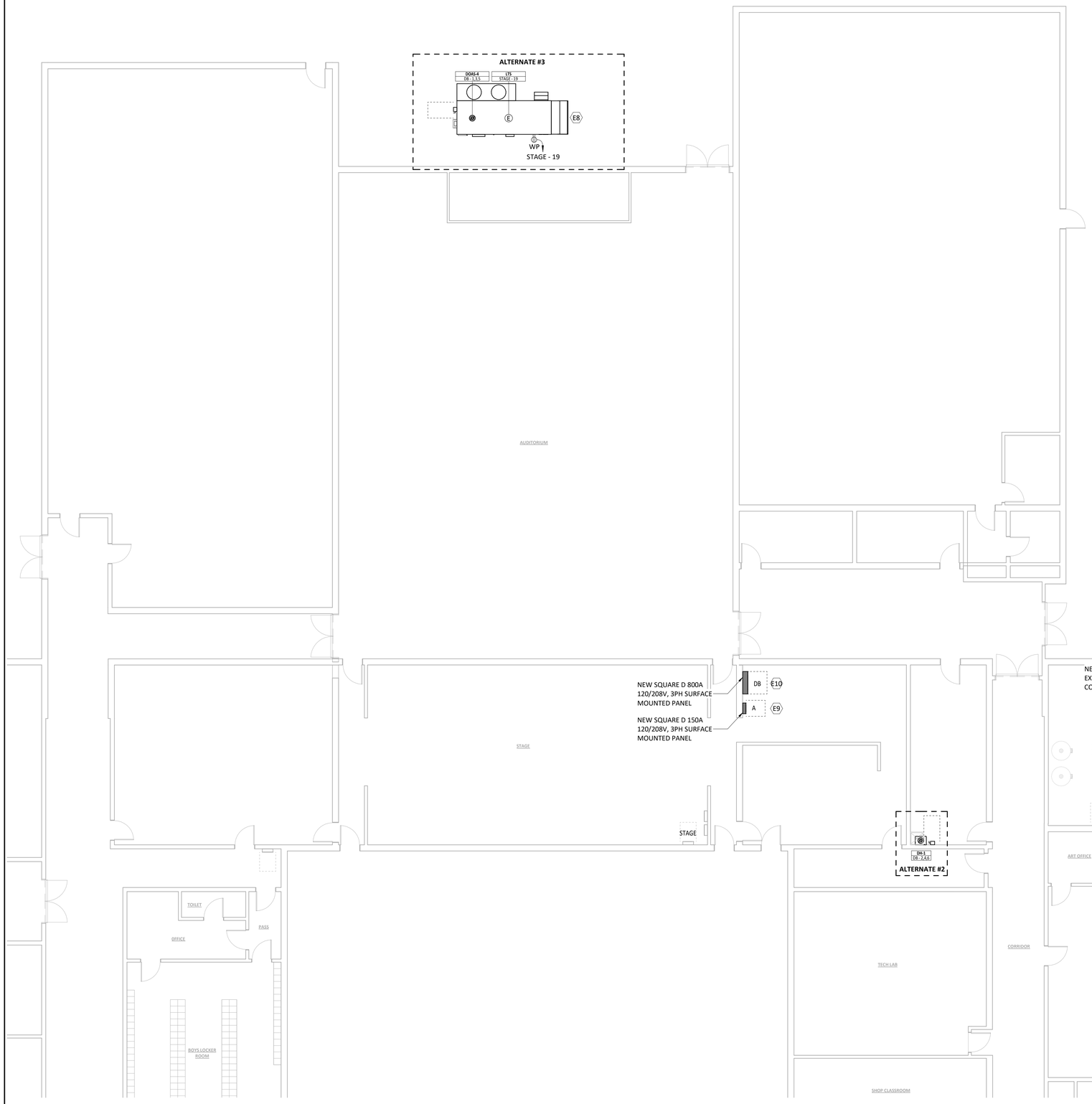
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PROJECT NO.	9166-10000

SHEET NAME

ELECTRICAL PLAN - AREA A

NOT FOR CONSTRUCTION

E-101A

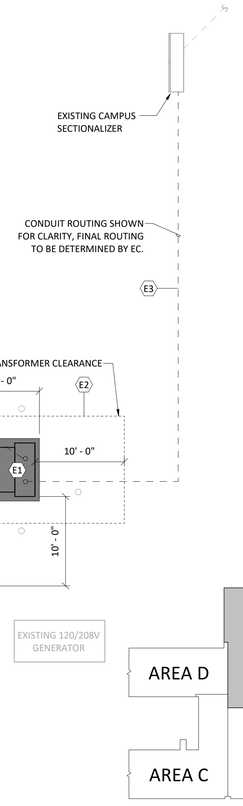


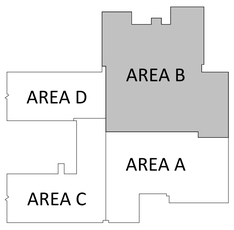
ELECTRICAL KEYED NOTES

E1	COORDINATE PAD MOUNTED TRANSFORMER AND PAD REPLACEMENT WITH SERVING UTILITY AND OWNER PRIOR TO DEMOLITION OF EXISTING TRANSFORMER. EC TO PROVIDE DETAILED INSTALLATION PLAN FOR PAD MOUNTED TRANSFORMER AND PRIMARY FEEDERS AND CONDUIT TO OWNER AND UTILITY INCLUDING PHASING, TEMPORARY POWER PROVISIONS, OUTAGE DURATION AND TESTING. THE INTENT OF THIS WORK IS TO MINIMIZE THE DISRUPTION TO THE SECONDARY FEEDS OF THE TRANSFORMER TO THE EXISTING SWITCHBOARD BY LOCATING THE PAD'S SECONDARY WINDOW OPENING IN A LOCATION THAT REQUIRES MINIMAL REWORK. LOCATION OF TRANSFORMER AND PAD SHOWN ARE TO PROVIDE APPROPRIATE CLEARANCES FROM MAN DOOR AND BUILDING. COORDINATE WITH UTILITY FOR APPROVAL ON FINAL LOCATION PRIOR TO PAD INSTALLATION.
E2	EC TO PROVIDE CONCRETE EQUIPMENT PAD SIZED PER UTILITY AND CODE REQUIREMENTS. EC TO ENSURE CONCRETE PAD IS INSTALLED ON STABLE AND LEVEL GRADE, MAINTAINS REQUIRED CLEARANCES, AND TO PROVIDE AND INSTALL BOLLARDS TO PROTECT FROM VEHICLE IMPACT. EC TO PROVIDE OIL CONTAINMENT MOAT AS REQUIRED BY UTILITY. PROVIDE GROUNDING AND BONDING AS REQUIRED BY UTILITY AND NEC. EC TO INSTALL PVC CONDUIT STUB UPS ALIGNED WITH TRANSFORMER CABINET LAYOUT.
E3	PROVIDE AND INSTALL (1) 3" CONDUIT FROM SECTIONALIZER TO NEW TRANSFORMER WITH 3-#1/0 AL 15KV CONDUCTORS. EXISTING CONDUIT MAY NOT NEED TO BE REPLACED IN IT'S ENTIRETY, CONTRACTOR TO FIELD VERIFY CONDITION OF EXISTING CONDUIT AND INTERCEPT AND EXTEND IF ABLE.
E8	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL DUCT SMOKE DETECTOR ON THE RETURN AND SUPPLY SIDE OF THE DOAS UNITS AND SUPPLY SIDE OF MAU UNIT. CONNECT NEW DUCT SMOKE DETECTOR TO THE EXISTING FIRE ALARM CONTROL PANEL LOCATED IN ROOM W060 IN THE HIGH SCHOOL. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL DUCT SMOKE DETECTOR TEST RESET SWITCH. CONTRACTOR TO INSTALL (1) DUCT SMOKE DETECTOR TEST RESET SWITCH PER DOAS/MAU UNIT.
E9	INSTALL NEW SURFACE-MOUNTED PANEL IN LOCATION SHOWN IN ACCORADANCE WITH NEC AND AHJ REQUIREMENTS. PROVIDE GROUNDING AND BONDING. RECONNECT EXISTING FEEDERS AND BRANCH CIRCUITS AND IDENTIFY ALL CIRCUITS WITH TYPE-WRITTEN DIRECTORIES AND TORQUE ALL CONNECTIONS TO MANUFACTURER'S SPECIFICATIONS. MAINTAIN REQUIRED WORKING CLEARANCES AND HEIGHTS. PROVIDE WIRE GUTTER AND JUNCTION BOXES AS REQUIRED TO EXTEND EXISTING CIRCUITS TO NEW PANEL.
E10	INSTALL NEW SURFACE-MOUNTED DISTRIBUTION BOARD IN LOCATION SHOWN IN ACCORADANCE WITH NEC AND AHJ REQUIREMENTS. PROVIDE GROUNDING AND BONDING. PROVIDE THREE (3) SETS OF 4-# 300 & 1-# 1/0 CU IN THREE (3) 3" CONDUITS FROM SWITCHBOARD TO NEW DISTRIBUTION BOARD. RECONNECT EXISTING BRANCH CIRCUITS AND IDENTIFY ALL CIRCUITS WITH TYPE-WRITTEN DIRECTORIES. TORQUE ALL CONNECTIONS TO MANUFACTURER'S SPECIFICATIONS. MAINTAIN REQUIRED WORKING CLEARANCES AND HEIGHTS. PROVIDE WIRE GUTTER AND JUCTION BOXES AS REQUIRED TO EXTEND EXISTING CIRCUITS TO NEW PANEL.

ALTERNATE NOTES

ALT. #2	PROVIDE CONDUIT AND CONDUCTORS TO NEW DUCT HUMIDIFIER(S). REFER TO MOTOR AND EQUIPMENT SCHEDULE ON SHEET E-601 FOR CONDUIT, CONDUCTOR AND DISCONNECT SIZING. ADJUST BREAKER ORIENTATION IN PANEL TO ALLOW FOR NEW 70A/3P BREAKER
ALT. #3	PROVIDE CONDUIT AND CONDUCTORS TO NEW GROUND MOUNTED RTU AND ERV. REFER TO MOTOR AND EQUIPMENT SCHEDULE ON SHEET E-601 FOR CONDUIT, CONDUCTOR AND DISCONNECT SIZING.





MIDDLE SCHOOL BUILDING KEY PLAN

ELECTRICAL PLAN - AREA B
1/8" = 1'-0"

N

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172

ALLAMAKEE CSD

ISSUED FOR

BIDDING

DATE	02/20/2026
DESCRIPTION	DATE

DRAWN BY	DMS
CHECKED BY	KDM
PROJECT NO.	9166-10000

SHEET NAME

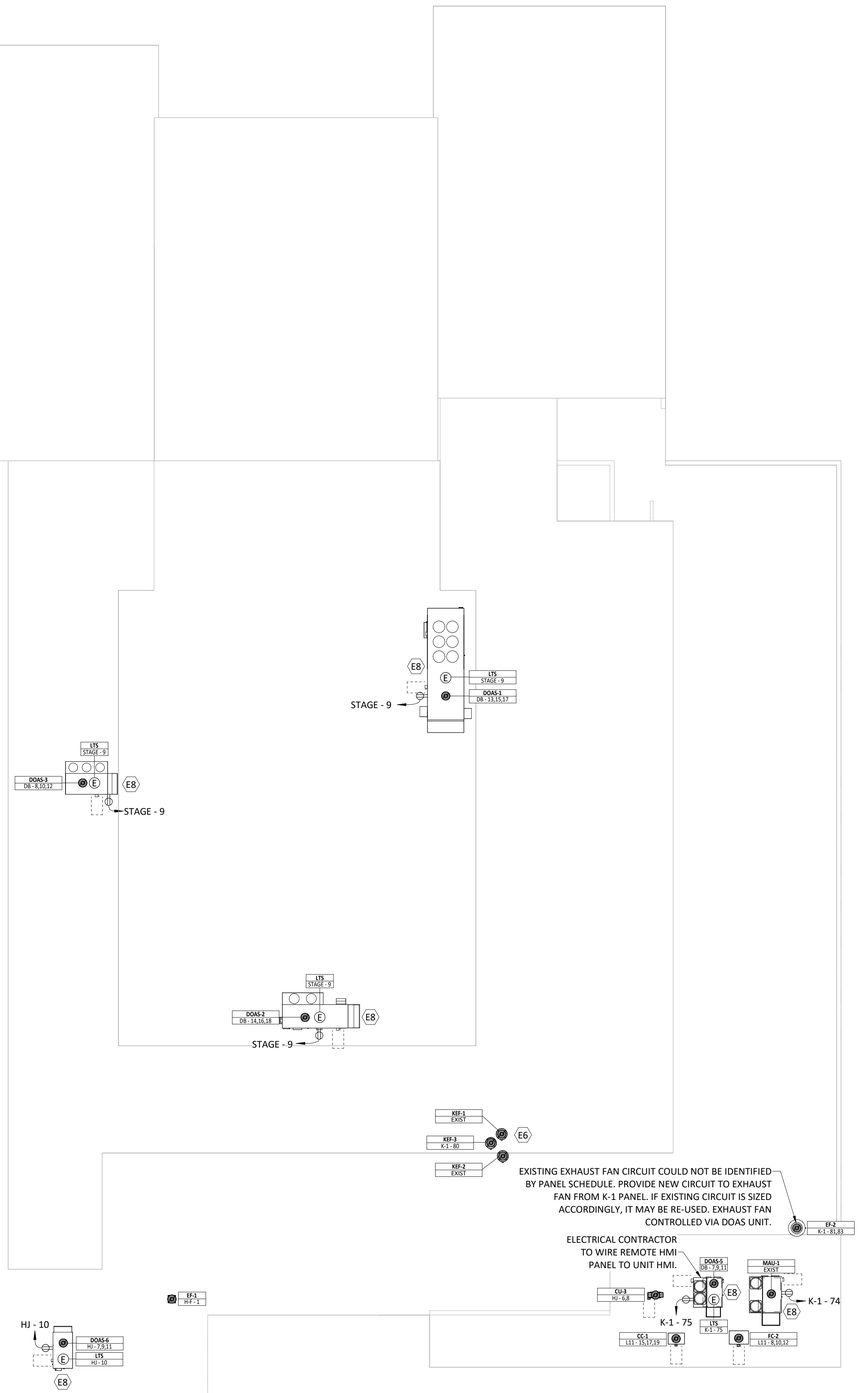
ELECTRICAL PLAN - AREA B

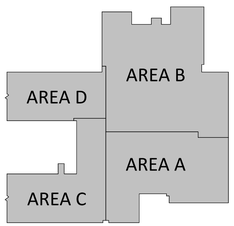
E-101B

ELECTRICAL KEYED NOTES

E6	KITCHEN EXHAUST FANS (KEF-#) - NEW EXHAUST FANS ARE REPLACING EXISTING IN KIND. PROVIDE NEW CONDUIT AND CONDUCTORS TO NEW EXHAUST FANS. SEE MOTOR AND EQUIPMENT SCHEDULE FOR CONDUIT AND CONDUCTOR SIZING. EXISTING HOOD CIRCUITING COULD NOT BE IDENTIFIED BY PANELBOARD SCHEDULE. ELECTRICAL CONTRACTOR SHALL IDENTIFY CIRCUITS FEEDING EXHAUST FANS PRIOR TO DEMOLITION.
E8	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL DUCT SMOKE DETECTOR ON THE RETURN AND SUPPLY SIDE OF THE DOAS UNITS AND SUPPLY SIDE OF MAU UNIT. CONNECT NEW DUCT SMOKE DETECTOR TO THE EXISTING FIRE ALARM CONTROL PANEL LOCATED IN ROOM W060 IN THE HIGH SCHOOL. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL DUCT SMOKE DETECTOR TEST RESET SWITCH. CONTRACTOR TO INSTALL (1) DUCT SMOKE DETECTOR TEST RESET SWITCH PER DOAS/MAU UNIT.







MIDDLE SCHOOL BUILDING KEY PLAN

ELECTRICAL ROOF PLAN
1/16" = 1'-0"

N

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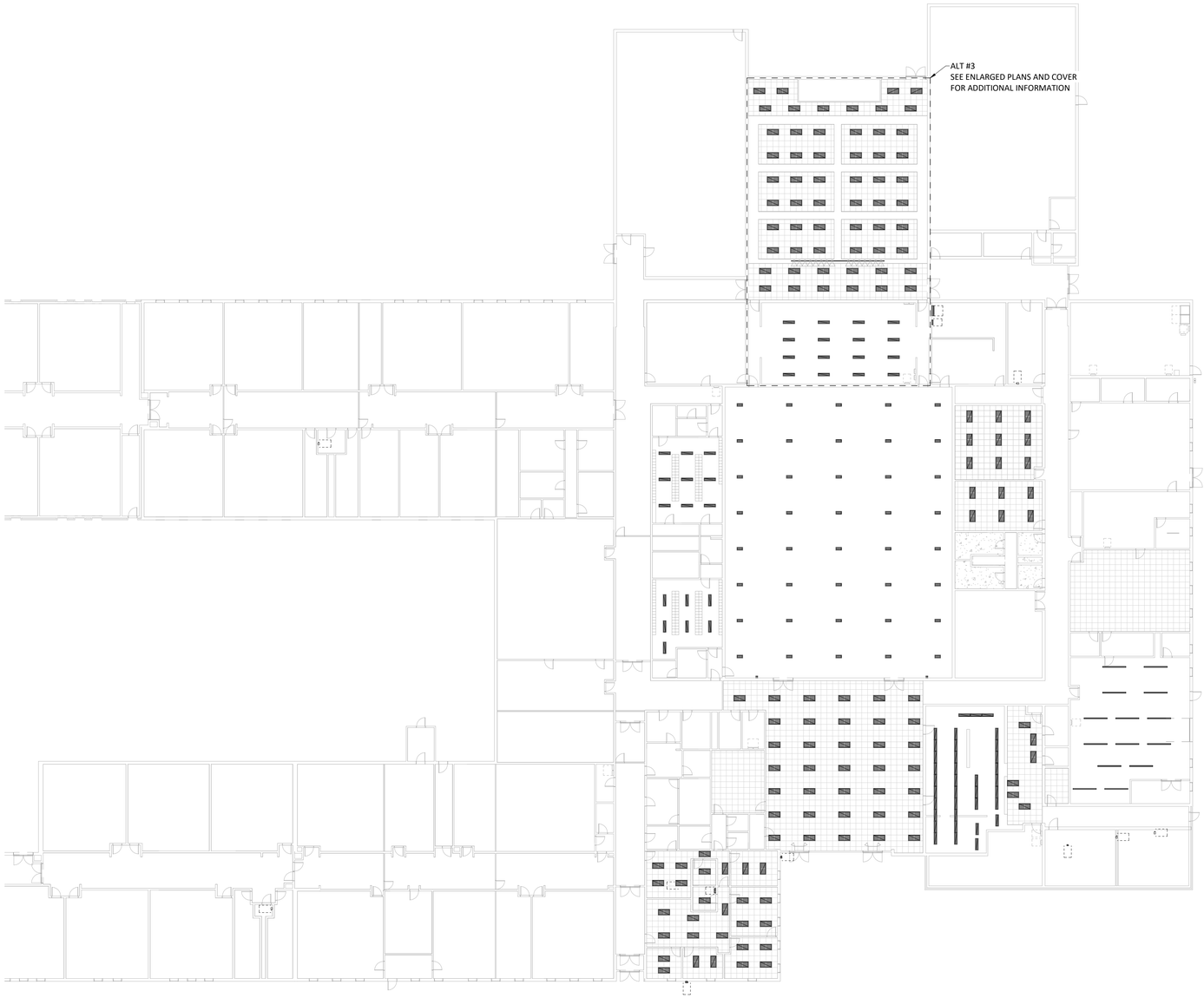
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PROJECT NO.	9166-10000

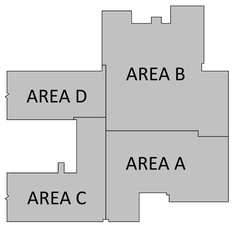
SHEET NAME

ELECTRICAL ROOF PLAN

E-102

LIGHTING NOTES	
1	CONTRACTOR SHALL REMOVE ALL CEILING MOUNTED DEVICES AND STORE FOR RE-INSTALLATION ONCE CEILING WORK IS COMPLETED. THIS INCLUDES LIGHTING, FIRE ALARM, WIRELESS ACCESS POINTS AND OTHER CEILING MOUNTED DEVICES. THESE DEVICES ARE DENOTED WITH "R-R", ALL DEVICES MAY NOT BE SHOWN. EXTEND WIRING AND CONDUIT TO DEVICES AS REQUIRED FOR OPERATION. CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE BUILDING PRIOR TO BIDDING TO EVALUATE THE NUMBER AND TYPES OF DEVICES TO BE RE-INSTALLED. WHERE NEW SPEAKERS ARE SHOWN, PROVIDE AND INSTALL NEW SPEAKERS AND TIE INTO EXISTING SPEAKER WIRING. ONCE NEW CEILING HAS BEEN INSTALLED, RE-INSTALL DEVICES IN NEW CEILING.
2	PROVIDE NEW CONTROLS IN ALL ROOMS PROVIDED WITH NEW LIGHTING. PROVIDE CONTROL WIRING, SENSORS, SWITCHES, ROOM CONTROLLERS, POWER PACKS AND CONDUIT AS REQUIRED FOR OPERATION.
3	EXISTING CEILING MOUNTED SPEAKER TO BE DEMOED IN CAFETERIA. NEW SPEAKERS SHALL BE A 2X2 DROP IN CEILING SPEAKER, 70V, PLENUM RATED. CONFIRM EXISTING SPEAKER VOLTAGE AND TAP SETTINGS PRIOR TO ORDERING. BASIS OF DESIGN: LEGRAND CG41509
4	GYMNASIUM LIGHTING IS CONTROLLED THROUGH AN EXISTING NLIGHT RELAY PANEL.PRIOR TO ORDERING OCCUPANCY SENSORS, CONFIRM SENSORS WILL INTEGRATE WITHEXISTING CONTROL PANEL.





MIDDLE SCHOOL BUILDING KEY PLAN

LIGHTING PLAN - OVERALL
3/64" = 1'-0"

N

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A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

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SHEET NAME

LIGHTING PLAN - OVERALL

E-110

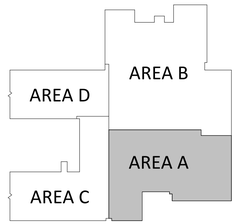


LIGHTING NOTES

1	CONTRACTOR SHALL REMOVE ALL CEILING MOUNTED DEVICES AND STORE FOR RE-INSTALLATION ONCE CEILING WORK IS COMPLETED. THIS INCLUDES LIGHTING, FIRE ALARM, WIRELESS ACCESS POINTS AND OTHER CEILING MOUNTED DEVICES. THESE DEVICES ARE DENOTED WITH "R-R", ALL DEVICES MAY NOT BE SHOWN. EXTEND WIRING AND CONDUIT TO DEVICES AS REQUIRED FOR OPERATION. CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE BUILDING PRIOR TO BIDDING TO EVALUATE THE NUMBER AND TYPES OF DEVICES TO BE RE-INSTALLED. WHERE NEW SPEAKERS ARE SHOWN, PROVIDE AND INSTALL NEW SPEAKERS AND TIE INTO EXISTING SPEAKER WIRING. ONCE NEW CEILING HAS BEEN INSTALLED, RE-INSTALL DEVICES IN NEW CEILING.
2	PROVIDE NEW CONTROLS IN ALL ROOMS PROVIDED WITH NEW LIGHTING. PROVIDE CONTROL WIRING, SENSORS, SWITCHES, ROOM CONTROLLERS, POWER PACKS AND CONDUIT AS REQUIRED FOR OPERATION.
3	EXISTING CEILING MOUNTED SPEAKER TO BE DEMOED IN CAFETERIA. NEW SPEAKERS SHALL BE A 2X2 DROP IN CEILING SPEAKER, 70V, PLENUM RATED. CONFIRM EXISTING SPEAKER VOLTAGE AND TAP SETTINGS PRIOR TO ORDERING. BASIS OF DESIGN: LEGRAND CG41509
4	GYMNASIUM LIGHTING IS CONTROLLED THROUGH AN EXISTING NLIGHT RELAY PANEL.PRIOR TO ORDERING OCCUPANCY SENSORS, CONFIRM SENSORS WILL INTEGRATE WITHEXISTING CONTROL PANEL.
5	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL NEW SMOKE DETECTOR COMPATIBLE WITH THE EXISTING "NOTIFIER" FIRE ALARM SYSTEM. CONNECT NEW SMOKE DETECTORS TO THE EXISTING FIRE ALARM CONTROL PANEL. FIRE ALARM CONTROL PANEL LOCATED IN ROOM W060.

ELECTRICAL KEYED NOTES

E8	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL DUCT SMOKE DETECTOR ON THE RETURN AND SUPPLY SIDE OF THE DOAS UNITS AND SUPPLY SIDE OF MAU UNIT. CONNECT NEW DUCT SMOKE DETECTOR TO THE EXISTING FIRE ALARM CONTROL PANEL LOCATED IN ROOM W060 IN THE HIGH SCHOOL. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL DUCT SMOKE DETECTOR TEST RESET SWITCH. CONTRACTOR TO INSTALL (1) DUCT SMOKE DETECTOR TEST RESET SWITCH PER DOAS/MAU UNIT.



MIDDLE SCHOOL BUILDING KEY PLAN

LIGHTING PLAN - AREA A
1/8" = 1'-0"

N

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AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

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ALLAMAKEE CSD

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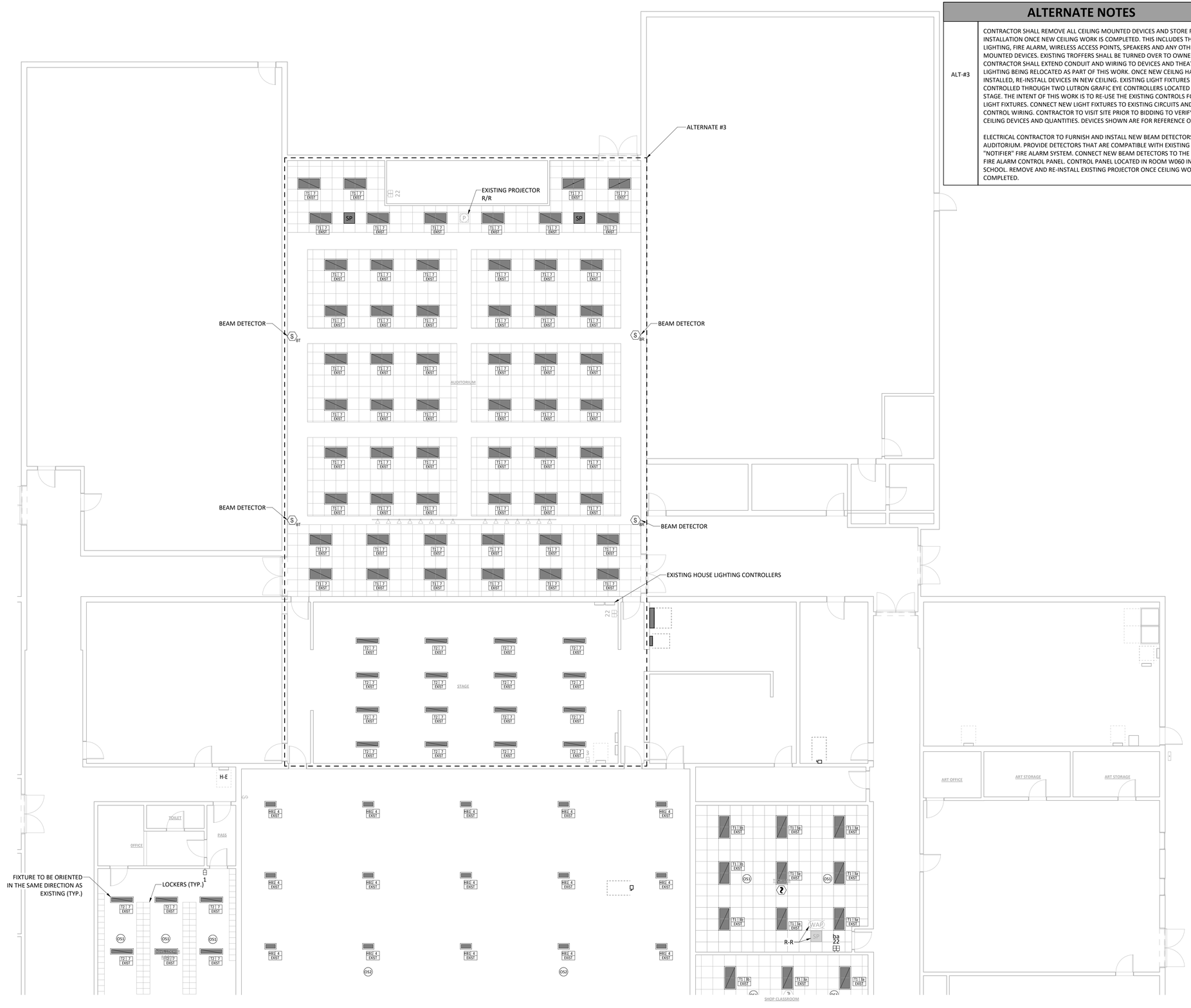
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DRAWN BY	SMF
CHECKED BY	KDM
PROJECT NO.	9166-10000

SHEET NAME

LIGHTING PLAN - AREA A

E-110A

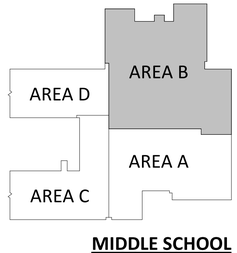


ALTERNATE NOTES

ALT-#3	CONTRACTOR SHALL REMOVE ALL CEILING MOUNTED DEVICES AND STORE FOR RE-INSTALLATION ONCE NEW CEILING WORK IS COMPLETED. THIS INCLUDES THEATRICAL LIGHTING, FIRE ALARM, WIRELESS ACCESS POINTS, SPEAKERS AND ANY OTHER CEILING MOUNTED DEVICES. EXISTING TROFFERS SHALL BE TURNED OVER TO OWNER. CONTRACTOR SHALL EXTEND CONDUIT AND WIRING TO DEVICES AND THEATRICAL LIGHTING BEING RELOCATED AS PART OF THIS WORK. ONCE NEW CEILNG HAS BEEN INSTALLED, RE-INSTALL DEVICES IN NEW CEILING. EXISTING LIGHT FIXTURES ARE CONTROLLED THROUGH TWO LUTRON GRAFIC EYE CONTROLLERS LOCATED NEAR THE STAGE. THE INTENT OF THIS WORK IS TO RE-USE THE EXISTING CONTROLS FOR NEW LIGHT FIXTURES. CONNECT NEW LIGHT FIXTURES TO EXISTING CIRCUITS AND CONTROL WIRING. CONTRACTOR TO VISIT SITE PRIOR TO BIDDING TO VERIFY EXISTING CEILING DEVICES AND QUANTITIES. DEVICES SHOWN ARE FOR REFERENCE ONLY. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL NEW BEAM DETECTORS IN AUDITORIUM. PROVIDE DETECTORS THAT ARE COMPATIBLE WITH EXISTING "NOTIFIER" FIRE ALARM SYSTEM. CONNECT NEW BEAM DETECTORS TO THE EXISTING FIRE ALARM CONTROL PANEL. CONTROL PANEL LOCATED IN ROOM W060 IN HIGH SCHOOL. REMOVE AND RE-INSTALL EXISTING PROJECTOR ONCE CEILING WORK IS COMPLETED.

LIGHTING NOTES

1	CONTRACTOR SHALL REMOVE ALL CEILING MOUNTED DEVICES AND STORE FOR RE-INSTALLATION ONCE CEILING WORK IS COMPLETED. THIS INCLUDES LIGHTING, FIRE ALARM, WIRELESS ACCESS POINTS AND OTHER CEILING MOUNTED DEVICES. THESE DEVICES ARE DENOTED WITH "R-R", ALL DEVICES MAY NOT BE SHOWN. EXTEND WIRING AND CONDUIT TO DEVICES AS REQUIRED FOR OPERATION. CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE BUILDING PRIOR TO BIDDING TO EVALUATE THE NUMBER AND TYPES OF DEVICES TO BE RE-INSTALLED. WHERE NEW SPEAKERS ARE SHOWN, PROVIDE AND INSTALL NEW SPEAKERS AND TIE INTO EXISTING SPEAKER WIRING. ONCE NEW CEILING HAS BEEN INSTALLED, RE-INSTALL DEVICES IN NEW CEILING.
2	PROVIDE NEW CONTROLS IN ALL ROOMS PROVIDED WITH NEW LIGHTING. PROVIDE CONTROL WIRING, SENSORS, SWITCHES, ROOM CONTROLLERS, POWER PACKS AND CONDUIT AS REQUIRED FOR OPERATION.
3	EXISTING CEILING MOUNTED SPEAKER TO BE DEMOED IN CAFETERIA. NEW SPEAKERS SHALL BE A 2X2 DROP IN CEILING SPEAKER, 70V, PLENUM RATED. CONFIRM EXISTING SPEAKER VOLTAGE AND TAP SETTINGS PRIOR TO ORDERING. BASIS OF DESIGN: LEGRAND CG41509
4	GYMNASIUM LIGHTING IS CONTROLLED THROUGH AN EXISTING NLIGHT RELAY PANEL.PRIOR TO ORDERING OCCUPANCY SENSORS, CONFIRM SENSORS WILL INTEGRATE WITHEXISTING CONTROL PANEL.
5	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL NEW BEAM DETECTORS IN THE AUDITORIUM THAT ARE COMPATIBLE WITH EXISTING "NOTIFIER" FIRE ALARM SYSTEM. CONNECT NEW BEAM DETECTORS TO THE EXISTING FIRE ALARM CONTROL PANEL. FIRE ALARM PANEL IS LOCATED IN ROOM W060.
6	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL NEW SMOKE DETECTORS, IN ROOMS AS SHOWN ON PLANS, COMPATIBLE WITH EXISTING "NOTIFIER" FIRE ALARM SYSTEM. CONNECT NEW SMOKE DETECTORS TO THE EXISTING FIRE ALARM CONTROL PANEL. FIRE ALARM PANEL IS LOCATED IN ROOM W060.



MIDDLE SCHOOL BUILDING KEY PLAN

LIGHTING PLAN - AREA B
1/8" = 1'-0"

N

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

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ALLAMAKEE CSD

ISSUED FOR	
BIDDING	
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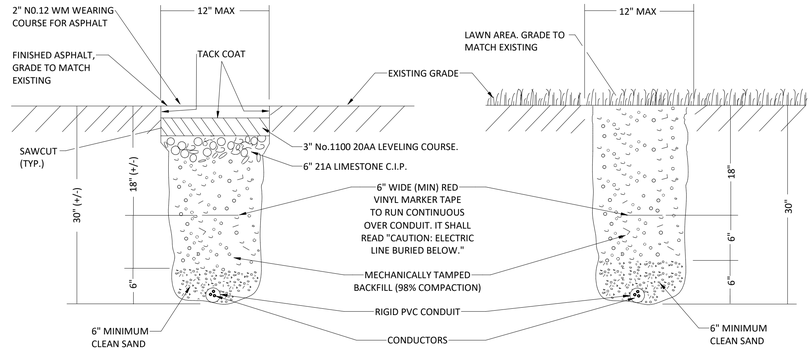
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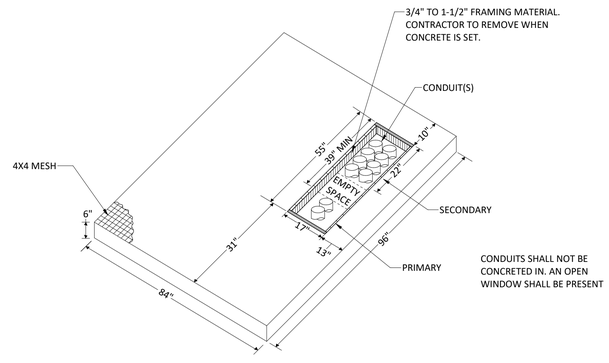
LIGHTING PLAN - AREA B

E-110B



TYPICAL TRENCH DETAIL 3
1 1/2" = 1'-0" E-501

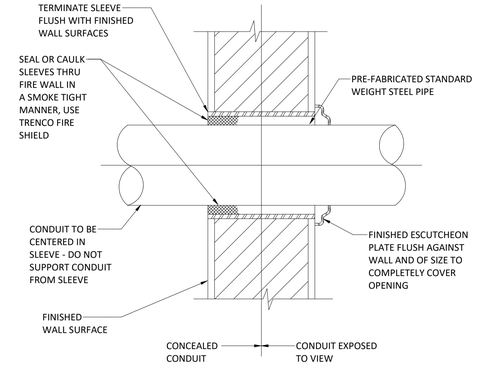
CONCRETE PAD SPECIFICATIONS AND LAYOUT FOR THREE-PHASE, PAD-MOUNT TRANSFORMER



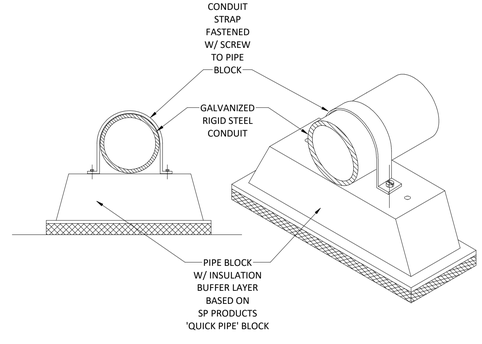
		SERVICE SIZE	
	XMFR	208Y/120	480Y/277
PAD	**KVA**	**AMPS**	
I	75-500	100-1200	100-600
II	750-2500	1600-3000	800-3000

NOTES:
1. A CLEAR SPACE OF 10 FEET SHALL BE MAINTAINED IN FRONT OF THE TRANSFORMER TO PROVIDE WORKING SPACE FOR HOT-STICK OPERATION OF THE TRANSFORMER AND 3 FEET ON ALL OTHER SIDES. TRANSFORMERS OR OTHER PAD-MOUNTED EQUIPMENT SHALL NOT BE COVERED WITH DECORATIVE OBJECTS FOR THE PURPOSE OF HIDING THE ALLIANT ENERGY EQUIPMENT FROM PUBLIC VIEW.
2. PAD MOUNTED METERING TRANSFORMER CABINETS MAY BE MOUNTED ON AN ISOLATED PAD, ADJACENT TO THE TRANSFORMER PAD (ESR 408), OR ON A JOINT TRANSFORMER AND METERING TRANSFORMER CABINET PAD (ESR 410) DESIGNED TO ACCOMODATE CONDUIT ELBOW SWEEPS OR ON A JOINT TRANSFORMER AND METERING TRANSFORMER CABINET PAD WITH FOUNDATION WALLS (ESR 411) DESIGNED WITH A RACE WAY FOR CABLE TRAINING RATHER THAN THE USE OF CONDUITS.
3. ALL CONDUITS SHALL ENTER THROUGH THE WINDOW OPENING PROVIDED IN THE PAD FOUNDATION. THESE CONDUITS SHALL BE CUT OFF SO THE TOP OF THE CONDUIT IS FLUSH WITH THE SURFACE OF THE PAD.
4. ALL METALLIC CONDUITS SHALL BE FITTED WITH AN INSULATING BUSHING.
5. WHEN AN OIL SUMP IS REQUIRED, EXCAVATE 18 INCHES UNDER AND AROUND THE PAD AND FILL WITH COARSE CRUSHED ROCK - CHECK WITH THE LOCAL BUILDING CODE TO DETERMINE IF AN OIL SUMP IS REQUIRED.

THREE-PHASE CONCRETE PAD SPECIFICATIONS - ALLIANT ENERGY 4
3/8" = 1'-0" E-501



CONDUIT SLEEVE THRU INTERIOR WALL 2
NTS E-501



CONDUIT SUPPORT DETAIL - PIPE BLOCK ON ROOF 1
NTS E-501

NOT FOR CONSTRUCTION

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ELECTRICAL DETAILS

E-501

FIRESTOP METHOD

NOTE:

PENETRATIONS OF FIRE RATED ASSEMBLIES MUST BE PROTECTED BY U.L. SYSTEM WL 1001, 1002 OR 1003. SUCH PENETRATIONS ARE TYPICALLY FOUND AT:

A) OCCUPANCY SEPARATIONS

B) EXTERIOR WALLS

C) AREA SEPARATIONS

D) JANITOR CLOSETS

E) SHAFT ENCLOSURES

F) CORRIDORS

G) STAIR ENCLOSURES

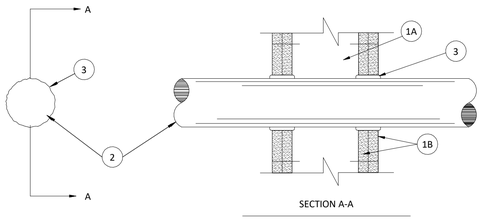
H) EXIT PASSAGEWAYS

I) "TYPE OF CONSTUCTION SEPARATION"

J) BOILER, CENTRAL HEATING PLANT, OR HOT WATER SUPPLY ROOM ENCLOSURES.

THROUGH-PENETRATION FIRESTOP SYSTEMS (XHEZ)

SYSTEMS NO. WL1001-CAULK ONLY
(FORMERLY SYSTEM NO. 147A)
F RATINGS--1,2,3 AND 4 HR (SEE ITEMS 2 AND 3)
T RATINGS--0,1,2,3 AND 4 HR (SEE ITEM 3)



SECTION A-A

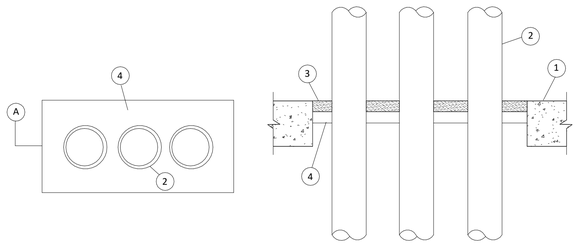
1. WALL ASSEMBLY - THE 1,2,3 OR 4 HR. FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGNS IN THE U.L. FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
   A. STUDS-WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS (MAX. 2 HR. FIRE RATED ASSEMBLIES) OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOMINAL 2 BY 4 IN. LUMBER SPACED 16 IN. OC WITH NOMINAL 2 BY 4 IN. LUMBER END PLATES AND CROSS BRACES. STEEL STUDS TO BE MINIMUM 3-5/8 IN. WIDE BY 1-3/8 IN. DEEP CHANNELS SPACED MAX. 24 IN. O.C.
   B. WALLBOARD, GYPSUM* -NOM 1/2 OR 5/8 IN. THICK, 4 FT. WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE U.L. FIRE RESISTANCE DIRECTORY. MAXIMUM DIAMETER OF OPENING IS 13-1/2 IN.
2. PIPE OR CONDUIT-NOM 12 IN. DIA. (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE, NOM.6 IN. DIA. (OR SMALLER) STEEL CONDUIT, NOM. 4 IN. DIA. (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR TYPE L (OR HEAVIER) COPPER TUBING OR NOM 1 IN. DIA. (OR SMALLER) FLEXIBLE STEEL CONDUIT. WHEN COPPER PIPE OR FLEXIBLE STEEL CONDUIT IS USED, MAX. F RATING OF FIRESTOP SYSTEM (ITEM 3) IS 2 HR. STEEL PIPES OR CONDUITS LARGER THAN NOM 4 IN. DIA. MAY ONLY BE USED IN WALLS CONSTRUCTED USING STEEL CHANNEL STUDS. A MAX OF ONE PIPE OR CONDUIT IS PERMITTED IN THE FIRESTOP SYSTEM. PIPE OR CONDUIT TO BE INSTALLED NEAR CENTER OF STUD CAVITY WIDTH AND TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.
3. FILL, VOID OR CAVITY MATERIAL* - CAULK** - CAULK FILL MATERIAL INSTALLED TO COMPLETELY FILL ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND GYPSUM WALLBOARD AND WITH A MIN. 1/4 IN. DIA. BEAD OF CAULK APPLIED TO PERIMETER OF PIPE OR CONDUIT AT ITS EGRESS FROM THE WALL. CAULK INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL ASSEMBLY. THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE HOURLY FIRE RATING OF WALL ASSEMBLY IN WHICH IT IS INSTALLED AS SHOWN IN THE FOLLOWING TABLE. THE HOURLY T RATING OF THE FIRE STOP SYSTEM IS DEPENDENT UPON THE TYPE OR SIZE OF THE PIPE OR CONDUIT AND THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS TABULATED BELOW:

MAX PIPE OR CONDUIT DIAMETER, IN.	ANNULAR SPACE, IN.	F RATING HOUR	T RATING HOUR
1	0 TO 3/16	1 OR 2	0+, 1 OR 2
1	1/4 TO 1/2	3 OR 4	3 OR 4
4	0 TO 1/4	1 OR 2	0
6	1/4 TO 1/2	3 OR 4	0
12	3/16 TO 3/8	1 OR 2	0

+WHEN COPPER PIPE IS USED, T RATING IS 0 HOUR.
* BEARING THE UL CLASSIFICATION MARKING.
**MING & MFG. CO. - TYPES CP-25 S/L, CP-25 N/S, CP-25 WB, CP-25 WB+.

THROUGH-PENETRATION FIRESTOP SYSTEMS (XHEZ)

SYSTEM NO. FA1002
(FORMERLY SYSTEM NO.152)
F RATING-2 HR
T RATING-0 HR
L RATING AT AMBIENT-2 CFM/sq ft (SEE ITEM 4)
L RATING AT 400 F- LESS THAN 1 CFM/sq ft (SEE ITEM 4)



1) FLOOR ASSEMBLY - MIN. 4-1/2 IN. THICK LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. MAX. AREA OF OPENING 192 SQ. IN. WITH MAX. LENGTH OF 24 IN. AND MAX WIDTH OF 8 IN.

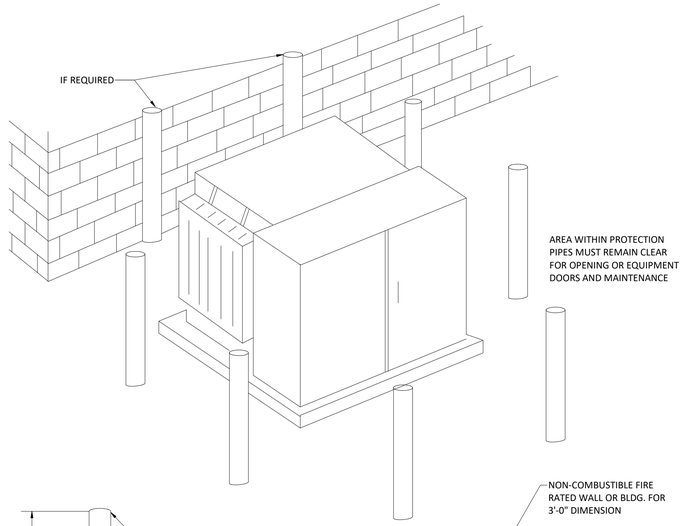
2) PIPE - NOM 4 IN. DIAMETER (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING SCHEDULE 10 (OR HEAVIER) STEEL PIPE, STEEL CONDUIT OR STEEL EMT TO BE INSTALLED WITH A MIN. CLEARANCE OF 1 IN. AND A MAX. CLEARANCE OF 2 IN. FROM THE SIDES OF THE THROUGH OPENING. A MIN. SEPARATION OF 1 IN. SHALL BE MAINTAINED BETWEEN ADJACENT PIPES. PIPES TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR ASSEMBLY.

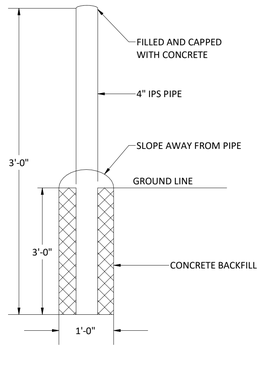
3) PACKING MATERIAL - MIN. 1 IN. THICK MINERAL-WOOL BATT MATERIAL INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM WITH ITS TOP SURFACE RECESSED MIN. 1 IN. FROM TOP SURFACE OF FLOOR.

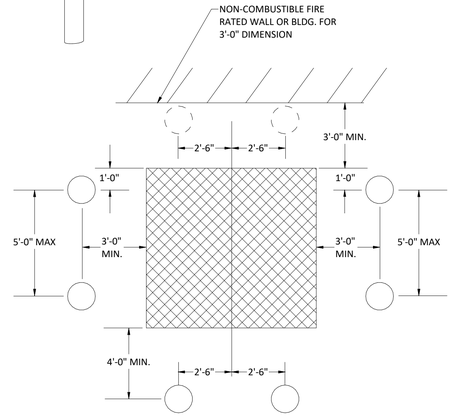
4) FILL, VOID, OR CAVITY MATERIALS* - CAULK - APPLIED TO FILL THROUGH OPENING TO A MIN. DEPTH OF 1 IN., FLUSH WITH TOP SURFACE OF FLOOR.
MINNESOTA MINING & MFG. CO. - TYPES CP-25 WB. CP-25 WB +. (NOTE: L RATINGS APPLY ONLY WHEN TYPE CP-25 WB+ CAULK IS USED).

*BEARING THE UL CLASSIFICATION MARKING

ELECTRICAL CONDUIT PENETRATION DETAIL — 2 / E-502
NTS





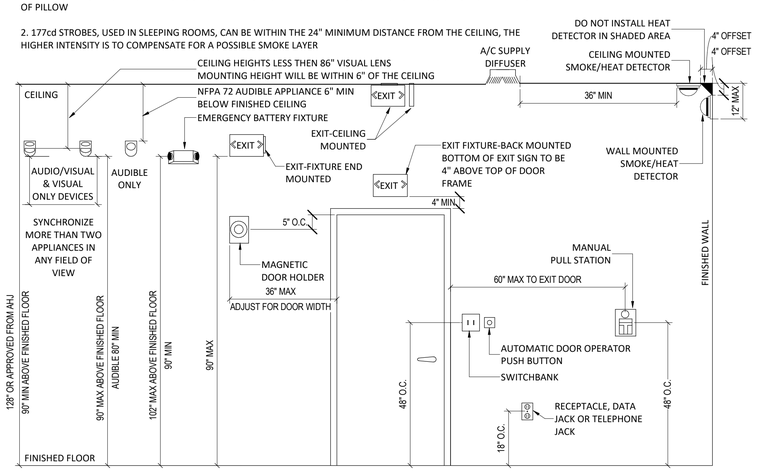


THREE-PHASE, PAD-MOUNT TRANSFORMER PROTECTION AND METERING EQUIPMENT — 3 / E-502
12" = 1'-0"

VISUAL MOUNTING APPLIANCE MOUNTING HEIGHT IN SLEEPING ROOMS:

1. MINIMUM DISTANCE IN SLEEPING ROOMS IS 24" FROM CEILING TO THE TOP OF LENS FOR 110cd STROBES WITHIN 16' OF PILLOW

2. 177cd STROBES, USED IN SLEEPING ROOMS, CAN BE WITHIN THE 24" MINIMUM DISTANCE FROM THE CEILING, THE HIGHER INTENSITY IS TO COMPENSATE FOR A POSSIBLE SMOKE LAYER



TYPICAL MOUNTING HEIGHTS — 1 / E-502
NTS

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172

ALLAMAKEE CSD

ISSUED FOR

BIDDING

DATE	02/20/2026

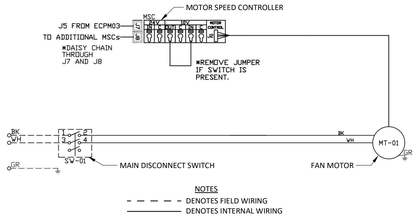
DESCRIPTION	DATE

DRAWN BY	SMF
CHECKED BY	KDM
PROJECT NO.	9166-10000

SHEET NAME

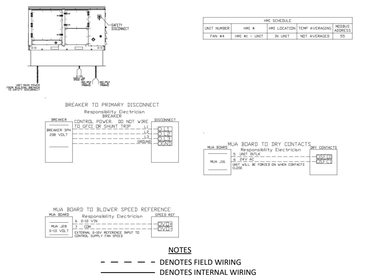
ELECTRICAL DETAILS

E-502



NOTES
- - - - - DENOTES FIELD WIRING
——— DENOTES INTERNAL WIRING

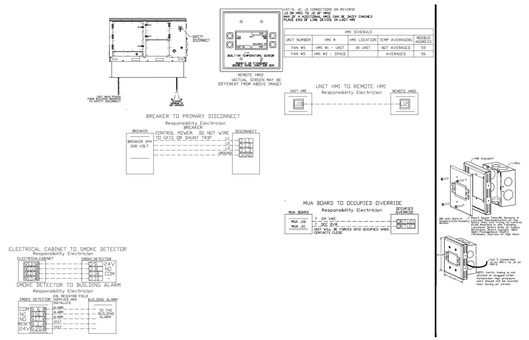
KEF-1,2,3 WIRING (6 / E-503)
1/8" = 1'-0"



HMI SCHEDULE					
UNIT NUMBER	HMI #	HMI LOCATION	TEMP AVERAGING	MODBUS ADDRESS
FAN #4	HMI #1 - UNIT	IN UNIT	NOT AVERAGED	55

NOTES
- - - - - DENOTES FIELD WIRING
——— DENOTES INTERNAL WIRING

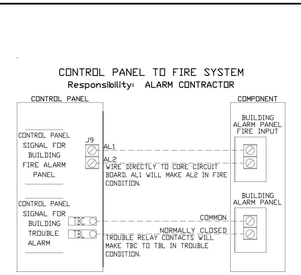
DOAS-5 INSTALLATION WIRING (5 / E-503)
1/8" = 1'-0"

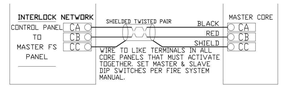


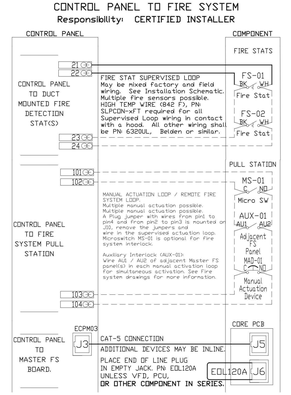
HMI SCHEDULE					
UNIT NUMBER	HMI #	HMI LOCATION	TEMP AVERAGING	MODBUS ADDRESS
FAN #3	HMI #1 - UNIT	IN UNIT	NOT AVERAGED	55
FAN #3	HMI #2 - SPACE		AVERAGED	56

NOTES
- - - - - DENOTES FIELD WIRING
——— DENOTES INTERNAL WIRING

DOAS-5 INSTALLATION WIRING 2 (4 / E-503)
1/8" = 1'-0"



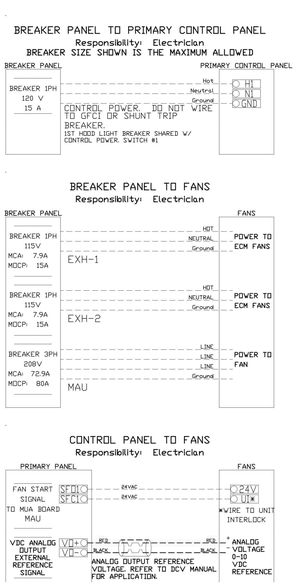


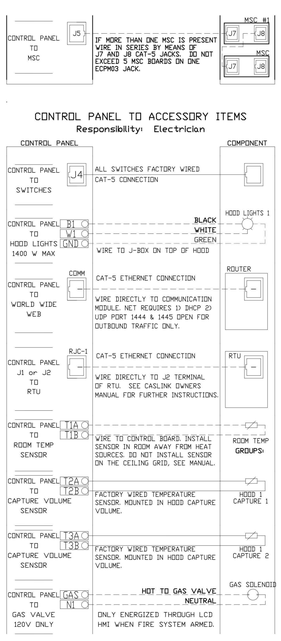


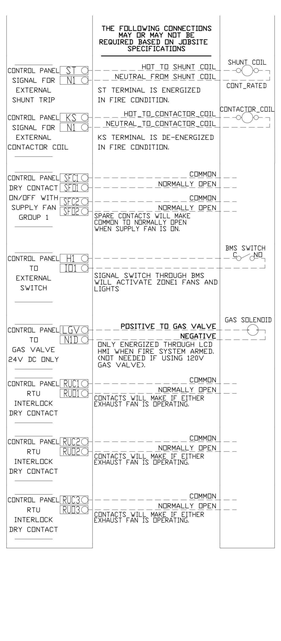
NOTES
- - - - - DENOTES FIELD WIRING
——— DENOTES INTERNAL WIRING

DESCRIPTION OF OPERATION:
3 PHASE W/ CONTROL FOR 2 EXHAUST FANS, 1 SUPPLY FAN, EXHAUST ON IN FIRE, LIGHTS OUT IN FIRE, RELAY ON/OFF WITH SUPPLY FAN, FAN(S) ON/OFF THERMOSTATICALLY CONTROLLED. ROOM TEMPERATURE SENSOR SHIPPED LOOSE FOR FIELD INSTALLATION. INVERTER DUTY 3 PHASE MOTOR REQUIRED FOR USE WITH VFD.

CONTROL PANEL TO FIRE SYSTEM WIRING (2 / E-503)
1/8" = 1'-0"



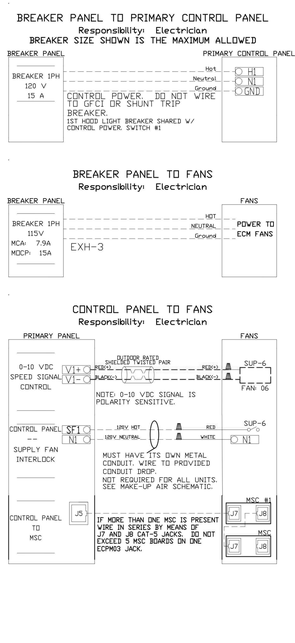


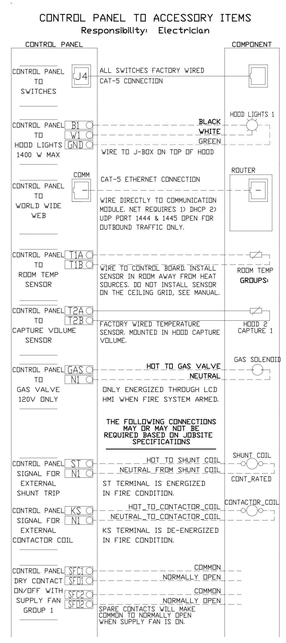


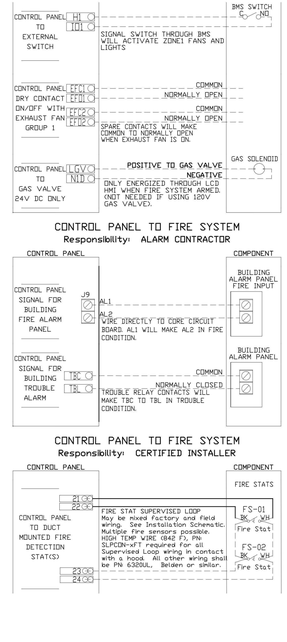
NOTES
- - - - - DENOTES FIELD WIRING
——— DENOTES INTERNAL WIRING

DESCRIPTION OF OPERATION:
3 PHASE W/ CONTROL FOR 2 EXHAUST FANS, 1 SUPPLY FAN, EXHAUST ON IN FIRE, LIGHTS OUT IN FIRE, RELAY ON/OFF WITH SUPPLY FAN, FAN(S) ON/OFF THERMOSTATICALLY CONTROLLED. ROOM TEMPERATURE SENSOR SHIPPED LOOSE FOR FIELD INSTALLATION. INVERTER DUTY 3 PHASE MOTOR REQUIRED FOR USE WITH VFD.

BREAKER & CONTROL PANEL CONNECTIONS TO FANS & ACCESSORY ITEMS (3 / E-503)
1/8" = 1'-0"







NOTES
- - - - - DENOTES FIELD WIRING
——— DENOTES INTERNAL WIRING

DESCRIPTION OF OPERATION:
120V 1 PHASE W/ CONTROL FOR 1 EXHAUST FAN, 1 SUPPLY FAN, EXHAUST ON IN FIRE, LIGHTS OUT IN FIRE, RELAY ON/OFF WITH SUPPLY FAN, FAN(S) ON/OFF THERMOSTATICALLY CONTROLLED. ROOM TEMPERATURE SENSOR SHIPPED LOOSE FOR FIELD INSTALLATION.

BREAKER & CONTROL PANEL CONNECTIONS TO FANS, ACCESSORY ITEMS & FIRE SYSTEM (1 / E-503)
1/8" = 1'-0"

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL POOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR
BIDDING

DATE	02/20/2026
DESCRIPTION	DATE

DRAWN BY	SMF
CHECKED BY	KDM
PROJECT NO.	9166-10000

SHEET NAME
ELECTRICAL DETAILS

E-503

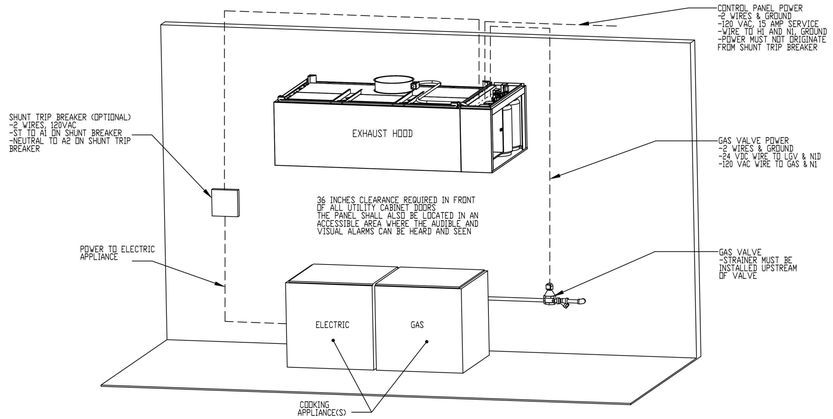
TANK PROTECTION ELECTRICAL DETAIL

02/10/2021 Rev. 2

ELECTRICIAN:
1. WIRE MAIN CONTROL PANEL PER INCLUDED SCHEMATIC
2. WIRE ALL FANS PER INCLUDED SCHEMATIC
3. WIRE SHUNT TRIP BREAKER (OPTIONAL)
4. WIRE UDS APPLIANCE KILL SWITCH, IF EQUIPPED (OPTIONAL)
5. WIRE GAS VALVE

FS-1: MASTER

ELECTRICAL CONTRACTOR REQUIREMENT					
ITEM	CONNECTION IN PANEL	CONNECTION IN DEVICE	VOLTAGE	AMPERAGE	COMMENTS
SHUNT TRIP BREAKER (OPTIONAL)	ST & N1	BREAKER COIL (A1 & A2)	120 VAC	< 4 AMPS	ST TO A1 ON SHUNT BREAKER COIL, AND NEUTRAL TO A2 ON SHUNT TRIP BREAKER COIL
CONTROL PANEL POWER	H1 & N1 + GROUND	CIRCUIT BREAKER	120 VAC	15 AMPS	CONTROL PANEL POWER MUST NOT BE RUN THROUGH SHUNT TRIP BREAKER
UDS APPLIANCE KILL SWITCH (OPTIONAL)	KTS & N1	KTS & N1	120 VAC	< 4 AMPS	KILL SWITCH TERMINALS MUST BE IN SERIES WITH OTHER KILL SWITCHES
REMOTE 120VAC ANSUL AUTOMAN (OPTIONAL)	AU1, AU2	SOLENOID	120 VAC	< 6 AMPS	120V TO AU1, AU2 TO ANSUL ELECTRIC AUTOMAN, ANSUL SOLENOID TO NEUTRAL
GAS VALVE	LGV & N1D (IF 24 VDC) GAS & N1 (IF 120 VAC)	RED/RED/GREEN	24 VDC OR 120 VAC	< 1.0 AMPS	IF 24 VDC - 3 WIRES & GROUND, N1D TO RED, LGV TO RED, AND GREEN TO GROUND IF 120 VAC - 2 WIRES & GROUND GAS TO RED, N1 TO RED, AND GREEN TO GROUND



NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

NOTES
- - - - - - DENOTES FIELD WIRING
——— DENOTES INTERNAL WIRING

DESCRIPTION OF OPERATION:
FIRE SYSTEM #1 TANK FS - 4.0/4.0. TANK-BASED FIRE PROTECTION SYSTEM EQUIPPED WITH ELECTRONIC DETECTION UTILIZING CORE BOARD AS A LISTED RELEASE MECHANISM. INSTALLED IN HOOD UTILITY CABINET WITH INTEGRAL HOOD PREWIRE PANEL.

TANK PROTECTION ELECTRICAL DETAIL 4 E-504
1/8" = 1'-0"

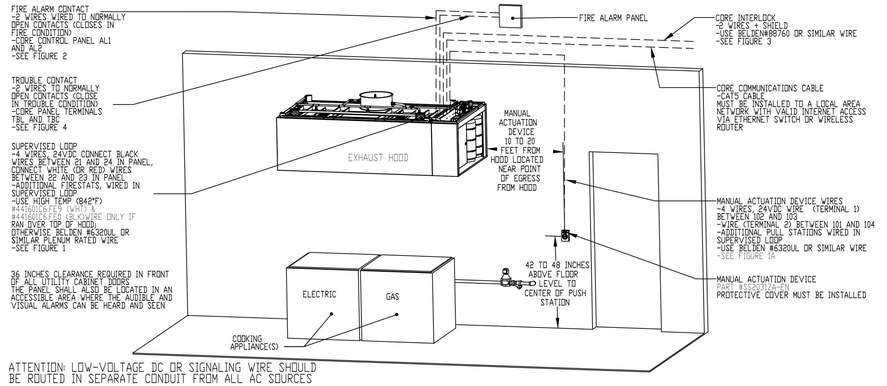
TANK PROTECTION LOW-VOLTAGE DETAIL

10/01/2023 Rev. 3

ALARM CONTRACTOR:
1. WIRE MANUAL ACTUATION DEVICE(S), *REMOTE FIRESTAT(S), CORE INTERLOCK(S), FIRE SENSDR(S) AND FIRE ALARM CONTACTS
2. COMPLETE FINAL HOOKUP OF SYSTEM
3. VERIFY FINAL FIRE SYSTEM TEST
*REMOTE FIRESTAT(S) MAYBE BE REQUIRED DEPENDING ON THE DUCT LAYOUT AND HOOD TEMPERATURE RATING. REFERENCE MANUAL FOR LOCATION AND GUIDELINES.

FS-1: MASTER

ALARM CONTRACTOR REQUIREMENT					
ITEM	CONNECTION IN PANEL	CONNECTION IN DEVICE	VOLTAGE	AMPERAGE	COMMENTS
MANUAL ACTUATION DEVICE(S)	101 AND 104 102 AND 103	1 & 2	24 VDC	< 1.0 AMPS	WIRE MANUAL ACTUATION DEVICE TERMINAL 1 BETWEEN CORE PANEL TERMINALS 102 AND 103 WIRE MANUAL ACTUATION DEVICE TERMINAL 2 BETWEEN CORE PANEL TERMINALS 101 AND 104 JUMPER 101 TO 104 AND 102 TO 103 IF NO MANUAL ACTUATION DEVICE IS INSTALLED
MANUAL ACTUATION DEVICE COVER	N/A	N/A	N/A	N/A	MANUAL ACTUATION DEVICE COVER MUST BE INSTALLED IF SURFACE MOUNTED, USE COVER EXTENSION SYT-SS9B
REMOTE FIRESTAT SENSDR(S)	21 AND 24 22 AND 23	BLACK AND WHITE	24 VDC	< 1.0 AMPS	WIRE FIRE SENSOR WHITE WIRES BETWEEN HOOD CORE PANEL TERMINALS 22 AND 23 WIRE FIRE SENSOR BLACK WIRE BETWEEN HOOD CORE PANEL TERMINALS 21 AND 24 HIGH TEMP (842°F) #4416016.F69 (WHT) & #4416016.F69 (BLK)WIRE OR SIMILAR ONLY IF RAN OF HOOD; OTHERWISE BELDEN #6320UL OR SIMILAR PLENUM RATED WIRE; SEE FIGURE 1
FIRE ALARM CONTACT	AL1, AL2	VARIES	50V MAX (AC/DC)	UP TO 1 AMP	FIRE ALARM RELAY CONTACTS FOR BUILDING FIRE ALARM LOCATED IN THE CORE ELECTRICAL CONTROL PANEL
CORE INTERLOCK(S)	CA, CB, CC	CA, CB, CC	RS-485 COMMUNICATIONS SIGNAL		CORE SYSTEM (1) CA, TO CORE SYSTEM (2) CA, CORE SYSTEM (1) CB, TO CORE SYSTEM (2) CB CORE SYSTEM (1) CC, TO CORE SYSTEM (2) CC. USE BELDEN# 88760 OR SIMILAR WIRE
TROUBLE CONTACT	TBC, TBL, TDK	VARIES	MAX 120 VAC	UP TO 6 AMPS	WIRE TO TBL & TBC NORMALLY OPEN CONTACT, CLOSES IN TROUBLE CONDITION
CORE COMMUNICATIONS CABLE	RJ-45 Jack	INTERNET CONNECTION	SIGNAL	<1.0 AMPS	TYPICAL CONNECTION CATS CABLE TO LOCAL AREA NETWORK VIA ETHERNET SWITCH OR WIRELESS ROUTER WITH VALID INTERNET CONNECTION



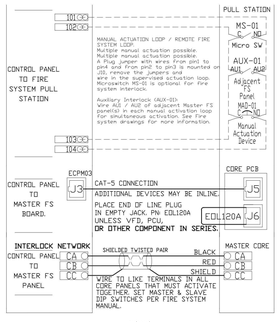
ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

NOTES
- - - - - - DENOTES FIELD WIRING
——— DENOTES INTERNAL WIRING

DESCRIPTION OF OPERATION:
FIRE SYSTEM #1 TANK FS - 4.0/4.0. TANK-BASED FIRE PROTECTION SYSTEM EQUIPPED WITH ELECTRONIC DETECTION UTILIZING CORE BOARD AS A LISTED RELEASE MECHANISM. INSTALLED IN HOOD UTILITY CABINET WITH INTEGRAL HOOD PREWIRE PANEL.

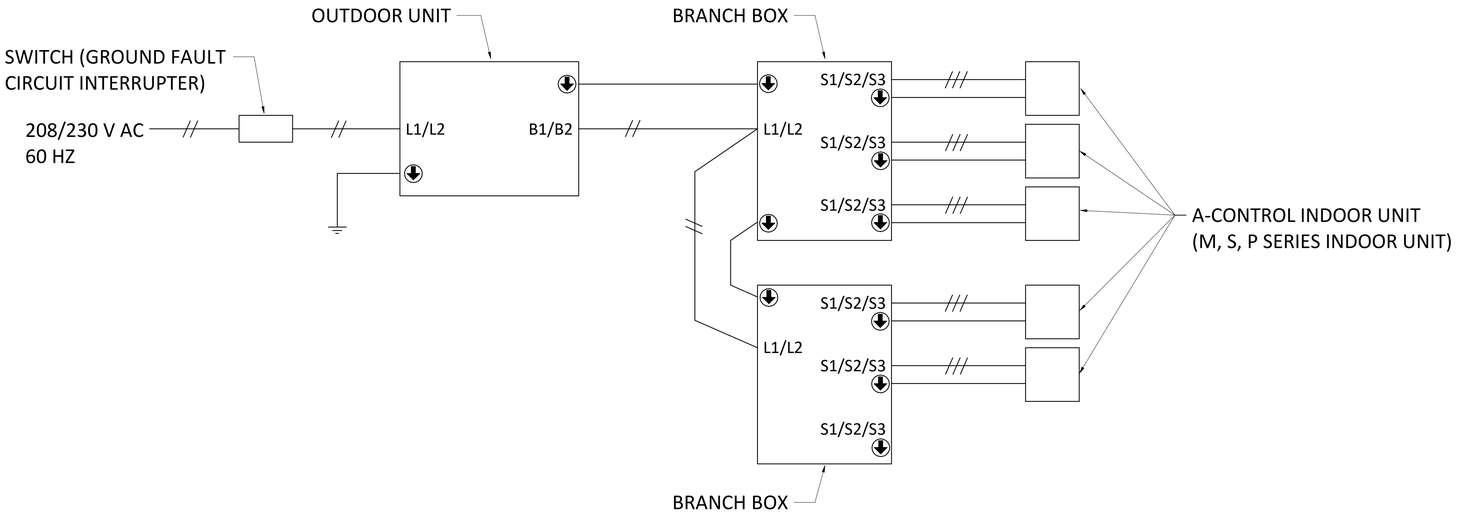
TANK PROTECTION LOW VOLTAGE DETAIL 2 E-504
1/8" = 1'-0"



NOTES
- - - - - - DENOTES FIELD WIRING
——— DENOTES INTERNAL WIRING

DESCRIPTION OF OPERATION:
120V 1 PHASE W/ CONTROL FOR 1 EXHAUST FAN, 1 SUPPLY FAN, EXHAUST ON IN FIRE, LIGHTS OUT IN FIRE, RELAY ON/OFF WITH SUPPLY FAN, FAN(S) ON/OFF THERMOSTATICALLY CONTROLLED. ROOM TEMPERATURE SENSOR SHIPPED LOOSE FOR FIELD INSTALLATION.

CONTROL PANEL / FIRE SYSTEM CONNECTION WIRING 3 E-504
1/8" = 1'-0"



CU-UV WITH BRANCH BOX WIRING DIAGRAM 1 E-504
1/8" = 1'-0"

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE
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ALLAMAKEE CSD

ISSUED FOR
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DATE	02/20/2026
DESCRIPTION	DATE

DRAWN BY	SMF
CHECKED BY	KDM
PROJECT NO.	9166-10000

SHEET NAME
ELECTRICAL DETAILS

E-504

MOTOR AND EQUIPMENT SCHEDULE

EQUIP TAG	NOTES: EQUIPMENT TAGS NOTED AS ## & ## ARE WIRED TO SAME CIRCUIT. AMPACITY SHOWN IS TOTAL CIRCUIT AMPS.									STARTER/DISCONNECT E-FURNISHED BY ELECTRICAL CONTRACTOR M-FURNISHED BY MECHANICAL CONTRACTOR					
	DESCRIPTION	AMP	VOLTAGE	# OF POLES	WIRE SIZE	CONDUIT	PANEL	MCA	MOCP	DISC	SW AMPS	FUSE AMPS	NEMA RATING	NOTES	REMARKS
BP-1	BOILER PUMP	6.9 A	208 V	3	3-#12, 1-#12	3/4"	HB	8.6 A	15 A	N/A					WITHIN SIGHT
BP-2	BOILER PUMP	6.9 A	208 V	3	3-#12, 1-#12	3/4"	HB	8.6 A	15 A	N/A					WITHIN SIGHT
BP-3	BOILER PUMP	6.9 A	208 V	3	3-#12, 1-#12	3/4"	HB	8.6 A	15 A	N/A					WITHIN SIGHT
CC-1	COOLER CONDENSER	14.3 A	208 V	3	3-#10, 1-#10	3/4"	L11	20	25 A	E	30A	NF	3R		
CE-1	COOLER EVAPORATOR	14.4 A	120 V	1	1-#12, 1-#12, 1-#12	3/4"	L11	15.5	20 A	E	30A	NF	3R		
CU-1 / BB-1 / UV-#	CONDENSING UNIT / UNIT VENTILLATORS	51.2 A	208 V	2	2-#4, 1-#10	1"	HJ	55 A	60 A	E	60A	NF	3R	3	
CU-2 / UV-#	CONDENSING UNIT / UNIT VENTILLATORS	50.7 A	208 V	2	2-#4, 1-#10	1"	HJ	55 A	60 A	E	60A	NF	3R	3	
CU-3 / UV-#	CONDENSING UNIT / UNIT VENTILLATORS	40.5 A	208 V	2	2-#4, 1-#10	1"	HJ	45 A	60 A	E	60A	NF	3R	3	
DH-1	DUCT HUMIDIFIER	52.0 A	208 V	3	3-#4, 1-#8	1 1/4"	DB	65	70 A	M				2	
DH-2	DUCT HUMIDIFIER	52.0 A	208 V	3	3-#4, 1-#8	1 1/4"	H-E	65	70 A	M				2	
DH-3	DUCT HUMIDIFIER	52.0 A	208 V	3	3-#4, 1-#8	1 1/4"	H-I	65	70 A	M				2	
DOAS-1	DEDICATED OUTSIDE AIR SYSTEM	258.0 A	208 V	3	3-#500, 1-#4	3"	DB	268.1 A	300 A	M				1	
DOAS-2	DEDICATED OUTSIDE AIR SYSTEM	101.6 A	208 V	3	3-#1/0, 1-#6	2"	DB	109 A	125 A	M				1	
DOAS-3	DEDICATED OUTSIDE AIR SYSTEM	91.1 A	208 V	3	3-#1/0, 1-#6	2"	DB	107.7 A	125 A	M				1	
DOAS-4	DEDICATED OUTSIDE AIR SYSTEM	105.5 A	208 V	3	3-#1/0, 1-#6	2"	DB	112.9 A	125 A	M				1	
DOAS-5	DEDICATED OUTSIDE AIR SYSTEM	49.5 A	208 V	3	3-#4, 1-#8	1 1/4"	DB	61.9 A	70 A	M				1	
DOAS-6	DEDICATED OUTSIDE AIR SYSTEM	33.6 A	208 V	3	3-#6, 1-#10	1"	HJ	41.0	50 A	M				1	
EF-1	EXHAUST FAN	0.3 A	120 V	1	1-#12, 1-#12, 1-#12	3/4"	H-F	0.4 A	15 A	N/A					CONTROLLED VIA SWITCH
EF-2	EXHAUST FAN	7.0 A	208 V	2	2-#10, 1-#10	3/4"	K-1	8.8 A	30 A	N/A					ENERGIZED VIA RTU
EF-3	EXHAUST FAN	0.4 A	120 V	1	1-#12, 1-#12, 1-#12	3/4"	HD	.5	20 A	N/A					CONTROLLED VIA SWITCH
FC-2	FREEZER CONDENSER	26.7 A	208 V	3	3-#6, 1-#10	1"	L11	32.7	50 A	E	60A	NF	3R		
FE-1	FREEZER EVAPORATOR	13.7 A	208 V	2	2-#12, 1-#12	3/4"	L11	13.7	20 A	E	30A	NF	1		TOGGLE TYPE
FE-2	FREEZER EVAPORATOR	13.7 A	208 V	2	2-#12, 1-#12	3/4"	L11	13.7	20 A	E	30A	NF	1		TOGGLE TYPE
KEF-1	KITCHEN EXHAUST FAN	8.7 A	120 V	1	1-#12, 1-#12, 1-#12	3/4"	K-1	10.9	20 A	M					
KEF-2	KITCHEN EXHAUST FAN	8.7 A	120 V	1	1-#12, 1-#12, 1-#12	3/4"	K-1	10.9	20 A	M					
KEF-3	KITCHEN EXHAUST FAN	8.7 A	120 V	1	1-#12, 1-#12, 1-#12	3/4"	K-1	10.9	20 A	M					
MAU-1	MAKEUP AIR UNIT	15.8 A	208 V	3	3-#8, 1-#10	1"	L11	21.9 A	35 A	M					

NOTES:
1. UNIT PROVIDED WITH UV LAMP AND CONVENIENCE RECEPTACLE. PROVIDE 20A/1P CIRCUIT TO UNIT FOR UV AND RECEPTACLE.
2. EQUIPMENT INCLUDED UNDER ALTERNATE #2.
3. EQUIPMENT INCLUDED UNDER ALTERNATE #3.
4. ELECTRICAL CONTRACTOR TO WIRE CONDENSATE PUMPS FOR EACH UNIT VENTILATOR (UV).

ELECTRICAL KEYED NOTES - MASTER

E1	COORDINATE PAD MOUNTED TRANSFORMER AND PAD REPLACEMENT WITH SERVING UTILITY AND OWNER PRIOR TO DEMOLITION OF EXISTING TRANSFORMER. EC TO PROVIDE DETAILED INSTALLATION PLAN FOR PAD MOUNTED TRANSFORMER AND PRIMARY FEEDERS AND CONDUIT TO OWNER AND UTILITY INCLUDING PHASING, TEMPORARY POWER PROVISIONS, OUTAGE DURATION AND TESTING. THE INTENT OF THIS WORK IS TO MINIMIZE THE DISRUPTION TO THE SECONDARY FEEDS OF THE TRANSFORMER TO THE EXISTING SWITCHBOARD BY LOCATING THE PAD'S SECONDARY WINDOW OPENING IN A LOCATION THAT REQUIRES MINIMAL REWORK. LOCATION OF TRANSFORMER AND PAD SHOWN ARE TO PROVIDE APPROPRIATE CLEARANCES FROM MAN DOOR AND BUILDING. COORDINATE WITH UTILITY FOR APPROVAL ON FINAL LOCATION PRIOR TO PAD INSTALLATION.
E2	EC TO PROVIDE CONCRETE EQUIPMENT PAD SIZED PER UTILITY AND CODE REQUIREMENTS. EC TO ENSURE CONCRETE PAD IS INSTALLED ON STABLE AND LEVEL GRADE, MAINTAINS REQUIRED CLEARANCES, AND TO PROVIDE AND INSTALL BOLLARDS TO PROTECT FROM VEHICLE IMPACT. EC TO PROVIDE OIL CONTAINMENT MOAT AS REQUIRED BY UTILITY. PROVIDE GROUNDING AND BONDING AS REQUIRED BY UTILITY AND NEC. EC TO INSTALL PVC CONDUIT STUB UPS ALIGNED WITH TRANSFORMER CABINET LAYOUT.
E3	PROVIDE AND INSTALL (1) 3" CONDUIT FROM SECTIONALIZER TO NEW TRANSFORMER WITH 3-#1/0 AL 15KV CONDUCTORS. EXISTING CONDUIT MAY NOT NEED TO BE REPLACED IN IT'S ENTIRETY, CONTRACTOR TO FIELD VERIFY CONDITION OF EXISTING CONDUIT AND INTERCEPT AND EXTEND IF ABLE.
E4	PROVIDE AN ADRESSABLE MONITOR MODULE TO INTERFACE WITH THE KITCHEN HOOD FIRE SUPPRESSION SYSTEM. UPON ACTIVATION OF THE SUPPRESSION SYSTEM, THE MONITOR MODULE SHALL INITIATE A GENERAL FIRE ALARM CONDITION THROUGH THE FIRE ALARM CONTROL PANEL (FACP). MODULE SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72 AND MANUFACTURER REQUIREMENTS. COORDINATE WIRING AND TERMINATION REQUIREMENTS WITH THE KITCHEN HOOD SUPPRESSION CONTRACTOR.
E5	EXISTING RECEPTACLES MOUNTED UNDER HOOD SHALL BE RE-INSTALLED ONCE NEW HOOD IS INSTALLED. PROVIDE CAT6 CABLE TO CONTROL PANEL TO TIE INTO BUILDING AUTOMATION SYSTEM. SEE DETAILS ON SHEETS E-503 AND E-504 FOR POWER, CONTROL AND FIRE ALARM WIRING.
E6	KITCHEN EXHAUST FANS (KEF-#) - NEW EXHAUST FANS ARE REPLACING EXISTING IN KIND. PROVIDE NEW CONDUIT AND CONDUCTORS TO NEW EXHAUST FANS. SEE MOTOR AND EQUIPMENT SCHEDULE FOR CONDUIT AND CONDUCTOR SIZING. EXISTING HOOD CIRCUITING COULD NOT BE IDENTIFIED BY PANELBOARD SCHEDULE. ELECTRICAL CONTRACTOR SHALL IDENTIFY CIRCUITS FEEDING EXHAUST FANS PRIOR TO DEMOLITION.
E7	ELECTRICAL CONTRACTOR TO WIRE CONTROL PANEL TO SHUNT TRIP COIL TO SHUT OFF EQUIPMENT UNDER HOOD IN FIRE CONDITION. ELECTRICAL CONTRACTOR TO WIRE CONTROL PANEL TO N.C. CONCTACTS OF GAS SOLENOID TO SHUT OFF GAS IN FIRE CONDITON. ELECTRICAL CONTRACTOR TO WIRE CONTROL PANEL TO SUPPLY FANS/MAKE-UP AIR FANS TO SHUT OFF IN FIRE CONDITION. ELECTRICAL CONTRACTOR TO WIRE CONTROL PANEL TO EXHAUST FANS, HOOD LIGHTS, AND TEMPERATURE SENSOR. EXHAUST FANS TO BE WIRED TO UNIT INTERLOCK SO THAT EXHAUST FANS ENERGIZE AUTOMATICALLY WHEN COOKING APPLIANCES ARE IN USE.
E8	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL DUCT SMOKE DETECTOR ON THE RETURN AND SUPPLY SIDE OF THE DOAS UNITS AND SUPPLY SIDE OF MAU UNIT. CONNECT NEW DUCT SMOKE DETECTOR TO THE EXISTING FIRE ALARM CONTROL PANEL LOCATED IN ROOM W060 IN THE HIGH SCHOOL. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL DUCT SMOKE DETECTOR TEST RESET SWITCH. CONTRACTOR TO INSTALL (1) DUCT SMOKE DETECTOR TEST RESET SWITCH PER DOAS/MAU UNIT.
E9	INSTALL NEW SURFACE-MOUNTED PANEL IN LOCATION SHOWN IN ACCORADANCE WITH NEC AND AHJ REQUIREMENTS. PROVIDE GROUNDING AND BONDING. RECONNECT EXISTING FEEDERS AND BRANCH CIRCUITS AND IDENTIFY ALL CIRCUITS WITH TYPE-WRITTEN DIRECTORIES AND TORQUE ALL CONNECTIONS TO MANUFACTURER'S SPECIFICATIONS. MAINTAIN REQUIRED WORKING CLEARANCES AND HEIGHTS. PROVIDE WIRE GUTTER AND JUNCTION BOXES AS REQUIRED TO EXTEND EXISTING CIRCUITS TO NEW PANEL.
E10	INSTALL NEW SURFACE-MOUNTED DISTRIBUTION BOARD IN LOCATION SHOWN IN ACCORADANCE WITH NEC AND AHJ REQUIREMENTS. PROVIDE GROUNDING AND BONDING. PROVIDE THREE (3) SETS OF 4-# 300 & 1-# 1/0 CU IN THREE (3) 3" CONDUITS FROM SWITCHBOARD TO NEW DISTRIBUTION BOARD. RECONNECT EXISTING BRANCH CIRCUITS AND IDENTIFY ALL CIRCUITS WITH TYPE-WRITTEN DIRECTORIES. TORQUE ALL CONNECTIONS TO MANUFACTURER'S SPECIFICATIONS. MAINTAIN REQUIRED WORKING CLEARANCES AND HEIGHTS. PROVIDE WIRE GUTTER AND JUCTION BOXES AS REQUIRED TO EXTEND EXISTING CIRCUITS TO NEW PANEL.

ELECTRICAL DEMO KEYED NOTES - MASTER

D1	REMOVE AND RE-INSTALL CEILING MOUNTED DEVICES IN THIS AREA. NOTE THAT ALL DEVICES REQUIRING RE-INSTALLATION MAY BE SHOWN. CONTRACTOR TO VERIFY CEILING MOUNTED DEVICES PRIOR TO BIDDING. RE-INSTALLED DEVICES AS CLOSE TO ORIGINAL LOCATION AS POSSIBLE.
D2	EXISTING CEILING AND CEILING MOUNTED DEVICE TO REMAIN. DEMO EXISTING LIGHTING IN THIS ROOM. NEW LIGHTS TO CONNECT TO EXISTING CIRCUITING AND CONTROLS.
D3	EXISTING STAGE LIGHTING AND ASSOCIATED WIRING TO BE REMOVED AND RE-INSTALLED ONCE CEILING WORK IS COMPLETED
D4	EXISTING PAD MOUNTED TRANSFORMER IN DETERIORATED CONDITION AND SHALL BE COMPLETELY REMOVED INCLUDING ALL ASSOCIATED WIRING AND GROUNDING COMPONENTS. THE EXISTING CONCRETE PAD IS UNDERSIZED AND DOES NOT MEET CURRENT UTILITY OR CODE REQUIREMENTS. CONTRACTOR SHALL DEMOLISH AND DISPOSE OF THE EXISTING CONCRETE PAD IN ITS ENTIRETY. EC TO MAINTAIN ALL SAFETY MEASURES AND PROVIDE TEMPORARY PROTECTION, BARRICADES AND REQUIRED NOTICES DURING TRANSFORMER REMOVAL AND PAD REPLACEMENT. EC TO COORDINATE WITH OWNER PRIOR TO ANY DEMOLITION OR TERMINATION OF SERVICE TO BUILDING.
D5	MECHANICAL EQUIPMENT TO BE DEMOED (DIV 15). DIV 16 TO REMOVE ALL ASSOCIATED WIRING, CONDUIT, BOXES AND DISCONNECTS BACK TO SOURCE. IF UNIT IS BEING REPLACED, AND EXISTING CONDUIT IS IN GOOD CONDITION AND SIZED APPROPRIATELY, EXISTING CONDUIT MAY BE RE-USED FOR NEW CONDUCTORS TO PROPOSED EQUIPMENT.
D6	REMOVE AND RE-INSTALL EXISTING PROJECTOR AND ASSOCIATED RECEPTACLE.
D7	DEMO EXISTING SPEAKER. SEE ELECTRICAL PLANS FOR NEW SPEAKER TO BE PROVIDED.
D8	DEMO EXISTING PANEL. DE-ENERGIZE ALL FEEDERS AND BRANCH CIRCUITS SERVING THE EXISTING FLUSH-MOUNTED PANEL PRIOR TO WORK. COORDINATE OUTAGES WITH OWNER. IDENTIFY, TAG, AND DOCUMENT ALL EXISTING CIRCUITS PRIOR TO DISCONNECTION FOR RECONNECTION TO NEW SURFACE-MOUNTED PANEL. REMOVE EXISTING PANEL, BREAKERS, TRIM, GROUNDING/BONDING, AND ASSOCIATED CONDUITS. REMOVE ABANDONED CONDUCTORS IN COMPLIANCE WITH NEC. MAINTAIN GROUNDING AND BONDING CONTINUITY AND PROTECT ADJACENT SYSTEMS DURING DEMOLITION. PROVIDE TEMPORARY POWER AS REQUIRED. PATCH AND RESTORE WALL SURFACES TO MATCH EXISTING CONDITIONS.

COPPER FEEDER & BRANCH CIRCUIT SCHEDULE

RATING (SEE NOTE A)	PHASE CONDUCTORS & NEUTRAL	EQUIPMENT GROUNDING CONDUCTOR	CONDUIT SIZE FOR 4W	CONDUIT SIZE FOR 2W OR 3W
15	12	12	3/4"	3/4"
20	12	12	3/4"	3/4"
25	10	10	3/4"	3/4"
30	10	10	3/4"	3/4"
35	8	10	1	3/4"
40	8	10	1	3/4"
45	8	10	1	3/4"
50	8	10	1	3/4"
60	6	10	1	1
70	4	8	1 1/4"	1
80	4	8	1 1/4"	1
90	3	8	1 1/4"	1 1/4"
100	3	8	1 1/4"	1 1/4"
110	2	6	1 1/2"	1 1/4"
125	1	6	2"	1 1/2"
150	1/0	6	2"	1 1/2"
175	2/0	6	2"	2"
200	3/0	6	2 1/2"	2"
225	4/0	4	2 1/2"	2 1/2"
250	250 KCMIL	4	3"	2 1/2"
275	300 KCMIL	4	3"	3"
300	350 KCMIL	4	3"	3"
325	400 KCMIL	3	3 1/2"	3 1/2"
350	500 KCMIL	3	3 1/2"	3 1/2"
400	(2) 3/0	(2) 3	(2) 2 1/2"	(2) 2"

COPPER FEEDER & BRANCH CIRCUIT SCHEDULE NOTES:

A. UNLESS SPECIFICALLY NOTED OTHERWISE, THIS SCHEDULE APPLIES TO ALL ONE-LINE DIAGRAMS, PANEL SCHEDULES, AND EQUIPMENT CONNECTIONS SCHEDULES. A FEEDER OR BRANCH CIRCUIT RATING SHALL BE EQUAL TO THE SPECIFIED RATING OF ITS CORRESPONDING OCPD (OVERCURRENT PROTECTION DEVICE), UNLESS SPECIFICALLY NOTED OTHERWISE. RATINGS FOR EQUIPMENT CONNECTIONS SCHEDULES ARE NOTED IN THE "FEEDER RATING" COLUMN. THE TERM "RATING" IS NOT NECESSARILY SYNONYMOUS WITH "CURRENT-CARRYING CAPACITY" AND IS INTENDED SOLELY TO IDENTIFY PARTICULAR FEEDER SPECIFICATIONS.

B. VALUES IN PARENTHESES INDICATE THE QUANTITY OF PARALLEL SETS IN SEPARATE CONDUITS.

C. IF A FEEDER OR BRANCH CIRCUIT RATING EXCEEDS THAT OF IT CORRESPONDING OCPD, THEN ITS EQUIPMENT GROUNDING CONDUCTOR MUST BE INCREASED PROPORTIONALLY CROSS-SECTIONAL AREA TO THAT OF THE PHASE CONDUCTORS. THEREFORE, THE EQUIPMENT GROUNDING CONDUCTOR SIZE INDICATED IN THIS SCHEDULE SHALL APPLY ONLY IF IT IS NOT SPECIFICALLY NOTED OTHERWISE ON THE PLANS, ONE-LINE DIAGRAMS, OR EQUIPMENT CONNECTIONS SCHEDULES.

D. A FEEDER RATING CAN BE SPECIFIED LESS THAN ITS ASSOCIATED OCPD WHEN IT SERVES A MOTOR LOAD WITH DEDICATED OVERLOAD PROTECTION AND ITS BREAKER IS "OVERSIZED" TO ALLOW FOR INCREASED STARTING CAPACITY (IN RUSH CURRENT).

E. WIRE SIZES ARE BASED ON N.E.C. TABLE 310.15(B)(16) FOR COPPER. THHN/THWN. 75-DEG C.CONDUIT SIZES ARE BASED ON TABLES IN N.E.C: "ANNEX C" THAT ARE APPLICABLE FOR RACEWAY TYPES SPECIFIED UNDER SECTION 260533 "RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS".

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE
1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

NOT FOR CONSTRUCTION

ISSUED FOR
BIDDING
DATE 02/20/2026

DESCRIPTION	DATE

DRAWN BY SMF
CHECKED BY DMS
PROJECT NO. 9166-10000

SHEET NAME
ELECTRICAL EQUIPMENT SCHEDULE

E-601

LIGHTING SCHEDULE

TAG	SYMBOL	MANUFACTURER	MODEL NUMBER	DESCRIPTION	MOUNTING	TOTAL LUMENS	CCT	CRI	VOLTAGE	WATTS	EMERGENCY COMPONENT	NOTES	APPROVED EQUALS
HB1		KEYSTONE	KT-HBLED215PS-2C-OSC-8C SD-VDIM-P/WG	HIGH BAY	CEILING | 22'	30500 lm	40 K	80	120 V	215 W		1	
L1		KEYSTONE	KT-MSLED54-8-835-VDIM-P/LSM	8' LINEAR	CEILING	7100 lm	35 K	80	120 V	54 W		2	
S1		HE WILLIMAS	NLV-L-L7/840-O-WHT-DRV-UNV	GYM WALL LIGHT	WALL | 9'	700 lm	40 K	80	120 V	15 W			
T1		KEYSTONE	KT-BPLED50PS-24-8CSA-VDIM	2X4 LED FLAT PANEL	CEILING	5600 lm	35 K	80	120 V	50 W			
T2		KEYSTONE	KT-BPLED35PS-14C-8CSA-VDIM/G2	1X4 LED FLAT PANEL	CEILING	4000 lm	35 K	80	120 V	35 W			

NOTES:
1. PROVIDE WITH KT-HBLED-CABLE-1B-KIT CABLE MOUNT IT
2. PROVIDE WITH KT-MSLED-VH-KIT V-HOOK AND CHAIN KIT & ALL REQUIRED BRACKETS

SENSOR SCHEDULE

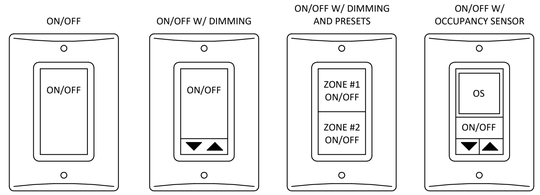
TAG	DESCRIPTION	COVERAGE TYPE	MOUNTING	DETECTION TECHNOLOGY	MODEL #	MANUFACTURER
OS1	OCCUPANCY SENSOR	STANDARD	CEILING	PDT	LMDC-100	WATTSTOPPER
OS2	OCCUPANCY SENSOR - HIGH MOUNT	HIGH MOUNT	CEILING	PIR	NCM-6-30M	ACUITY
PS	CEILING MOUNT PHOTO SENSOR	N/A	CEILING	PHOTOCELL	LMLS-500	WATTSTOPPER
RC1	DUAL RELAY ROOM CONTROLLER	N/A	CEILING/WALL	N/A	LMRC-212	WATTSTOPPER
RC2	DUAL RELAY ROOM CONTROLLER	N/A	CEILING/WALL	N/A	LMRC-101	WATTSTOPPER

SWITCH SCHEDULE

TAG	DESCRIPTION	BASIS OF DESIGN	MANUFACTURER
1	ON/OFF	WATTSTOPPER LMSW-210	
2	ON/OFF WITH DIMMING	LMSW-211	WATTSTOPPER
3	ON/OFF (TWO ZONES)	LMSW-220	WATTSTOPPER
4	OCCUPANCY SENSOR WITH DIMMING	CS-50	WATTSTOPPER

LIGHTING CONTROL SEQUENCE OF OPERATION

OPERATION SEQUENCE	ROOM TYPE	TIME DELAY	LIGHTING SEQUENCE					
			POWER ON	POWER OFF	DAY LIGHT CONTROLS	DAYLIGHT SET POINT (FC)	RECEPTACLE SEQUENCE	DESCRIPTION
1	WOOD SHOP/KITCHEN	N/A	MANUAL SWITCH	MANUAL SWITCH	N/A		N/A	MANUAL ON | MANUAL OFF
2	CORRIDOR	N/A	OCCUPANCY SENSOR	OCCUPANCY SENSOR	N/A		N/A	AUTO-ON BY OCCUPANCY SENSOR. AUTO-OFF BY OCCUPANCY SENSOR.
3	CLASSROOM	20 MIN.	MANUAL SWITCH	MANUAL SWITCH/OCCUPANCY SENSOR	N/A		N/A	LIGHTING IS CONTROLLED VIA VACANCY SENSING, FIXTURES ARE SPLIT INTO TWO ZONES AND FULLY DIMMABLE FROM THE WALL SWITCHES.
4	GYMNASIUM	20 MIN.	OCCUPANCY SENSOR	MANUAL SWITCH/OCCUPANCY SENSOR	N/A		N/A	AUTO-ON BY OCCUPANCY SENSOR TO 50% BRIGHTNESS. AUTO-OFF BY OCCUPANCY SENSOR OR MANUAL SWITCHES. FIXTURES ARE FULLY DIMMABLE FROM WALL SWITCH LOCATION. PROGRAM WALL SWITCHES FOR PRESETS OF 25%, 50%, 75%, 100% AND OFF.
5	LOCKER ROOM	20 MIN.	OCCUPANCY SENSOR	MANUAL SWITCH/OCCUPANCY SENSOR	N/A		N/A	AUTO ON BY OCCUPANCY SENSOR, AUTO OFF BY OCCUPANCY SENSOR
6	CAFETERIA W/ DAYLIGHTING	20 MIN.	OCCUPANCY SENSOR	MANUAL SWITCH/OCCUPANCY SENSOR	PHOTOSENSOR TO AUTOMATICALLY DIM FIXTURES TO LIGHT LEVEL SET POINT INDICATED	45	N/A	LIGHTING IS CONTROLLED VIA VACANCY SENSING. PROVIDE WALL SWITCHES FOR MANUAL CONTROL OF FIXTURES. FIXTURES ARE SPLIT INTO TWO ZONES AND CONTROLLED VIA TWO-BUTTON SWITCHES, EACH BUTTON CONTROLLING A ZONE, NEAR EACH ENTRANCE TO THE ROOM. DAYLIGHTING FIXTURES SERVING THE DESIGNATED PORTION OF THE CAFETERIA SHALL BE CONTROLLED BY A DAYLIGHTING SENSOR WITH 0–10V DIMMING
7	AUDITORIUM	N/A	MANAUL SWITCH	MANUAL SWITCH	N/A		N/A	AUDITORIUM LIGHTING IS CONTROLLED BY TWO EXISTING LUTRON GRAFIK EYE INTERFACES WITH DIMMERS LOCATED AT THE STAGE AND IN THE SOUND BOOTH. PROVIDE NEW CONTROL WIRING TO DIVIDE THE HOUSE LIGHTING INTO TWO ZONES. ZONE 1 SHALL CONTROL THE TROFFERS, AND ZONE 2 SHALL CONTROL THE DOWNLIGHTS, BOTH UTILIZING THE EXISTING SWITCHES.
8	STORAGE	20 MIN.	MANUAL SWITCH/OCCUPANCY SENSOR	MANUAL SWITCH/OCCUPANCY SENSOR	N/A	N/A	N/A	LIGHTING IS CONTROLLED BY VACANCY SETTING. AUTO OFF BY OCCUPANCY SENSOR OR MANUAL OFF BY WALL SWITCH.
9	ADMIN	20 MIN.	MANUAL SWITCH	MANUAL SWITCH/OCCUPANCY SENSOR	N/A	45		LIGHTING IS CONTROLLED BY VACANCY SENSING, FIXTURES ARE FULLY DIMMABLE FROM THE WALL SWITCH



LIGHT SWITCH ID DETAIL 1 / E-602
NTS

AXIOM CONSULTANTS
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MIDDLE SCHOOL HVAC UPGRADE
1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR
BIDDING

DATE	02/20/2026
DESCRIPTION	DATE

DRAWN BY	SMF
CHECKED BY	KDM
PROJECT NO.	9166-10000

SHEET NAME
LIGHTING SCHEDULES

E-602

NOT FOR CONSTRUCTION

Switchboard: SWBD

Location: MECHANICAL M119
Supply: PAD MOUNT
Mounting: SURFACE
Enclosure: NEMA 1

Voltage: 208 V, 3Ø, 4W
Bus Rating: 1900 A
Neutral: 100%
Feed-Thru Lugs: No
Features & Modifications:

Mains Type: MLO
Mains Rating: 1900 A
Mains FN/Note: -
SCCR: 35 kA

Ckt	Description	Frame	Trip (A)	Poles	FN/Note	Phase A...		Phase B...		Phase C...		FN/Note	Poles	Trip (A)	Frame	Description	Ckt
1						0	0										2
3	SHOP PANEL	400 A	400	3	E			0	0			E	3	200	200 A	HUB ROOM PANEL	4
5										0	0						6
7						0	0										8
9	PANEL HB	400 A	400	3	E			0	0			E	3	60	125 A	KILN	10
11										0	0						12
13						0	78982										14
15	GREEN ROOM PANEL	400 A	200	3	E			0	78982			NB	3	800	800 A	DB	16
17										0	78982						18
19						0	0										20
21	KITCHEN NORMAL	200 A	200	3	E			0	0			E	3	60	125 A	COMPUTER CLOSET	22
23										0	0						24
25						0	18845										26
27	PANEL HA	200 A	200	3	E			0	14953			NB	3	225	225 A	HJ	28
29										0	8570						30
31						0											32
33	PANEL HI	200 A	200	3	E			0									34
35										0							36
37						0											38
39	PANEL HD	200 A	200	3	E			0									40
41										0							42
43						0											44
45	PANEL HG	200 A	200	3	E			0									46
47										0							48
49						0	0										50
51	L10	225 A	225	3	E			0	0			E	3	225	250 A	SPARE	52
53										0	0						54
55						0											56
57	TRANSFER SWITCH	400 A	400	3	E			0									58
59										0							60
61							0										62
63									0			E	3	200	250 A	BOILER	64
65											0						66
67							0										68
69									0			E	3	200	250 A	HF	70
71											0						72
73							0										74
75									0			E	3	100	150 A	PANEL HE	76
77											0						78
79							0										80
81									0			E	3	200	250 A	PANEL HH	82
83											0						84
					Connected Load:	98 kVA		94 kVA		88 kVA							
					Connected Current:	823 A		791 A		730 A							

Load Classification	Connected	Factor	Demand
Other	278827 VA	100.00%	278827 VA
Receptacle - General	540 VA	100.00%	540 VA

Panel Totals	
Connected Load:	279 kVA
Connected Current:	775 A
Demand Load:	279 kVA
Demand Current:	775 A

Notes:

Panelboard: HJ

Location: STORAGE M100E
Supply: SWBD
Mounting: Surface
Enclosure: NEMA 1

Voltage: 208 V, 3Ø, 4W
Bus Rating: 225 A
Neutral: 100%
Feed-Thru Lugs: No
Features & Modifications: -

Mains Type: MCB
Mains Rating: 225 A
Mains FN/Note: -
SCCR: 10 kA

Ckt	Description	Trip (A)	Poles	FN/Note	Phase A...		Phase B...		Phase C...		FN/Note	Poles	Trip (A)	Description	Ckt
1	CU-1 / BB-1 / UV-#	60	2		5325	5275						2	60	CU-2 / UV-#	2
3							5325	5275							4
5	ADMIN EXTERIOR WP RECPT	20	1						360	4210		2	60	CU-3 / UV-#	6
7					4035	4210									8
9	DOAS-6	50	3				4035	328				1	20	DOAS RECPT & UV LTS	10
11									4035						12
13															14
15															16
17															18
19															20
21															22
23															24
25															26
27															28
29															30
31															32
33															34
35															36
37															38
39															40
41															42
				Connected Load:	19 kVA		15 kVA		9 kVA						
				Connected Current:	165 A		133 A		71 A						

Load Classification	Connected	Factor	Demand
Other	41880 VA	100.00%	41880 VA
Receptacle - General	540 VA	100.00%	540 VA

Panel Totals	
Connected Load:	42 kVA
Connected Current:	118 A
Demand Load:	42 kVA
Demand Current:	118 A

Notes:

Panelboard: L11 (KITCHEN GENERATOR)

Location: DRY STORAGE M107E
Supply:
Mounting: Surface
Enclosure: NEMA 1

Voltage: 208 V, 3Ø, 4W
Bus Rating: 225 A
Neutral: 100%
Feed-Thru Lugs: No
Features & Modifications: -

Mains Type: MCB
Mains Rating: 225 A
Mains FN/Note: -
SCCR: 10 kA

Ckt	Description	Trip (A)	Poles	FN/Note	Phase A...		Phase B...		Phase C...		FN/Note	Poles	Trip (A)	Description	Ckt
1					0	0									2
3	BOOSTER HEATER	90	3	E			0	0			E	3	70	DISHWASHER	4
5									0	0					6
7					1425	3206									8
9	FE-1	20	2	NB,L			1425	3206			E	3	50	FC-2	10
11									1425	3206					12
13					1425	0									14
15	FE-2	20	2	NB,L			1717	0			E	2	25	DRYER	16
17									1717	0					18
19					1717	0					E	2	25	PARKING LOT POLES SOUTH	20
21	FREEZER LIGHTS	20	1	E			0	0			E	1	20	COOLER LIGHTS	22
23	FREEZER CONTROLS & DOOR HEATER	20	1	E					0	1728	E,L	1	20	CE-1	24
25					1897	0					E	1	20	COOLER CONTROL & DOOR HEATER	26
27	MAU-1	35	3	NR			1897	0			E	1	20	CONTROLS	28
29									1897	0	R	1	20	WASHER	30
				Connected Load:	10 kVA		8 kVA		10 kVA						
				Connected Current:	82 A		69 A		85 A						

Load Classification	Connected	Factor	Demand
Other	27890 VA	100.00%	27890 VA

Panel Totals	
Connected Load:	28 kVA
Connected Current:	77 A
Demand Load:	28 kVA
Demand Current:	77 A

Notes:

Panelboard: K-1

Location: DRY STORAGE M107E
Supply:
Mounting: Surface
Enclosure: NEMA 1

Voltage: 208 V, 3Ø, 4W
Bus Rating: 225 A
Neutral: 100%
Feed-Thru Lugs: No
Features & Modifications: -

Mains Type: MCB
Mains Rating: 225 A
Mains FN/Note: -
SCCR: 10 kA

Ckt	Description	Trip (A)	Poles	FN/Note	Phase A...		Phase B...		Phase C...		FN/Note	Poles	Trip (A)	Description	Ckt
1					0	0									2
3	EXISTING	20	3	E			0	0			E	3	15	MIXER	4
5									0	0					6
7					0	0									8
9	EXISTING	20	3	E			0	0			E	3	15	SPARE	10
11									0	0					12
13	SPARE	20	1	E	0	0					E	1	20	SPARE	14
15	SPARE	20	1	E			0	0			E	1	20	WEST WALL RECPTS.	16
17	SPARE	20	1	E					0	0	E	1	20	SPARE	18
19	SPARE	20	2	E	0	0					E	1	20	SPARE	20
21							0	0			E	1	20	SPARE	22
23	NORTH RECPT CENTER WALL TOP...	20	1	E					0	0					24
25	WEST RECPT NORTH WALL BOTTO...	20	1	E	0	0					E	3	40	STEAMER	26
27	SOUTH RECPT CENTER WALL	20	1	E			0	0							28
29									0	0	E	1	20	NORTH RECPT UNDER HOOD	30
31	SPARE	20	3	E	0	0					E	1	20	SPARE	32
33							0	0			E	1	20	NORTH GFCI	34
35	CENTER RECPT EAST WALL	20	1	E					0	0	E	1	20	NORTH OUTLET HOOD	36
37	SOUTH RECPT EAST WALL	20	1		0	0					E	1	20	EAST REFRIGERATOR	38
39	NORTH RECPT EAST WALL	20	1	E			0	0			E	1	20	SPARE	40
41									0	0	E	1	20	NORTH OUTLET UNDER HOOD	42
43	SOUTH DISPOSER	15	3	E	0	0					E	1	20	NORTH OUTLET ABOVE HOOD	44
45							0	0			E	1	20	SPARE	46
47	SPARE	20	3	E					0	0	E	1	20	SPARE	48
49					0	0					E	1	20	NEW HOOD FAN/LIGHT	50
51							0	0			E	1	20	NORTH GFCI	52
53	SPARE	20	1	E					0	0	E	1	20	EXISTING	54
55	EAST ROOM CEILING LIGHTS	20	1	E	0	0					E	1	20	EXISTING	56
57	NORTH REFRIGERATOR	20	1	E			0	0			E	1	20	EXISTING	58
59	SOUTH REFRIGERATOR	20	1	E					0	0	E	1	20	EXISTING	60
61	POTATO PEELER	20	1	E	0	0					E	1	20	EXISTING	62
63	SOUTH SIDE VENT FAN	20	1	E			0	0			E	1	20	KITCHEN LIGHTS	64
65	WEST RECPT MILK COOLER	20	1	E					0	0	E	1	20	WEST ROOM FLUORESCENT LIGHTS	66
67	FAN & BATH LIGHTS & RECPT	20	1	E	0	0					E	1	20	EAST ROOM CEILING LIGHTS	68
69	SPARE	20	1	E			0	0			E	2	20	EXISTING	70
71	SOUTH WALL EAST RECPT	20	1	E					0	0					72
73	HEATER	20	1	E	0	180					N	1	20	ROOFTOP CONV. RECPT	74
75	DOAS RECPT & UV LTS	20	1	N			328	1044			N	1	20	KEF-1	76
77										1044	N	1	20	KEF-2	78
79						1044					N	1	20	KEF-3	80
81	EF-2	30	2	NB			728								82
83									728						84
				Connected Load:	1 kVA		2 kVA		2 kVA						
				Connected Current:	10 A		18 A		15 A						

Load Classification	Connected	Factor	Demand
Other	4744 VA	100.00%	4744 VA
Receptacle - General	360 VA	100.00%	360 VA

Panel Totals	
Connected Load:	5 kVA
Connected Current:	14 A
Demand Load:	5 kVA
Demand Current:	14 A

Notes:

BREAKER FUNCTION SCHEDULE

#	FOR ANY NUMBER, SEE PANEL SCHEDULE FOOTER NOTE
A	ARC-FAULT INTERRUPTER (AFCI) PROTECTION
ALT#	INDICATES THAT CIRCUIT BREAKER IS INCLUDED AS PART OF THE ALTERNATE
AR	ARC ENERGY REDUCTION MAINTENANCE SWITCH
D	DEMOLISHED CIRCUIT (NOW SPARE OR SPACE) {FORMER CIRCUIT IN BRACKETS}
E	EXISTING TO REMAIN CIRCUIT
EM	PROVIDE IDENTIFICATION PER NEC 700.12(I)(2)(4)
G	GROUND-FAULT CIRCUIT INTERRUPTER (GFCI) PROTECTION (5 mA)
GE	GROUND-FAULT PROTECTION FOR EQUIPMENT (30 mA)
GF	ADJUSTABLE GROUND-FAULT PROTECTION FOR EQUIPMENT
H	BREAKER HASP TO PREVENT UNINTENTIONAL OPENING
L	LOCKABLE OPEN ACCORDING TO NEC 110.25 (FIRE ALARM OCP TO BE RED)
LSI	LONG-TIME, SHORT-TIME, INSTANTANEOUS ADJUSTMENT
LSIG	LONG-TIME, SHORT-TIME, INSTANTANEOUS AND GROUND-FAULT ADJUSTMENTS
N	NEW CIRCUIT (IN EXISTING PANEL, PREVIOUSLY SPARE OR SPACE)
NB	NEW BREAKER TO REPLACE EXISTING BREAKER OR SPACE (NEW TRIP RATING SHOWN)
NR	NEW CIRCUIT TO REPLACE EXISTING CIRCUIT {FORMER CIRCUIT IN BRACKETS}
R	RELOCATED CIRCUIT
S	SWITCH-RATED PER NEC 240.83(D)
SH	SHUNT TRIP BREAKER

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR
BIDDING

DATE	02/20/2026
DESCRIPTION	DATE

DRAWN BY: DMS
CHECKED BY: KDM
PROJECT NO.: 9166-10000

SHEET NAME
ELECTRICAL PANEL SCHEDULES

NOT FOR CONSTRUCTION

E-603

Panelboard: DB

Location:
Supply: SWBD
Mounting: Surface
Enclosure: NEMA 1

Voltage: 208 V, 3Ø, 4W
Bus Rating: 800 A
Neutral: 100%
Feed-Thru Lugs: No
Features & Modifications: -

Mains Type: MLO
Mains Rating: 800 A
Mains FN/Note: -
SCCR: 22 kA

Ckt	Description	Trip (A)	Poles	FN/Note	Phase A...		Phase B...		Phase C...		FN/Note	Poles	Trip (A)	Description	Ckt
1	DOAS-4	125	3		12669	6245					ALT.2	3	70	DH-1	2
3							12669	6245							4
5									12669	6245					6
7	DOAS-5	70	3		5944	10940						3	125	DOAS-3	8
9							5944	10940							10
11									5944	10940					12
13	DOAS-1	300	3		30983	12201						3	125	DOAS-2	14
15							30983	12201							16
17									30983	12201					18
19	GYM FAN	15	3		0	0						3	15	AUDITORIUM FAN	20
21							0	0							22
23									0	0					24
25	PANEL BETWEEN BATHROOM NORTH HALL	100	3		0	0						3	150	PANEL A	26
27							0	0							28
29									0	0					30
31	STAGE PANEL	150	3		0										32
33							0								34
35									0						36
37	STAGE LIGHTS	225	3		0										38
39							0								40
41									0						42
				Connected Load:	79 kVA		79 kVA		79 kVA						
				Connected Current:	658 A		658 A		658 A						

Load Classification	Connected	Factor	Demand
Other	236947 VA	100.00%	236947 VA

Panel Totals	
Connected Load:	237 kVA
Connected Current:	658 A
Demand Load:	237 kVA
Demand Current:	658 A

Notes:

Panelboard: A

Location:
Supply:
Mounting: Surface
Enclosure: NEMA 1

Voltage: 208 V, 3Ø, 4W
Bus Rating: 150 A
Neutral: 100%
Feed-Thru Lugs: No
Features & Modifications: -

Mains Type: MCB
Mains Rating: 150 A
Mains FN/Note: -
SCCR: 10 kA

Ckt	Description	Trip (A)	Poles	FN/Note	Phase A...		Phase B...		Phase C...		FN/Note	Poles	Trip (A)	Description	Ckt
1	SPARE OUTSIDE OLD RESTROOMS	20	1	E	0	0					E	2	20	POP OUTLETS DEAN OFFICE	2
3	EXIST	20	1	E			0	0							4
5	HEATER	20	1	E					0	0	E	1	20	NORTHEAST HEATER	6
7	EXIST	20	1	E	0	0					E	1	20	EXIST	8
9	SOUND SYSTEM	20	1	E			0	0			E	1	20	OFFICE DEAN	10
11	CAB UNIT HEATER	20	1	E					0	0	E	1	20	LOBBY HEATER	12
13	LOBBY	20	1	E	0	0					E	1	20	ADUT. WALKING LIGHT	14
15	SPARE	20	1	E			0	0			E	1	20	SPARE	16
17	EXIST	20	1	E					0	0	E	1	20	SPARE	18
19	TELEPHONE SYSTEM	20	1	E	0	0					E	1	20	HOUSE LITES OVER SEATS	20
				Connected Load:	0 kVA		0 kVA		0 kVA						
				Connected Current:	0 A		0 A		0 A						

Load Classification	Connected	Factor	Demand

Panel Totals	
Connected Load:	0 kVA
Connected Current:	0 A
Demand Load:	0 kVA
Demand Current:	0 A

Notes:

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE
1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR
BIDDING

DATE	02/20/2026
DESCRIPTION	DATE

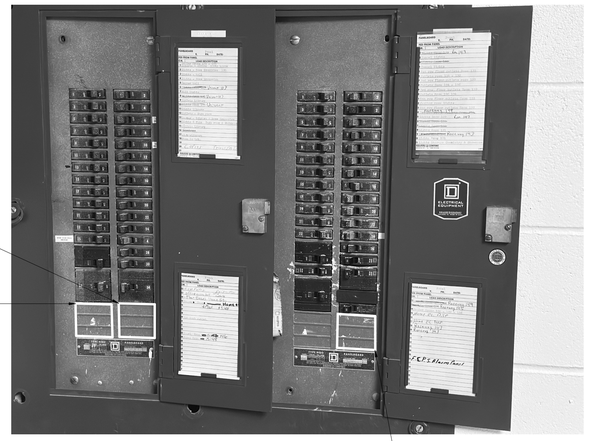
DRAWN BY	DMS
CHECKED BY	KDM
PROJECT NO.	9166-10000

SHEET NAME
ELECTRICAL PANEL SCHEDULES

E-604



HE PANEL 7
NTS E-605



HI PANEL 4
NTS E-605

PROVIDE NEW TYPE-WRITTEN CIRCUIT DIRECTORIES TO INCLUDE NEW LOADS FOR ALL PANELBOARDS



HF PANEL 2
NTS E-605

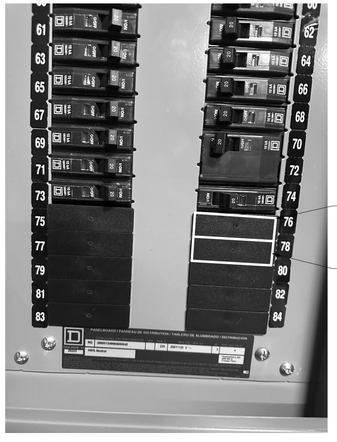


STAGE PANEL 6
NTS E-605

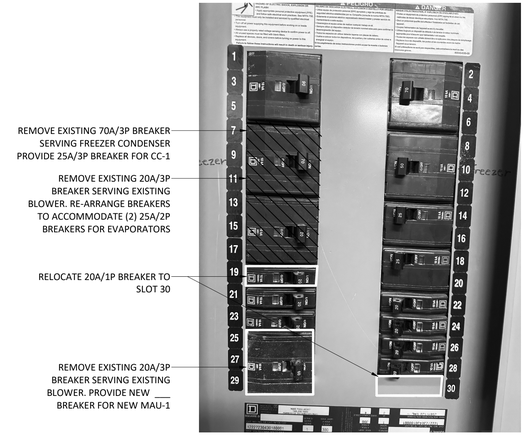


HD PANEL 5
NTS E-605

KITCHEN EXHAUST FANS KEF-1 AND KEF-2 SHALL BE CIRCUITED TO EXISTING BREAKERS FEEDING DEMOED EXHAUST FANS. CONTRACTOR TO VERIFY EXISTING CIRCUITING PRIOR TO DEMOLITION.



K-1 (KITCHEN) PANEL 3
NTS E-605



HP L11 (KITCHEN GENERATOR) 1
NTS E-605

NOT FOR CONSTRUCTION

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MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172
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DATE	02/20/2026
DESCRIPTION	DATE

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CHECKED BY	KDM
PROJECT NO.	9166-10000

SHEET NAME
ELECTRICAL PANEL SCHEDULES - PHOTOS

E-605