

AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE) FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

PLANS/ AXON

Date: 06 MARCH 2009

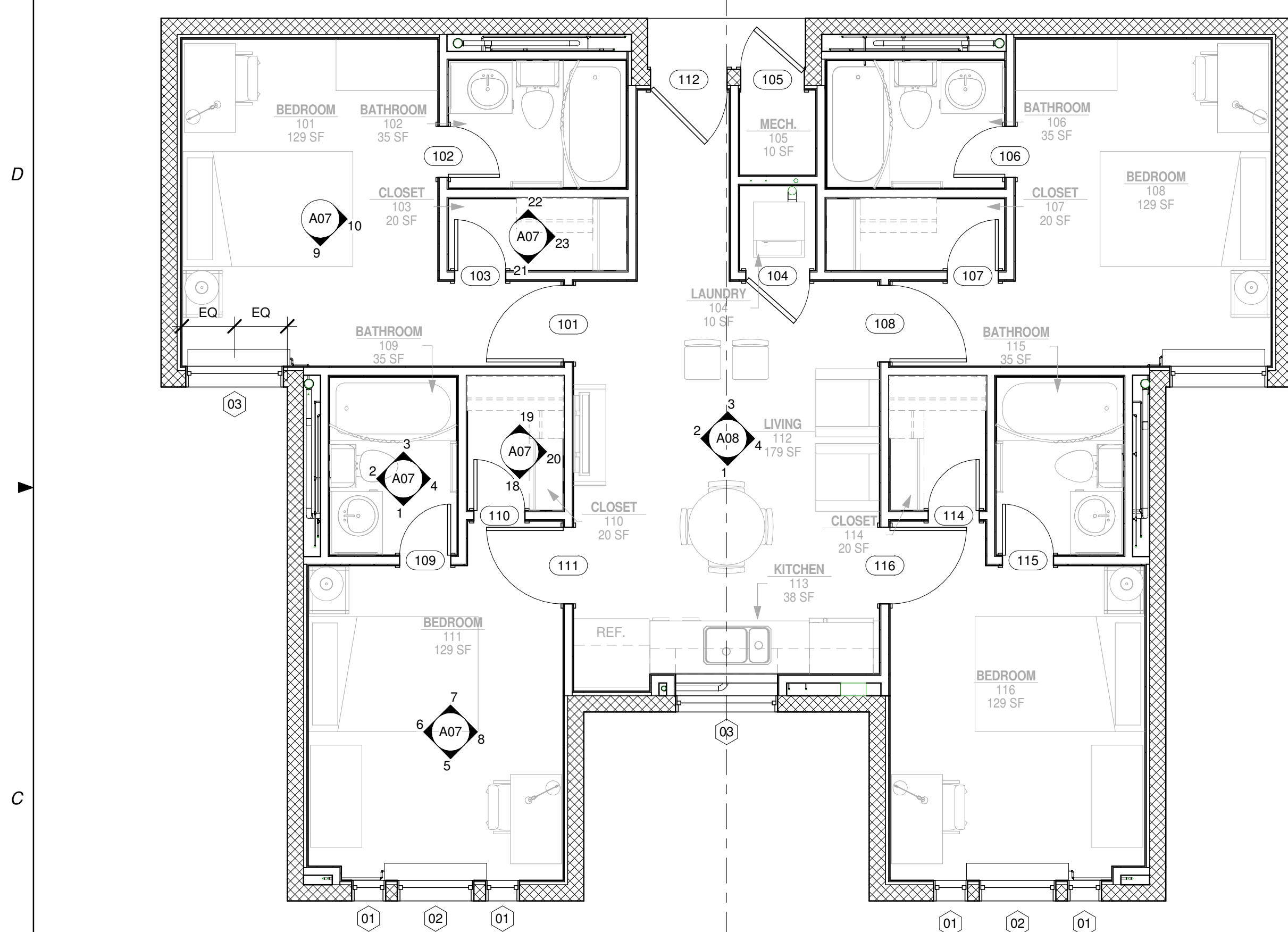
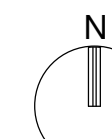
Designed By: Designer

Drawn By: Author

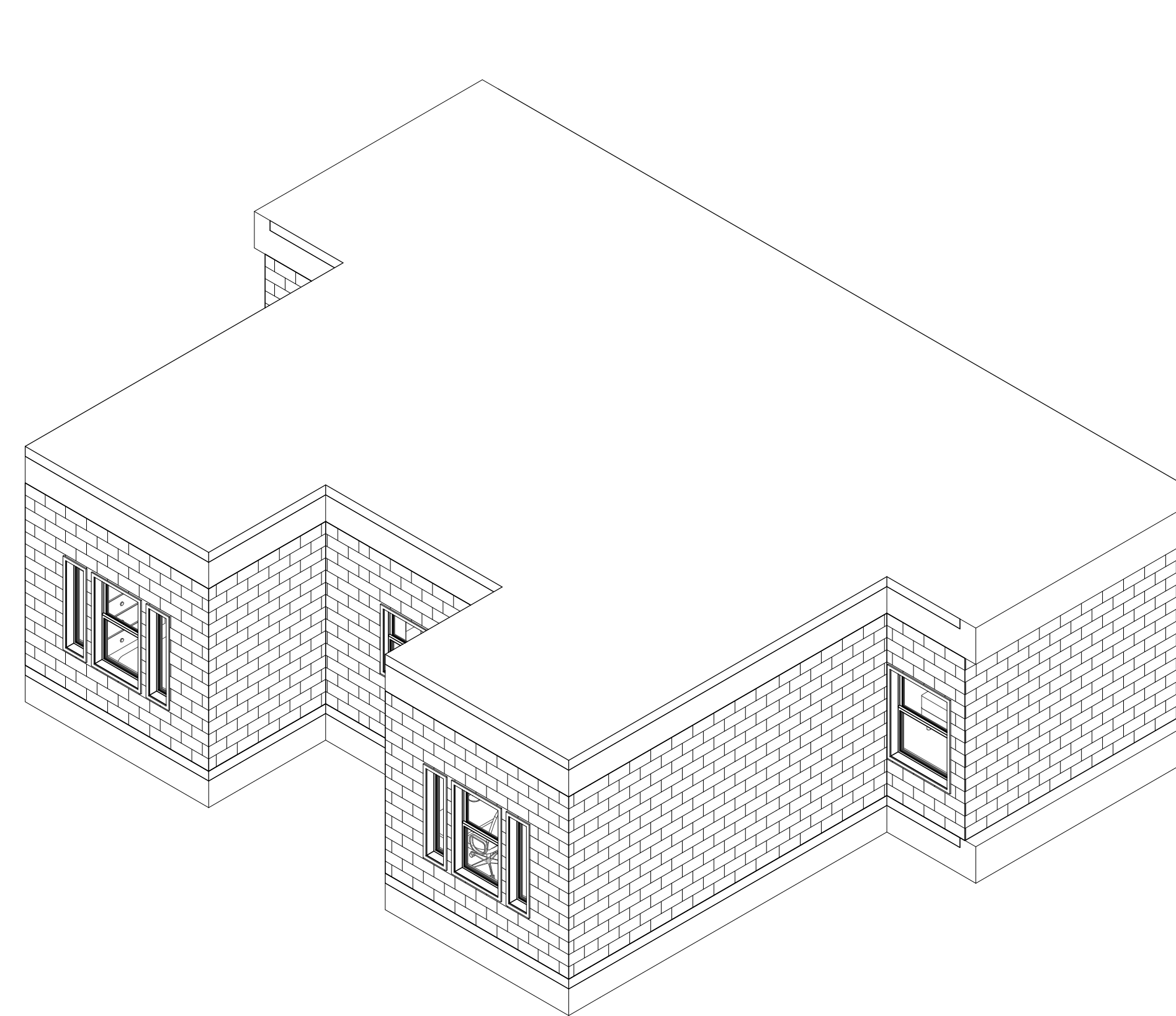
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Drawing No.:

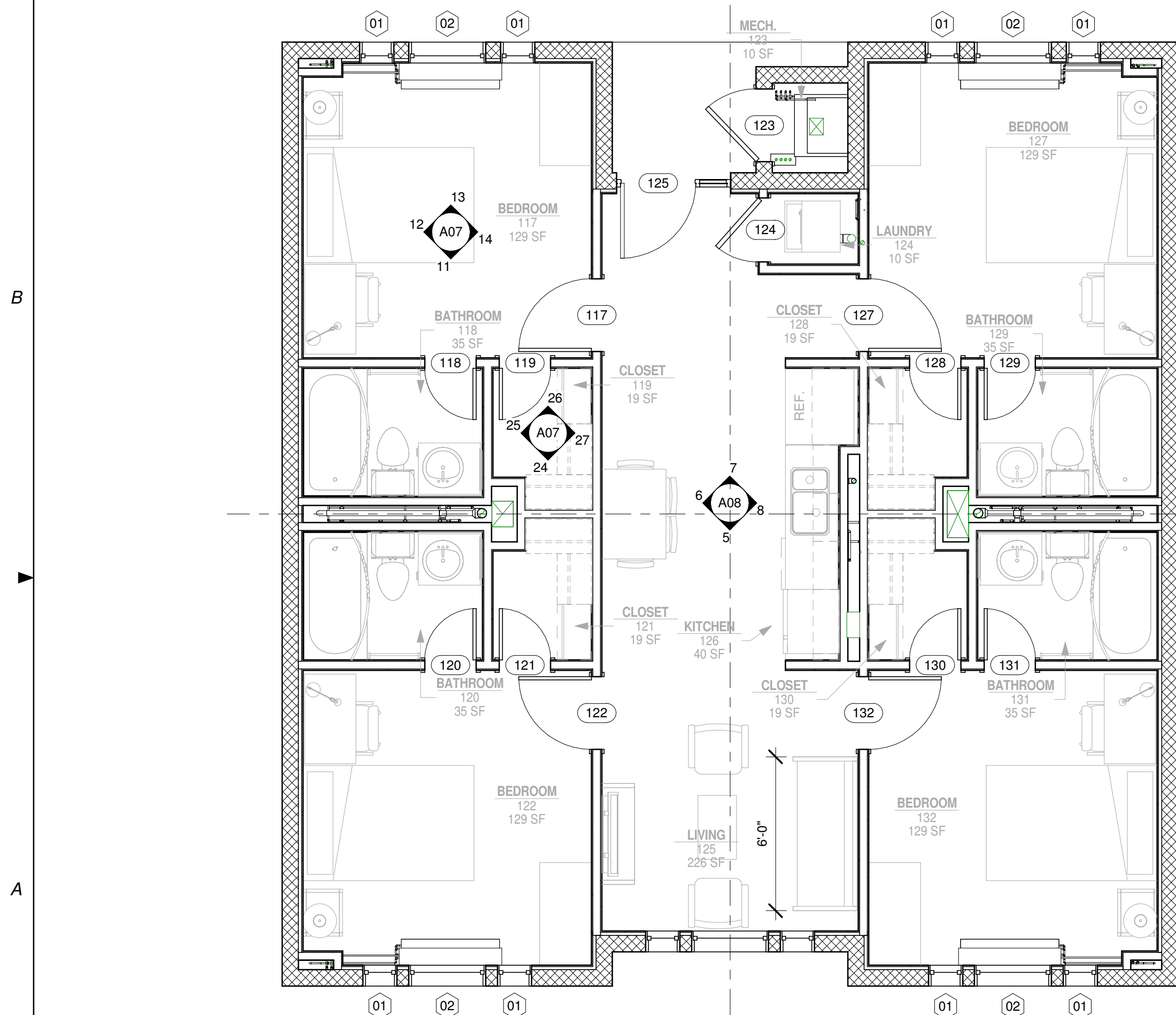
A01



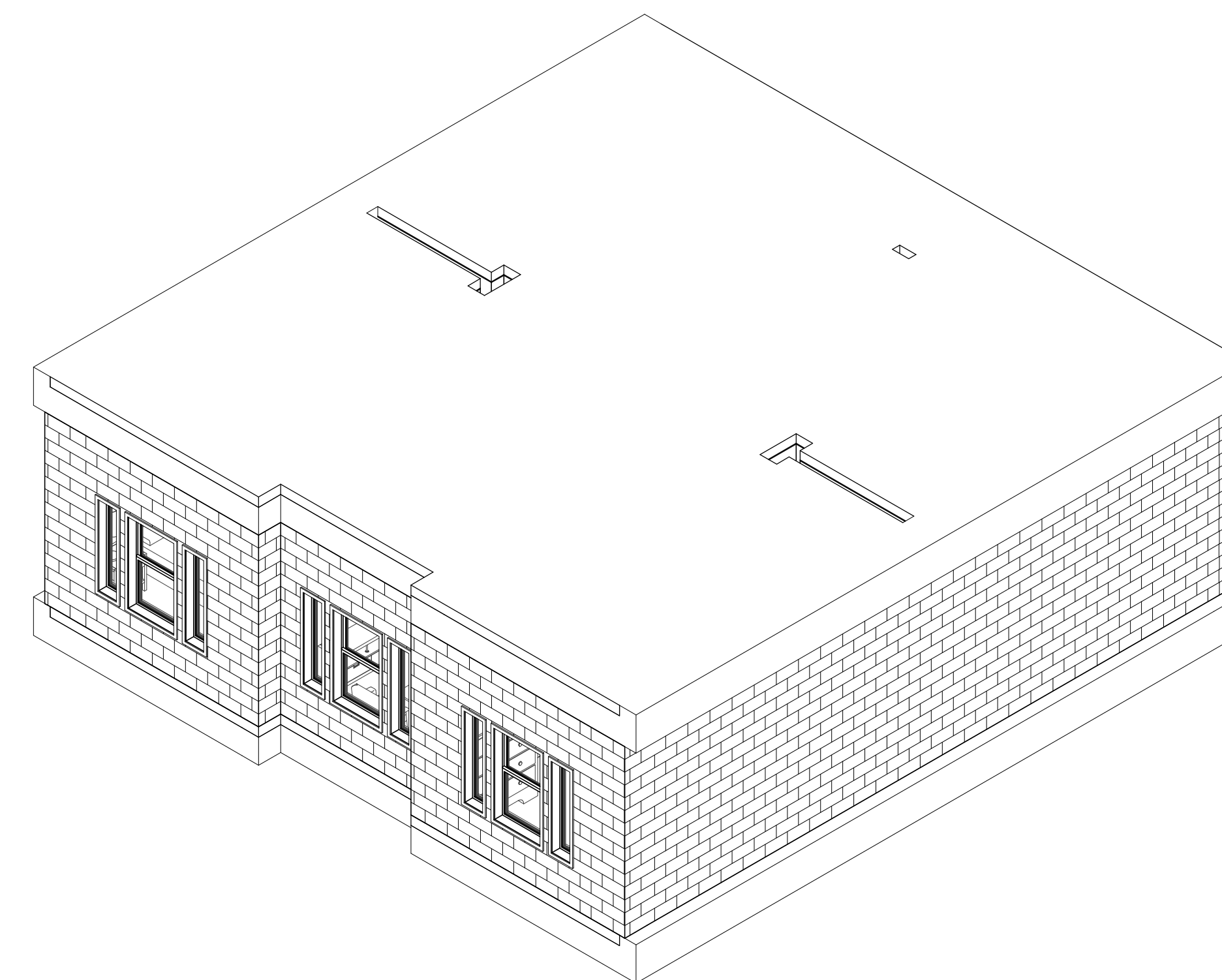
① UNIT A
1/4" = 1'-0"



③ UNIT A



② UNIT B
1/4" = 1'-0"



④ UNIT B

AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE) FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

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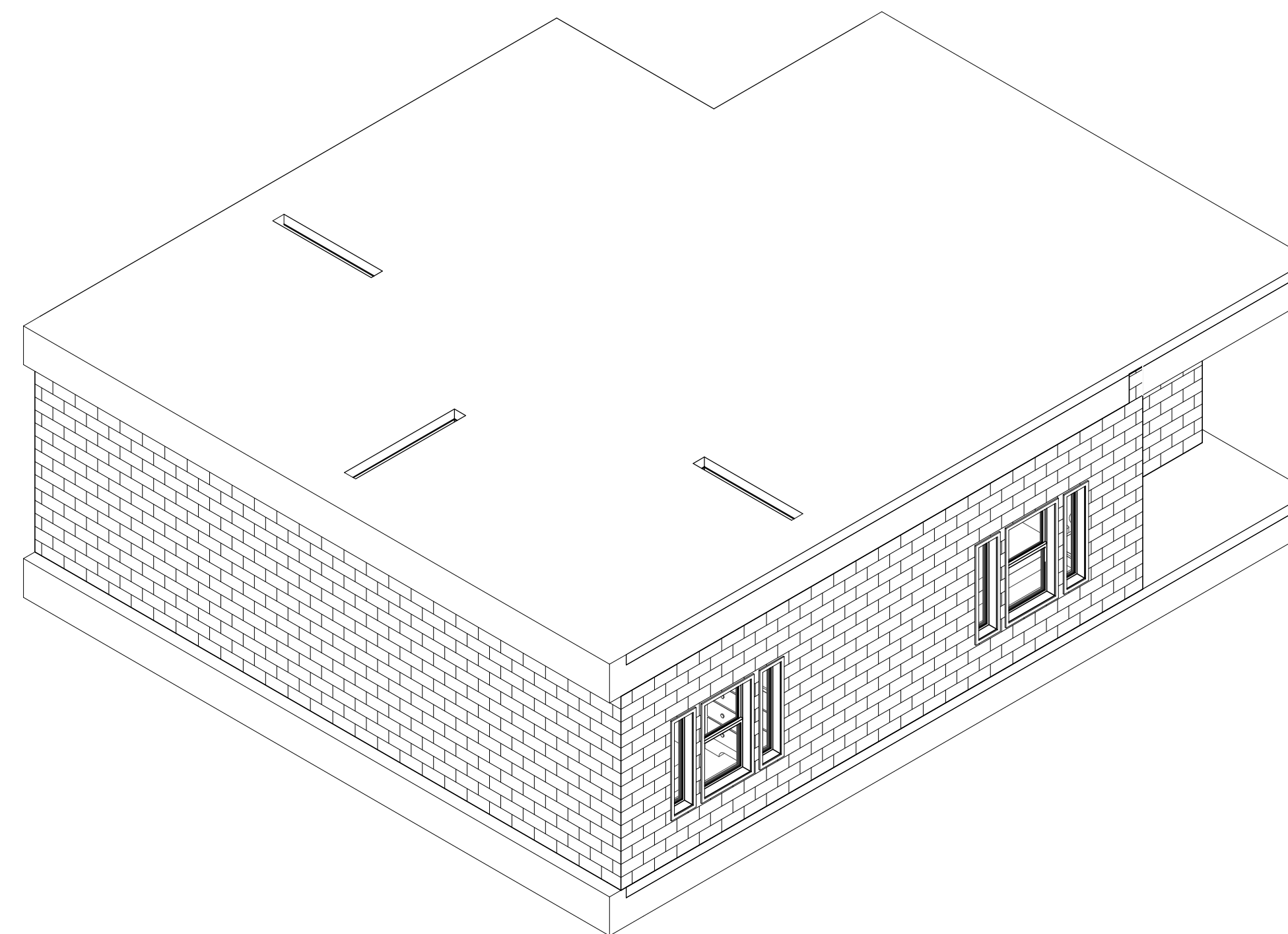
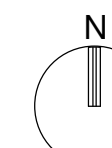
Drawing Title:

PLANS/ AXON

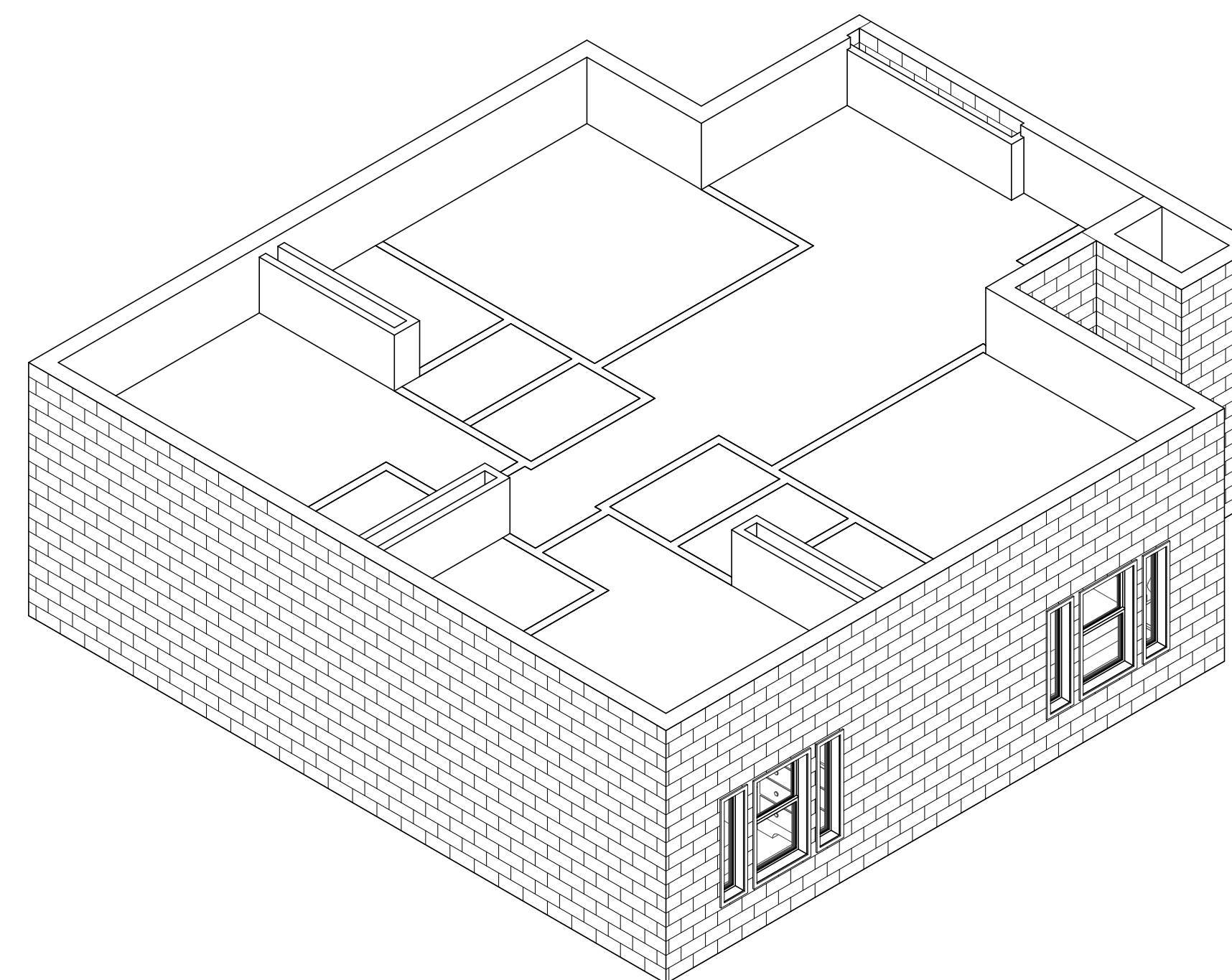
Date: 06 MARCH 2009

Designed By: Designer
Drawn By: Author
Checked By: Checker

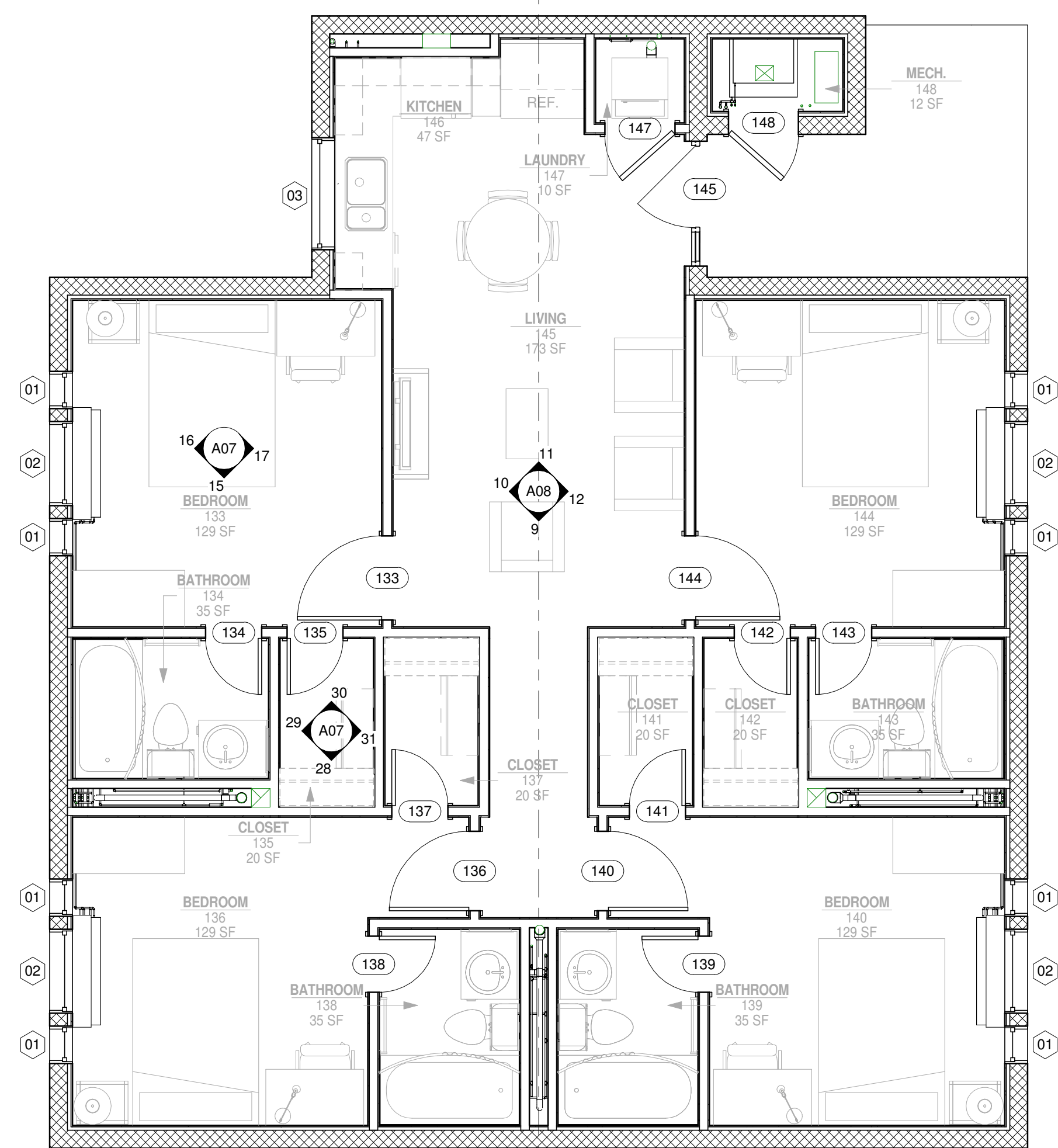
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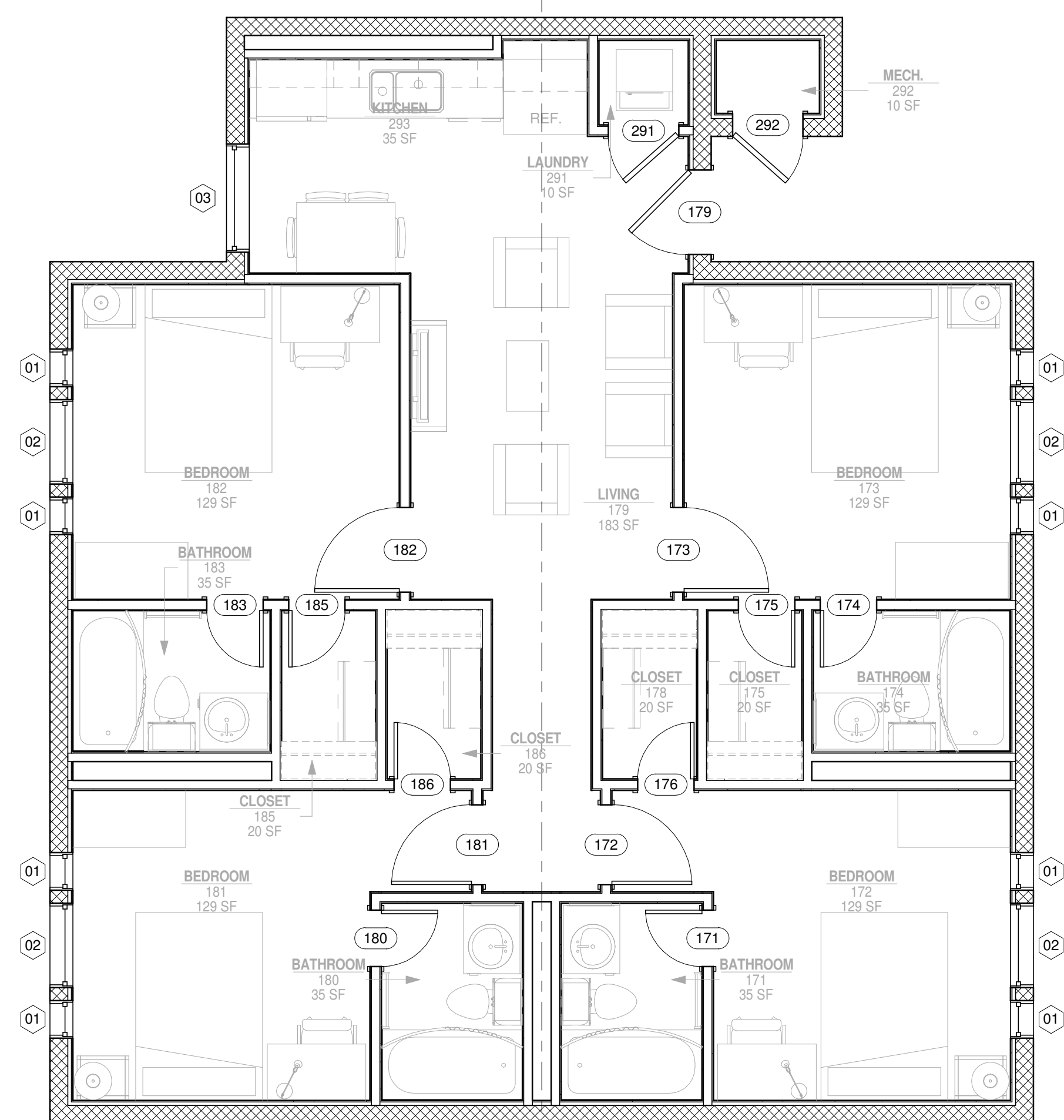
2 UNIT C.1



4 UNIT C.2



1 UNIT C.1
1/4" = 1'-0"



3 UNIT C.2
1/4" = 1'-0"

D

C

B

A

1

2

3

4

5

AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE)
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

PLANS/ AXON

Date: 06 MARCH 2009

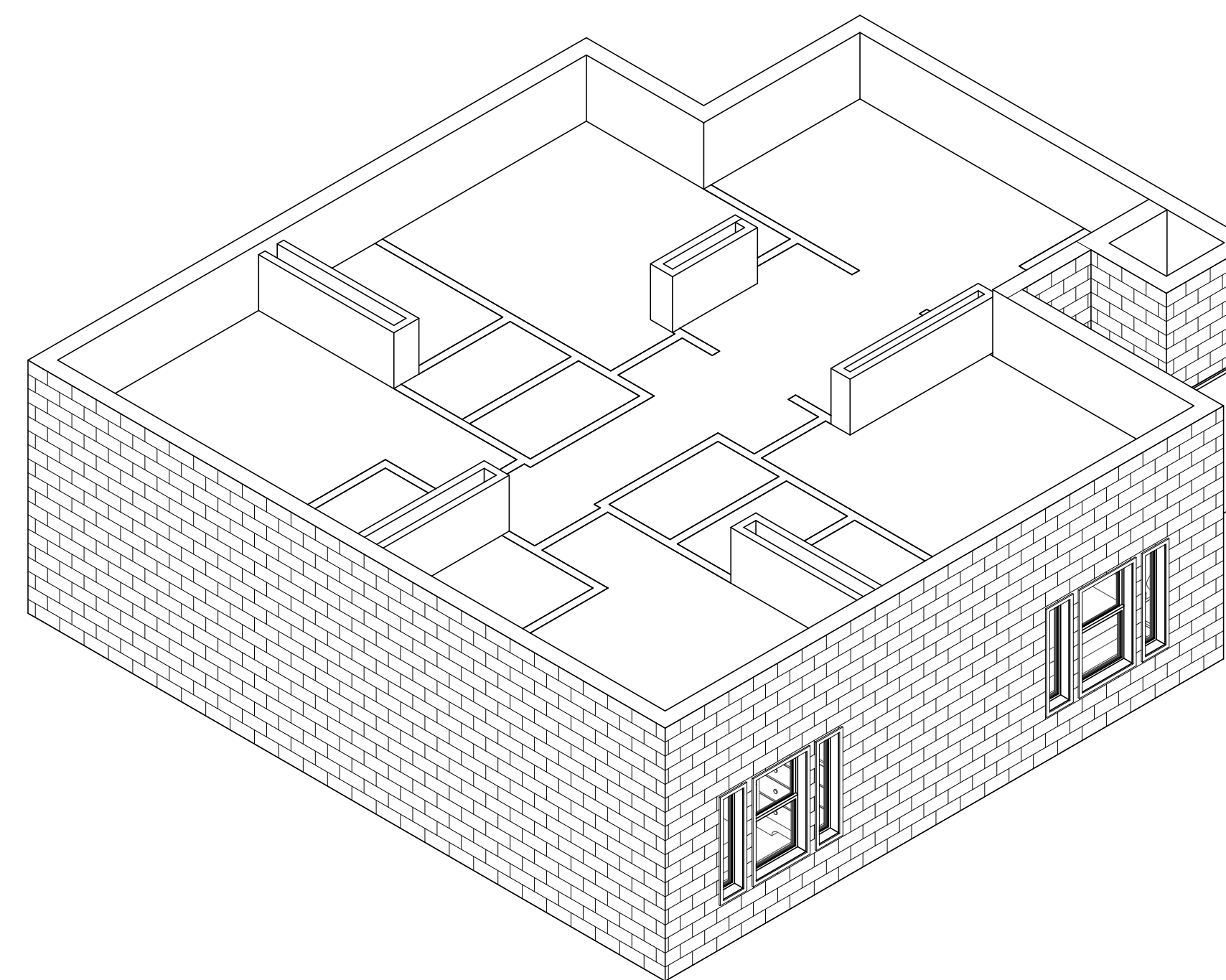
Designed By: Designer

Drawn By: Author

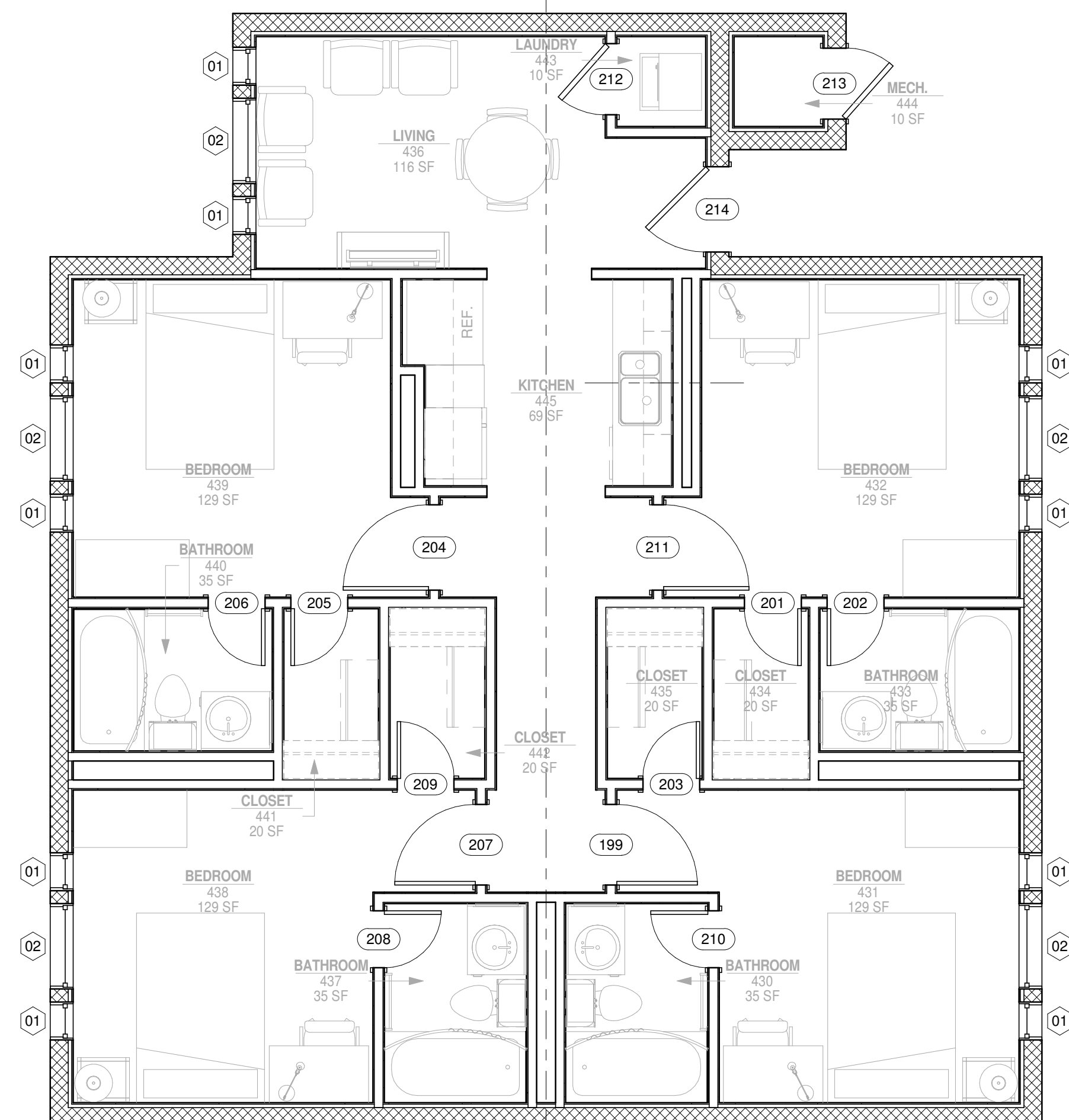
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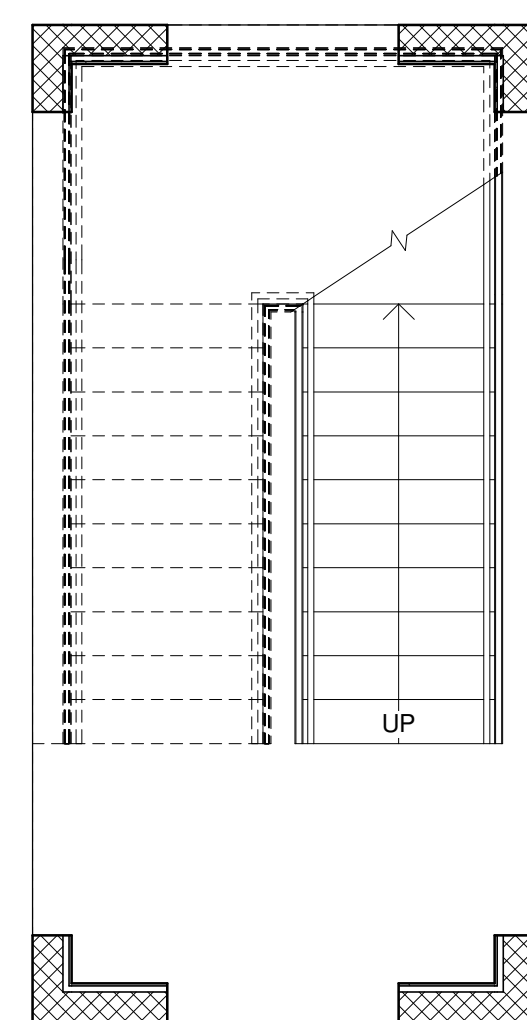
A03



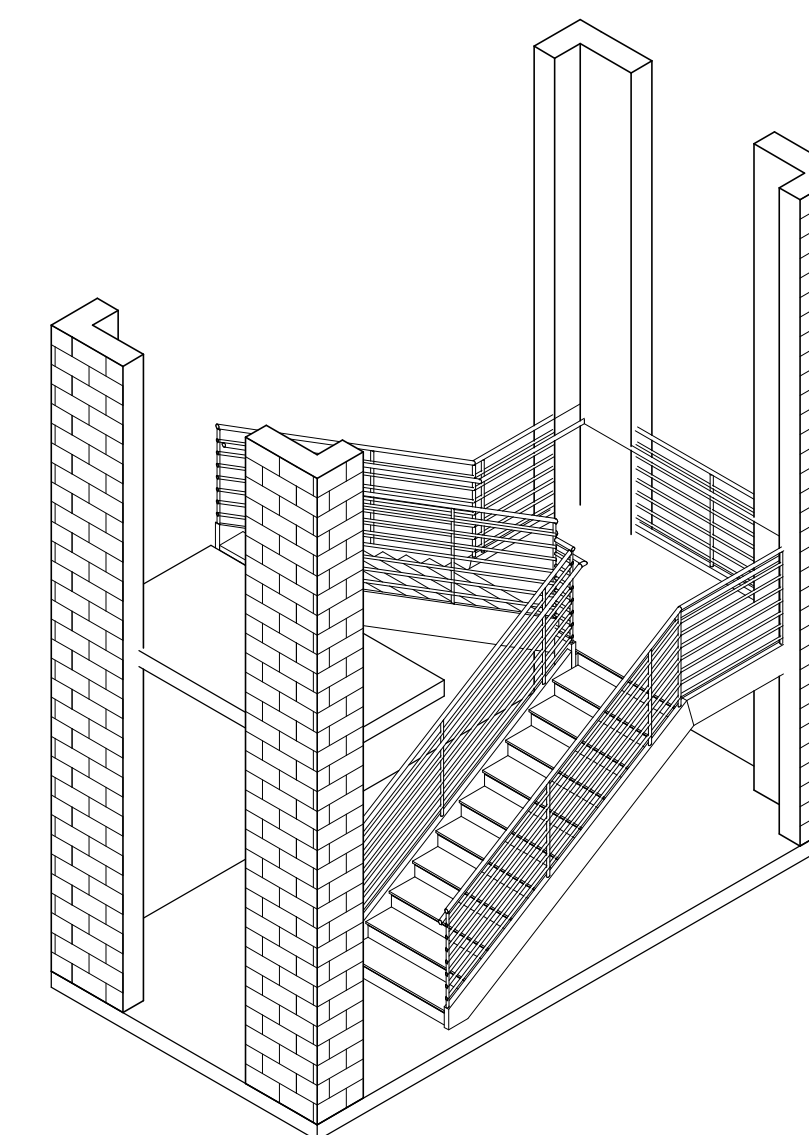
2 UNIT C.3



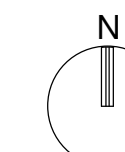
1 UNIT C.3
1/4" = 1'-0"



3 STAIRS
1/4" = 1'-0"



4 STAIRS



AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE)
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PLANS/ AXON

Date: 06 MARCH 2009

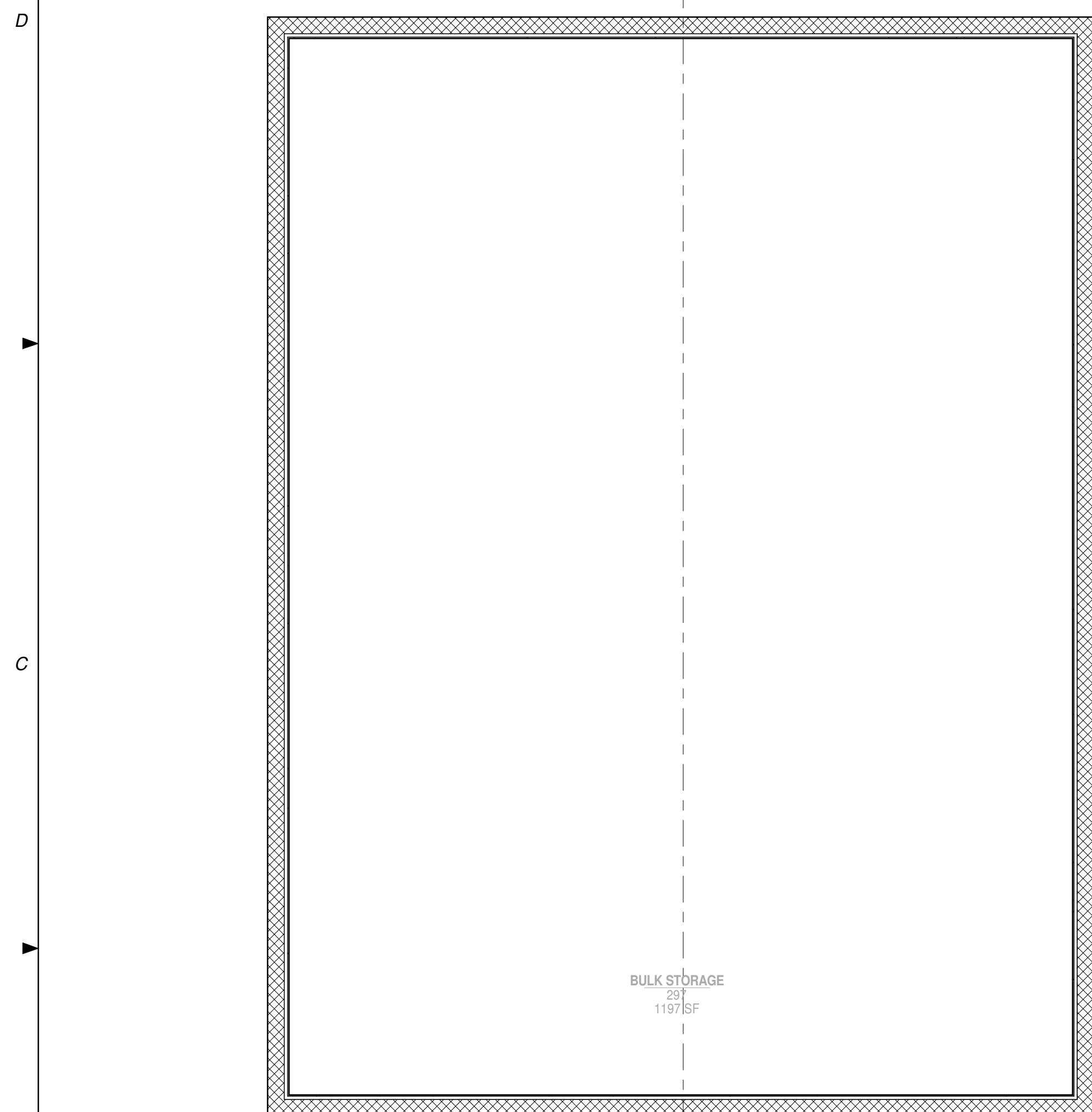
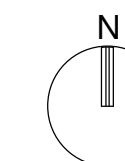
Designed By: Designer

Drawn By: Author

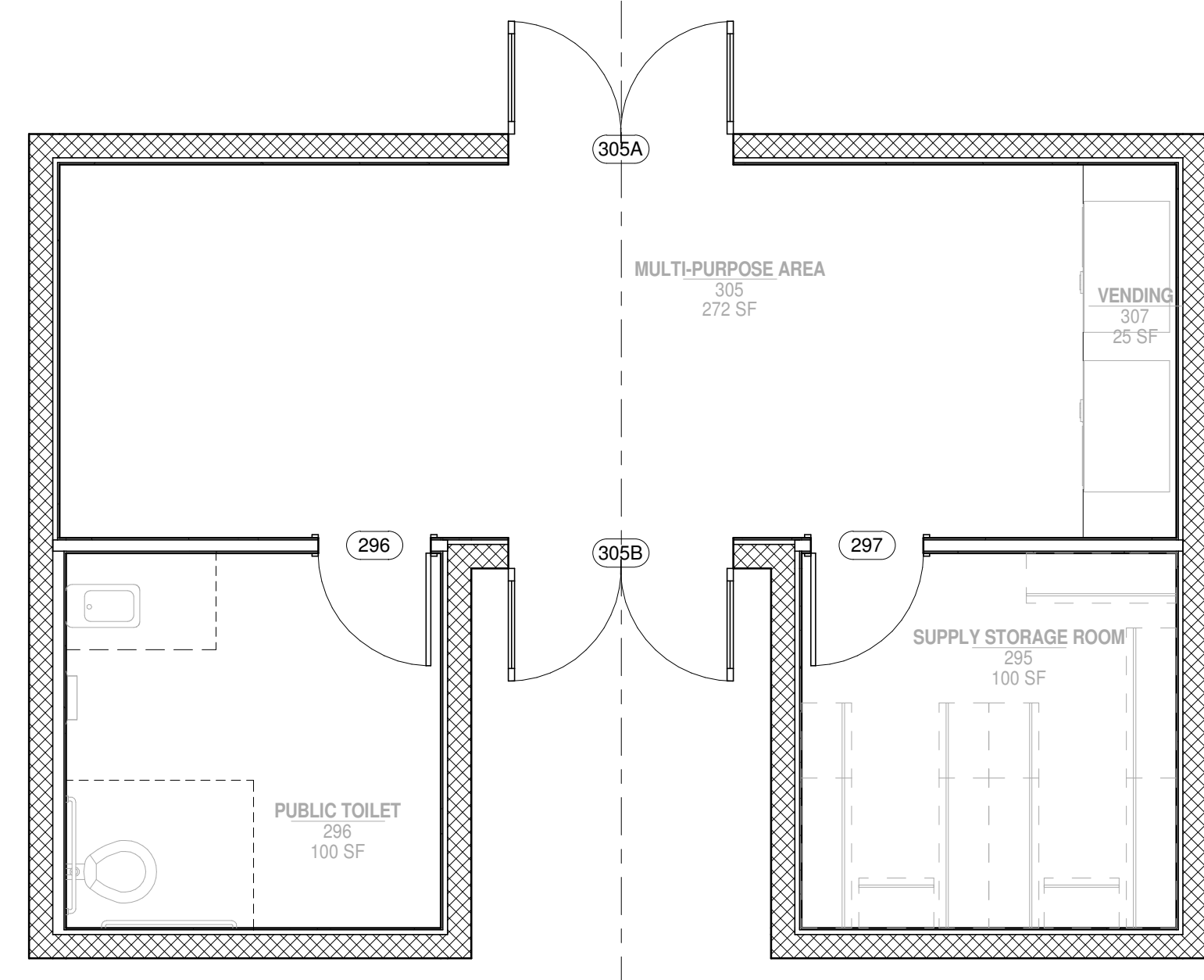
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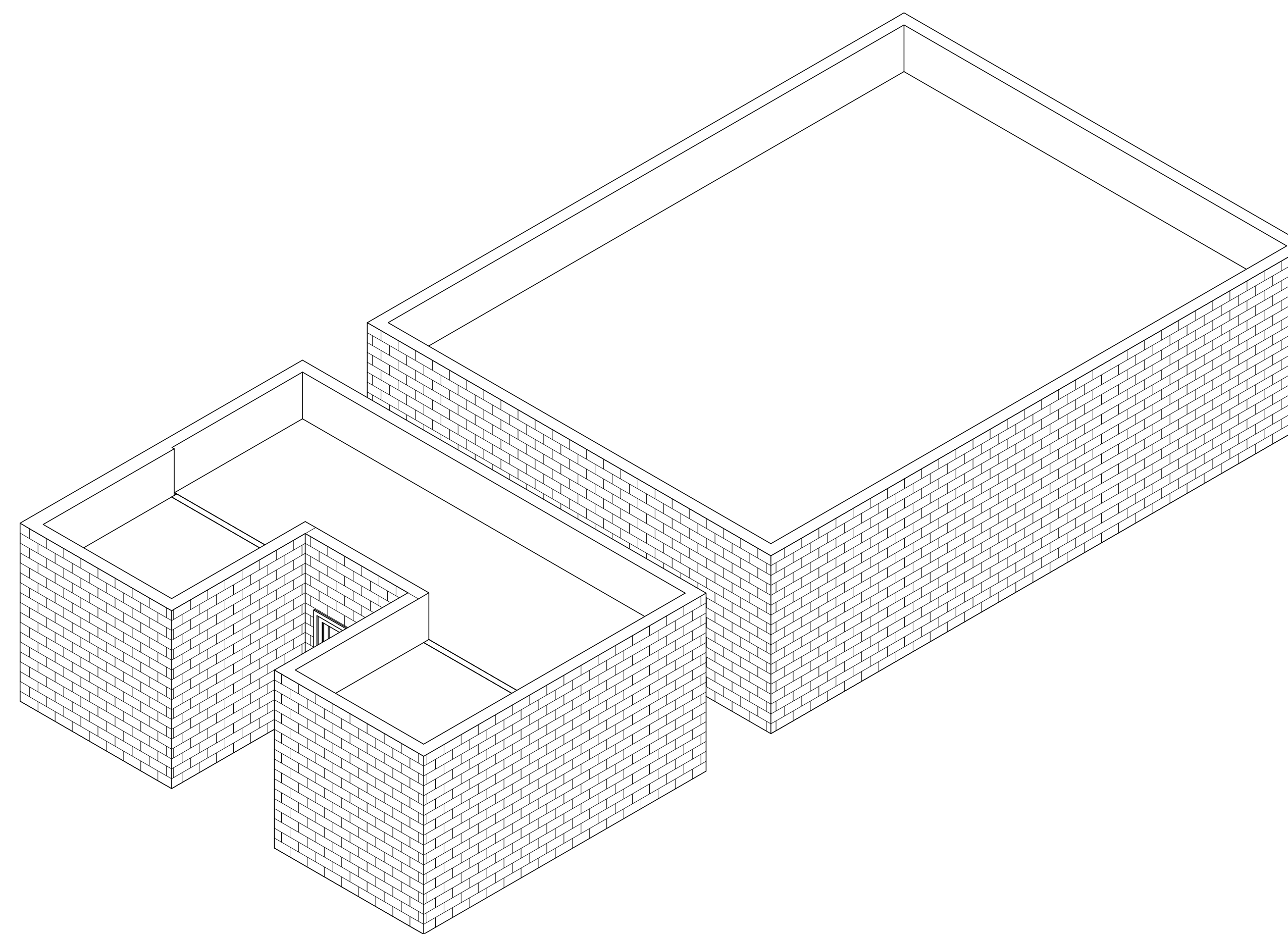
A04



1 COMMON AREA
1/4" = 1'-0"



2 COMMON AREA



AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE)
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

REFLECTIVE CEILING PLANS

Date: 06 MARCH 2009

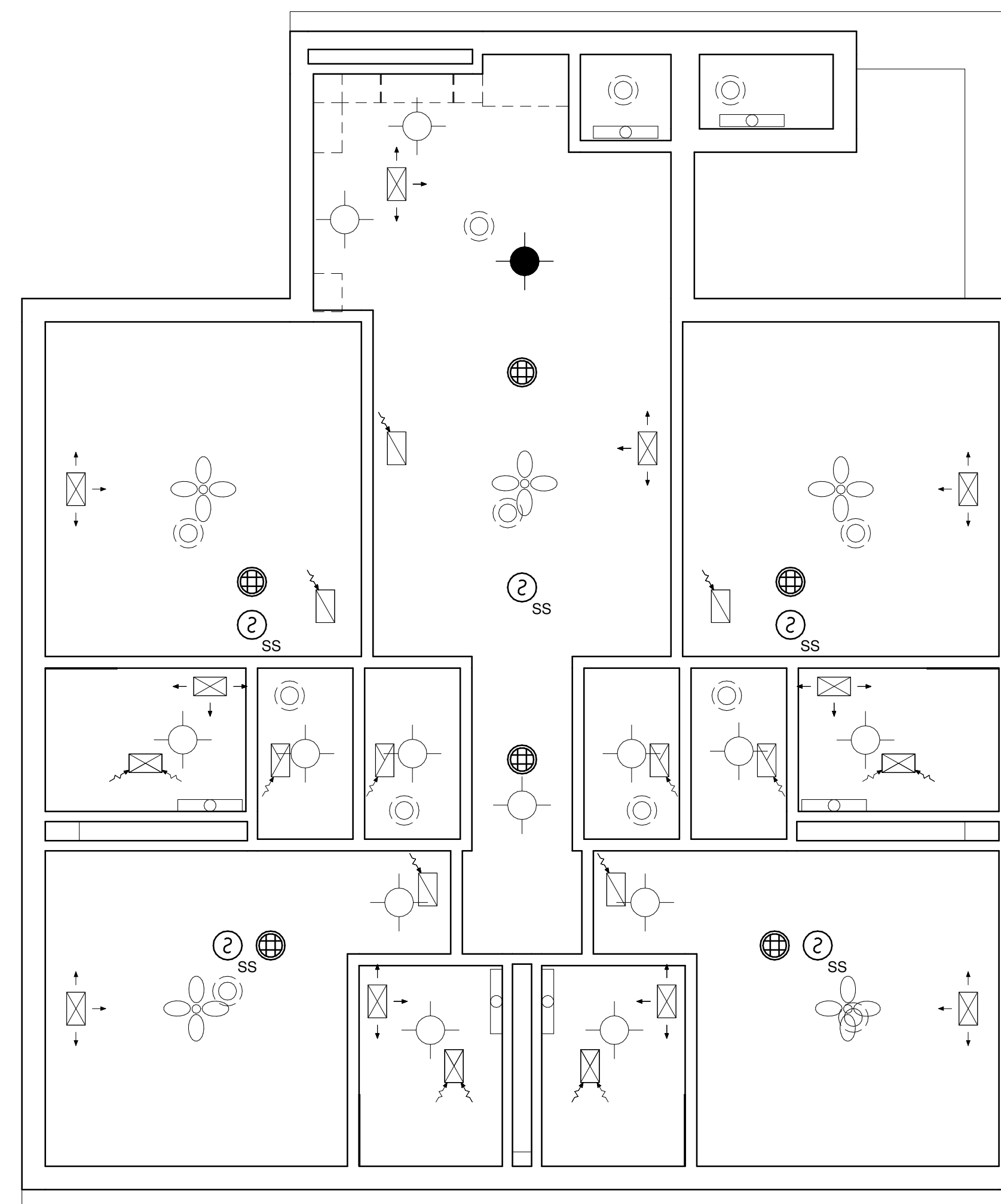
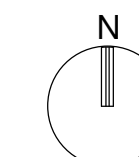
Designed By: Designer

Drawn By: Author

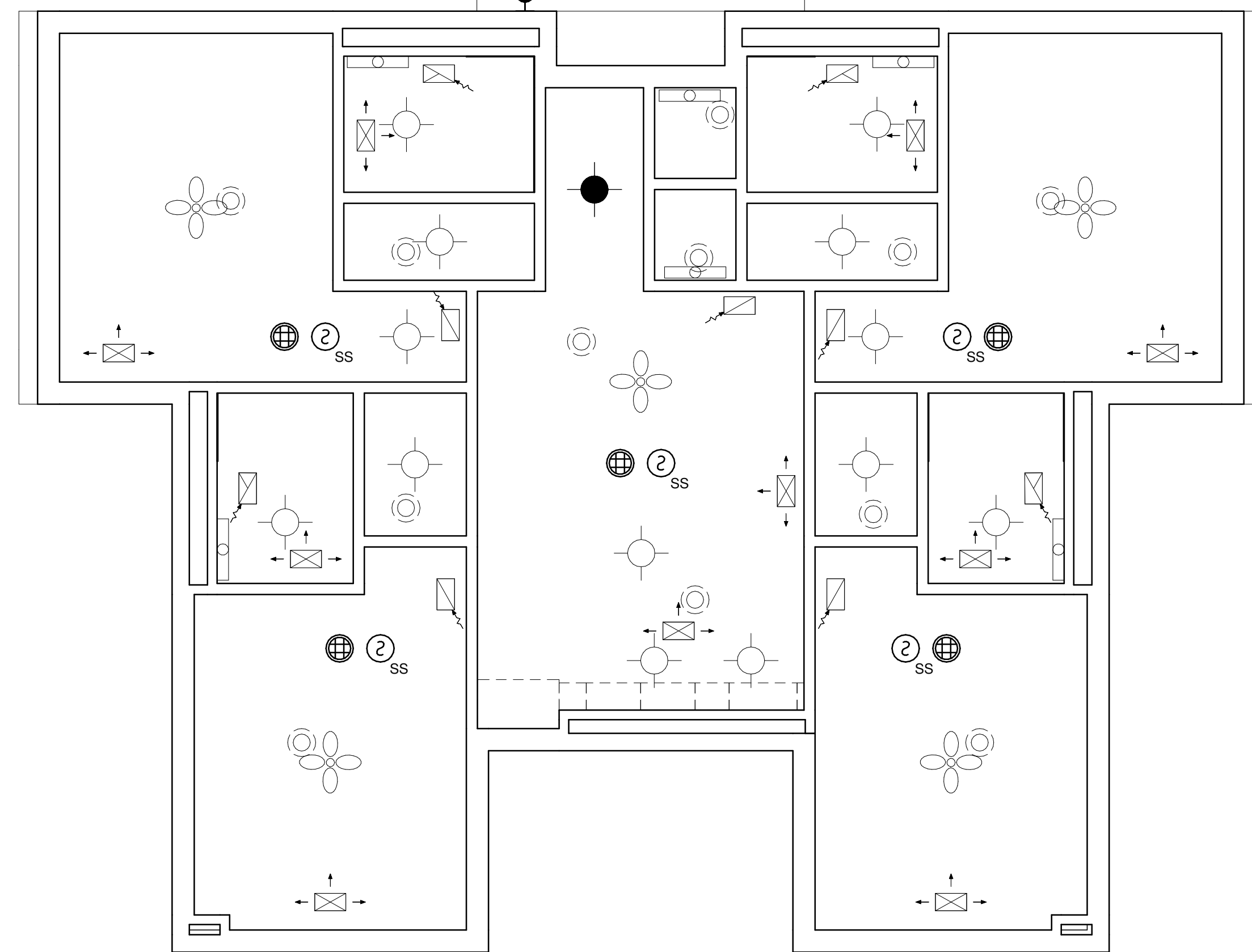
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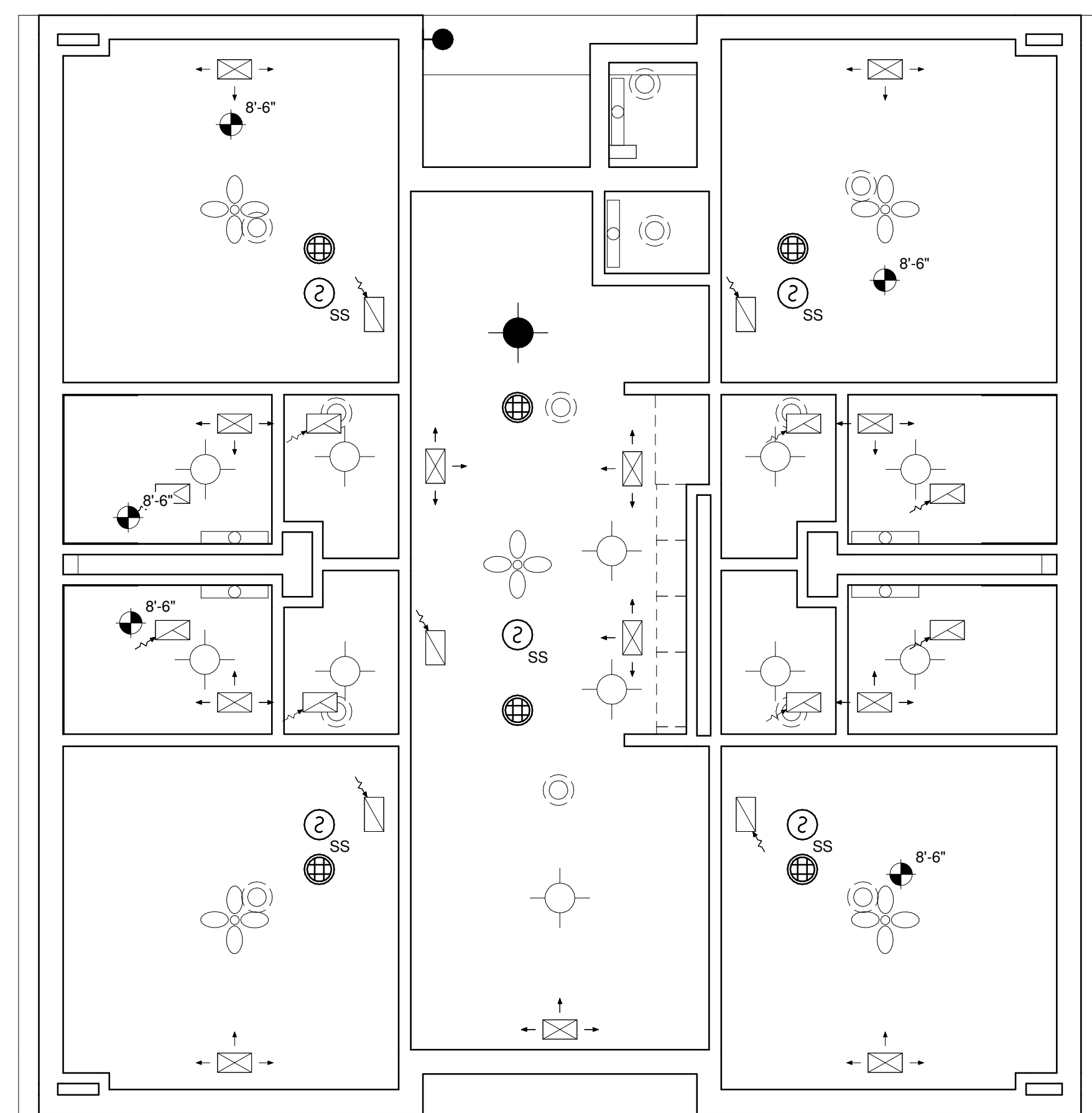
A05



③ UNIT C.1
1/4" = 1'-0"



① UNIT A
1/4" = 1'-0"



② UNIT B
1/4" = 1'-0"

D

C

B

A

1

2

3

4

5

AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE)
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

BUILDING ELEVATIONS

Date: 06 MARCH 2009

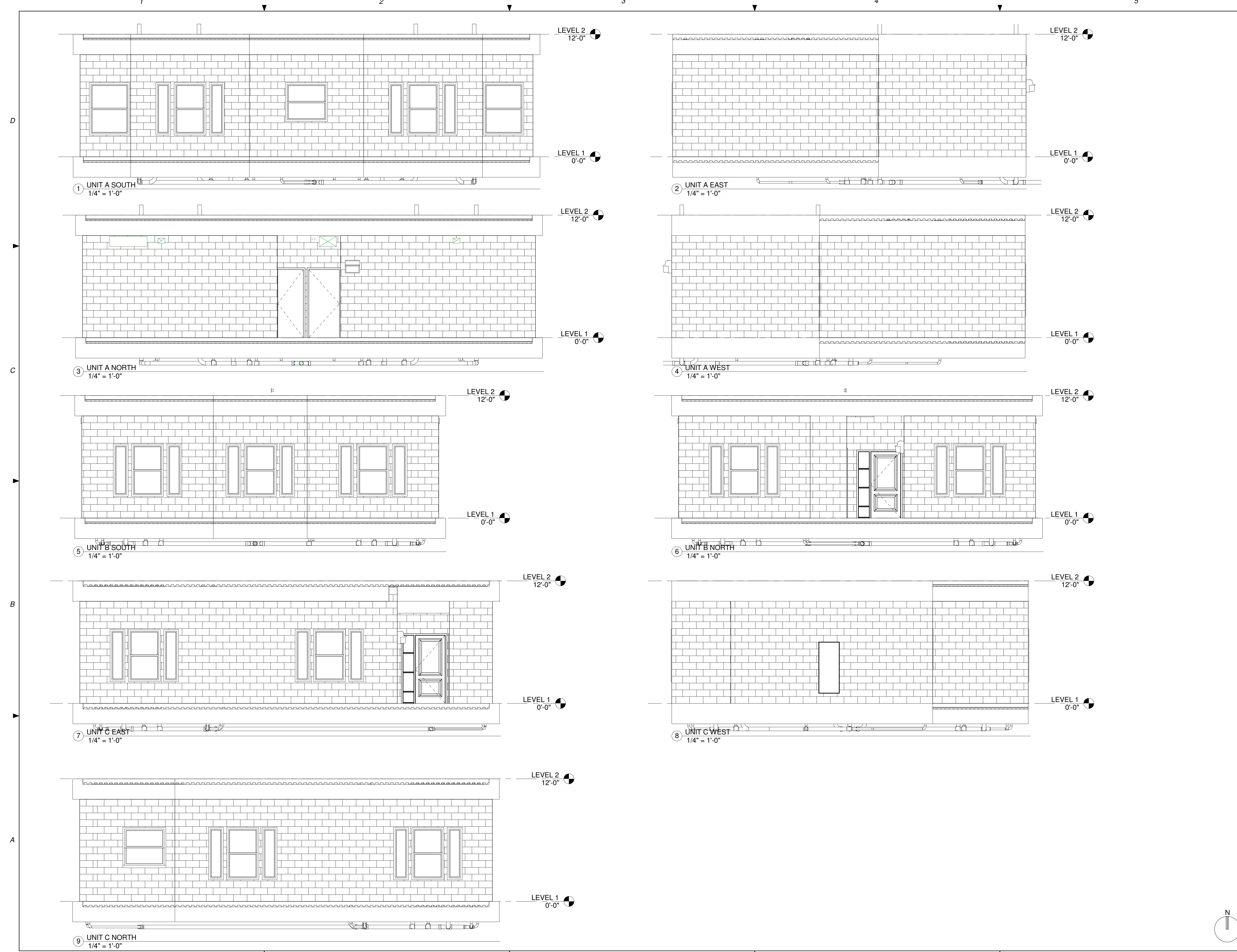
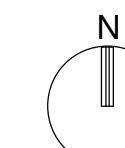
Designed By: Designer

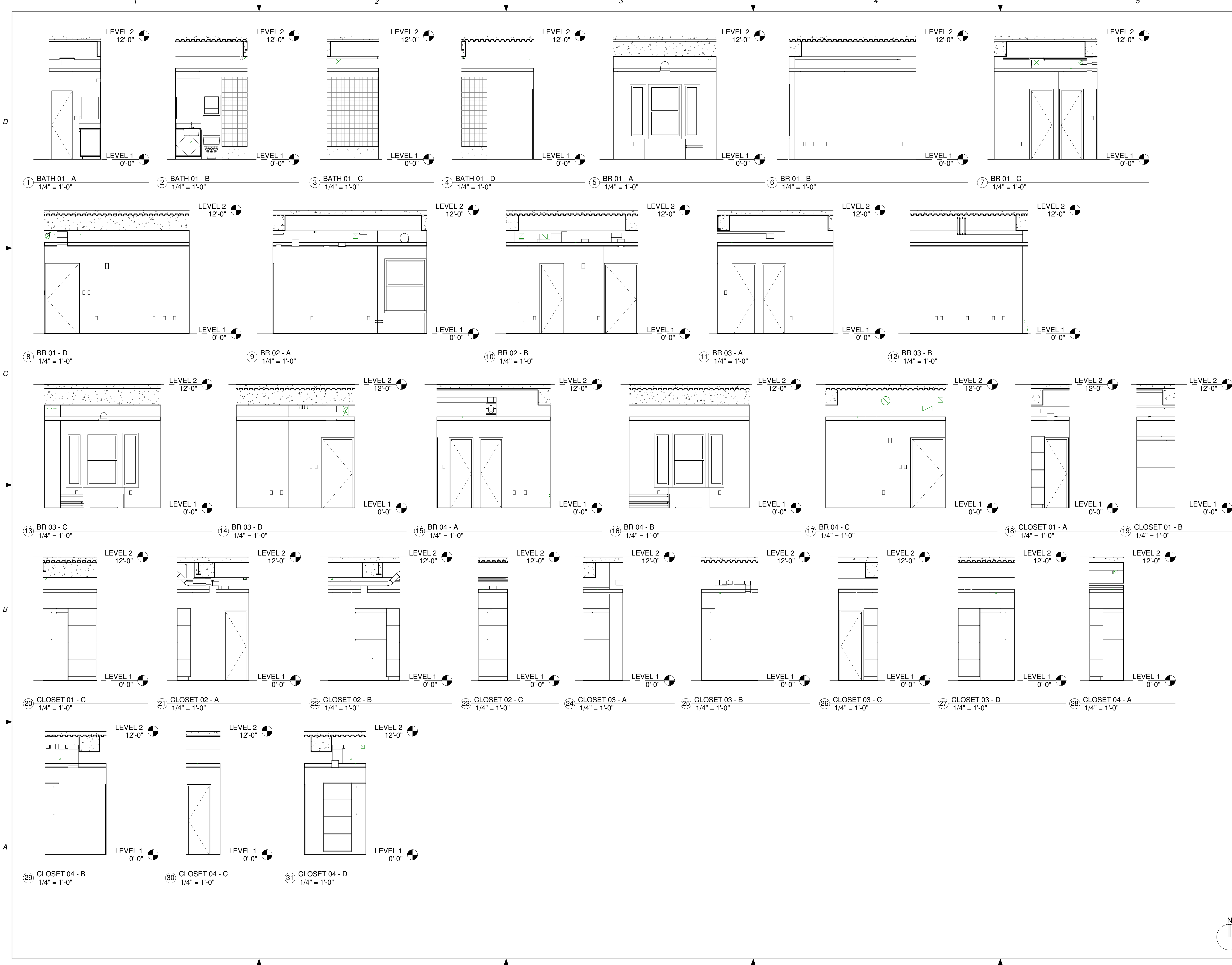
Drawn By: Author

Checked By: Checker

Drawing No.:

A06





Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

INTERIOR ELEVATIONS

Date: 06 MARCH 2009

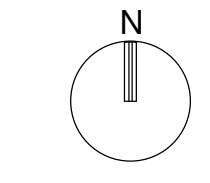
Designed By: Designer

Drawn By: Author

Checked By: Checker

Drawing No.:

A07



NOT FOR CONSTRUCTION

911 Central Parkway N., Suite 425 San Antonio, TX 78323
501 North Broadway, St. Louis, Missouri 63102-2121

Revision: _____
Date: _____ By: _____ Description: _____

AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE)
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES



① LIVING 01 - A 1/4" = 1'-0"
② LIVING 01 - B 1/4" = 1'-0"
③ LIVING 01 - C 1/4" = 1'-0"
④ LIVING 01 - D 1/4" = 1'-0"
⑤ LIVING 02 - A 1/4" = 1'-0"
⑥ LIVING 02 - B 1/4" = 1'-0"
⑦ LIVING 02 - C 1/4" = 1'-0"
⑧ LIVING 02 - D 1/4" = 1'-0"
⑨ LIVING 03 - A 1/4" = 1'-0"
⑩ LIVING 03 - B 1/4" = 1'-0"
⑪ LIVING 03 - C 1/4" = 1'-0"
⑫ LIVING 03 - D 1/4" = 1'-0"

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

INTERIOR ELEVATIONS

Date: 06 MARCH 2009

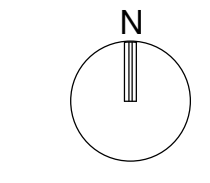
Designed By: Designer

Drawn By: Author

Checked By: Checker

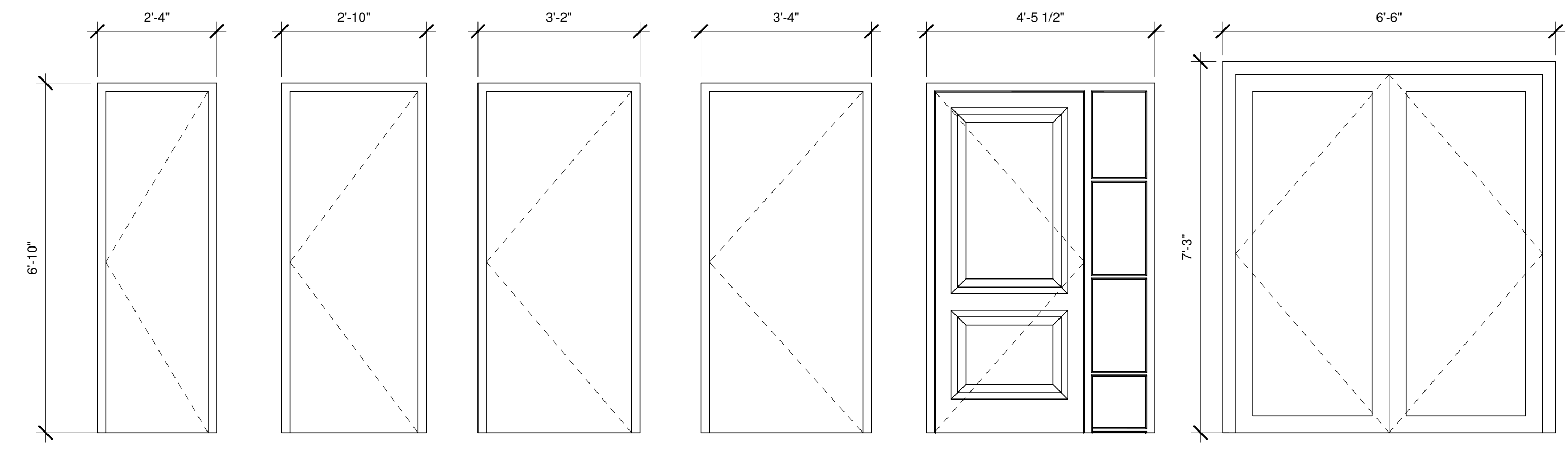
Drawing No.:

A08



AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE)
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

Door Schedule														
Door Number	Type	Door				Glazing	Fire Rating	Hardware	Frame				Comments	
		Width	Height	Thickness	Material				Finish	Type	Material	Finish		Jamb
102	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
103	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
106	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
107	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
109	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
110	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
114	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
115	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
118	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
119	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
120	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
121	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
128	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
129	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
130	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
131	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
134	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
135	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
137	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
138	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
139	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
141	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
142	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
143	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
171	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
174	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
175	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
176	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
180	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
183	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
185	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
186	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
201	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
202	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
203	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
205	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
206	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
208	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
209	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
210	01	2'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
104	02	2'-6"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
105	26	2'-6"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
124	02	2'-6"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
147	02	2'-6"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
148	02	2'-6"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
212	02	2'-6"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
213	02	2'-6"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
291	02	2'-6"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
292	02	2'-6"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
117	03	2'-10"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
122	03	2'-10"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
123	03	2'-10"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
127	03	2'-10"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
132	03	2'-10"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
136	03	2'-10"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
140	03	2'-10"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
172	03	2'-10"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
181	03	2'-10"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
199	03	2'-10"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
207	03	2'-10"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
101	04	3'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
108	04	3'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
111	04	3'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
112	05	3'-0"	6'-8"	0'-1 1/2"	HM	PAINTED					HM	PAINTED		
116	04	3'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
133	04	3'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
144	04	3'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
173	04	3'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
179	05	3'-0"	6'-8"	0'-1 1/2"	HM	PAINTED					HM	PAINTED		
182	04	3'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
204	04	3'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
211	04	3'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
214	05	3'-0"	6'-8"	0'-1 1/2"	HM	PAINTED					HM	PAINTED		
296	04	3'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
297	04	3'-0"	6'-8"	0'-1 1/2"	WOOD	STAINED					HM	PAINTED		
125	06	5'-8 1/8"	6'-8"	0'-1 1/2"	HM	PAINTED					HM	PAINTED		
145	07	5'-8 1/8"	6'-10"	0'-1 1/2"	HM	PAINTED					HM	PAINTED		
305A	08	6'-0"	7'-0"	0'-1 1/2"	GLASS						ALUM			
305B	08	6'-0"	7'-0"	0'-1 1/2"	GLASS						ALUM			



DOOR LEGEND
1/2" = 1'-0"

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

Jacobs Project No.: FDWD1301

Drawing Title:

SCHEDULES

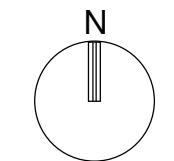
Date: 06 MARCH 2009

Designed By: Designer

Drawn By: Author

Checked By: Checker

Drawing No.: A09



LIGHTING FIXTURES

SUBSCRIPTS: A1b = TYPE A, CIRCUIT 1, CONTROL ZONE b

	CEILING OR PENDANT INCANDESCENT, HID OR COMPACT FLUORESCENT
	CEILING OR PENDANT INCANDESCENT, HID OR COMPACT FLUORESCENT EMERGENCY LIGHT
	CEILING OR PENDANT HID WITH QUARTZ RESTRIKE
	WALL MOUNTED INCANDESCENT, HID OR COMPACT FLUORESCENT
	FLUORESCENT STRIP LIGHT
	FLUORESCENT STRIP EMERGENCY LIGHT
	FLUORESCENT
	FLUORESCENT EMERGENCY LIGHT
	FLUORESCENT WITH ASYMMETRICAL DISTRIBUTION LINE REPRESENTS LAMP AXIS
	BATTERY PACK WITH HEADS
	REMOTE EMERGENCY HEAD
	FLOODLIGHT
	SPOTLIGHT, ARROW INDICATES DIRECTION OF AIM
	ROADWAY OR PARKING LOT STANDARD
	POST TOP WALKWAY OR PARKING LOT STANDARD
	BUILDING MOUNTED WALLPACK
	IN POOL WET NICHE LIGHT
	LIGHTING TRACK WITH FIXTURES
	DOCK LIGHT
	STEP OR AISLE LIGHT
	CEILING OR PENDANT MOUNTED EXIT SIGN
	WALL MOUNTED EXIT SIGN
	SHADING INDICATES ILLUMINATED FACE OF EXIT SIGN
	ARROW INDICATES EXIT SIGN DIRECTIONAL ARROW

RECEPTACLES

SUBSCRIPTS: 1b = CIRCUIT 1, CONTROL ZONE b
 GFCI = GROUND FAULT CIRCUIT INTERRUPTER
 WP = WEATHERPROOF WHILE IN USE COVER
 S = SWITCHED, F = FLUSH FLOOR,
 SM = SURFACE MOUNT FLOOR

	DUPLEX RECEPTACLE
	SINGLE RECEPTACLE
	DOUBLE DUPLEX RECEPTACLE
	SPECIAL RECEPTACLE, X = NEMA DESIGNATION
	CLOCK RECEPTACLE WITH HANGER
	DUPLEX RECEPTACLE ON EMERGENCY CIRCUIT
	DUPLEX CEILING RECEPTACLE
	DUPLEX FLOOR RECEPTACLE
	SINGLE FLOOR RECEPTACLE
	DOUBLE DUPLEX FLOOR RECEPTACLE
	SPECIAL FLOOR RECEPTACLE
	DUPLEX RECEPTACLE AND TELEPHONE OUTLET IN FLOOR BOX OR SERVICE FITTING
	DUPLEX RECEPTACLE AND DATA OUTLET IN FLOOR BOX OR SERVICE FITTING
	DUPLEX RECEPTACLE, TELEPHONE AND DATA OUTLET IN FLOOR BOX OR SERVICE FITTING
	POKE-THROUGH WITH DUPLEX RECEPTACLE AND FOUR CATEGORY 5 COMMUNICATION JACKS

SWITCHES AND CONTROLS

SUBSCRIPTS: 3b = TYPE 3, CONTROL ZONE b

	TOGGLE SWITCH: 3 = 3-WAY, 2 = DOUBLE POLE, 4 = 4 WAY, DM = DIMMER, K = KEY OPERATED, EX = EXPLOSION PROOF, T = TIMER OPERATED, LM = LOW VOLTAGE MASTER, OC = OCCUPANCY SENSOR SWITCH, F = FUSED, M = MANUAL MOTOR STARTER, CB = CIRCUIT BREAKER
	DIMMER, 6 = 600W, 10 = 1000W
	OCCUPANCY SENSOR, WALL MOUNTED OR CEILING MOUNTED, DIRECTIONAL
	OCCUPANCY SENSOR, CEILING MOUNTED, MULTI DIRECTIONAL
	TIME CLOCK
	PUSHBUTTON OR CONTROL STATION
	PHOTOCELL
	CONTACTOR
	MOTOR STARTER, 0 = STARTER SIZE
	COMBINATION MOTOR STARTER AND DISCONNECT SWITCH 30 = SWITCH AMPERE RATING 12 = FUSE AMPERE RATING 0 = STARTER SIZE
	COMBINATION MOTOR STARTER AND CIRCUIT PROTECTOR 100 = FRAME SIZE 70 = TRIP RATING 1 = STARTER SIZE
	FUSED DISCONNECT SWITCH 30 = SWITCH AMPERE RATING 15 = FUSE AMPERE RATING
	NON-FUSED DISCONNECT SWITCH 30 = SWITCH AMPERE RATING

TELEPHONE AND DATA COMMUNICATIONS

	TELEPHONE TERMINAL BOARD (TB)
	TELEPHONE TERMINAL CABINET (TC)
	TELEPHONE WALL OUTLET, W = WALL, P = PUBLIC, F = FIRE FIGHTER, WP = WEATHERPROOF
	TELEPHONE FLOOR OUTLET OR SERVICE FITTING
	DATA WALL OUTLET, D = DATA, F = FAX, S=SIPRNET
	DATA OUTLET IN COMMON FLOOR BOX WITH ELECTRICAL OUTLET
	COMBINATION TELEPHONE AND DATA WALL OUTLET, 2 = 2-PORT, 4 = 4-PORT, EXP = EXPLOSION PROOF, M = MODULAR
	COMBINATION TELEPHONE IN COMMON FLOOR BOX WITH ELECTRICAL OUTLET
	DATA CEILING OUTLET

MISCELLANEOUS SYSTEMS

	EQUIPMENT RACK
	MICROPHONE OUTLET
	PUBLIC ADDRESS PUSHBUTTON
	VOLUME CONTROL AND CHANNEL SELECTOR
	CEILING MOUNTED SPEAKER, S=SOUND MASKING
	WALL MOUNTED SPEAKER
	MASTER CLOCK (CM)
	SINGLE FACE CLOCK, A = ANALOG, D = DIGITAL
	DOUBLE FACE CLOCK, A = ANALOG, D = DIGITAL
	PROGRAM CLOCK WITH INTERCOM
	PROGRAM BELL
	PROGRAM BUZZER
	BUZZER SWITCH
	OFF AIR ANTENNA
	TELEVISION OUTLET
	PARTITION SENSOR, 10= 1000, 6=600

DISTRIBUTION EQUIPMENT (EQUIPMENT PREFIX)

	LIGHTING OR RECEPTACLE PANELBOARD
	RELAY CABINET
	DISTRIBUTION OR POWER PANELBOARD
	MOTOR CONTROL CENTER
	SWITCHBOARD
	TRANSFORMER

RACEWAYS AND WIRES

	CONDUIT OR CABLE (RUN AS INDICATED)
	CONDUIT OR CABLE BELOW RAISED FLOOR
	CONDUIT OR CABLE BELOW SLAB, IN SLAB OR UNDERGROUND
	CONDUIT OR CABLE TURNING UP
	CONDUIT OR CABLE TURNING DOWN
	CONDUIT CAPPED
	HOMERUN, LP1 = PANEL DESTINATION, 2,4,6 = CIRCUITS
	WIRING: LONG SLASH = NEUTRAL (N) SHORT SLASH = HOT SHORT SLASH WITH HOOK = SWITCHED LONG SLASH WITH DOT = GROUND (G) #10 = WIRE SIZE 3/4" = CONDUIT SIZE
	OUTLET BOX WITH BLANK COVER
	JUNCTION BOX
	JUNCTION BOX, FLOOR DUCT SYSTEM
	PULL BOX

FIRE ALARM & MASS NOTIFICATION SYSTEM LEGEND

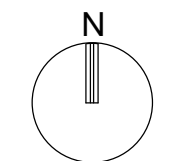
	FIRE ALARM CONTROL PANEL
	LOCAL OPERATING CONSOLE
	FIRE ALARM SYSTEM ANNUNCIATOR
	NAC EXTENDER PANEL (REMOTE POWER SUPPLY)
	FIRE ALARM TRANSPONDER PANEL
	DIGITAL ALARM COMMUNICATOR TRANSMITTER
	LCD ANNUNCIATOR
	RATE OF RISE HEAT DETECTOR
	FIXED TEMPERATURE HEAT DETECTOR
	MANUAL PULL STATION
	PHOTOELECTRIC SMOKE DETECTOR
	IONIZATION SMOKE DETECTOR
	ELEVATOR RECALL PHOTOELECTRIC SMOKE DETECTOR
	DUCT SMOKE DETECTOR
	SUB FLOOR SMOKE DETECTOR
	END OF LINE DEVICE
	WALL-MOUNTED FIRE ALARMSTROBE (CLEAR) (NUMBER INDICATES CANDELA RATING) EXP = EXPLOSION PROOF
	WALL-MOUNTED MASS NOTIFICATION STROBE (AMBER) (NUMBER INDICATES CANDELA RATING) EXP = EXPLOSION PROOF
	WALL-MOUNTED SPEAKER/STROBE (CLEAR) (NUMBER INDICATES CANDELA RATING) EXP = EXPLOSION PROOF
	WALL-MOUNTED FIRE ALARM SPEAKER
	CEILING-MOUNTED MASS NOTIFICATION STROBE (AMBER) (NUMBER INDICATES CANDELA RATING)
	CEILING-MOUNTED SPEAKER/STROBE (CLEAR) (NUMBER INDICATES CANDELA RATING)
	MINI-SPEAKER
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	ADDRESSABLE INTERFACE MODULE
	ADDRESSABLE CONTROL MODULE
	DOOR HOLD AND RELEASE DEVICE

ELECTRICAL GENERAL NOTES

- ALL SYMBOLS, ABBREVIATIONS AND GENERAL NOTES SHOWN ARE NOT NECESSARILY USED ON THIS PROJECT.
- LIGHTING CONTROL ZONE DESIGNATIONS INDICATE WHICH DEVICES CONTROL WHICH GROUPS OF FIXTURES. WHERE LOCAL SWITCHES AND DIMMERS ARE SHOWN, OR WHERE NO CONTROL ZONE DESIGNATION IS INDICATED, LOCAL CONTROL DEVICES SHALL ONLY CONTROL FIXTURES IN THEIR RESPECTIVE ROOMS.
- SIZE OUTLET AND JUNCTION BOXES PER 2005 NEC ARTICLE 314, UNLESS OTHERWISE NOTED.
- FOR EXACT LOCATIONS OF RECESSED LIGHTING FIXTURES, REFERENCE ARCHITECTURAL REFLECTED CEILING PLANS. COORDINATE INSTALLATION OF LIGHTING FIXTURES WITH LOCATION OF EQUIPMENT, PIPING AND DUCTWORK.
- MOUNTING HEIGHTS FOR CEILING MOUNTED FIXTURES OR DEVICES ARE TO BOTTOM OF FIXTURES OR DEVICES, UNLESS OTHERWISE NOTED.
- MOUNTING HEIGHTS FOR WALL MOUNTED FIXTURES OR DEVICES ARE TO CENTER LINE OF OUTLET BOXES, UNLESS OTHERWISE NOTED.
- MOUNTING HEIGHTS ABOVE FINISHED FLOOR ARE AS FOLLOWS, UNLESS OTHERWISE NOTED:
 LIGHTING SWITCHES _____ 4'-0"
 GENERAL PURPOSE RECEPTACLES _____ 1'-6"
 COUNTER TOP RECEPTACLES _____ 8 INCHES ABOVE COUNTER
 TELEPHONE OUTLETS _____ 1'-6"
 DATA OUTLETS _____ 1'-6"
 TELEVISION OUTLET (COAX) _____ 1'-6"
- WIRES ARE #12, UNLESS OTHERWISE NOTED.
- CONDUITS ARE 3/4", UNLESS OTHERWISE NOTED.
- SIZE OUTLET AND JUNCTION BOXES PER 2005 NEC ARTICLE 314, UNLESS OTHERWISE NOTED.
- ALL EMERGENCY LIGHT FIXTURES SHALL BE UNSWITCHED SO AS TO BE UTILIZED AS NIGHT LIGHTS.

LEGEND ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ARCH	ARCHITECTURAL
AVG	AVERAGE
ELEC	ELECTRICAL
ELEV	ELEVATION
EMER	EMERGENCY
FA	FIRE ALARM
FLOUR	FLOURESCENT
G	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
INCND	INCANDESCENT
LTG	LIGHTING
MECH	MECHANICAL
MIN	MINIMUM
MTD	MOUNTED
N	NEUTRAL
NIC	NIT IN CONTRACT
NP	NOT PERMITTED
PC	PERSONAL COMPUTER
PWR	POWER
QTY	QUANTITY
RECP	RECEPTACLE
REQD	REQUIRED
RM	ROOM
SC	SPLIT CIRCUIT
SS	SINGLE STATION SMOKE ALARM
SW	SWITCH
TEL	TELEPHONE
TELCOM	TELECOMMUNICATIONS
TYP	TYPICAL
UPS	UNINTERRUPTABLE POWER SUPPLY
WP	WEATHER PROOF
XFRMR	TRANSFORMER



NOT FOR
CONSTRUCTION

911 Central Parkway N., Suite 425 San Antonio, TX 78323
501 North Broadway, St. Louis, Missouri 63102-2121

Revision:
Date: By: Description:

**AIR FORCE CENTER FOR ENGINEERING AND THE
ENVIRONMENT (AFCEE)
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR
DORMITORIES**

Scales:

Jacobs Project No.: FDWD1301

Drawing Title:

**LIGHTING
SCHEDULE**

Date: May 11, 2009

Designed By: Designer

Drawn By: Author

Checked By: Checker

Drawing No.:

E-501

LIGHTING FIXTURE SCHEDULE

Type Mark	TYPE	FIXTURE DESCRIPTION	MOUNTING	LAMP QUANTITY	LAMP WATTAGE	LAMP TYPE	FIXTURE VA	FIXTURE INPUT VOLTAGE	MANUFACTURER	FIXTURE CATALOG NUMBER	REMARKS
A	Exterior Wall	OUTDOOR WALL LIGHT WITH EMERGENCY BALLAST	SURFACE	1	42 W	42TRT	40 VA	120 V	LITHONIA	WST 42TRT MDU 120 ELDWC PE LPI	
C	Bathroom Wall	WALL LIGHT	SURFACE	2	25 W	T8	40 VA	120 V	LITHONIA	WP 2 25 MVOLT S2 BF GEB10PS 2/1	
D	Ceiling	CAN LIGHT	RECESSED	2	18 W	18DTT	30 VA	120 V	LITHONIA	LF6 2/18DTT F602A 120 GEB10	
D	Emergency Ceiling	CAN LIGHT WITH EMERGENCY BALLAST	RECESSED	2	18 W	18DTT	30 VA	120 V	LITHONIA	LF6 2/18DTT F602A 120 GEB10 EL	
F	Ceiling Fan	CEILING FAN	SURFACE	3	18 W	--	50 VA	120 V	--	--	
G	Mech/Laundry Wall	WALL LIGHT	SURFACE	1	25 W	T8	20 VA	120 V	LITHONIA	SM 1 25 MVOLT ES GEB10RS	

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911 Central Parkway N., Suite 425 San Antonio, TX 78223
501 North Broadway, St. Louis, Missouri 63102-2121

Revision: _____
Date: _____ By: _____ Description: _____

AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE) FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

KEYED NOTES

- ① THE NOTATION "(AFCI)" INDICATES THAT THIS CIRCUIT BREAKER IS A COMBINATION-TYPE ACR-FAULT CIRCUIT INTERRUPTER.
- ② LOAD FOR THIS SMALL-APPLIANCE OR LAUNDRY CIRCUIT IS SET TO 1500VA PER NEC 220.52.

Panel	Voltage	Phase	Wires	Mains
PP-A	120 V / 208 V	Three Phase	4 Wires	200 A MCB

Mount	Enclosure	Location
TBD	Type 1	TBD

Load Name	Trip	Poles	Ckt. No.	A	B	C	Ckt. No.	Poles	Trip	Load Name
BEDROOM 101 - DESK AND CONV REC	15 A	1 ①	1	720 VA / 5760 VA			2	2	60 A	KITCHEN 113 - RANGE
BEDROOM 101 - CONV REC	15 A	1 ①	3		720 VA / 5760 VA		4			
BEDROOM 108 - DESK AND CONV REC	15 A	1 ①	5			720 VA / 1500 VA	6	1	20 A	LAUNDRY 104 - WASHER ②
BEDROOM 108 - CONV REC	15 A	1 ①	7	720 VA / 2880 VA			8	2	30 A	LAUNDRY 104 - DRYER
BEDROOM 111 - DESK AND CONV REC	15 A	1 ①	9		540 VA / 2880 VA		10			
BEDROOM 111 - CONV REC	15 A	1 ①	11			540 VA / 960 VA	12	2	20 A	HVAC CENTRAL (1HP)
BEDROOM 116 - DESK AND CONV REC	15 A	1 ①	13	540 VA / 960 VA			14			
BEDROOM 116 - CONV REC	15 A	1 ①	15		540 VA / 696 VA		16	① 1	15 A	HVAC - BEDROOM 101 (1/4HP)
BATHROOMS 102, 109 - CONV REC	15 A	1 ①	17			360 VA / 696 VA	18	① 1	15 A	HVAC - BEDROOM 108 (1/4HP)
BATHROOMS 106, 115 - CONV REC	15 A	1 ①	19	360 VA / 696 VA			20	① 1	15 A	HVAC - BEDROOM 111 (1/4HP)
LIVING 112 - REC	15 A	1 ①	21		1260 VA / 696 VA		22	① 1	15 A	HVAC - BEDROOM 116 (1/4HP)
LIGHTING - WEST	15 A	1 ①	23			450 VA / 0 VA	24	1	15 A	SPARE
LIGHTING - EAST	15 A	1 ①	25	460 VA / 0 VA			26	1	15 A	SPARE
SPARE	15 A	1	27				28	1	15 A	SPARE
SPARE	15 A	1	29				30	1	15 A	SPARE
KITCHEN 113 - REFRIGERATOR	15 A	1	31	1500 VA / 0 VA			32	1	15 A	SPARE
KITCHEN 113 - COUNTER TOP REC	15 A	1	33		180 VA / 0 VA		34	1	15 A	SPARE
KITCHEN 113 - 1/2HP DISPOSER	20 A	1	35			1176 VA / 0 VA	36	1	15 A	SPARE
KITCHEN 113 - DISHWASHER	15 A	1	37	744 VA / 0 VA			38	1	15 A	SPARE
KITCHEN 113 - MICROWAVE	20 A	1	39		1500 VA / 0 VA		40	1	15 A	SPARE
KITCHEN 113 - COUNTER TOP REC	15 A	1	41			180 VA / 0 VA	42	1	15 A	SPARE

Phase A	Phase B	Phase C	Total VA
15340 VA	14772 VA	6582 VA	36694 VA

Mfg. / Type	Modifications	Amps RMS. Sym.
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C
B
A

Scales:

Jacobs Project No.: FDWD1301

Drawing Title:

PANEL SCHEDULE A

Date: May 11, 2009

Designed By: Designer

Drawn By: Author

Checked By: Checker

Drawing No.:

E-502

NOT FOR CONSTRUCTION

911 Central Parkway N., Suite 425 San Antonio, TX 78323
501 North Broadway, St. Louis, Missouri 63102-2121

Revision: _____
Date: _____ By: _____ Description: _____

AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE) FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

KEYED NOTES

- 1 THE NOTATION "(AFCI)" INDICATES THAT THIS CIRCUIT BREAKER IS A COMBINATION-TYPE ACR-FAULT CIRCUIT INTERRUPTER.
- 2 LOAD FOR THIS SMALL-APPLIANCE OR LAUNDRY CIRCUIT IS SET TO 1500VA PER NEC 220.52.

Panel	Voltage	Phase	Wires	Mains
PP-B	120 V / 208 V	Three Phase	4 Wires	200 A MCB

Mount	Enclosure	Location
TBD	Type 1	TBD

Load Name	Trip	Poles	Ckt. No.	A	B	C	Ckt. No.	Poles	Trip	Load Name
BEDROOM 117 - DESK AND CONV REC	15 A	1 (1)	1	540 VA / 5760 VA			2	2	60 A	KITCHEN 126 - RANGE
BEDROOM 117 - CONV REC	15 A	1 (1)	3		720 VA / 5760 VA		4			
BEDROOM 127 - DESK AND CONV REC	15 A	1 (1)	5			540 VA / 1500 VA	6	1	20 A	LAUNDRY 124 - WASHER
BEDROOM 127 - CONV REC	15 A	1 (1)	7	720 VA / 2880 VA			8	2	30 A	LAUNDRY 124 - DRYER
BEDROOM 122 - DESK AND CONV REC	15 A	1 (1)	9		540 VA / 2880 VA		10			
BEDROOM 122 - CONV REC	15 A	1 (1)	11			720 VA / 960 VA	12	2	20 A	HVAC - CENTRAL (1HP)
BEDROOM 132 - DESK AND CONV REC	15 A	1 (1)	13	540 VA / 960 VA			14			
BEDROOM 132 - CONV REC	15 A	1 (1)	15		720 VA / 696 VA		16	1	15 A	HVAC - BEDROOM 117 (1/4HP)
BATHROOMS 118, 120 - CONV REC	15 A	1 (1)	17			360 VA / 696 VA	18	1	15 A	HVAC - BEDROOM 127 (1/4HP)
BATHROOMS 129, 131 - CONV REC	15 A	1 (1)	19	360 VA / 696 VA			20	1	15 A	HVAC - BEDROOM 122 (1/4HP)
LIVING 125 - REC	15 A	1 (1)	21		1440 VA / 696 VA		22	1	15 A	HVAC - BEDROOM 132 (1/4HP)
LIGHTING - NORTH	15 A	1 (1)	23			410 VA / 0 VA	24	1	15 A	SPARE
LIGHTING - SOUTH	15 A	1 (1)	25	440 VA / 0 VA			26	1	15 A	SPARE
SPARE	15 A	1	27				28	1	15 A	SPARE
SPARE	15 A	1	29				30	1	15 A	SPARE
KITCHEN 126 - REFRIGERATOR	15 A	1	31	1500 VA / 0 VA			32	1	15 A	SPARE
KITCHEN 126 - COUNTER TOP REC	15 A	1	33		180 VA / 0 VA		34	1	15 A	SPARE
KITCHEN 126 - DISHWASHER	15 A	1	35			744 VA / 0 VA	36	1	15 A	SPARE
KITCHEN 126 - DISPOSAL (1/2HP)	20 A	1	37	1176 VA / 0 VA			38	1	15 A	SPARE
KITCHEN 126 - MICROWAVE	20 A	1	39		1500 VA / 0 VA		40	1	15 A	SPARE
KITCHEN 126 - COUNTER TOP REC	15 A	1	41			180 VA / 0 VA	42	1	15 A	SPARE

Phase A	Phase B	Phase C	Total VA
15572 VA	15132 VA	6110 VA	36814 VA

Mfg. / Type	Modifications	Amps RMS. Sym.
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D
C
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Scales:

Jacobs Project No.: FDWD1301

Drawing Title:

PANEL SCHEDULE B

Date: May 11, 2009

Designed By: Designer

Drawn By: Author

Checked By: Checker

Drawing No.:

E-503

1 2 3 4 5



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501 North Broadway, St. Louis, Missouri 63102-2121

Revision: _____
Date: _____ By: _____ Description: _____

AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE) FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

KEYED NOTES

- ① THE NOTATION "(AFCI)" INDICATES THAT THIS CIRCUIT BREAKER IS A COMBINATION-TYPE ACR-FAULT CIRCUIT INTERRUPTER.
- ② LOAD FOR THIS SMALL-APPLIANCE OR LAUNDRY CIRCUIT IS SET TO 1500VA PER NEC 220.52.

Panel	Voltage	Phase	Wires	Mains
PP-C	120 V / 208 V	Three Phase	4 Wires	200 A MCB

Mount	Enclosure	Location
TBD	Type 1	TBD

Load Name	Trip	Poles	Ckt. No.	A	B	C	Ckt. No.	Poles	Trip	Load Name
BEDROOM 133 - DESK AND CONV REC	15 A	1 (1)	1	540 VA / 5760 VA			2	2	60 A	KITCHEN 146 - RANGE
BEDROOM 133 - CONV REC	15 A	1 (1)	3		720 VA / 5760 VA		4			
BEDROOM 144 - DESK AND CONV REC	15 A	1 (1)	5			540 VA / 1500 VA	6	1	20 A	LAUNDRY 147 - WASHER
BEDROOM 144 - CONV REC	15 A	1 (1)	7	720 VA / 2880 VA			8	2	30 A	LAUNDRY 147 - DRYER
BEDROOM 136 - DESK AND CONV REC	15 A	1 (1)	9		720 VA / 2880 VA		10			
BEDROOM 136 - CONV REC	15 A	1 (1)	11			720 VA / 960 VA	12	2	20 A	HVAC - CENTRAL (1HP)
BEDROOM 140 - DESK AND CONV REC	15 A	1 (1)	13	720 VA / 960 VA			14			
BEDROOM 140 - CONV REC	15 A	1 (1)	15		720 VA / 696 VA		16	1 (1)	15 A	HVAC - BEDROOM 133 (1/4HP)
BATHROOMS 134, 138 - CONV REC	15 A	1 (1)	17			360 VA / 696 VA	18	1 (1)	15 A	HVAC - BEDROOM 144 (1/4HP)
BATHROOMS 143, 139 - CONV REC	15 A	1 (1)	19	360 VA / 696 VA			20	1 (1)	15 A	HVAC - BEDROOM 136 (1/4HP)
LIVING 145 - REC	15 A	1 (1)	21		900 VA / 696 VA		22	1 (1)	15 A	HVAC - BEDROOM 140 (1/4HP)
LIVING 145 - REC	15 A	1 (1)	23			1080 VA / 0 VA	24	1	15 A	SPARE
LIGHTING - EAST	15 A	1 (1)	25	470 VA / 0 VA			26	1	15 A	SPARE
LIGHTING - WEST	15 A	1 (1)	27		440 VA / 0 VA		28	1	15 A	SPARE
SPARE	15 A	1 (1)	29				30	1	15 A	SPARE
KITCHEN 146 - REFRIGERATOR	15 A	1	31	1500 VA / 0 VA			32	1	15 A	SPARE
KITCHEN 146 - COUNTER TOP REC	15 A	1	33		180 VA / 0 VA		34	1	15 A	SPARE
KITCHEN 146 - DISPOSAL (1/2HP)	20 A	1	35			1176 VA / 0 VA	36	1	15 A	SPARE
KITCHEN 146 - DISHWASHER	15 A	1	37	744 VA / 0 VA			38	1	15 A	SPARE
KITCHEN 146 - COUNTER TOP REC	15 A	1	39		180 VA / 0 VA		40	1	15 A	SPARE
KITCHEN 146 - MICROWAVE	20 A	1	41			1500 VA / 0 VA	42	1	15 A	SPARE

Phase A	Phase B	Phase C	Total VA
15350 VA	13892 VA	8532 VA	37774 VA

Mfg. / Type	Modifications	Amps RMS. Sym.
--	--	--

D
C
B
A

Scales:

Jacobs Project No.: FDWD1301
Drawing Title:

PANEL SCHEDULE C

Date: May 11, 2009
Designed By: Designer
Drawn By: Author
Checked By: Checker
Drawing No.: **E-504**

NOT FOR CONSTRUCTION

911 Central Parkway N., Suite 425 San Antonio, TX 78233
501 North Broadway, St. Louis, Missouri 63102-2121

Revision:
Date: By: Description:

AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE) FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

LIGHTING PLANS/AXON

Date: May 11, 2009

Designed By: Designer

Drawn By: SBW

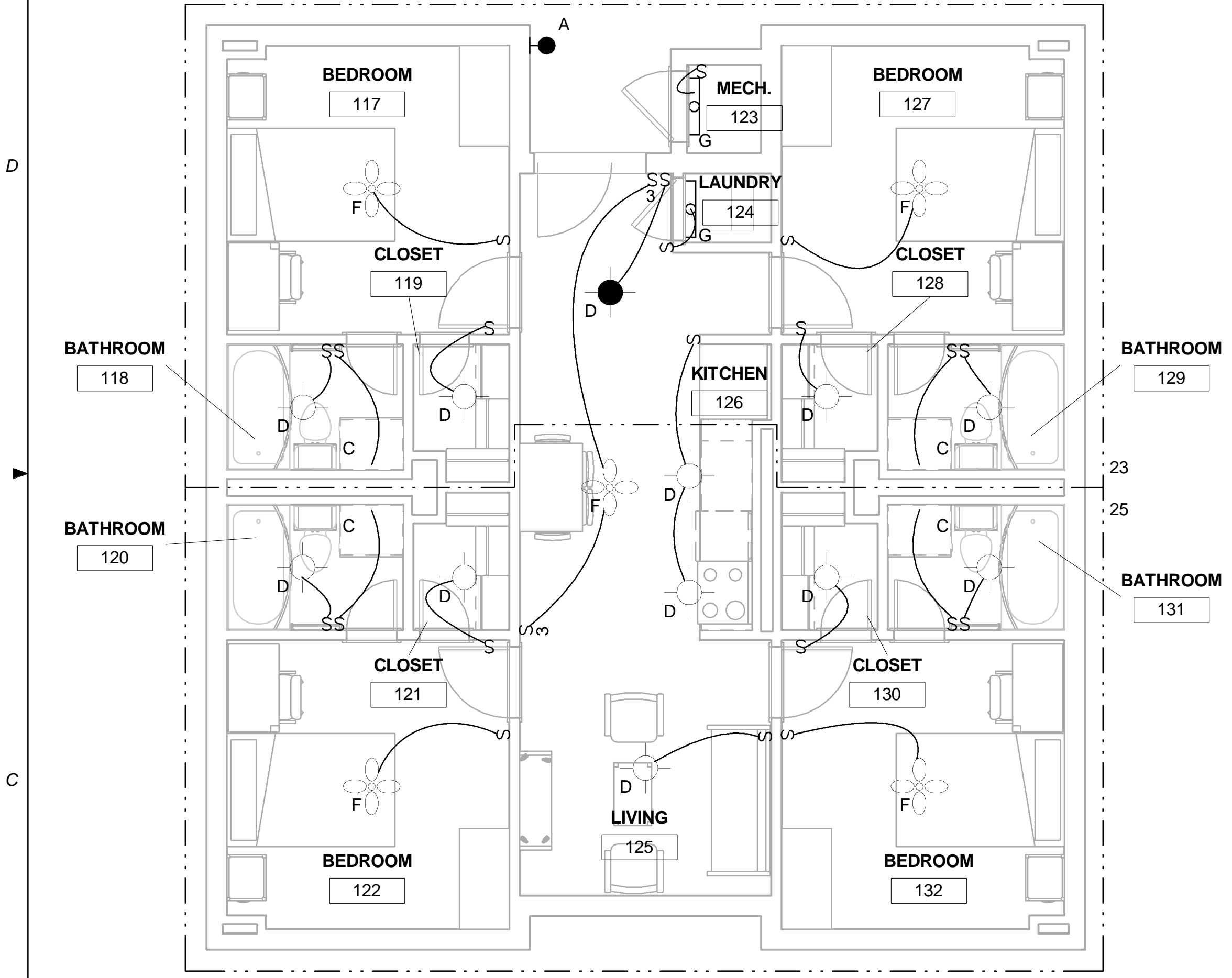
Checked By: Checker

Drawing No.:

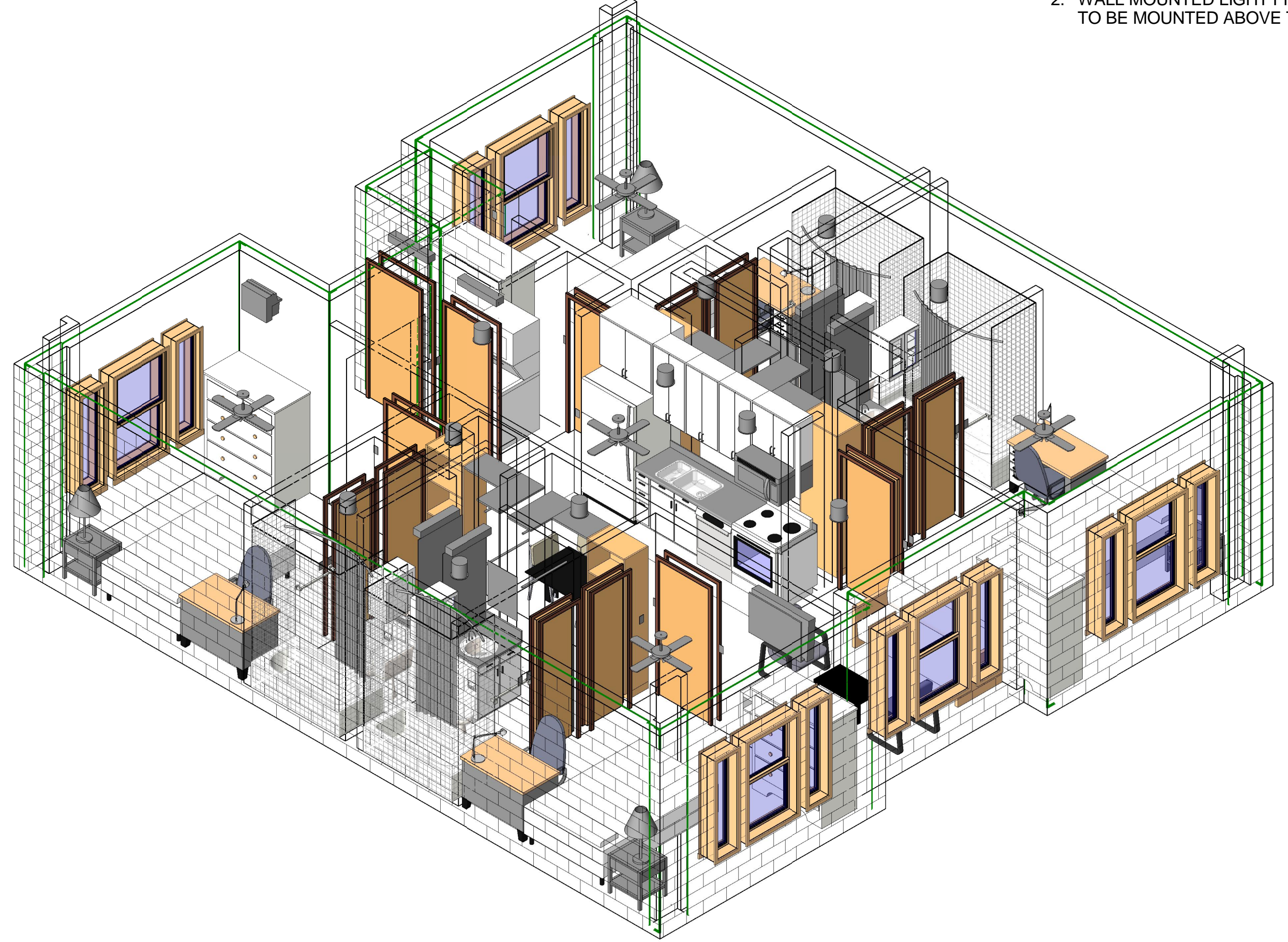
EL101

GENERAL NOTES

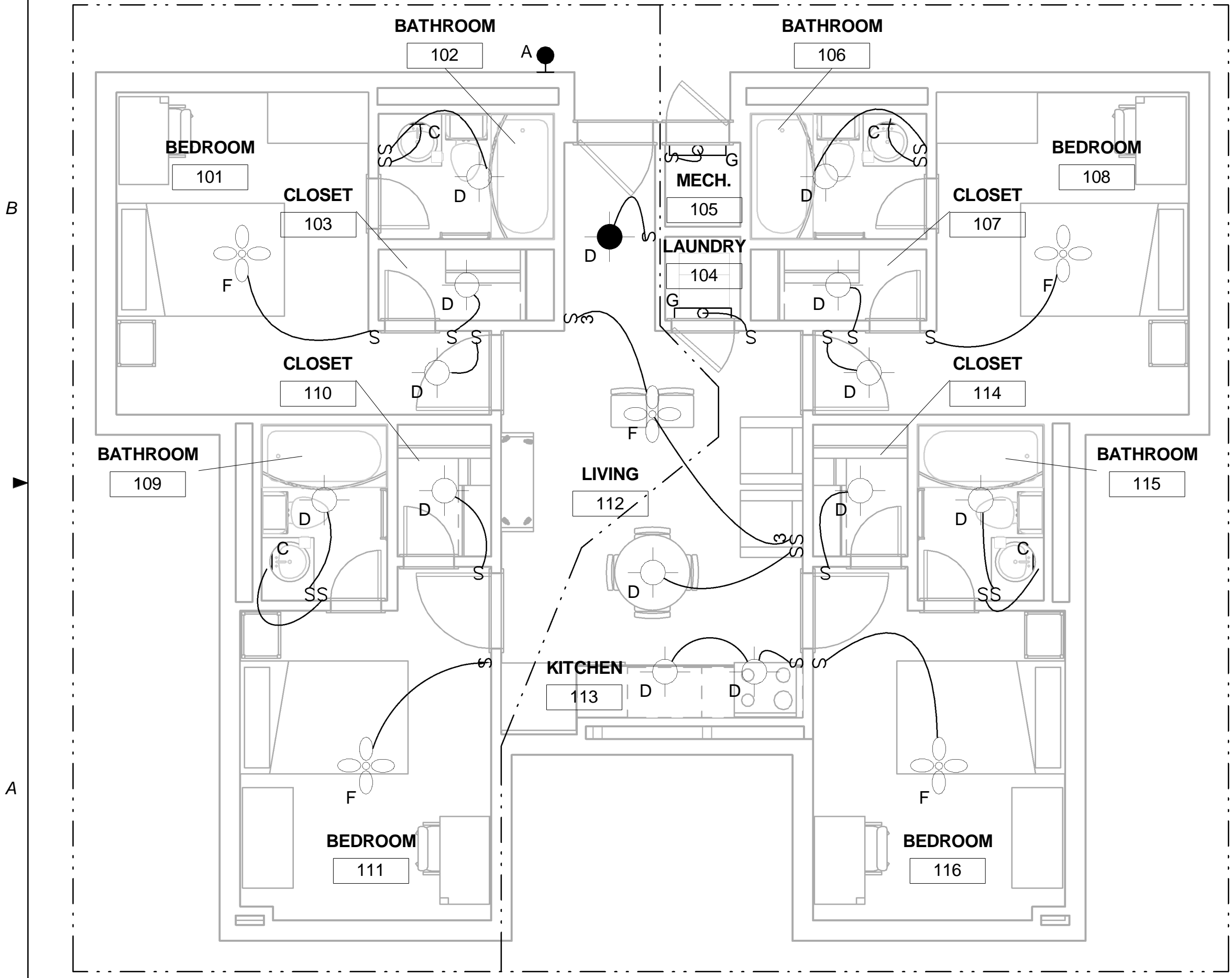
1. CEILING MOUNTED LIGHT FIXTURES ARE MOUNTED AT 102" AFF.
2. WALL MOUNTED LIGHT FIXTURES IN BATHROOMS ARE COORDINATED TO BE MOUNTED ABOVE THE WALL MIRROR.



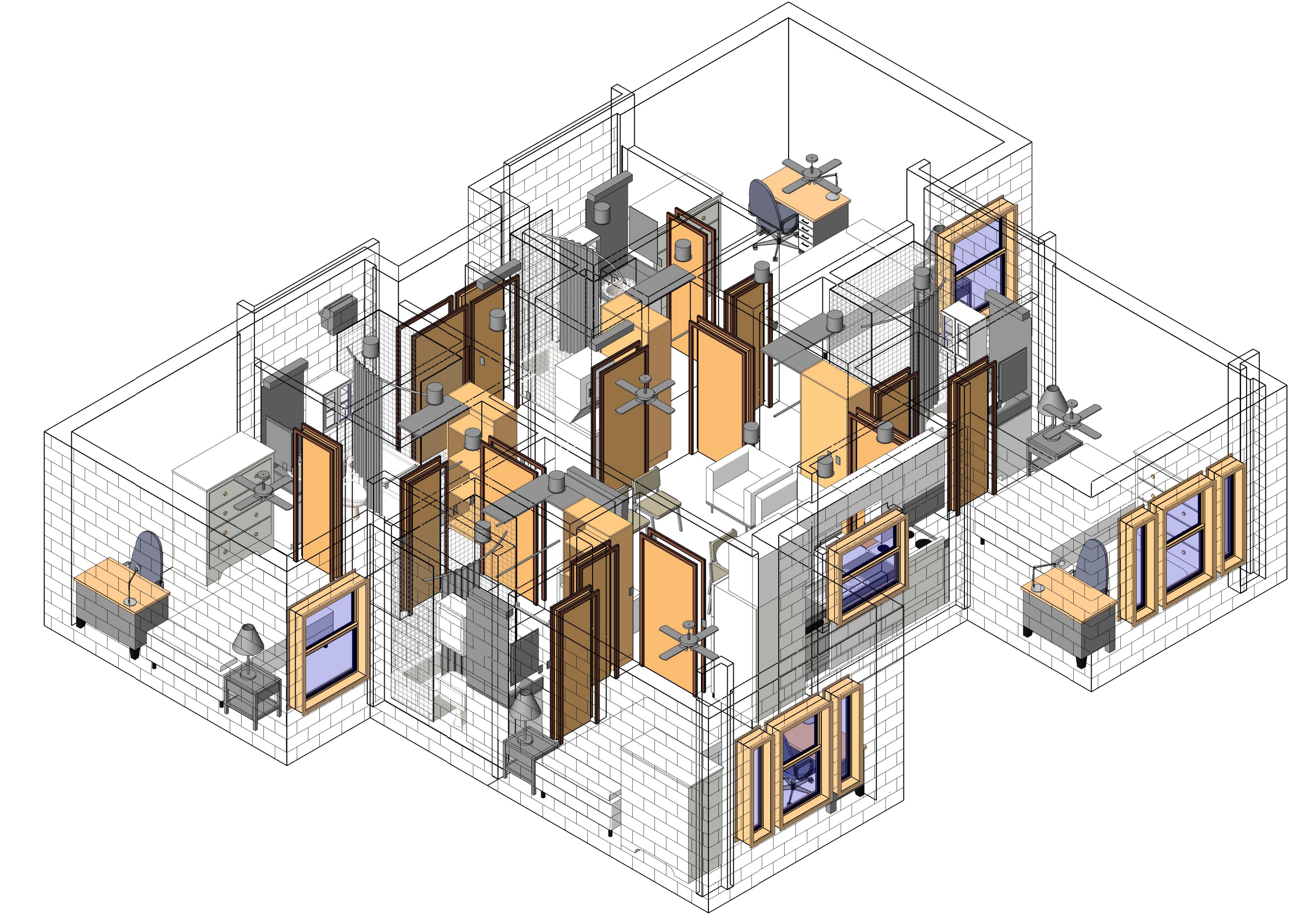
C1 PLAN B LIGHTING PLAN
1/4" = 1'-0"



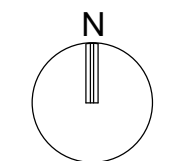
C3 PLAN B LIGHTING AXON



A1 PLAN A LIGHTING PLAN
1/4" = 1'-0"



A3 PLAN A LIGHTING AXON



NOT FOR CONSTRUCTION

911 Central Parkway N., Suite 425 San Antonio, TX 78233
501 North Broadway, St. Louis, Missouri 63102-2121

Revision: _____
Date: _____ By: _____ Description: _____

GENERAL NOTES

1. CEILING MOUNTED LIGHT FIXTURES ARE MOUNTED AT 102" AFF.
2. WALL MOUNTED LIGHT FIXTURES IN BATHROOMS ARE COORDINATED TO BE MOUNTED ABOVE THE WALL MIRROR.

AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE) FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

LIGHTING PLANS/AXON

Date: May 11, 2009

Designed By: Designer

Drawn By: SBW

Checked By: Checker

Drawing No.:

EL102

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C
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A

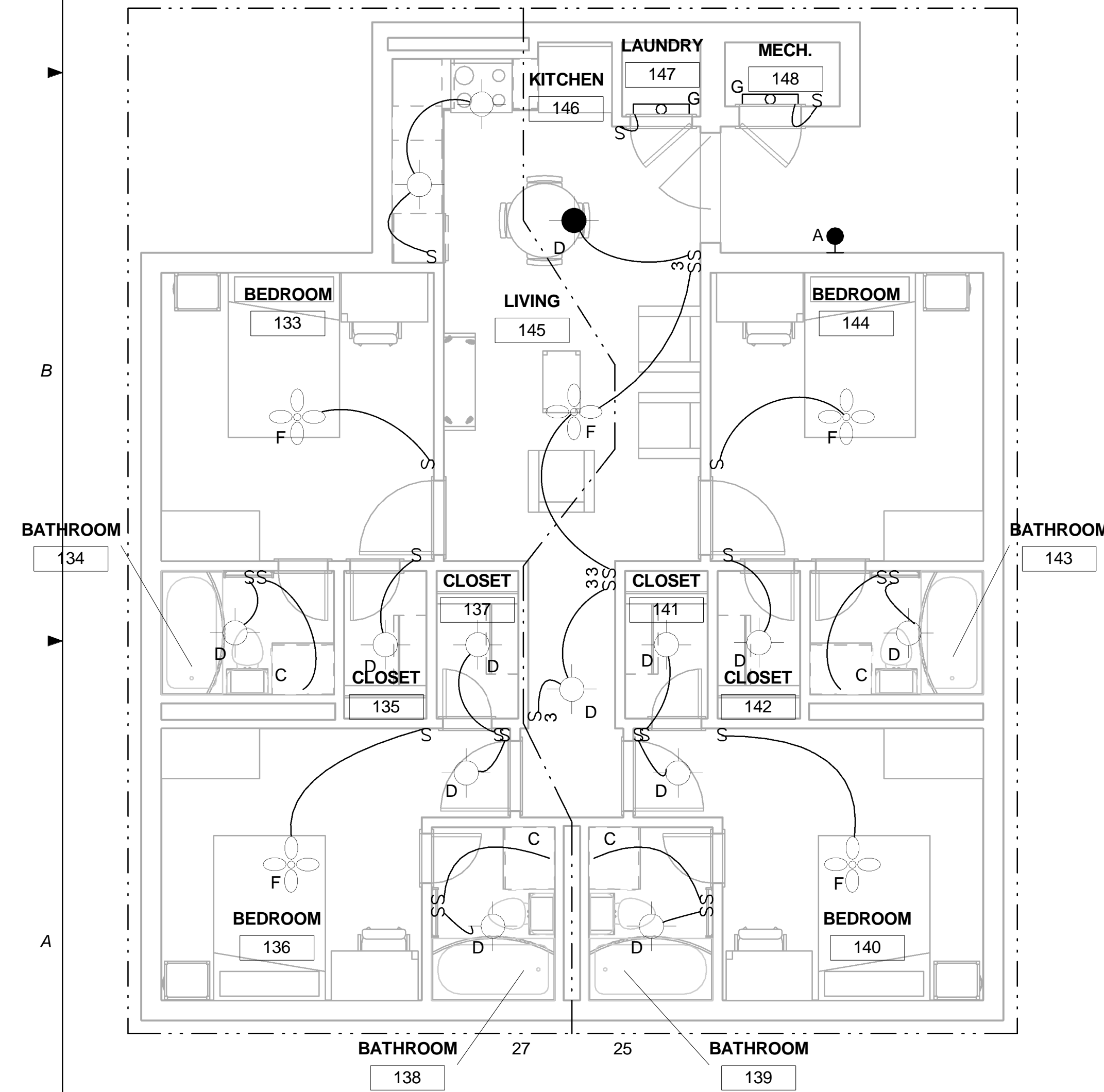
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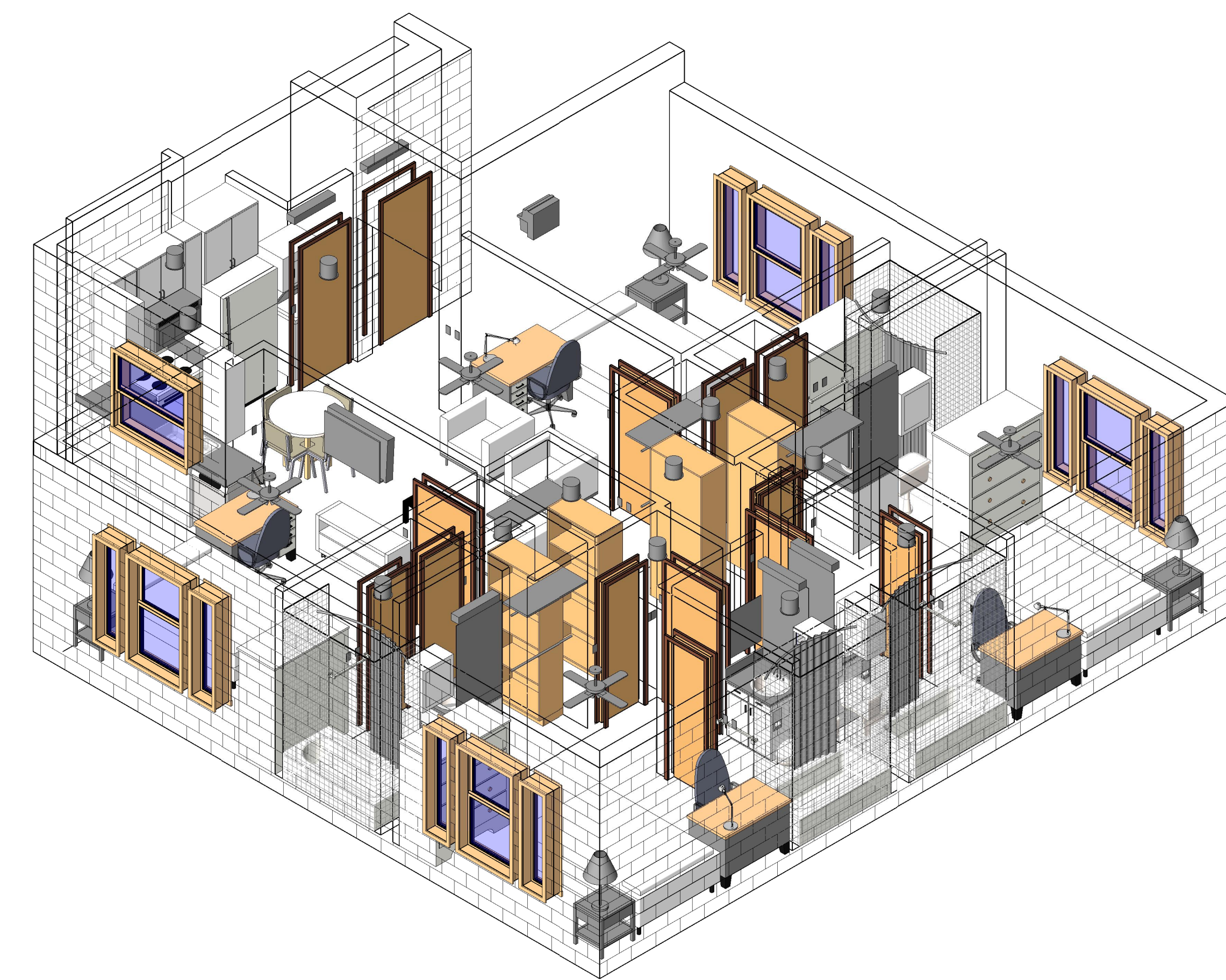
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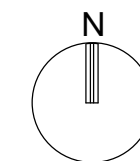
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A1 PLAN C LIGHTING PLAN
1/4" = 1'-0"



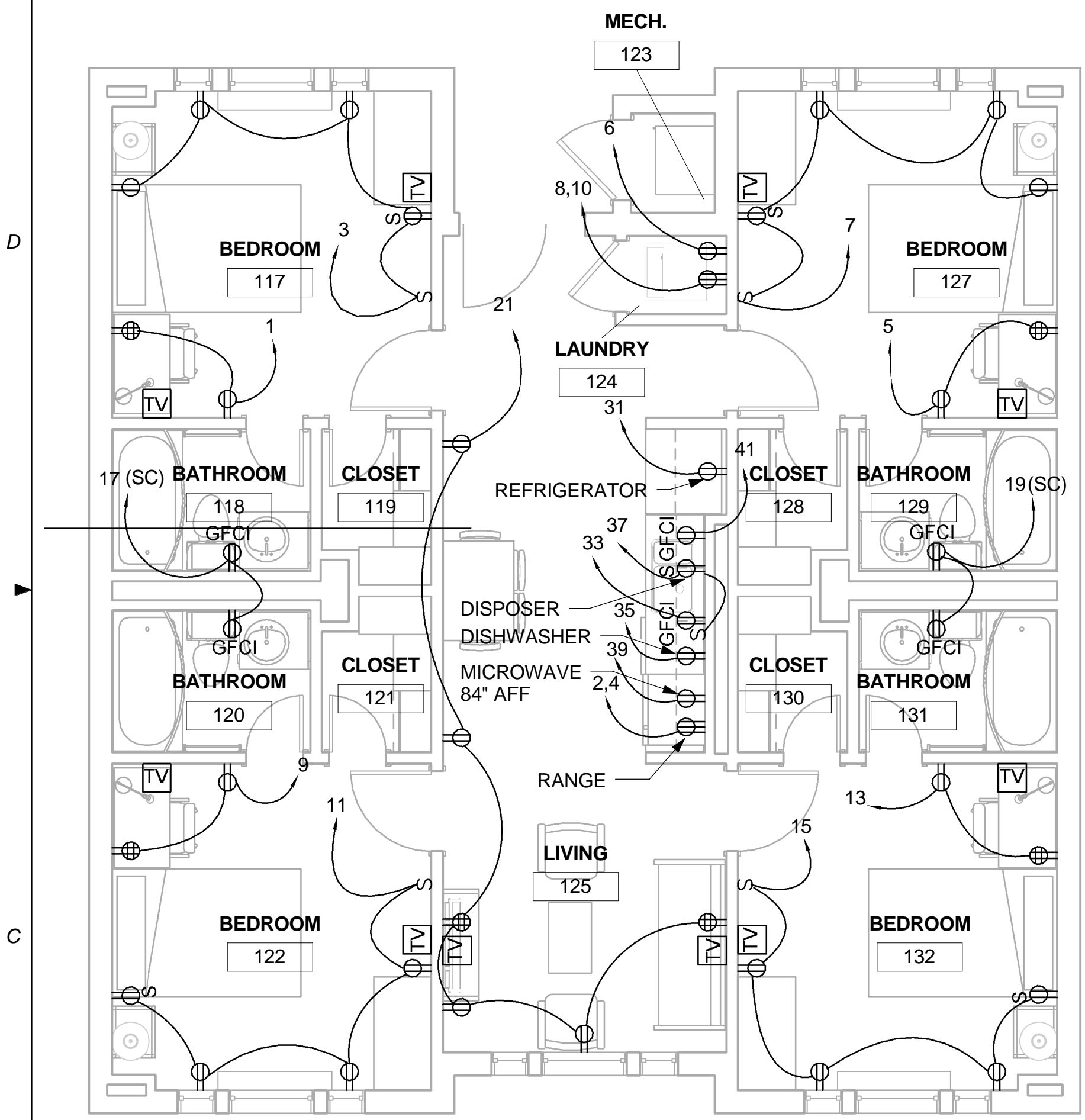
A3 PLAN C LIGHTING AXON



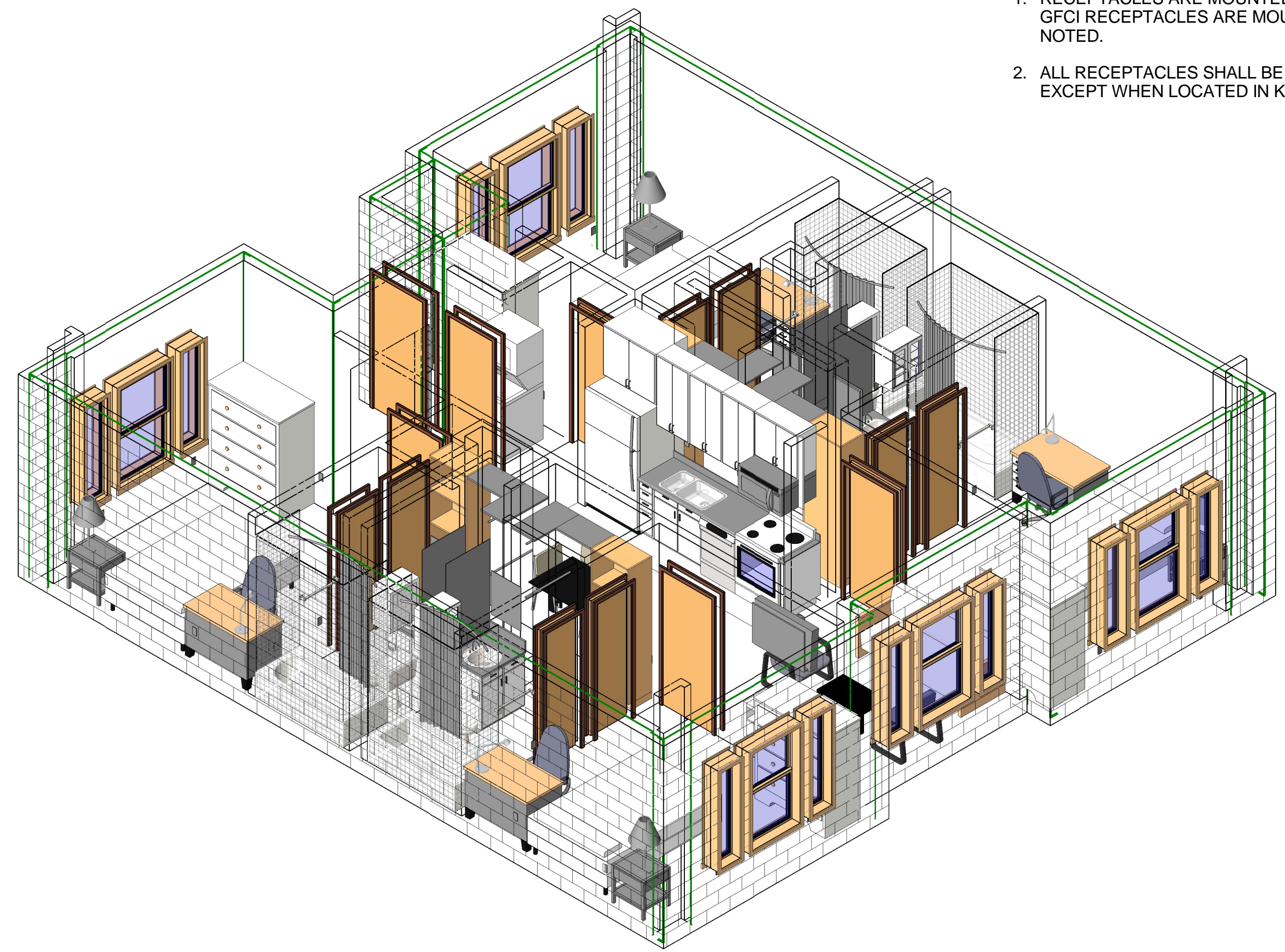
AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE) FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

GENERAL NOTES

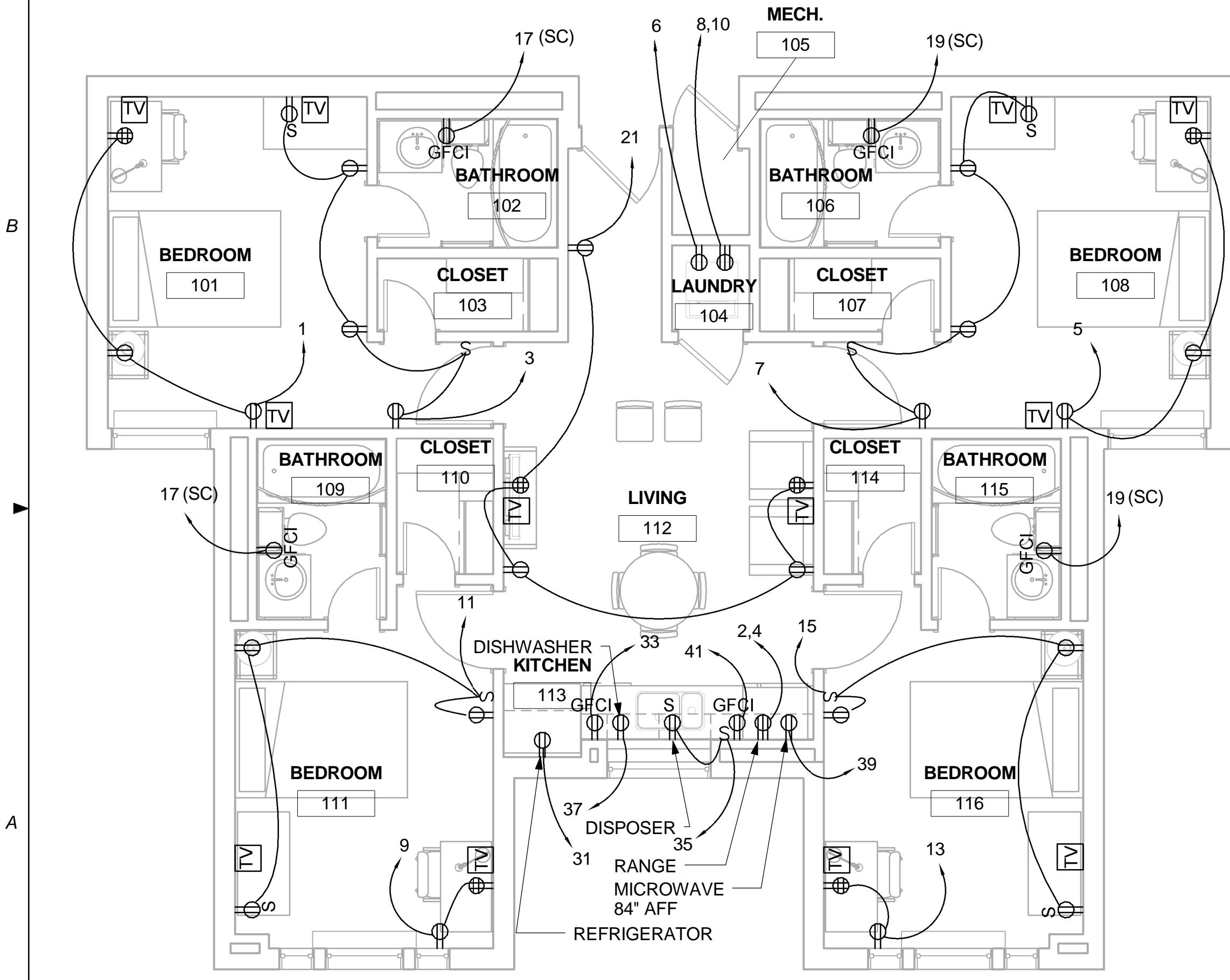
1. RECEPTACLES ARE MOUNTED AT 18" AFF UNLESS OTHERWISE NOTED. GFCI RECEPTACLES ARE MOUNTED AT 48" AFF UNLESS OTHERWISE NOTED.
2. ALL RECEPTACLES SHALL BE ARC-FAULT CIRCUIT INTERRUPTER TYPE EXCEPT WHEN LOCATED IN KITCHENS, BATHROOMS, AND OUTDOORS.



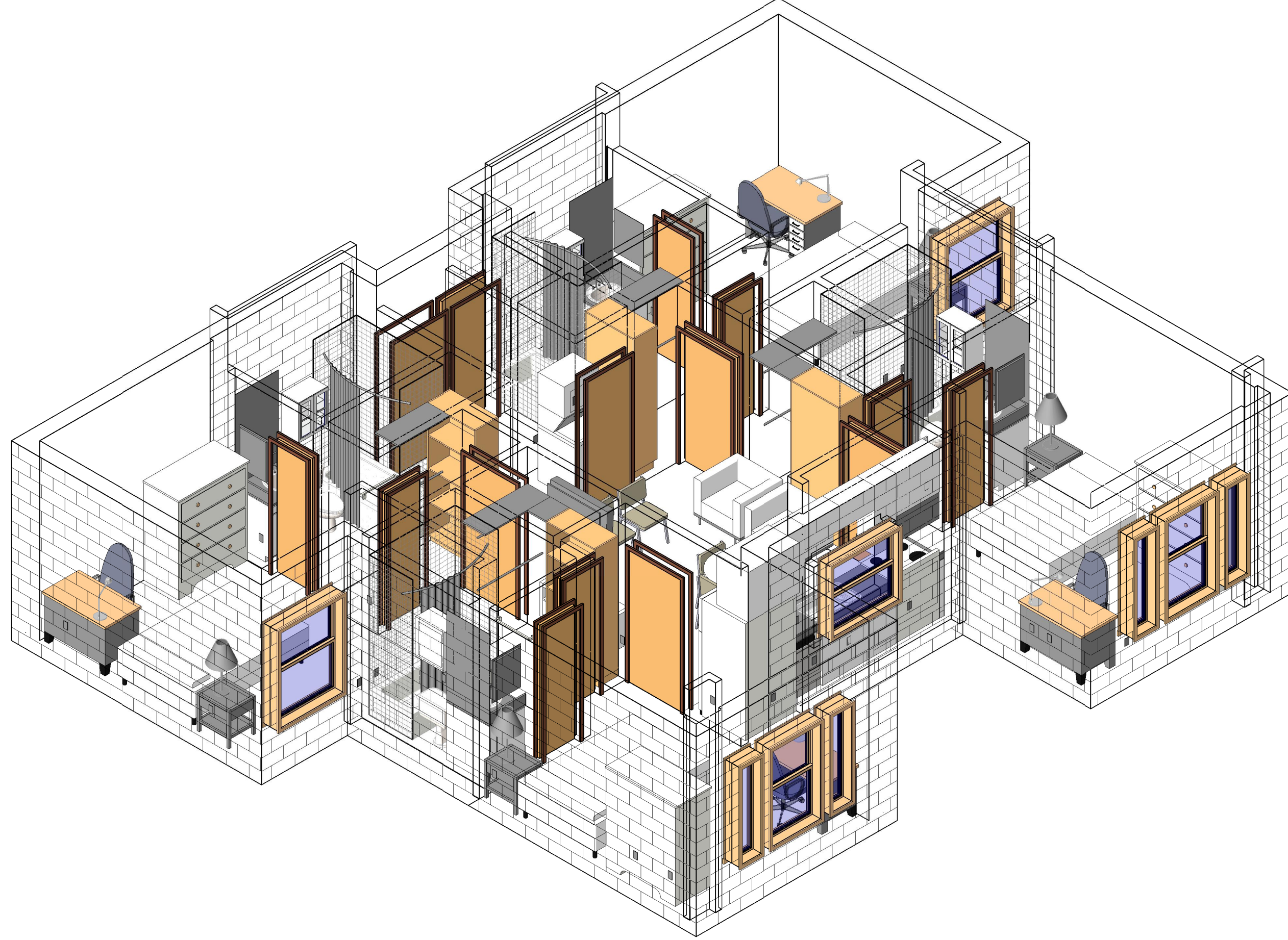
C1 PLAN B POWER PLAN
1/4" = 1'-0"



C3 PLAN B POWER AXON



A1 PLAN A POWER PLAN
1/4" = 1'-0"



A3 PLAN A POWER AXON

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

POWER PLANS/AXON

Date: May 11, 2009

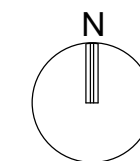
Designed By: Designer

Drawn By: SBW

Checked By: Checker

Drawing No.:

EP101



GENERAL NOTES

1. RECEPTACLES ARE MOUNTED AT 18" AFF UNLESS OTHERWISE NOTED. GFCI RECEPTACLES ARE MOUNTED AT 48" AFF UNLESS OTHERWISE NOTED.
2. ALL RECEPTACLES SHALL BE ARC-FAULT CIRCUIT INTERRUPTER TYPE EXCEPT WHEN LOCATED IN KITCHENS, BATHROOMS, AND OUTDOORS.

AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE) FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

POWER PLANS/AXON

Date: May 11, 2009

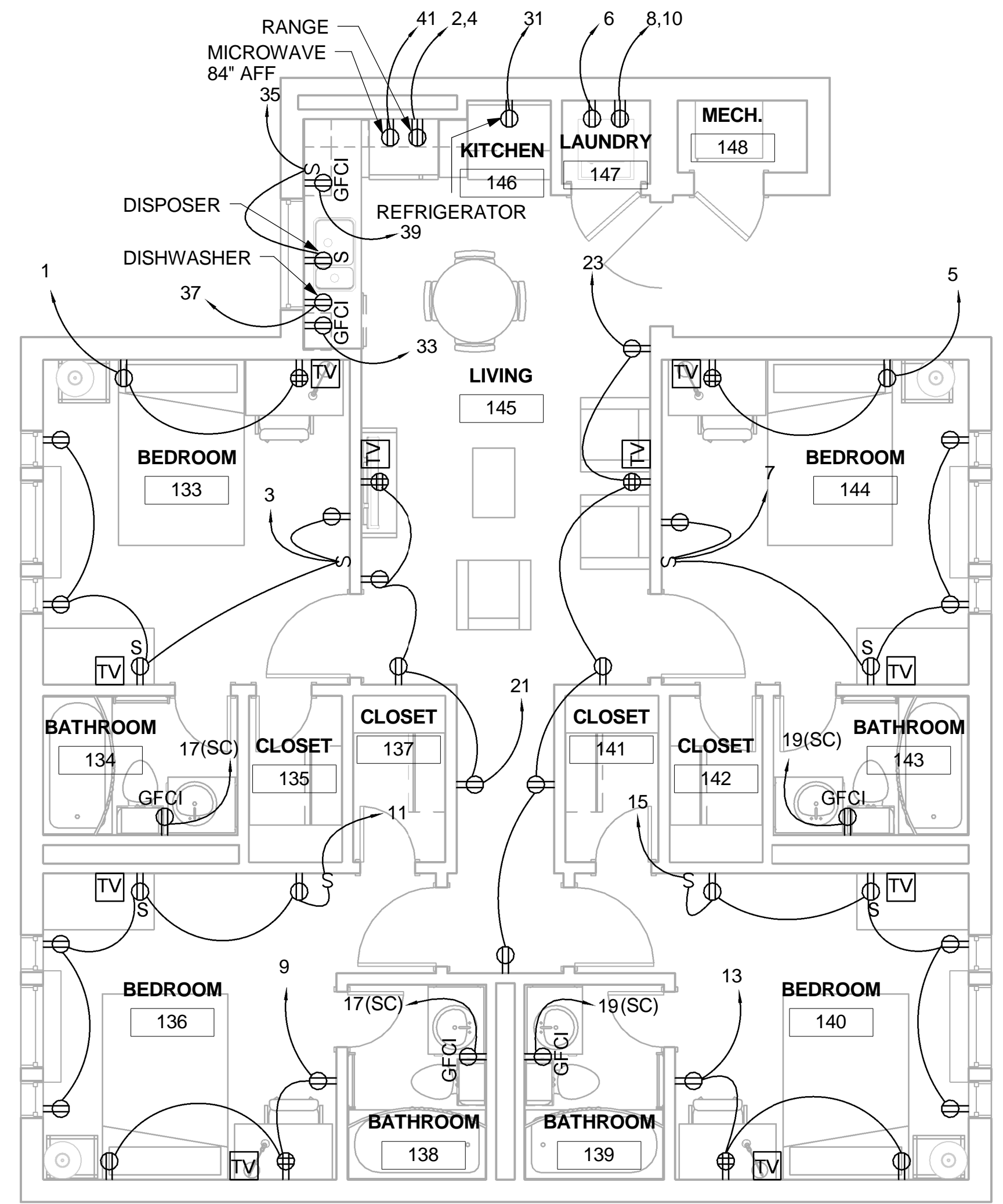
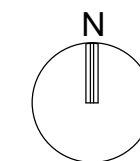
Designed By: Designer

Drawn By: SBW

Checked By: Checker

Drawing No.:

EP102



A1 PLAN C POWER PLAN
1/4" = 1'-0"

1 PLAN C POWER AXON

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GENERAL NOTES

- 1. ALL SINGLE STATION SMOKE ALARMS WITHIN EACH DWELLING UNIT MUST BE INTERCONNECTED TO SOUND AT ONCE.
- 2. WALL MOUNTED FIRE ALARM SPEAKERS ARE MOUNTED AT 78" AFF.

NOT FOR CONSTRUCTION

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501 North Broadway, St. Louis, Missouri 63102-2121

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Date: _____ By: _____ Description: _____

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Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

FIRE ALARM PLANS/AXON

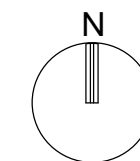
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Designed By: Designer

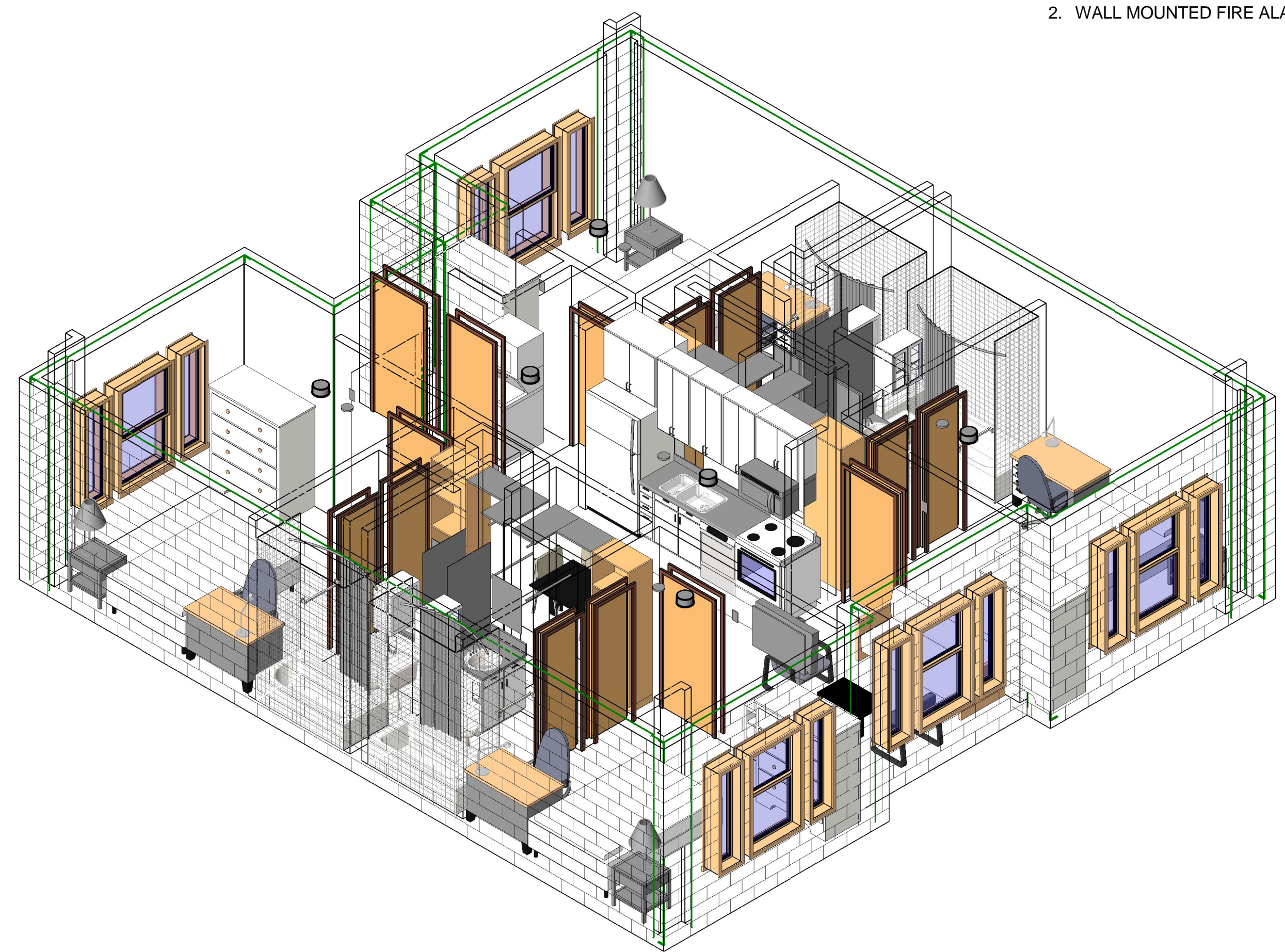
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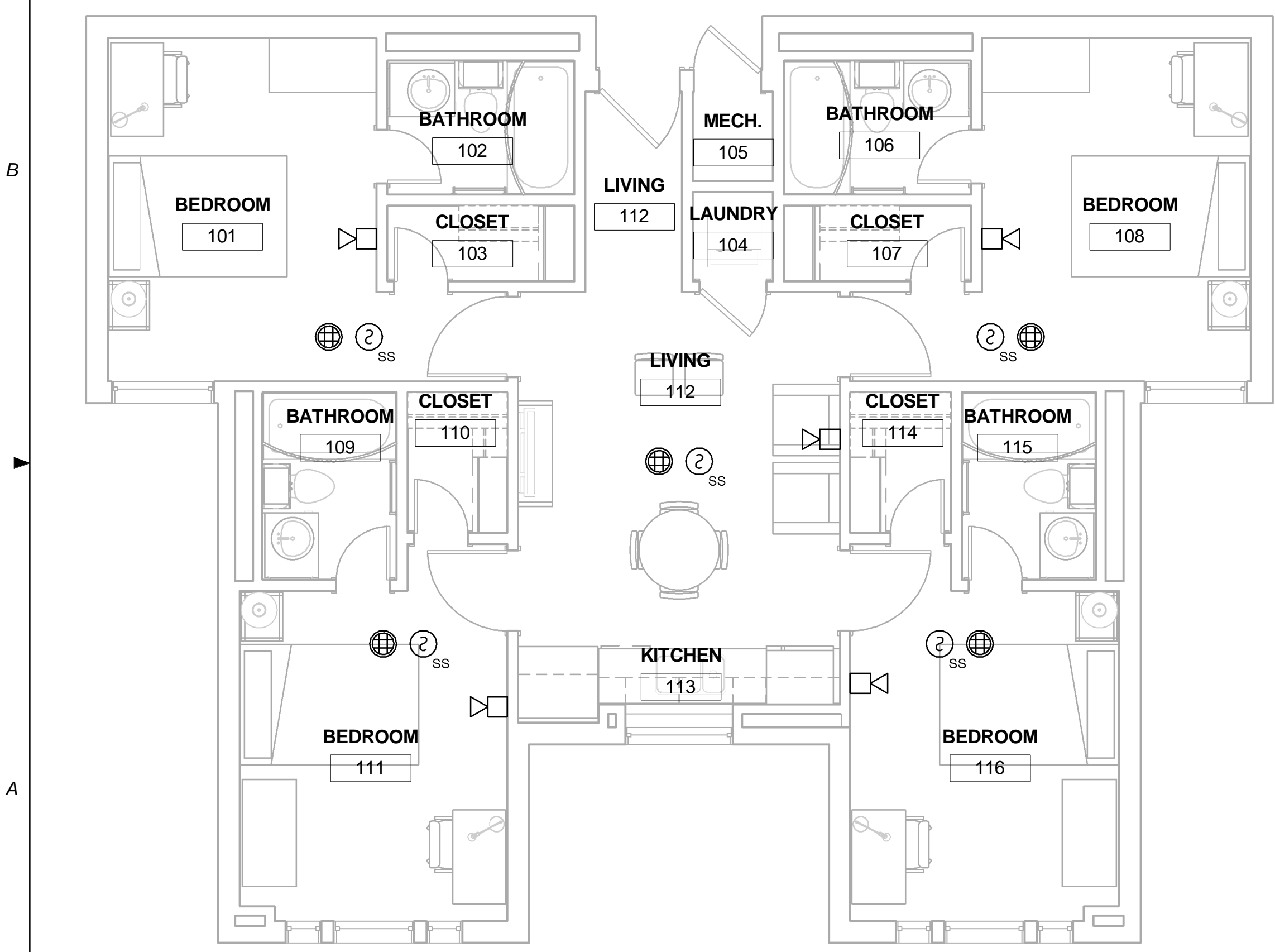
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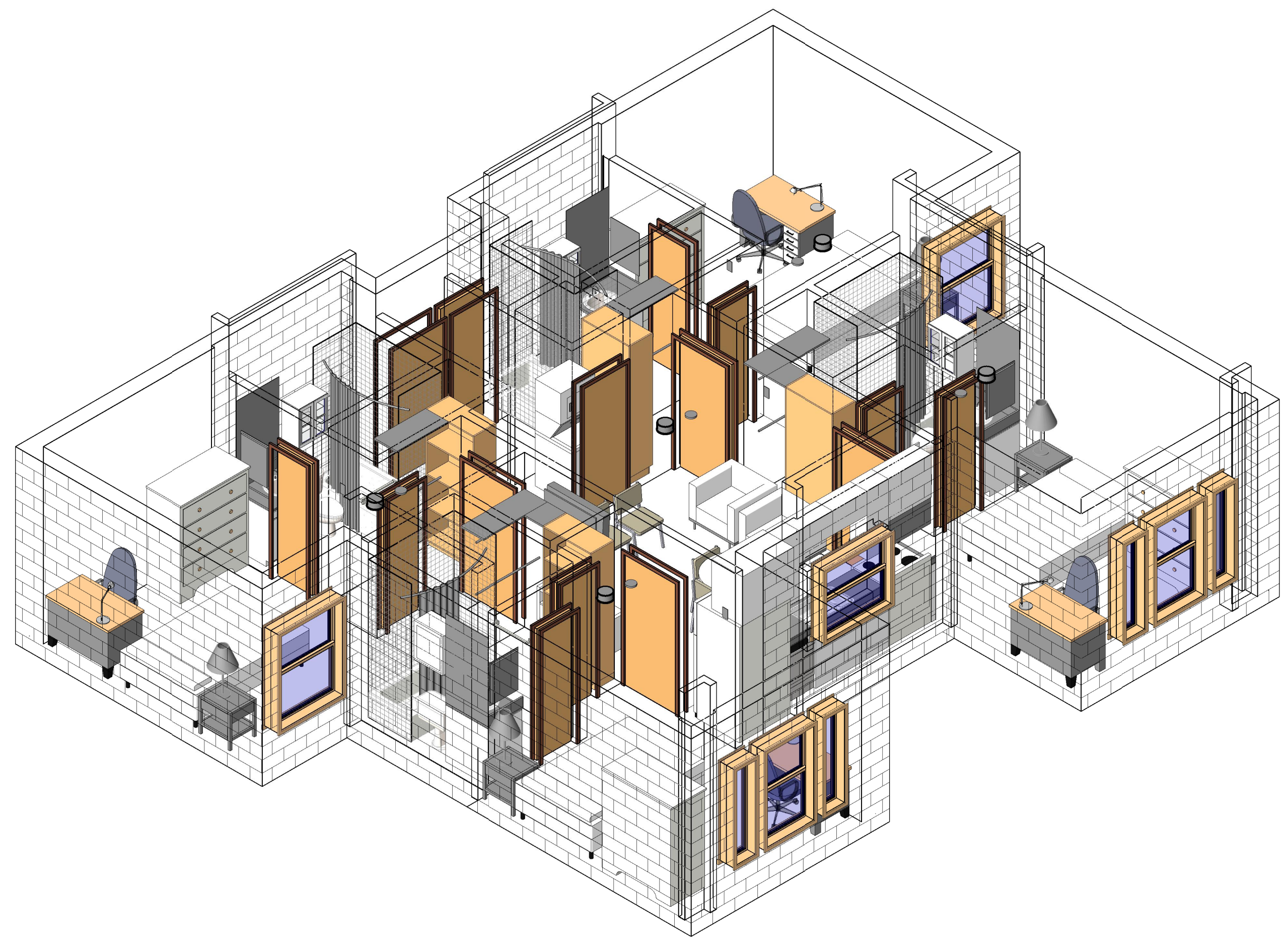
C1 PLAN B FIRE ALARM PLAN
1/4" = 1'-0"



C3 PLAN B FIRE ALARM AXON



A1 PLAN A FIRE ALARM PLAN
1/4" = 1'-0"



A3 PLAN A FIRE ALARM AXON

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Revision:
Date: By: Description:

GENERAL NOTES

- 1. ALL SINGLE STATION SMOKE ALARMS WITHIN EACH DWELLING UNIT MUST BE INTERCONNECTED TO SOUND AT ONCE.
- 2. WALL MOUNTED FIRE ALARM SPEAKERS ARE MOUNTED AT 78" AFF.

AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE) FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

FIRE ALARM PLANS/AXON

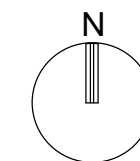
Date: May 11, 2009

Designed By: Designer

Drawn By: SBW

Checked By: Checker

Drawing No.: FA102



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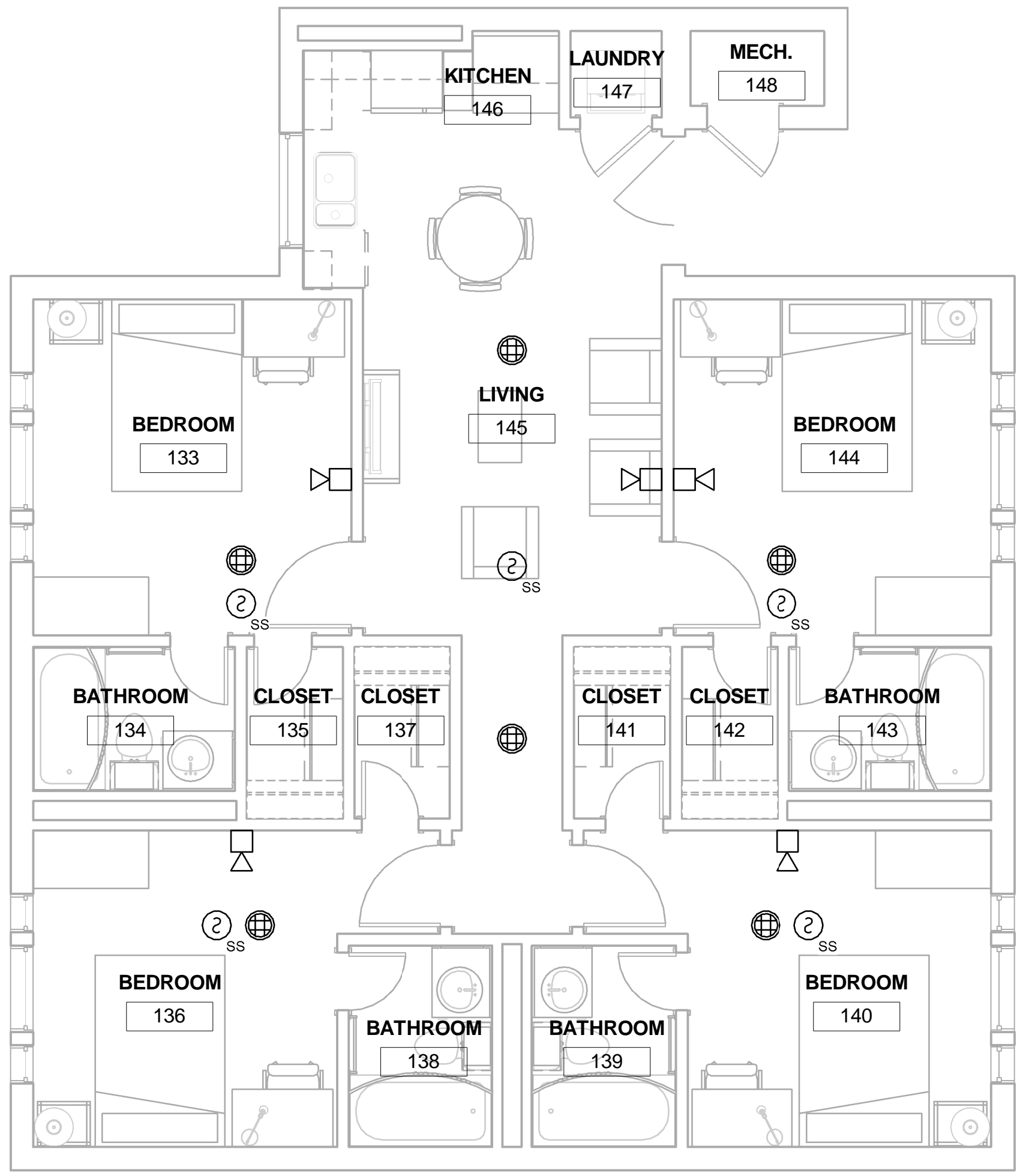
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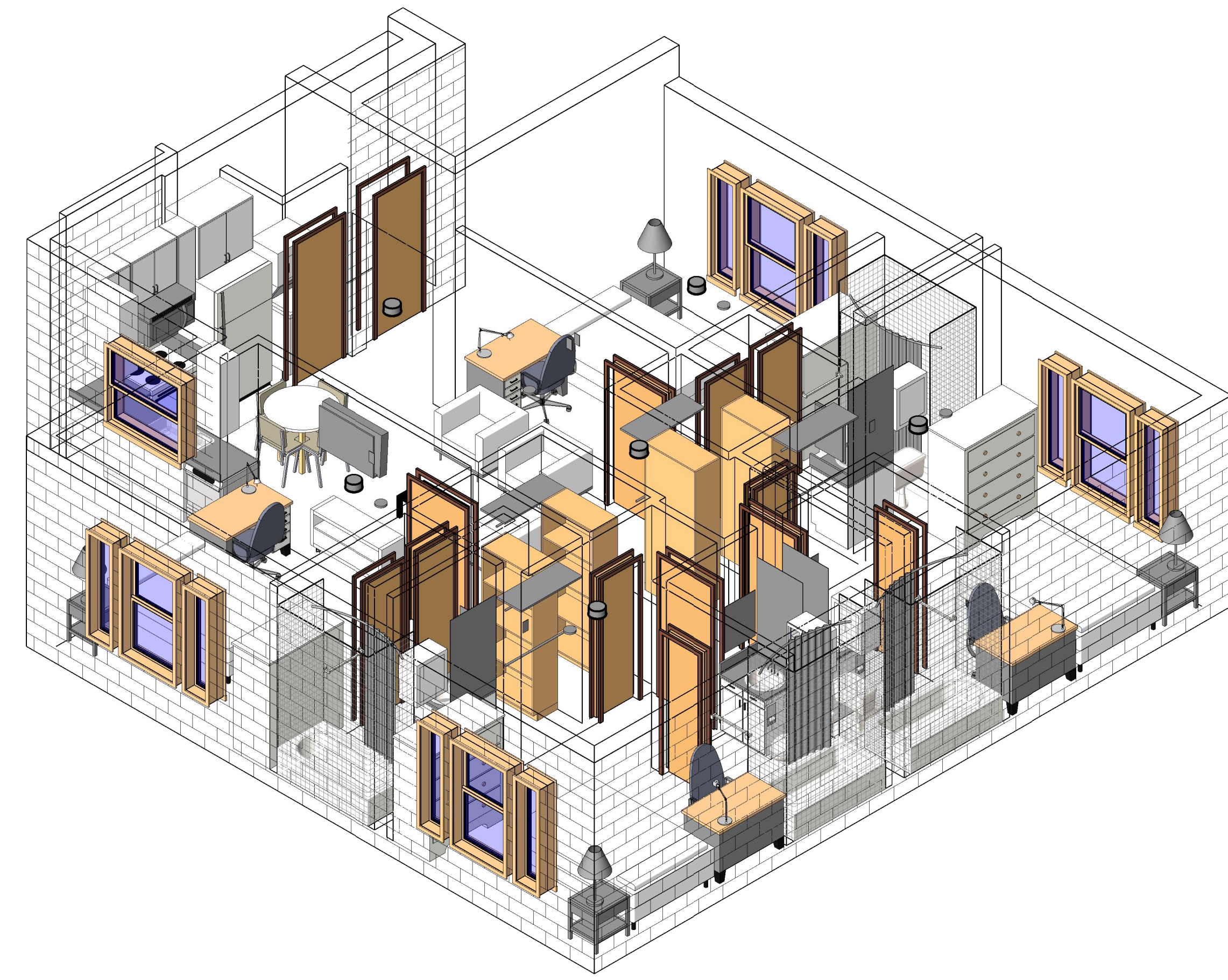
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A1 PLAN C FIRE ALARM PLAN
1/4" = 1'-0"



1 PLAN C FIRE ALARM AXON

GENERAL NOTES

1. DATA OUTLETS ARE MOUNTED AT 18" AFF UNLESS OTHERWISE NOTED.

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Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

TELECOM PLANS/AXON

Date: May 11, 2009

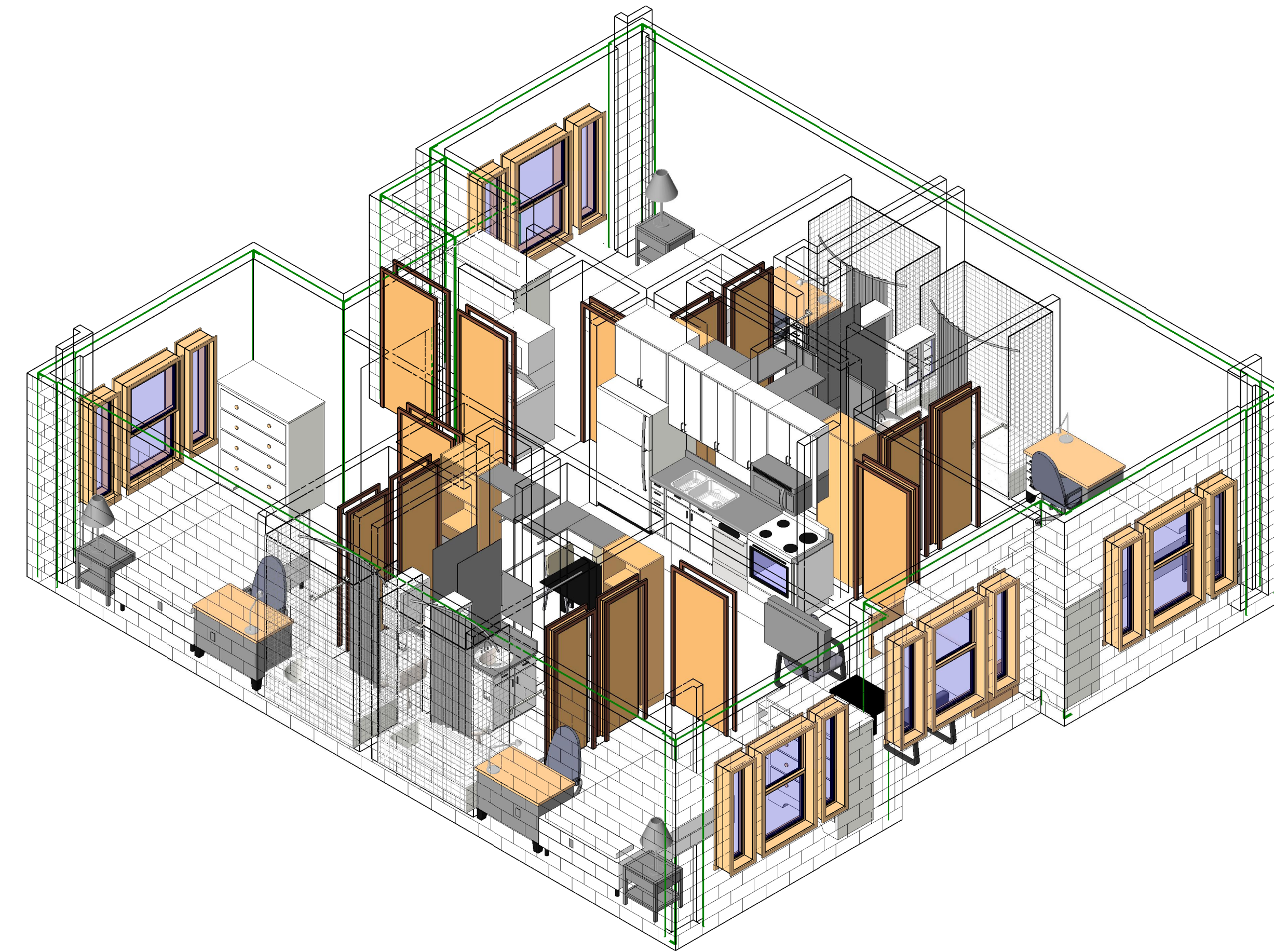
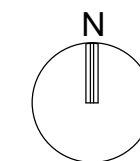
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Drawn By: SBW

Checked By: Checker

Drawing No.:

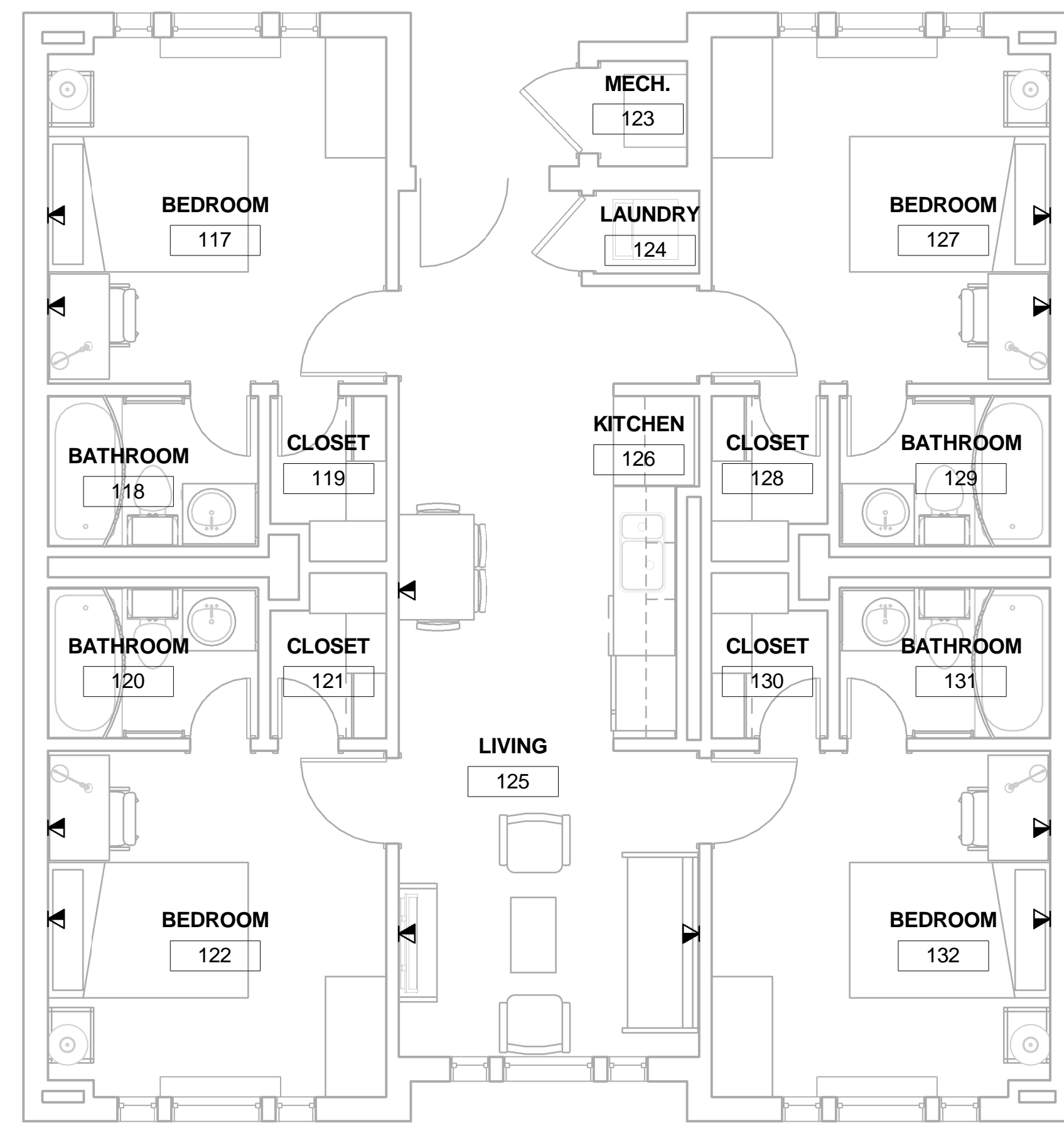
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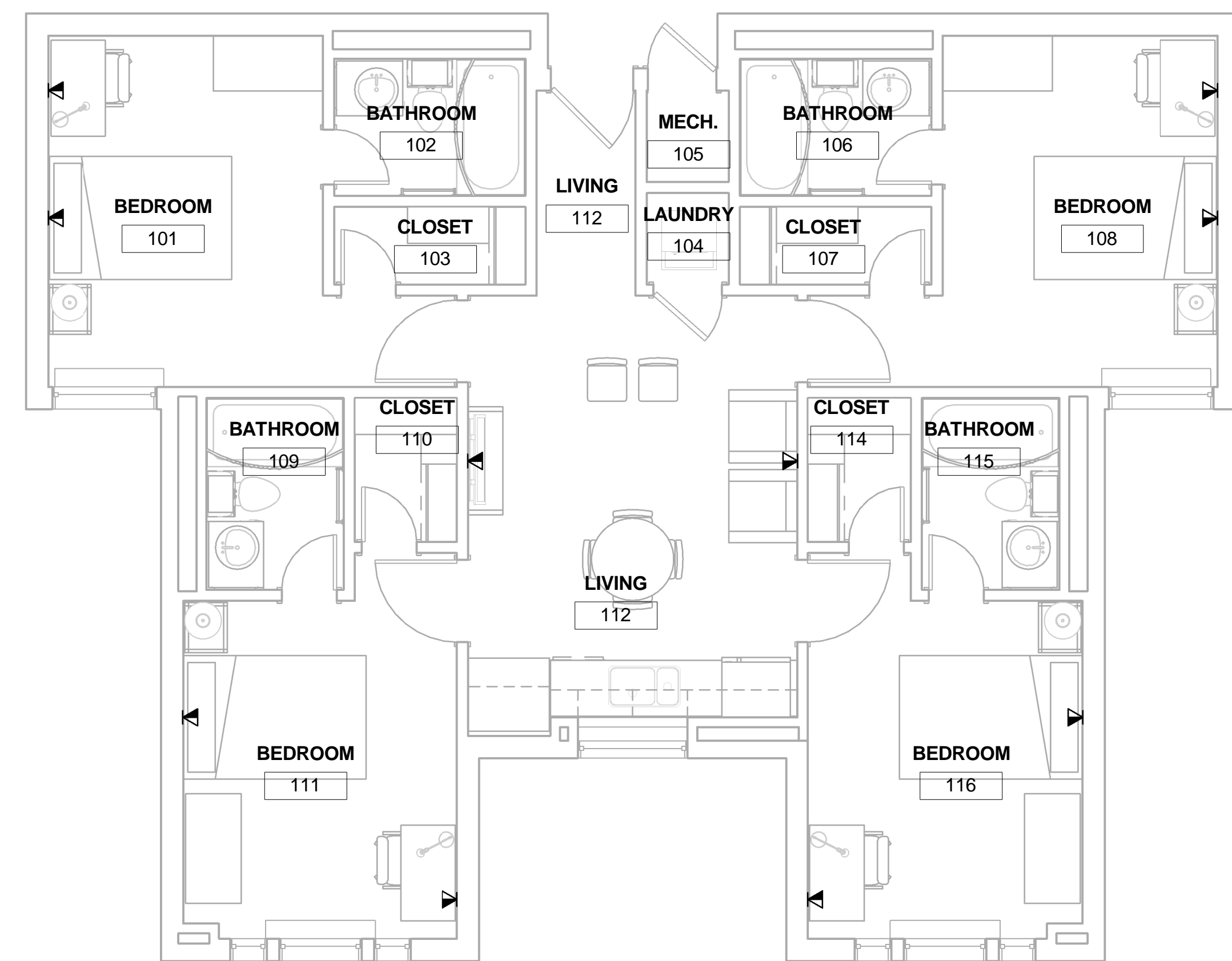
C3 PLAN B TELECOM AXON



A3 PLAN A TELECOM AXON



C1 PLAN B TELECOM PLAN
1/4" = 1'-0"



A1 PLAN A TELECOM PLAN
1/4" = 1'-0"

GENERAL NOTES

1. DATA OUTLETS ARE MOUNTED AT 18" AFF UNLESS OTHERWISE NOTED.

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AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE)
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

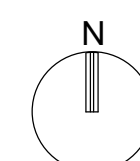
TELECOM PLANS/AXON

Date: May 11, 2009

Designed By: Designer Drawing No.:

Drawn By: SBW

Checked By: Checker T-102



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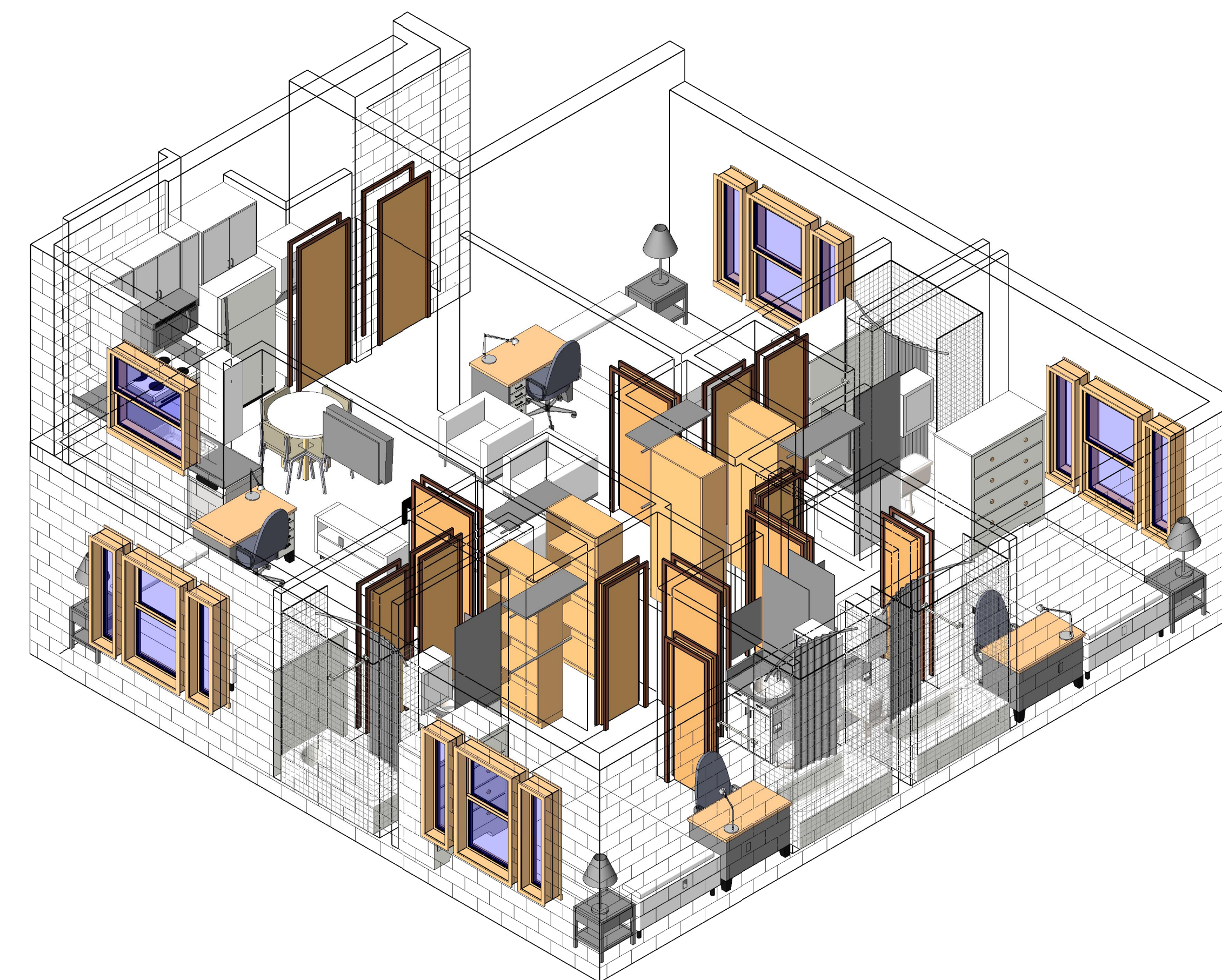
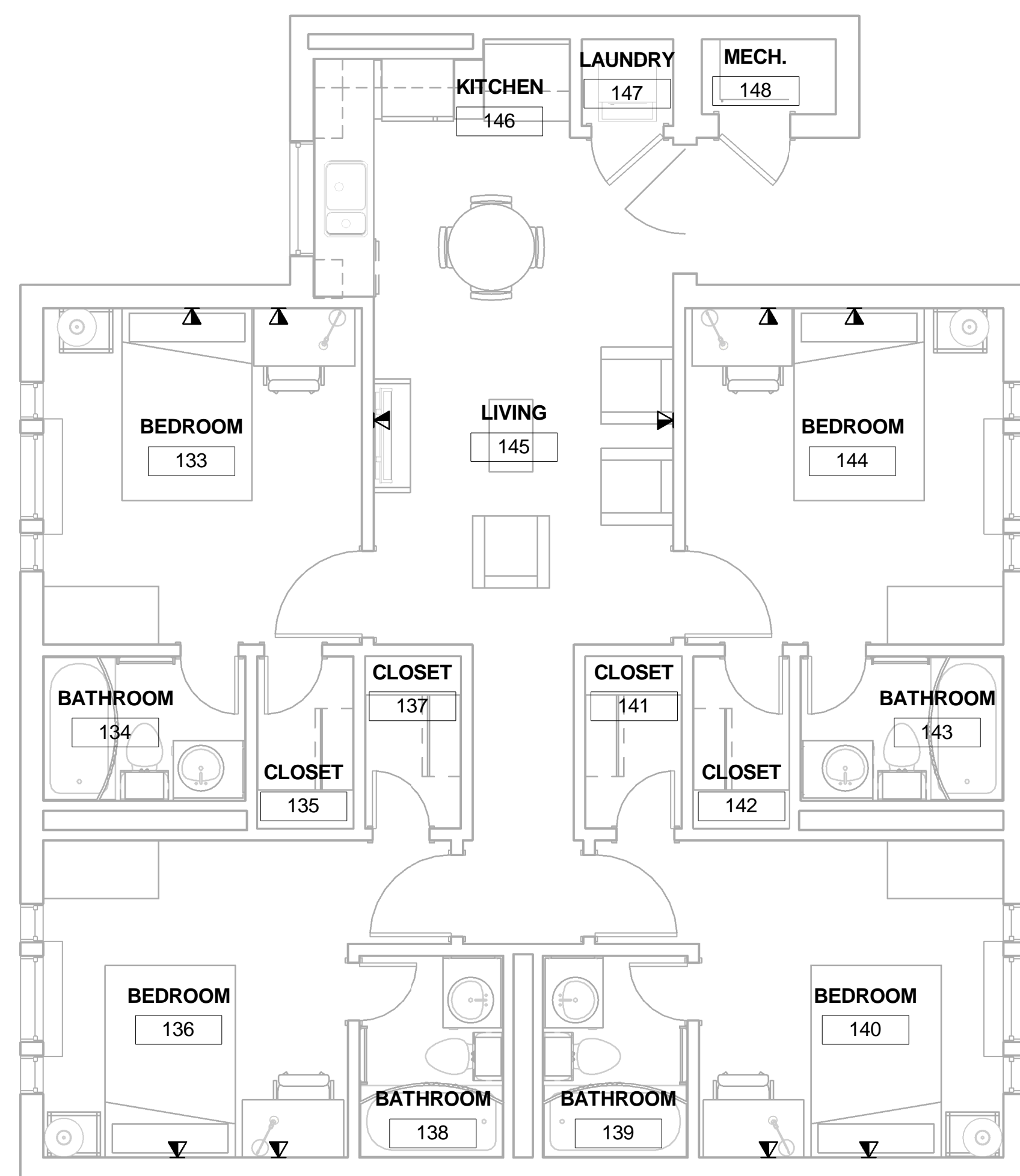
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




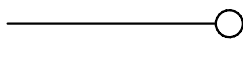
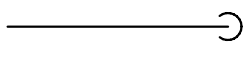
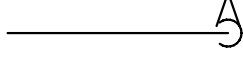
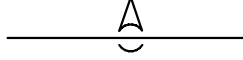
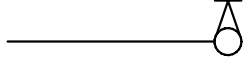
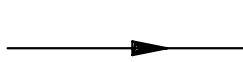
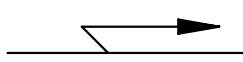
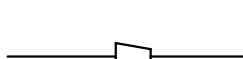




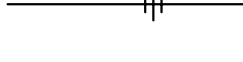
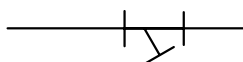
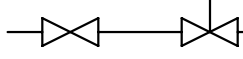

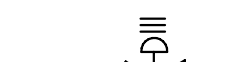
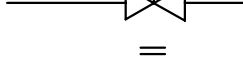
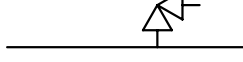






















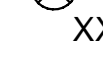






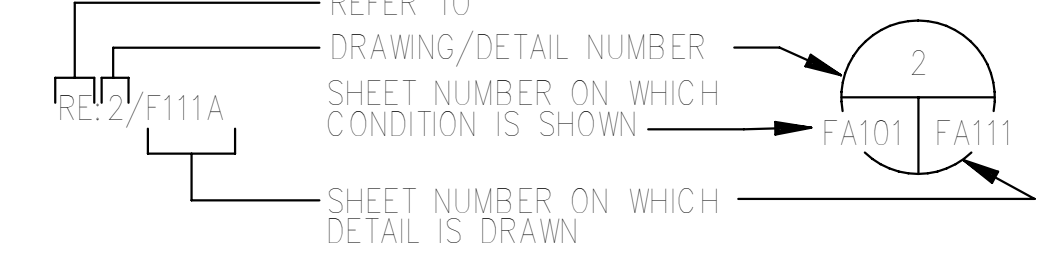
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A1 PLAN C TELECOM PLAN
1/4" = 1'-0"

A3 PLAN C TELECOM AXON

GENERAL NOTES AND SYMBOLS (ALL SYMBOLS SHOWN ARE NOT NECESSARILY USED ON THE DRAWINGS)		FIRE ALARM/MASS NOTIFICATION SYSTEM GENERAL NOTES					
FIRE SPRINKLER SYMBOLS  COMBINATION WET PIPE FIRE SPRINKLER/STANDPIPE SYSTEM RISER  FIRE VALVE CABINET WITH 2-1/2" HOSE VALVE  4" x 2 1/2" x 2 1/2" FIRE DEPARTMENT CONNECTION  INSPECTOR'S TEST CONNECTION/AUXILIARY DRAIN  TWO WAY BACKFLOW PREVENTER TEST HEADER  WALL POST INDICATOR VALVE WITH TAMPER SWITCH  RESIDENTIAL CONCEALED SPRINKLER WITH WHITE COVER PLATE		PIPING SYMBOLS  ELBOW UP  ELBOW DOWN  VALVE IN DROP  VALVE IN CENTER DROP  VALVE IN RISE  DIRECTION OF FLOW  DIRECTION OF SLOPE DOWN  CONCENTRIC REDUCER  ECCENTRIC REDUCER  TEE OUTLET UP  TEE OUTLET DOWN  UNION  STRAINER WITH BLOWDOWN VALVE  GATE VALVE  CHECK VALVE  PRESSURE CONTROL VALVE  RELIEF VALVE  PRESSURE GAUGE WITH GAUGE COCK  TEST PORT		FIRE SPRINKLER GENERAL NOTES <p>A. PROVIDE A COMPLETE COMBINATION/SPRINKLER STANDPIPE SYSTEM FOR THE ENTIRE BUILDING IN ACCORDANCE WITH 2007 NFPA 13, 2007 NFPA 13R, 2007 NFPA 14, 2006 IBC, 2006 IFC, UFC 3-600-01, AND SPECIFICATION SECTION 211313.</p> <p>B. REFER TO SPECIFICATIONS FOR MATERIALS AND QUALITY OF CONSTRUCTION.</p> <p>C. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR THE LOCATION OF ALL CEILING-MOUNTED DEVICES. FIELD VERIFY AND COORDINATE THE LOCATIONS OF ALL SYSTEM COMPONENTS INCLUDING PIPING, ALARMS, DRAINS, TEST POINTS, ETC. WITH ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL EQUIPMENT WITHIN THE BUILDING.</p> <p>D. PROVIDE SLEEVES AND WALL PLATES FOR ALL PENETRATIONS THROUGH WALLS OR FLOORS THAT MIGHT INCLUDE DRILLING THROUGH CONCRETE, METAL, SHEETROCK, OR OTHER MATERIALS. FIELD VERIFY APPROXIMATE WALL AND FLOOR PENETRATIONS SHOWN ON THE PLANS. SEAL ALL PENETRATIONS IN RATED SEPARATION TO MEET THE MINIMUM FIRE RATING OF THE WALL OR FLOOR IN ACCORDANCE WITH SPECIFICATION SECTION 078413.</p> <p>E. THE TOTAL CALCULATED WATER DEMAND FOR THIS OCCUPANCY IS EQUAL TO THE SUM OF THE SPRINKLER SYSTEM DEMAND PLUS THE COMBINED HOSE STREAM ALLOWANCE REQUIRED PER UFC 3-600-01.</p> <p>F. COORDINATE THE LOCATION OF RISERS, DRAINS, TEST CONNECTIONS, AND OTHER SPRINKLER SYSTEM COMPONENTS WITH ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL PORTIONS OF THE BUILDING.</p> <p>G. UTILIZE THE WATER FLOW TEST DATA BELOW FOR PREPARING HYDRAULIC CALCULATIONS. VERIFY THAT THE PROPOSED SPRINKLER SYSTEMS DEMAND CAN BE SATISFIED BY THE BASE WATER SUPPLY.</p> <p>H. HYDRAULICALLY CALCULATE THE WET PIPE FIRE SPRINKLER SYSTEM IN ACCORDANCE WITH THE FOLLOWING NFPA 13, NFPA 13R, AND UFC 3-600-01 DESIGN CRITERIA:</p> <p>OFFICE, ACADEMIC, AND COMMON AREAS: 0.10 GPM/SQ FT DENSITY OVER THE MOST REMOTE 3,000 SQUARE FEET, WHICH MAY BE REDUCED IN ACCORDANCE WITH UFC 3-600-01 SECTION 4-2.3.3.3 WHEN UTILIZING QUICK RESPONSE SPRINKLERS, AND MAXIMUM SPRINKLER SPACING OF 225 SQUARE FEET PLUS A HOSE STREAM ALLOWANCE OF 250 GPM FOR A LIGHT HAZARD OCCUPANCY.</p> <p>ELECTRICAL, MECHANICAL ROOMS, STORAGE ROOMS, LAUNDRY AREA: 0.15 GPM/SQ FT DENSITY OVER THE MOST REMOTE 3,000 SQUARE FEET, WHICH MAY BE REDUCED IN ACCORDANCE WITH UFC 3-600-01 SECTION 4-2.3.3.3 WHEN UTILIZING QUICK RESPONSE SPRINKLERS, AND MAXIMUM SPRINKLER SPACING OF 130 SQUARE FEET PLUS A HOSE STREAM ALLOWANCE OF 500 GPM FOR AN ORDINARY HAZARD GROUP 1 OCCUPANCY.</p> <p>DWELLING UNITS AND DORMITORY CORRIDORS: CALCULATIONS TO INCLUDE A MAXIMUM OF FOUR MOST HYDRAULICALLY DEMANDING RESIDENTIAL SPRINKLERS WITHIN A COMPARTMENT PER NFPA 13R. SPRINKLERS ARE TO BE CALCULATED ACCORDING TO THE MANUFACTURER'S GUIDELINES UTILIZING THE LARGEST SPRINKLER COVERAGE WITHIN A COMPARTMENT.</p> <p>I. PROVIDE MANUAL WET CLASS I STANDPIPES WITH 2-1/2" HOSE VALVES FOR ALL INTERIOR STAIRWELLS. THE STANDPIPES ARE TO BE SIZED TO PROVIDE 100 PSI AT THE MOST HYDRAULICALLY REMOTE HOSE VALVE PER NFPA 14 SECTIONS 7.7.3 AND 5.4.1.1 THROUGH THE FIRE DEPARTMENT CONNECTION ONLY UTILIZING A FIRE DEPARTMENT PUMPER TRUCK.</p> <p>J. PROVIDE QUICK RESPONSE CONCEALED PENDENT SPRINKLERS WITH WHITE COVER PLATES FOR AREAS OTHER THAN DORMITORY ROOMS AND ASSOCIATED CORRIDORS WITH TILE OR GYP BOARD CEILINGS. CENTER SPRINKLERS IN THE LESSER DIMENSION OF CEILING TILE, AND ALIGN SPRINKLERS WITH LIGHT FIXTURES FOR GYP BOARD CEILINGS. PROVIDE RESIDENTIAL CONCEALED PENDENT SPRINKLERS WITH WHITE COVER PLATES FOR ALL DORMITORY ROOMS AND ASSOCIATED CORRIDORS. IN ALL AREAS WITHOUT SUSPENDED CEILINGS, PROVIDE QUICK RESPONSE BRASS UPRIGHT SPRINKLERS.</p> <p>K. PROVIDE HANGERS AND SEISMIC BRACING AS REQUIRED PER NFPA 13 AND UFC 4-010-01.</p> <p>L. PROVIDE BLACK SCHEDULE 40 FOR 2" AND SMALLER PIPING, AND SCHEDULE 10 FOR 2-1/2" AND LARGER PIPING. CONTRACTOR TO CONDUCT WATER SUPPLY ANALYSIS TO UTILIZE THREADED FITTINGS FOR SCHEDULE 40 PIPING AND ROLL GROOVED FITTINGS FOR SCHEDULE 10 PIPING. CPVC PIPING LISTED FOR FIRE PROTECTION USE MAY BE UTILIZED IN RESIDENTIAL AND LIGHT HAZARD AREAS OF THE BUILDING PER NFPA 13 AND NFPA 13R WHEN INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.</p> <p>M. PROVIDE COMPLETE DOCUMENTS FOR APPROVAL FROM AFCEE, LOCAL FIRE DEPARTMENT, AND THE DESIGN/BUILD FIRE PROTECTION ENGINEER. INCLUDE IN THE DRAWINGS ANY ADDITIONAL EQUIPMENT NECESSARY TO COMPLETE THE INSTALLATION AND COMPLY WITH APPLICABLE CODES AND AMENDMENTS.</p> <p>N. PROVIDE AUXILIARY DRAINAGE FOR ALL TRAPPED SECTIONS OF PIPE.</p> <p>O. PROVIDE ACCESS DOORS AND SIGNAGE WHERE ACCESS IS REQUIRED TO CONCEAL SPRINKLER EQUIPMENT, VALVES, AND CONTROLS LOCATED IN WALLS OR ABOVE CEILINGS AS APPROVED BY THE OWNER.</p>		GENERAL NOTES <p>A. PERFORM ALL DESIGN AND INSTALLATION WORK IN ACCORDANCE WITH 2007 NFPA 72, UFC 3-600-01, UFC 4-021-01, UFAS, AND SPECIFICATIONS 275116 AND 283111.</p> <p>B. RUN ALL WIRING IN MINIMUM 3/4" CONDUIT.</p> <p>C. MOUNT ALL NOTIFICATION DEVICES WITH THE BOTTOM OF THE STROBE LENS AT 80" AFF, OR 6" BELOW THE CEILING, WHICHEVER IS LOWER. PER NFPA 72 AND UFAS.</p> <p>D. MOUNT THE OPERABLE PART OF MANUAL PULL STATIONS AT 48" AFF.</p> <p>E. PROVIDE POWER LIMITED CIRCUITS.</p> <p>F. DO NOT LOCATE DETECTORS IN DIRECT AIR OR CLOSER THAN 3 FEET FROM AN AIR SUPPLY OR RETURN DIFFUSER.</p> <p>G. PROVIDE CONNECTIONS TO THE LIGHT AND POWER SERVICE IN ACCORDANCE WITH 2007 NFPA 72.</p> <p>H. PROVIDE 16 AWG MINIMUM INITIATING DEVICE AND SIGNALING LINE CIRCUITS.</p> <p>I. PROVIDE 16 AWG MINIMUM NOTIFICATION DEVICE CIRCUITS.</p> <p>J. PROVIDE CLASS "A", STYLE 6 SIGNALING LINE CIRCUITS. PROVIDE CLASS "A", INITIATING DEVICE CIRCUITS. PROVIDE CLASS "A", NOTIFICATION APPLIANCE CIRCUITS.</p> <p>K. THESE DOCUMENTS DEPICT PERFORMANCE DESIGN ONLY. PROVIDE COMPLETE DOCUMENTS FOR APPROVAL FROM AFCEE, LOCAL FIRE DEPARTMENT, AND THE DESIGN/BUILD FIRE PROTECTION ENGINEER. INCLUDE IN THE DRAWINGS ANY ADDITIONAL EQUIPMENT NECESSARY TO COMPLETE THE INSTALLATION AND COMPLY WITH APPLICABLE CODES AND AMENDMENTS.</p> <p>L. PROVIDE STROBES AND SPEAKER/STROBES WITH WHITE FACEPLATES THROUGHOUT THE BUILDING. FIRE ALARM STROBES TO BE MARKED WITH "FIRE" AND MASS NOTIFICATION STROBES TO BE MARKED WITH "ALERT" AS SPECIFIED. SPEAKERS SHOWN ON THE DRAWINGS ARE TO BE SHARED BY THE FIRE ALARM AND MASS NOTIFICATION SYSTEMS FOR AUDIBLE NOTIFICATION. PROVIDE ADDITIONAL SPEAKERS AS NECESSARY TO MEET THE AUDIBILITY REQUIREMENTS OF NFPA 72 SECTION 7.4.</p> <p>M. LOCATE MASS NOTIFICATION DEVICES IN ACCORDANCE WITH NFPA 72 FOR VISIBLE AND AUDIBLE NOTIFICATION DEVICES. UPON ACTIVATION OF THE MASS NOTIFICATION SYSTEM, TEMPORARILY DEACTIVATE FIRE ALARM SYSTEM AUDIBLE SIGNALS DURING EMERGENCY VOICE MESSAGING. FIRE ALARM VISUALS AND SIGNAL TRANSMISSION TO THE BASE FIRE DEPARTMENT ARE TO REMAIN FUNCTIONAL. REACTIVATE THE FIRE ALARM AUDIBLES AFTER THE MESSAGE IS COMPLETED.</p> <p>N. PROVIDE A TELEPHONE SYSTEM INPUT FOR THE MASS NOTIFICATION SYSTEM TO ALLOW THE MASS NOTIFICATION SPEAKERS TO BE UTILIZED FOR PA SYSTEM ANNOUNCEMENTS.</p>	
FIRE ALARM/MASS NOTIFICATION SYMBOLS  ADDRESSABLE FIRE ALARM CONTROL PANEL  FIRE ALARM REMOTE POWER SUPPLY  MANUAL PULL STATION  PHOTOELECTRIC SMOKE DETECTOR  ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR WITH SOUNDER BASE-INTERCONNECTED IN MULTIPLE ROOM DWELLING UNITS  WALL MOUNTED COMBINATION MASS NOTIFICATION AND FIRE ALARM STROBE. CONTAINS AMBER STROBE LENS FOR MASS NOTIFICATION AND CLEAR STROBE LENS FOR FIRE ALARM SYSTEM. (NUMBER INDICATES MINIMUM FIRE ALARM STROBE CANDELA, "MN" ABOVE NUMBER INDICATES MINIMUM MASS NOTIFICATION CANDELA. NOTE: MASS NOTIFICATION CANDELA RATING SHOWN IS DERATED FOR AMBER STROBE LENS).  WALL MOUNTED COMBINATION MASS NOTIFICATION AND FIRE ALARM SPEAKER/STROBE. CONTAINS AMBER STROBE LENS FOR MASS NOTIFICATION AND CLEAR STROBE LENS FOR FIRE ALARM SYSTEM. SPEAKER TO BE SHARED BY FIRE ALARM AND MASS NOTIFICATION SYSTEMS FOR AUDIBLE NOTIFICATION. (NUMBER INDICATES MINIMUM FIRE ALARM STROBE CANDELA, "MN" ABOVE NUMBER INDICATES MINIMUM MASS NOTIFICATION CANDELA. NOTE: MASS NOTIFICATION CANDELA RATING SHOWN IS DERATED FOR AMBER STROBE LENS).  CEILING MOUNTED COMBINATION MASS NOTIFICATION AND FIRE ALARM SPEAKER WITH SEPARATE CEILING MOUNTED FIRE ALARM/MASS NOTIFICATION AND CLEAR STROBE LENS IS FOR FIRE ALARM SYSTEM. SPEAKER TO BE SHARED BY FIRE ALARM AND MASS NOTIFICATION SYSTEMS FOR AUDIBLE NOTIFICATION. (NUMBER INDICATES MINIMUM FIRE ALARM STROBE CANDELA, "MN" ABOVE NUMBER INDICATES MINIMUM MASS NOTIFICATION CANDELA. NOTE: MASS NOTIFICATION CANDELA RATING SHOWN IS DERATED FOR AMBER STROBE LENS).  CEILING MOUNTED FIRE ALARM STROBE WITH CLEAR LENS (NUMBER INDICATES MINIMUM CANDELA)  CEILING MOUNTED MASS NOTIFICATION STROBE WITH AMBER LENS (NUMBER INDICATES MINIMUM CANDELA)  CEILING MOUNTED FIRE ALARM/MASS NOTIFICATION SPEAKER. SPEAKER TO BE SHARED BY FIRE ALARM AND MASS NOTIFICATION SYSTEMS FOR AUDIBLE NOTIFICATION.  EXTERIOR WALL MOUNTED WEATHERPROOF MASS NOTIFICATION LOUDSPEAKER  WATER FLOW SWITCH  TAMPER SWITCH  THERMAL DETECTOR (190° FIXED TEMPERATURE)  RETURN DUCT DETECTOR (SUPPLIED BY FIRE ALARM CONTRACTOR; INSTALLED BY MECHANICAL CONTRACTOR)  SUPPLY DUCT DETECTOR (SUPPLIED BY FIRE ALARM CONTRACTOR; INSTALLED BY MECHANICAL CONTRACTOR)  LCD ANNUNCIATOR  MASS NOTIFICATION SYSTEM CONTROL PANEL WITH AUTONOMOUS CONTROL UNIT  MONACO BT-X FIRE ALARM SIGNAL RADIO TRANSMITTER  LOCAL OPERATOR CONSOLE WITH MICROPHONE  CONTROL RELAY  ADDRESSABLE MONITOR MODULE  ADDRESSABLE CONTROL MODULE  OMNI-DIRECTIONAL FIRE ALARM ANTENNA		MISCELLANEOUS  POINT OF NEW CONNECTION TO EXISTING PIPING  CALCULATION NODE POINT (2 NODES)  CALCULATION NODE POINT (1 NODE)  NOTE BY SYMBOL REFERENCE		DRAWING REFERENCE KEY  <p>REFER TO DRAWING/DETAIL NUMBER SHEET NUMBER ON WHICH CONDITION IS SHOWN</p> <p>SHEET NUMBER ON WHICH DETAIL IS DRAWN</p>		WATER FLOW TEST DATA <p>TEST DATE: 00/00/09 BY: JACOBS</p> <p>LOCATION: NEAR SITE STATIC PRESSURE: 72 PSI</p> <p>OUTLETS FLOWING: 1 RESIDUAL PRESSURE: 70 PSI</p> <p>OUTLET DIAMETER: 2.5" PITOT PRESSURE: 60 PSI</p> <p>OUTLET COEFFICIENT: 0.9 DISCHARGE FLOW: 1,300 GPM</p>	

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Revision:
Date: By: Description:

**AIR FORCE CENTER FOR ENGINEERING AND THE
ENVIRONMENT (AFCEE)
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR
DORMITORIES**

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

**FIRE PROTECTION
PLANS**

Date: 11 MAY 2009

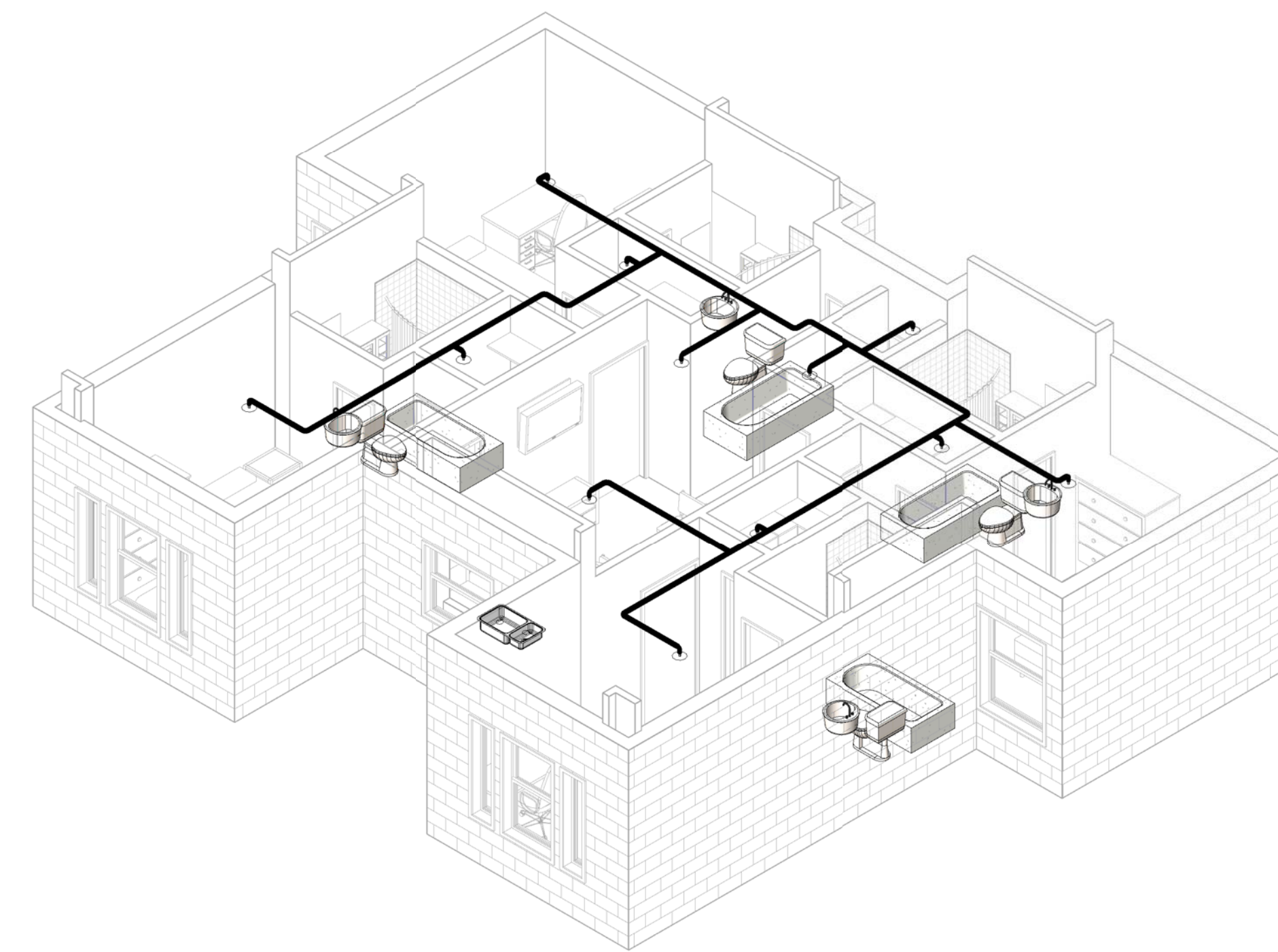
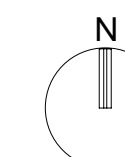
Designed By: Designer

Drawn By: Author

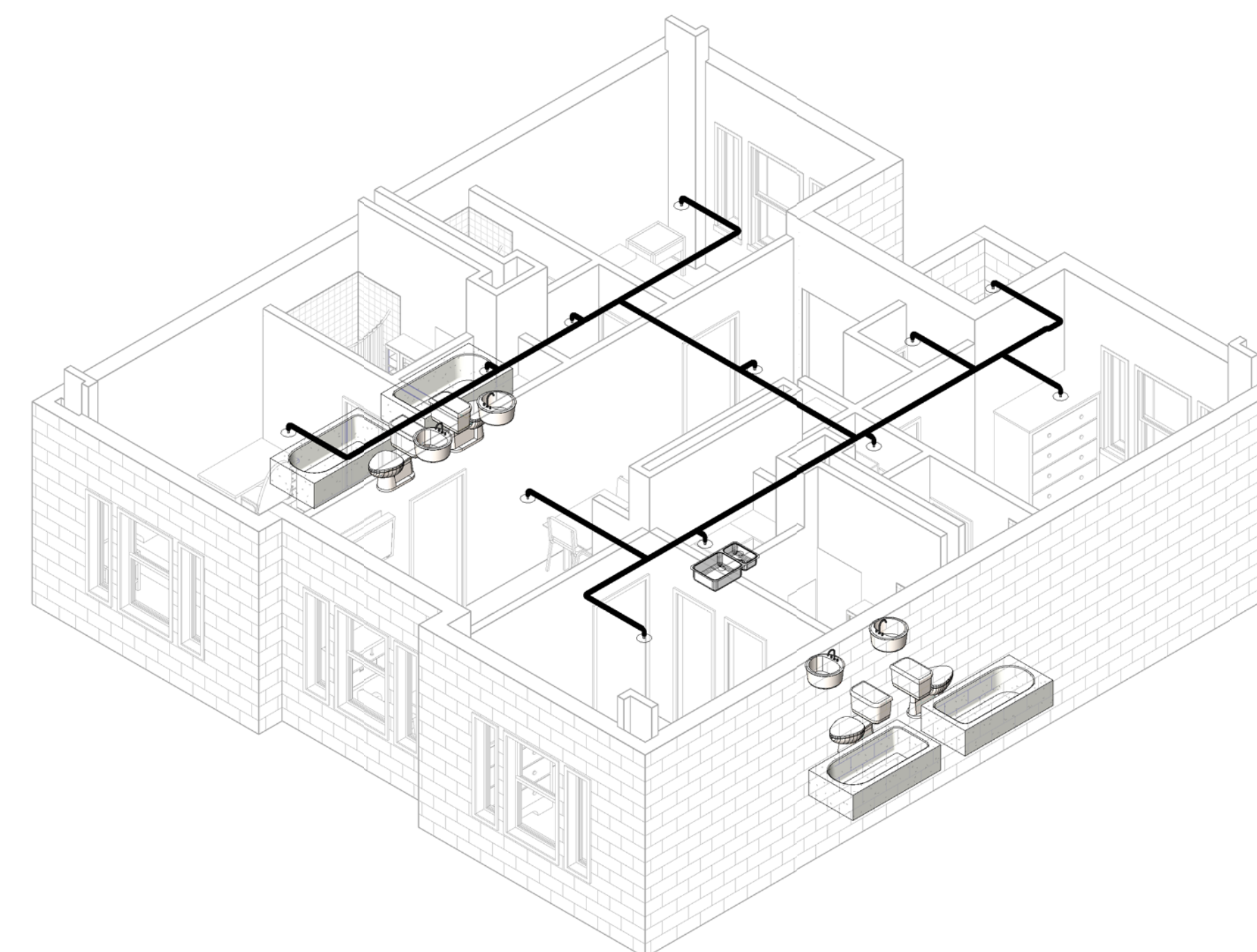
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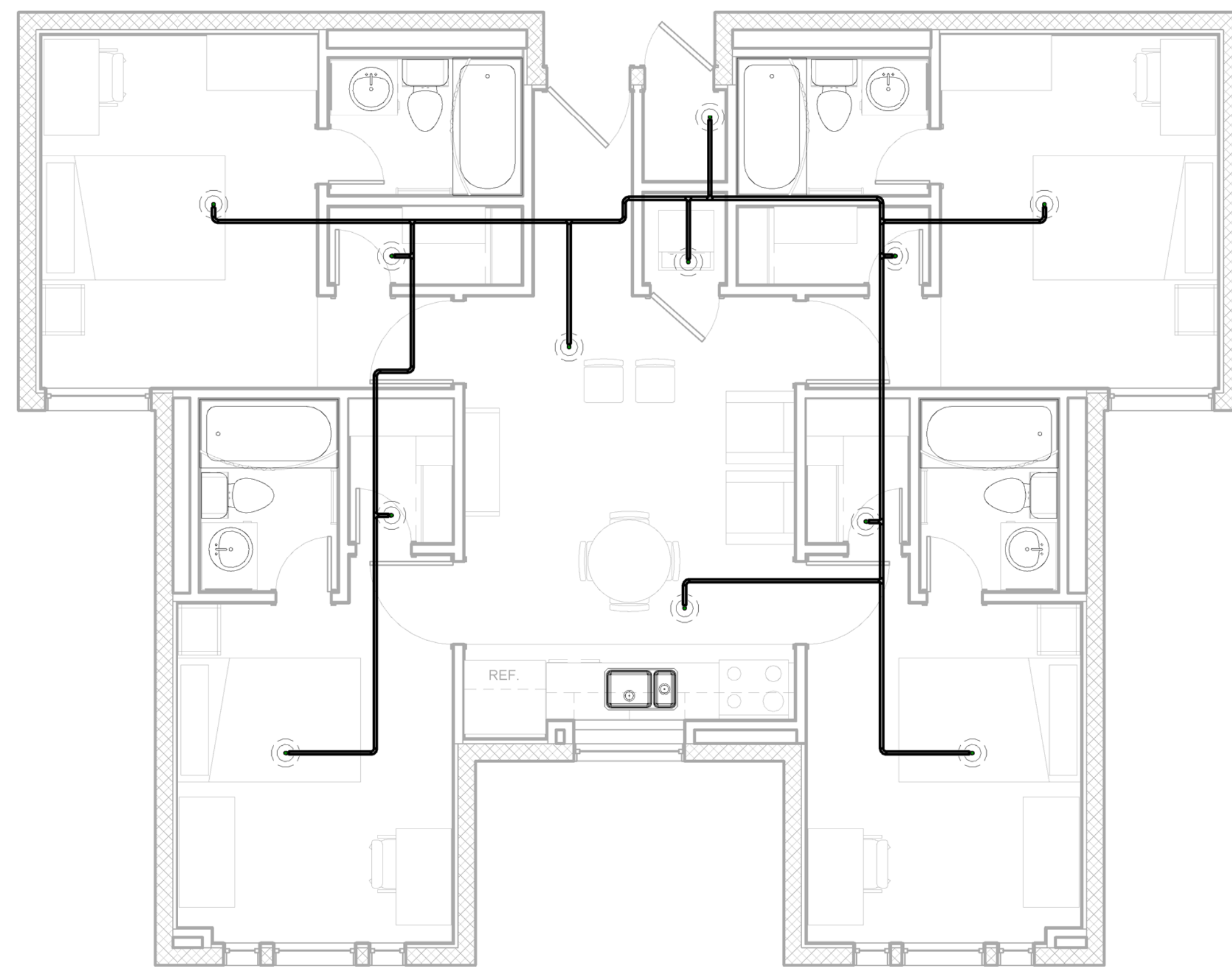
FP01



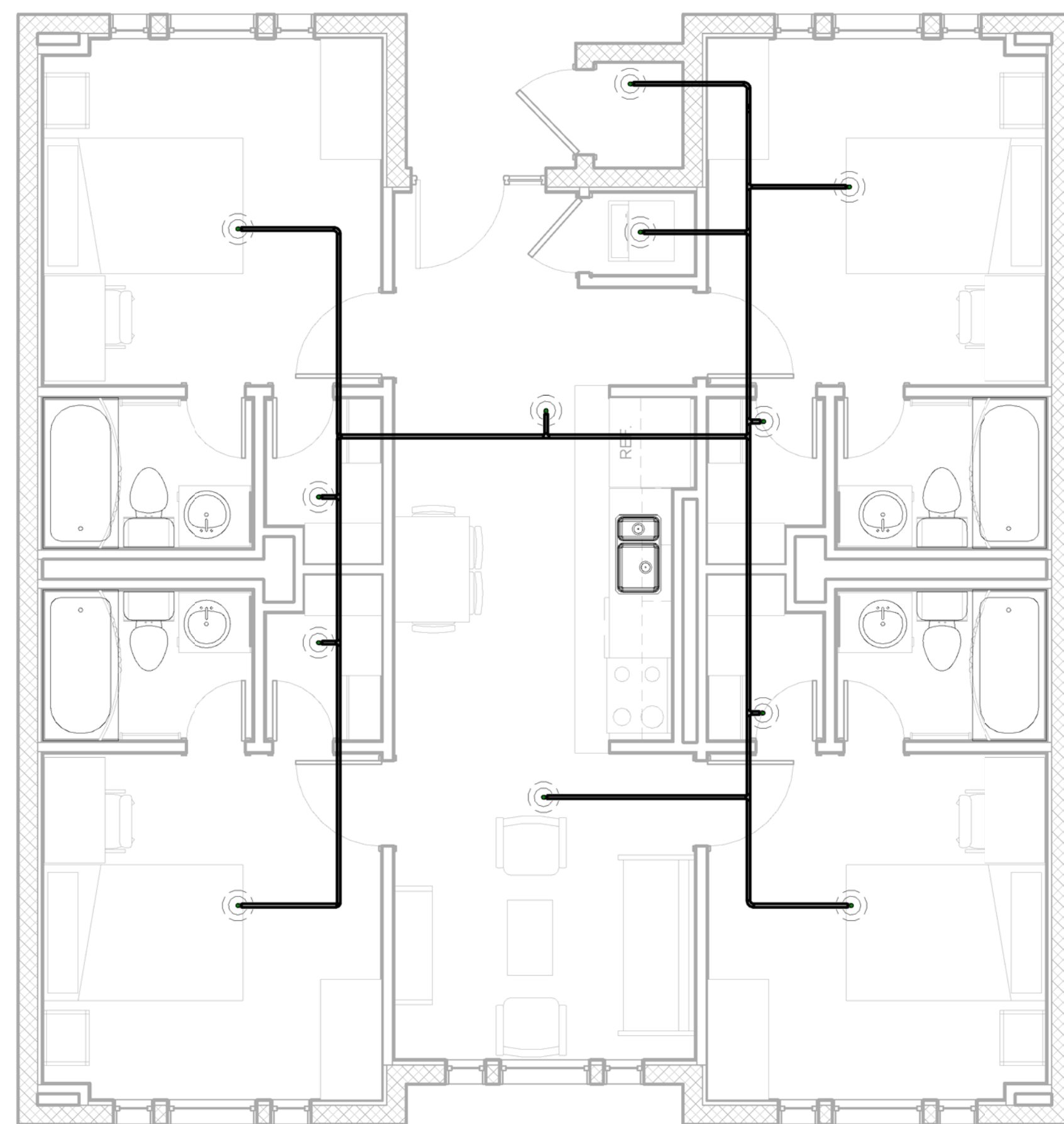
③ 3D FIRE PROTECTION A



④ 3D FIRE PROTECTION B



① 1 - FIRE PROTECTION A
1/4" = 1'-0"



② 1 - FIRE PROTECTION B
1/4" = 1'-0"

**AIR FORCE CENTER FOR ENGINEERING AND THE
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FACILITIES DYNAMIC PROTOTYPES DESIGN FOR
DORMITORIES**

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

**FIRE PROTECTION
PLANS**

Date: 11 MAY 2009

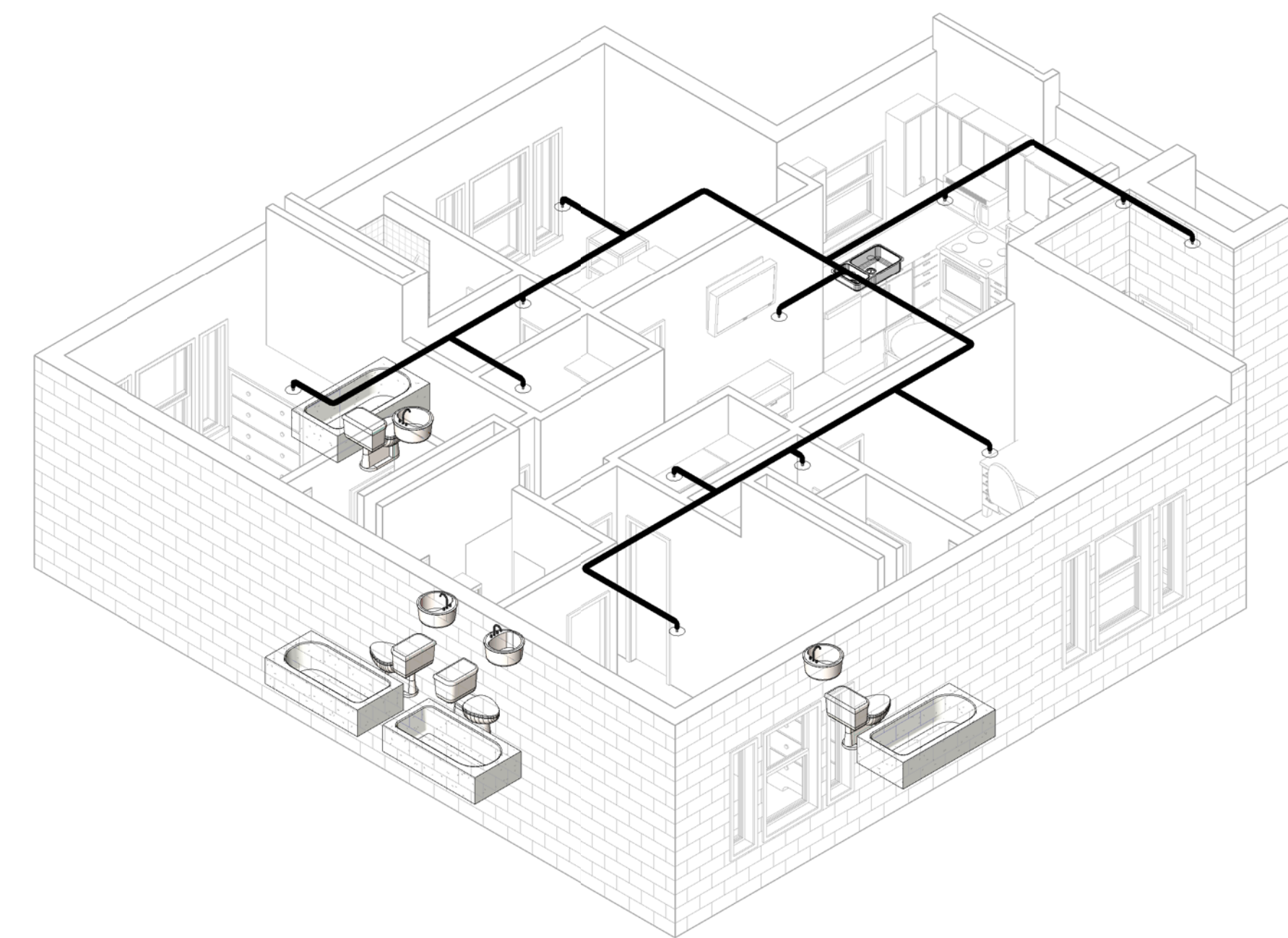
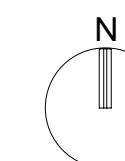
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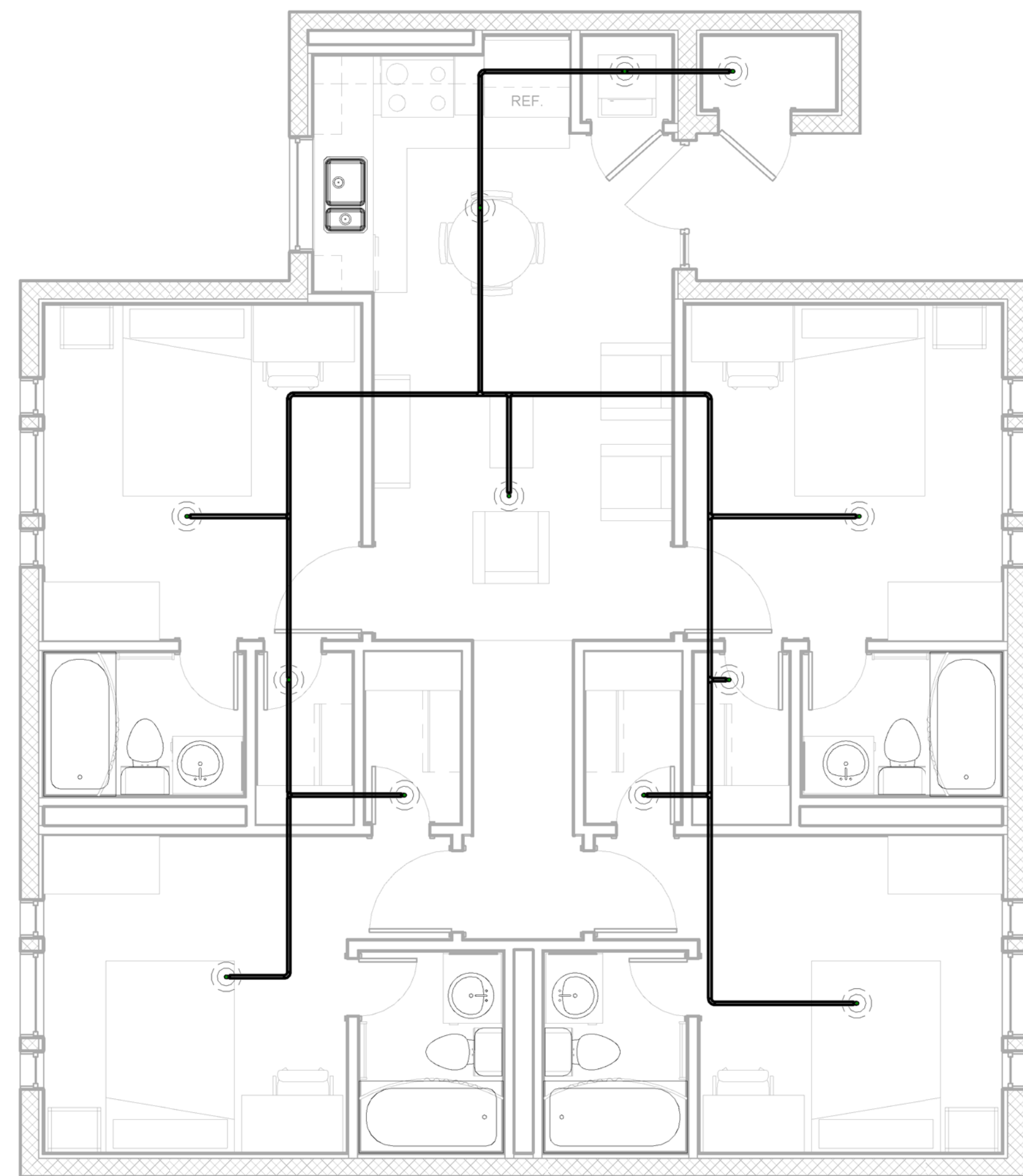
Checked By: Checker

Drawing No.:

FP02



② 3D FIRE PROTECTION C



① 1 - FIRE PROTECTION C
1/4" = 1'-0"

D
C
B
A

1 2 3 4 5

1 DUCTWORK SYMBOLS

2 EQUIPMENT SYMBOLS

3 SYMBOLS

4 EQUIPMENT ABBREVIATIONS

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AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE) FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

DESCRIPTION	SINGLE LINE	DOUBLE LINE
ACCESS DOOR		
BACKDRAFT DAMPER		
FIRE DAMPER		
SMOKE DAMPER		
COMBINATION FIRE/SMOKE DAMPER		
FLEXIBLE CONNECTION		
MOTORIZED DAMPER		
CONTROL DAMPER		
VOLUME DAMPER, MANUAL		
STATIC PRESSURE MEASURING STATION		
DUCT ELBOW WITH TURNING VANES		
DUCT SECTION - SUPPLY AIR		
DUCT SECTION - RETURN, OUTSIDE, OR RELIEF AIR		
DUCT SECTION - EXHAUST AIR		
DUCT, INCLINED DROP		
DUCT, INCLINED RISE		
FLEXIBLE DUCT - ROUND		
DUCT TRANSITION		
DUCT TRANSITION (SQUARE OR RECTANGULAR TO ROUND)		
RECTANGULAR DUCT, SIZE IN INCHES, FIRST DIMENSION IS SIDE SHOWN (NET CLEAR INSIDE DIMENSION)		
ROUND DUCT, DIAMETER IN INCHES, (NET CLEAR INSIDE DIMENSION)		
AIR FLOW IN DIRECTION OF ARROW		
45° BRANCH TAKE-OFFS		
CONICAL LATERAL BRANCH TAKE-OFFS		
CEILING SUPPLY DIFFUSERS		
CEILING RETURN GRILLE/REGISTER		
CEILING EXHAUST GRILLE/REGISTER		
SIDEWALL SUPPLY GRILLE/REGISTER		
SIDEWALL RETURN/EXHAUST GRILLE/REGISTER		
EXTRACTOR		
DUCT TEE WITH SPLITTER DAMPER		
DOOR UNDERCUT		
DOOR LOUVER		

SYMBOL	DESCRIPTION
	MISC. EQUIPMENT
	VARIABLE AIR VOLUME BOX
	CHILLER
	HORIZONTAL SPLIT-CASE PUMP
	VERTICAL INLINE PUMP
	END-SUCTION PUMP
	BOILER

	KEYED NOTE
	DUCT SMOKE DETECTOR
	NEW CONNECTION TO EXISTING
	CARBON MONOXIDE MONITOR
	CARBON DIOXIDE (CO2) SENSOR
	HUMIDISTAT
	PRESSURE SENSOR
	THERMOSTAT (MOUNT 48" AFF)
	TEMPERATURE SENSOR (MOUNT 48" AFF)
	NIGHT THERMOSTAT
	ALARM STROBE
	DIFFUSER, GRILLE OR REGISTER MARK (REF SCHEDULE)
	CFM
	NECK SIZE (IF NOT ON SCHEDULE)
	EQUIPMENT MARK (REF SCHEDULE)
	DETAIL DESIGNATION LOCATOR/DESCRIPTOR
	DRAWING WHERE DETAIL IS SHOWN OR WHERE DETAIL IS REFERENCED
	SECTION CUT LOCATOR/DESCRIPTOR
	DRAWING WHERE DETAIL IS SHOWN OR WHERE DETAIL IS REFERENCED

B	BOILER
CH	CHILLER
FCU	FAN COIL UNIT
FTR	FIN TUBE RADIATION
P	PUMP
VAV	VARIABLE AIR VOLUME BOX

Scales: 12" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

Mechanical Symbols

Date: May 11, 2009

Designed By: Designer

Drawn By: Author

Checked By: Checker

Drawing No.:

M00

**AIR FORCE CENTER FOR ENGINEERING AND THE
ENVIRONMENT (AFCEE)
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR
DORMITORIES**

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

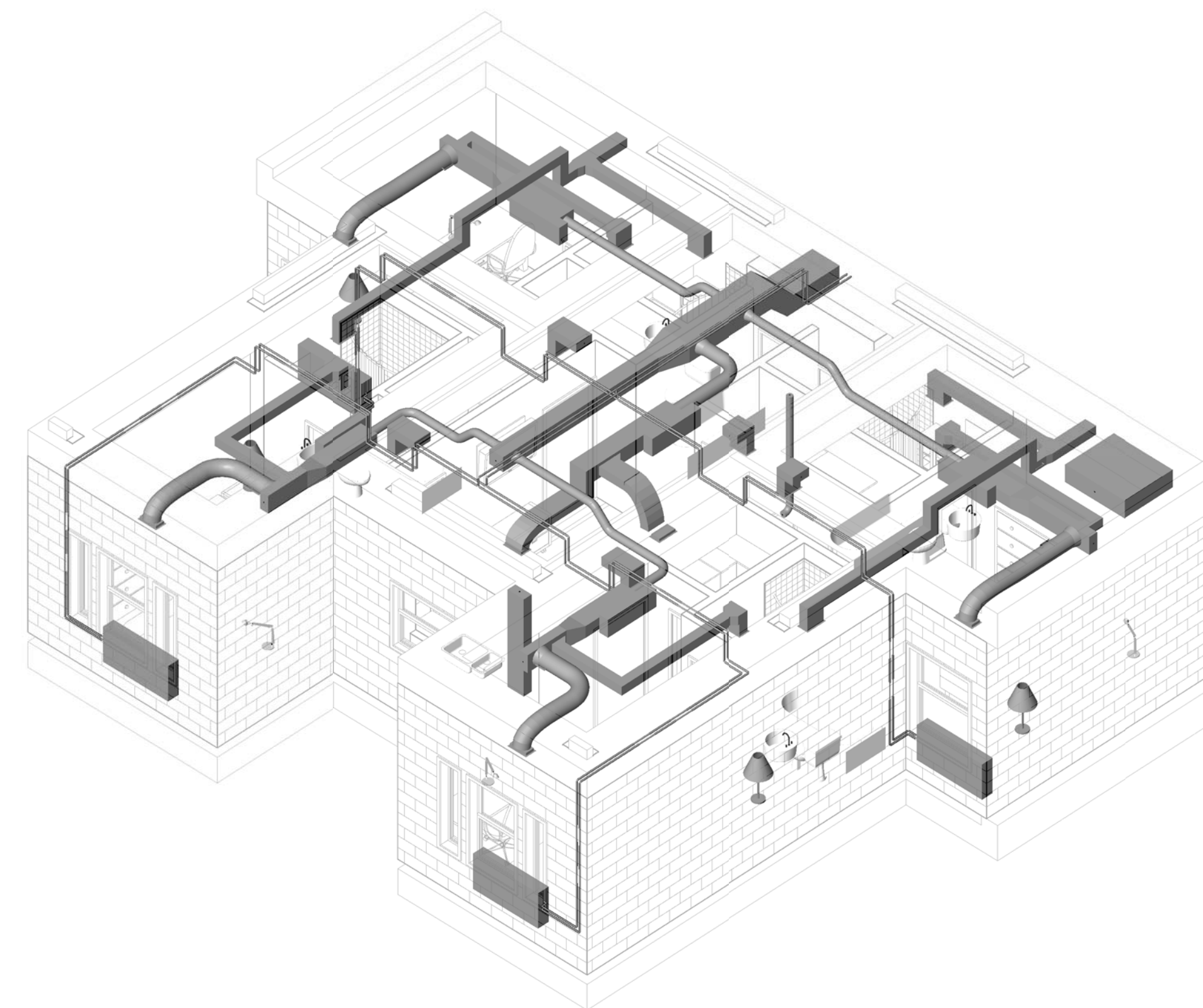
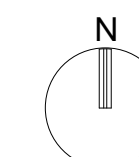
Cold/Arid

Date: May 11, 2009

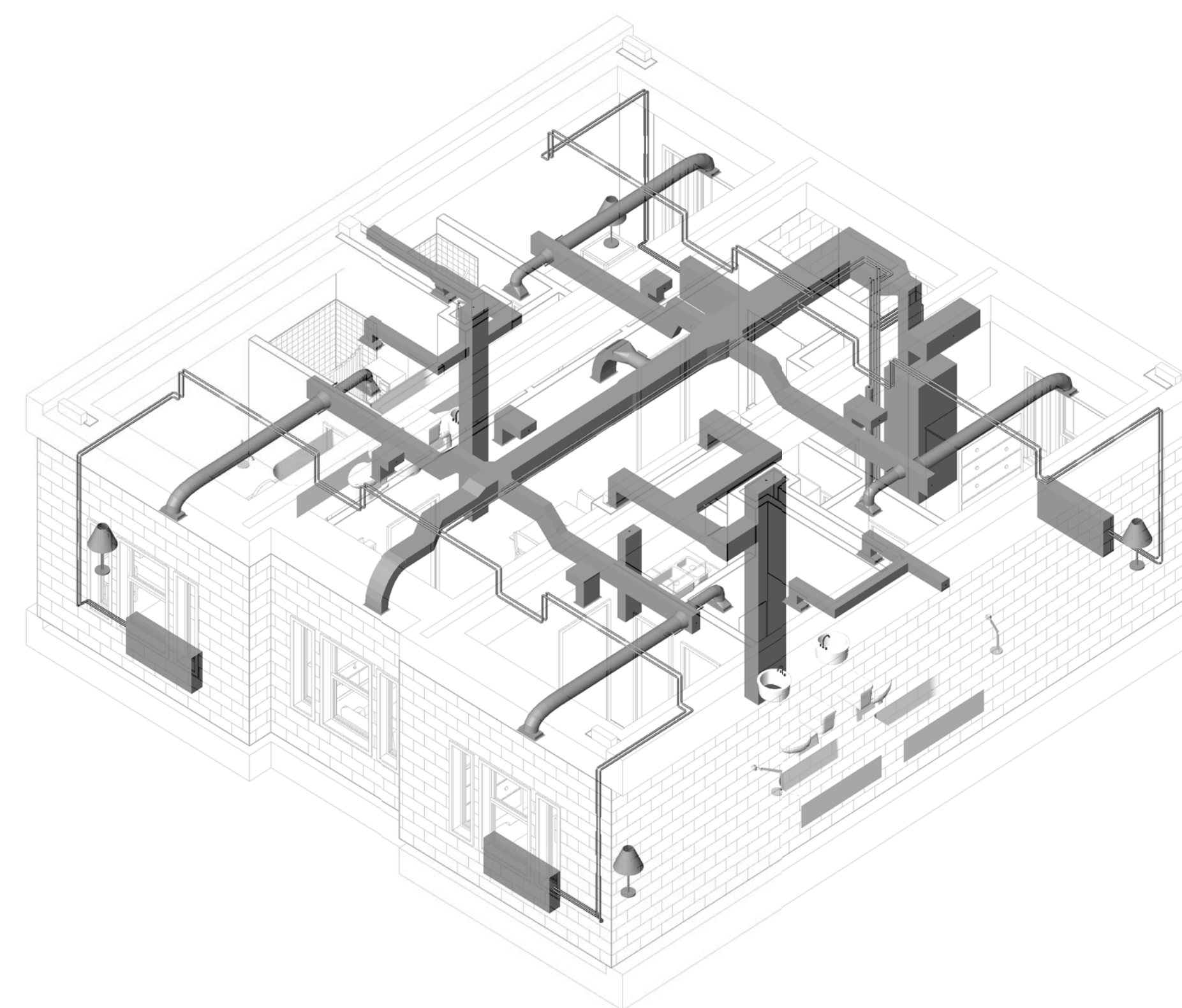
Designed By: Designer Drawing No.:

Drawn By: Author

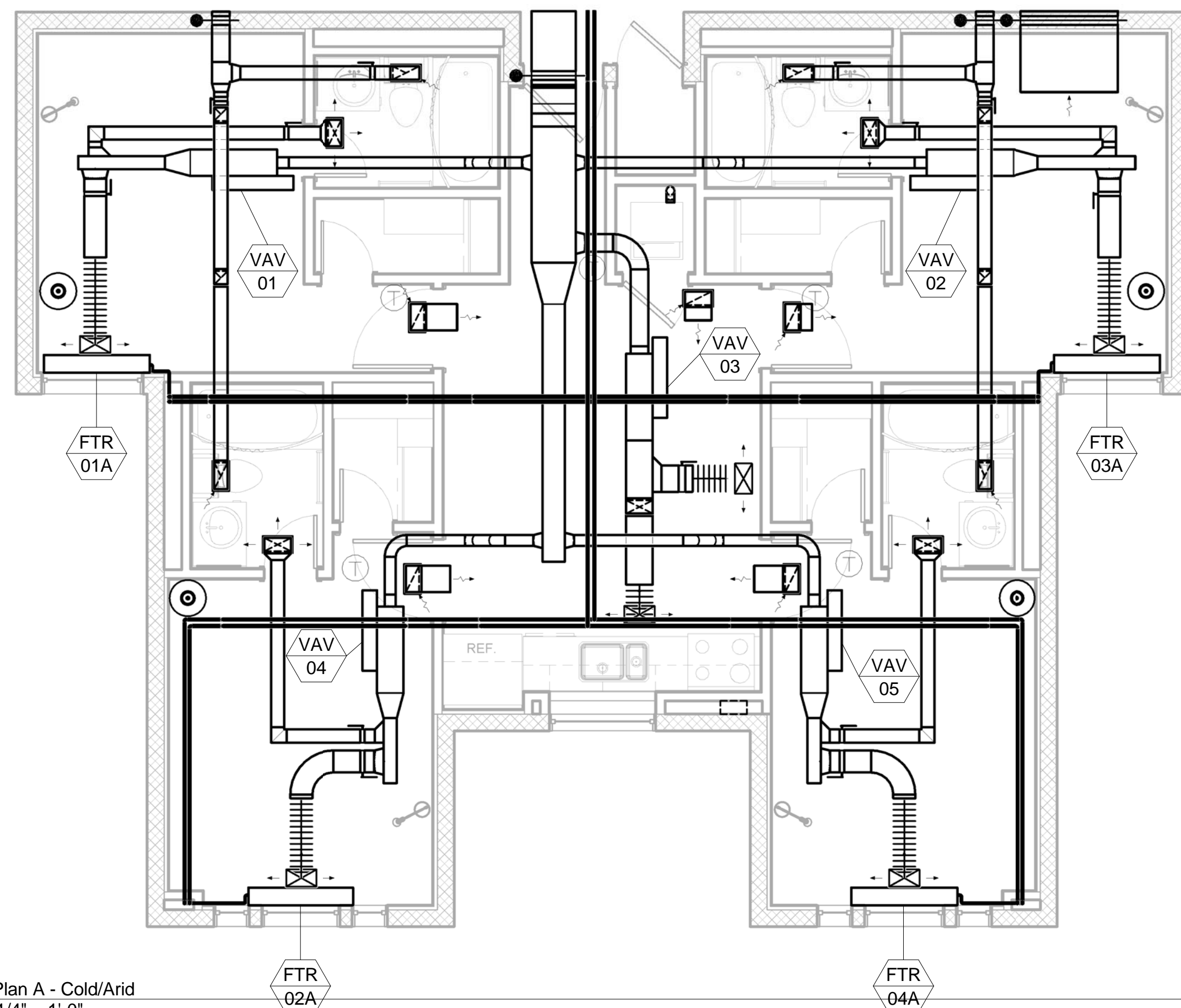
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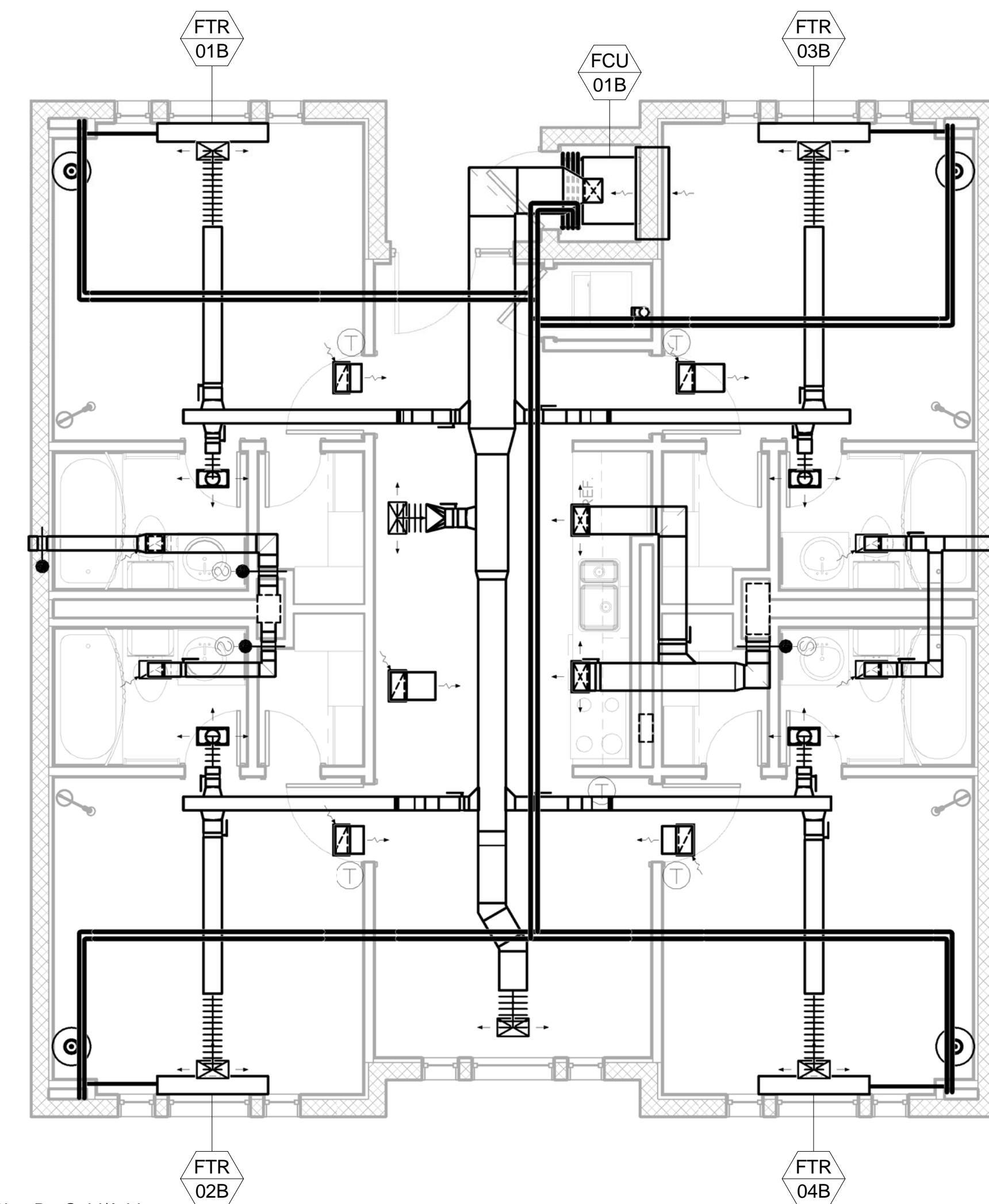
② Plan A - Cold/Arid



④ Plan B - Cold/Arid



① Plan A - Cold/Arid
1/4" = 1'-0"



③ Plan B - Cold/Arid
1/4" = 1'-0"

D
C
B
A

1 2 3 4 5

AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE)
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

Scales: As indicated

Jacobs Project No.: FDWD1301

Drawing Title:

Cold/Arid

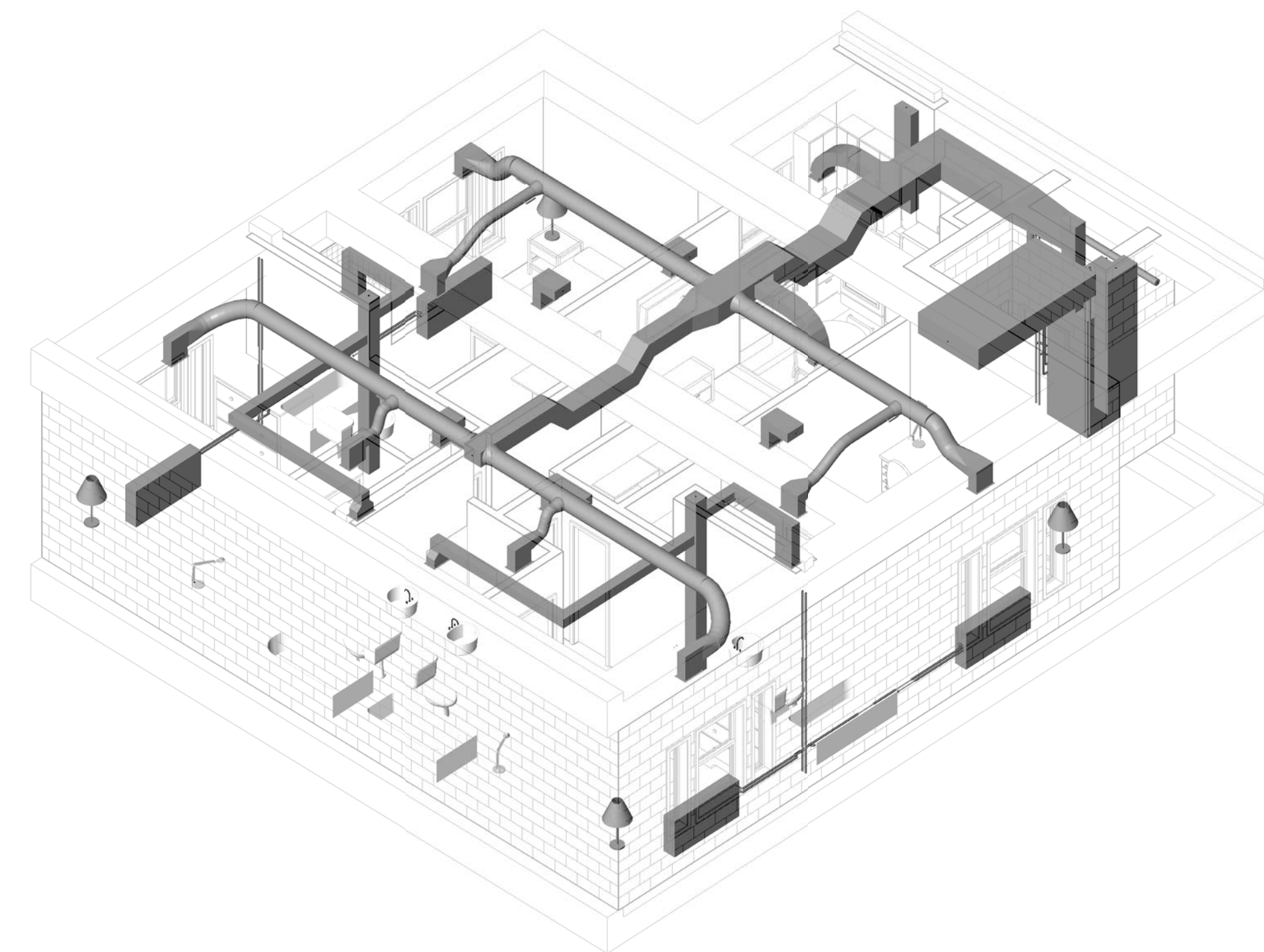
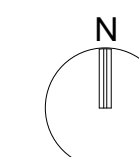
Date: May 11, 2009

Designed By: Designer

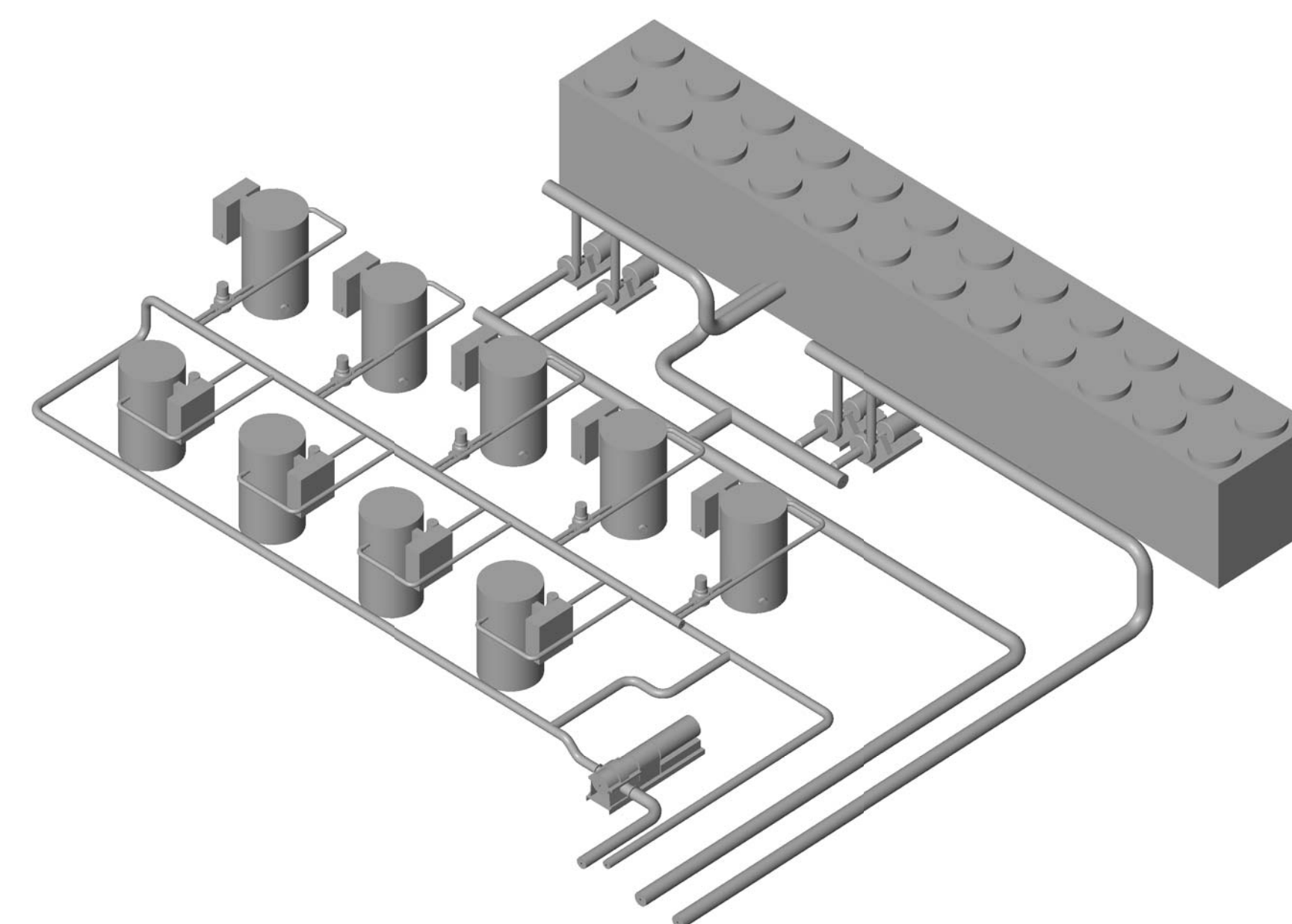
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Checked By: Checker

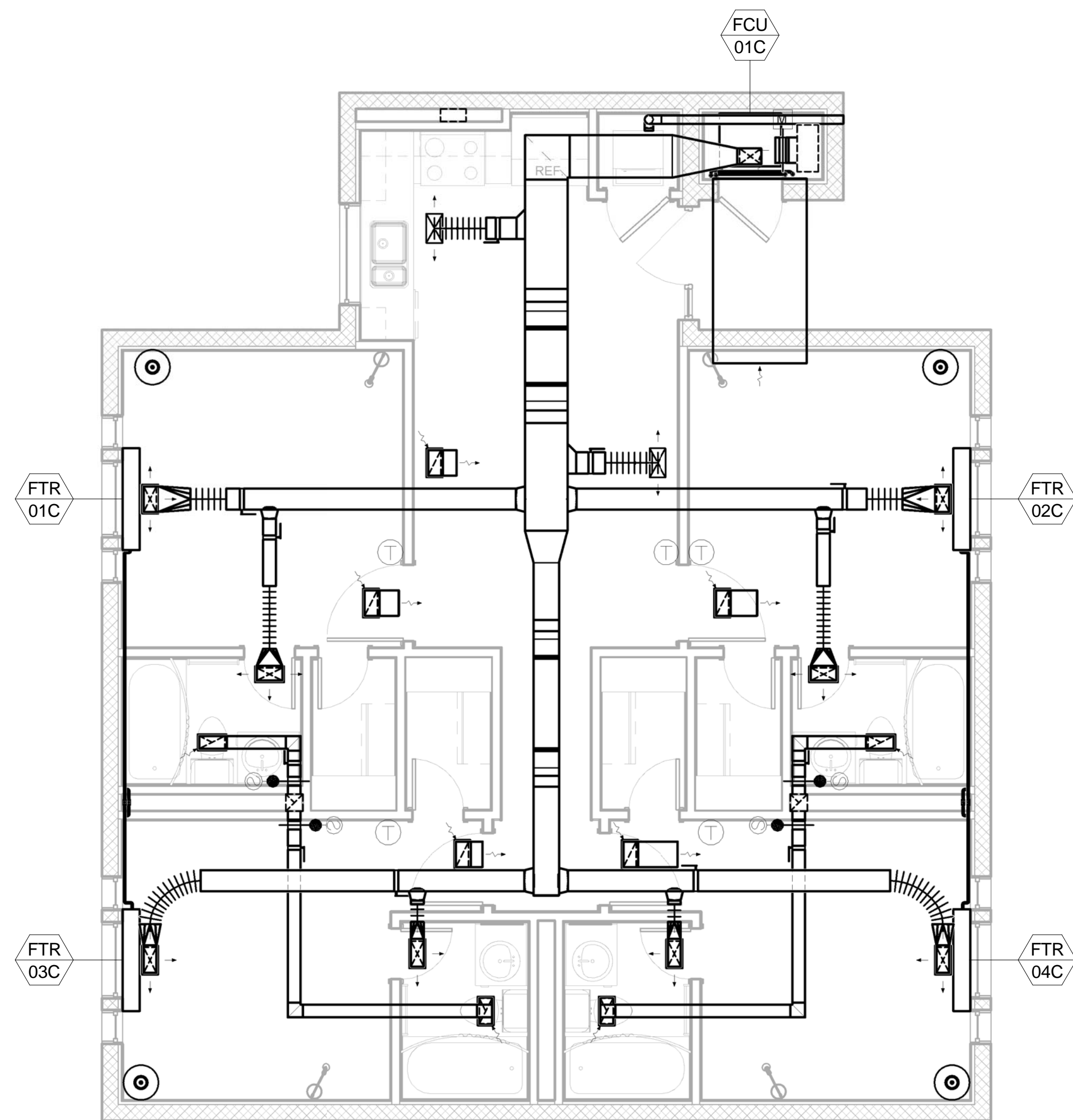
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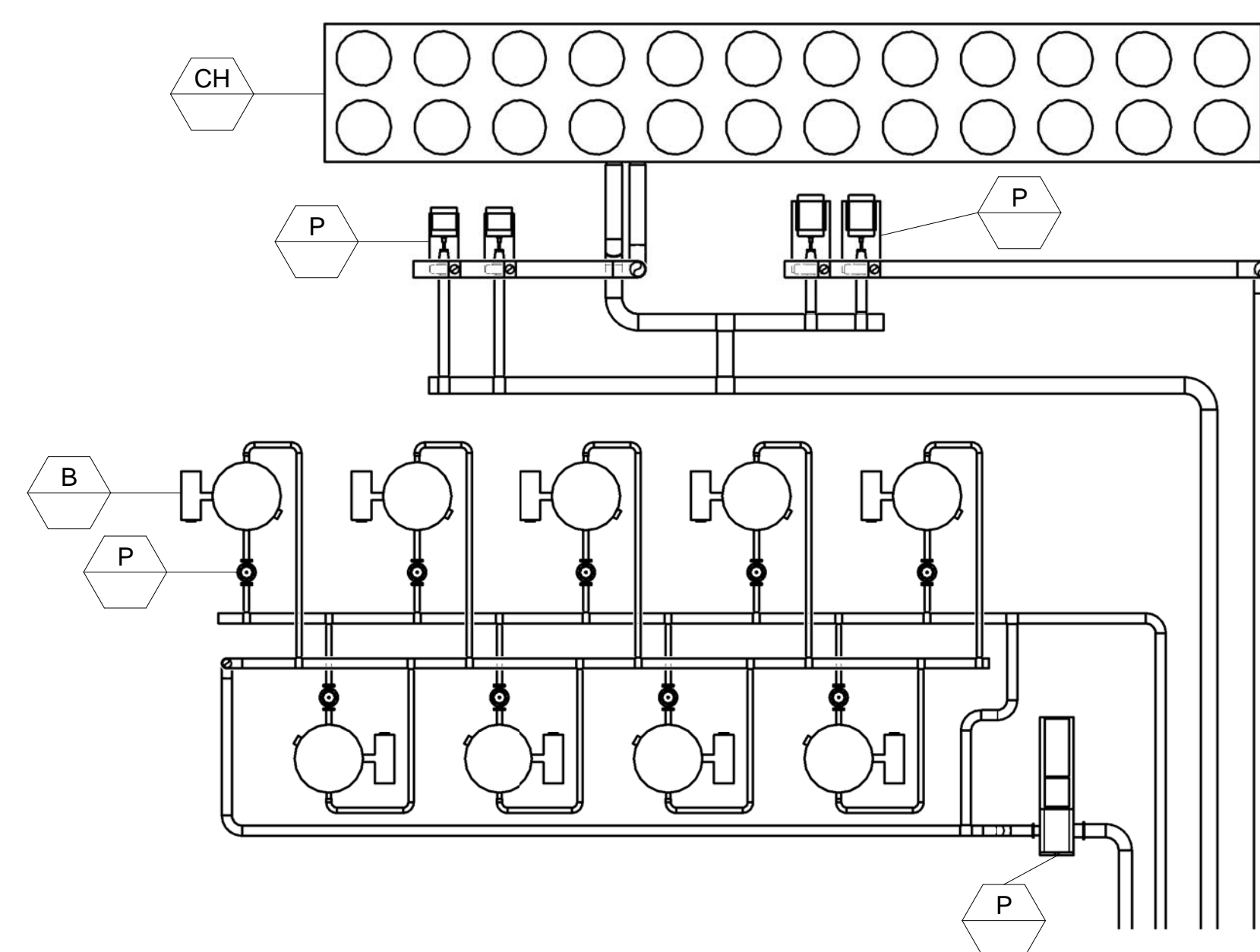
2 Plan C - Cold/Arid



4 Mechanical Yard - Cold/Arid



1 Plan C - Cold/Arid
1/4" = 1'-0"



3 Mechanical Yard - Cold/Arid
1/8" = 1'-0"

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AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE)
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

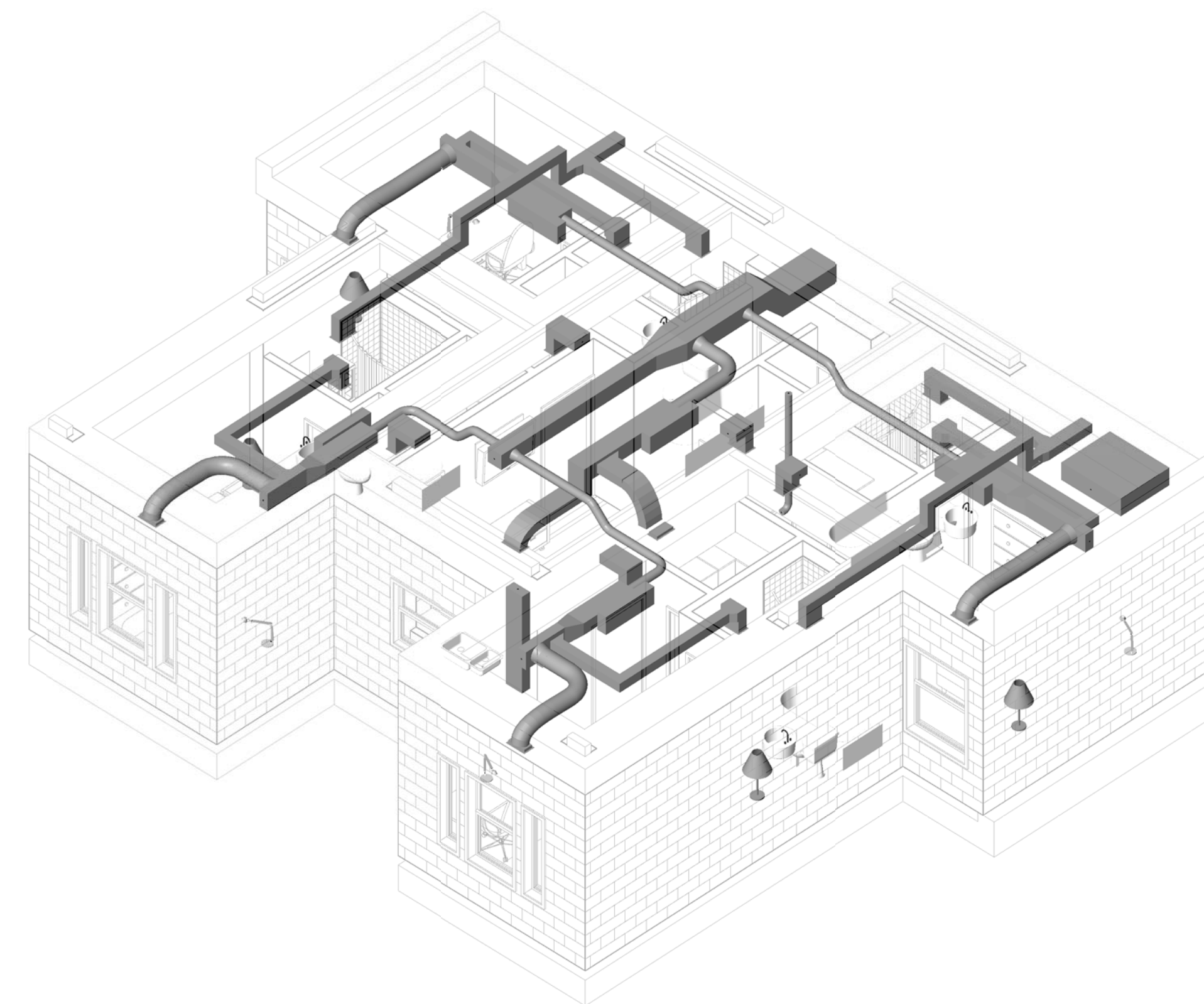
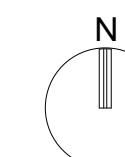
Hot/Arid

Date: May 11, 2009

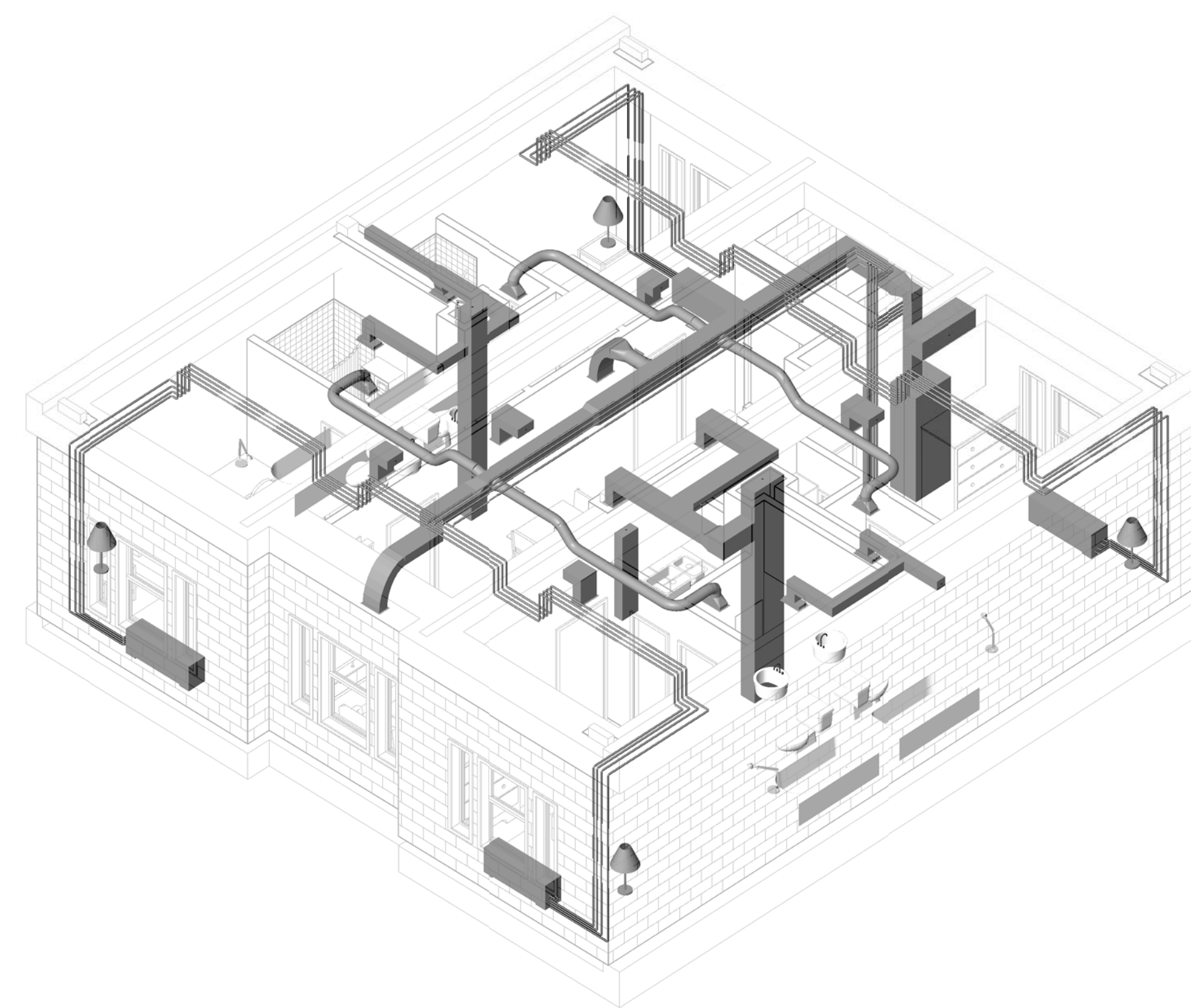
Designed By: Designer Drawing No.:

Drawn By: Author

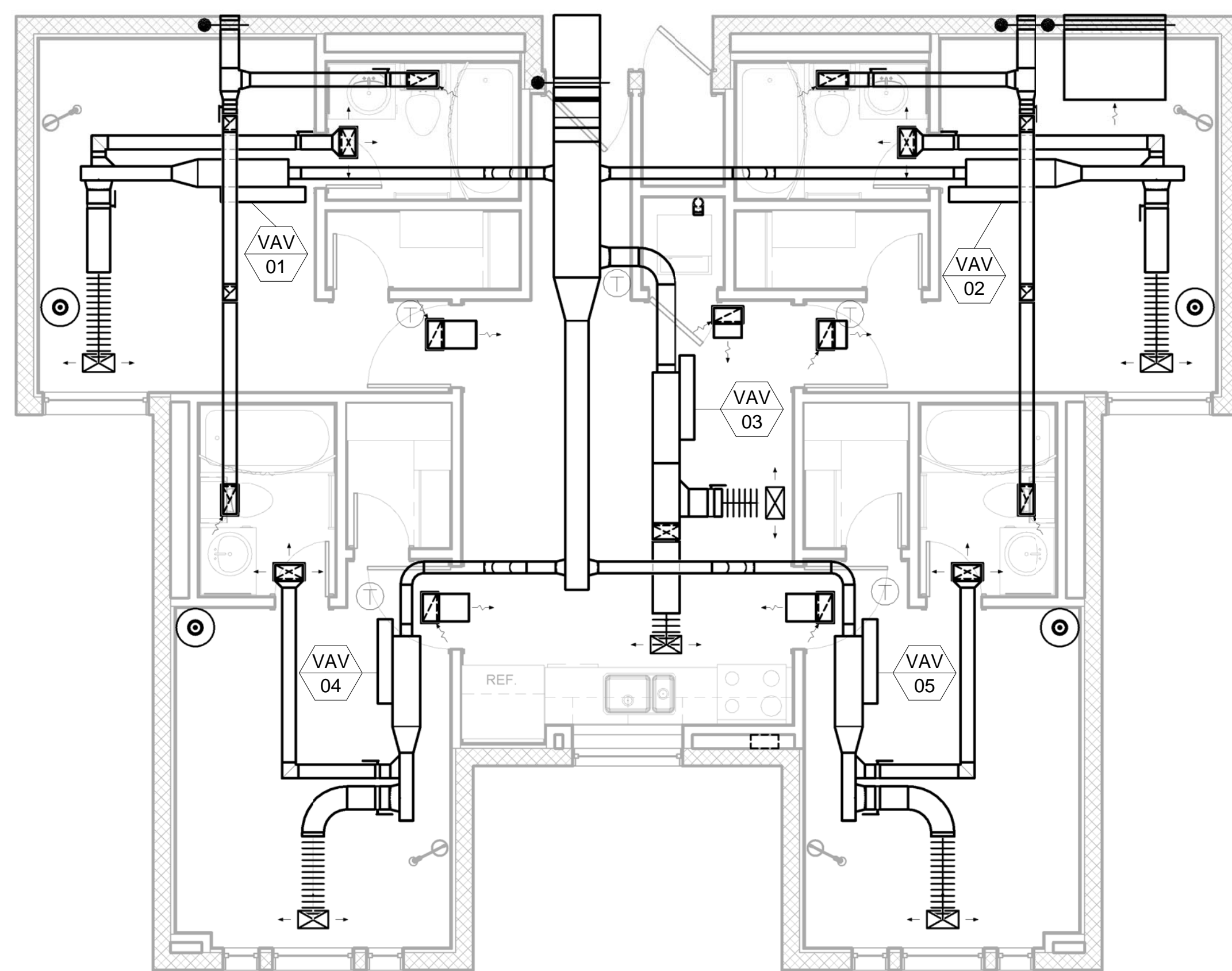
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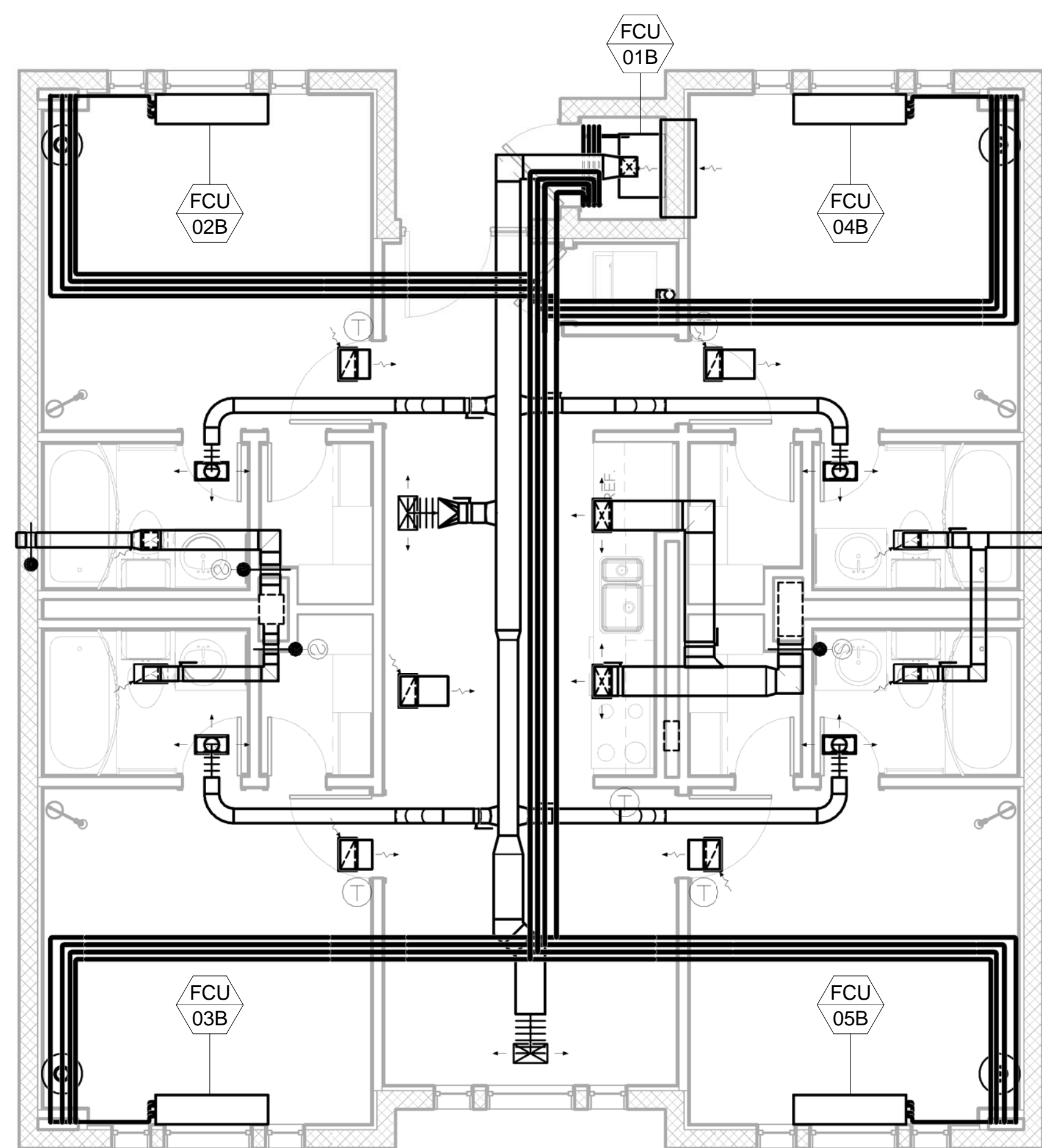
② Plan A - Hot/Arid



④ Plan B - Hot/Arid



① Plan A - Hot/Arid
1/4" = 1'-0"



③ Plan B - Hot/Arid
1/4" = 1'-0"

D

C

B

A

1

2

3

4

5

AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE) FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

Scales: As indicated

Jacobs Project No.: FDWD1301

Drawing Title:

Hot/Arid

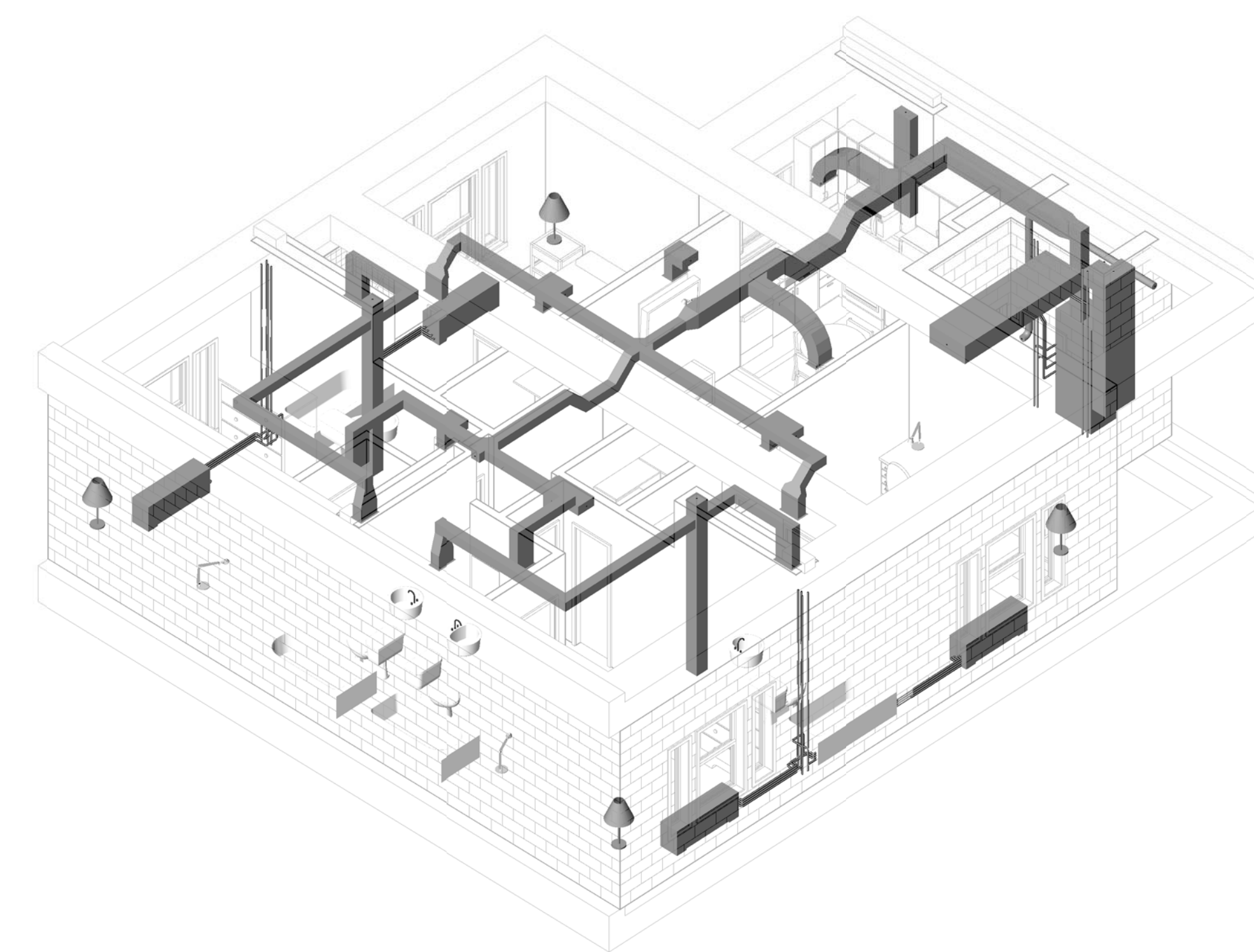
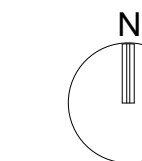
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Designed By: Designer

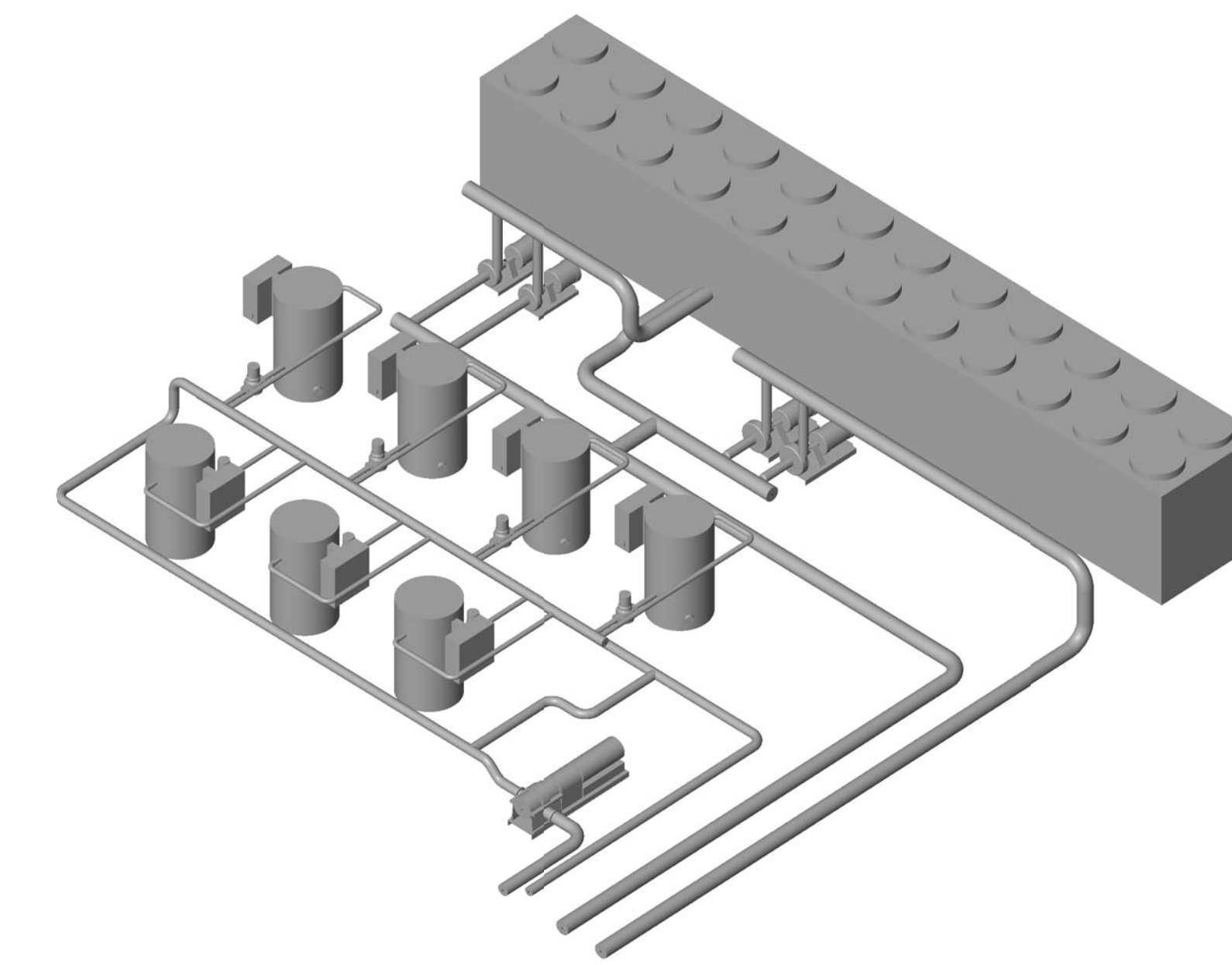
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Checked By: Checker

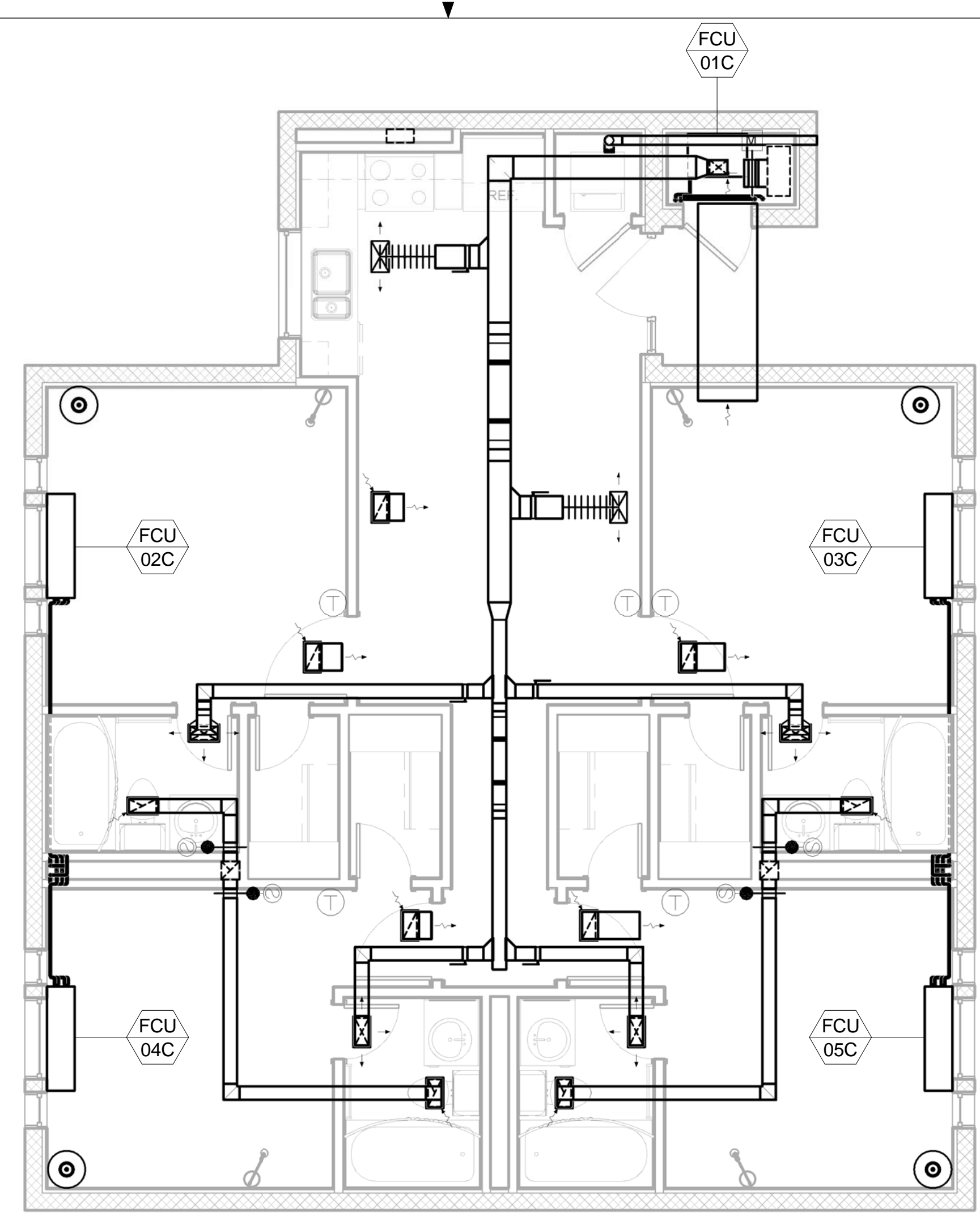
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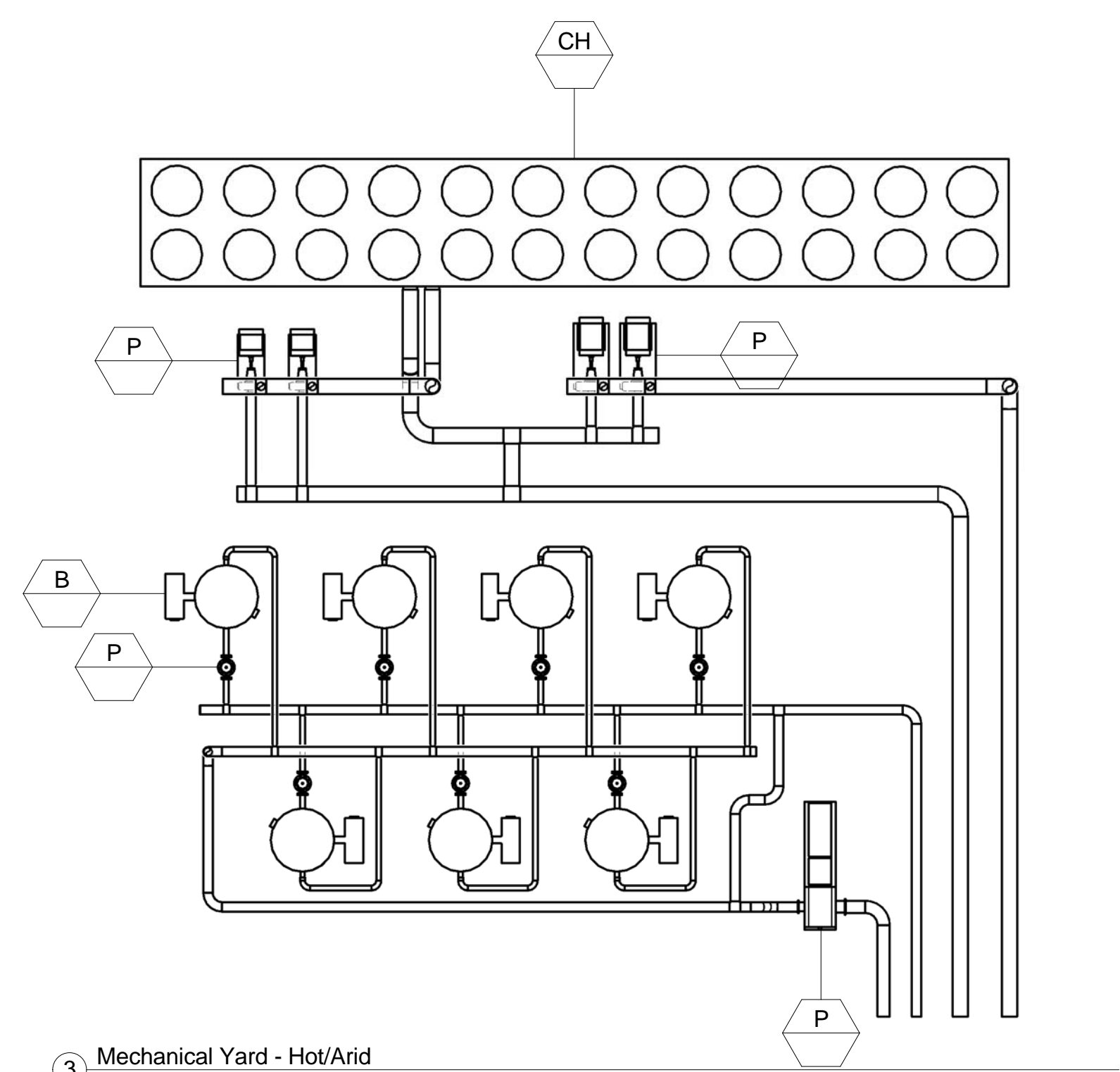
② Plan C - Hot/Arid



④ Mechanical Yard - Hot/Arid



① Plan C - Hot/Arid
1/4" = 1'-0"



③ Mechanical Yard - Hot/Arid
1/8" = 1'-0"

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AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE)
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

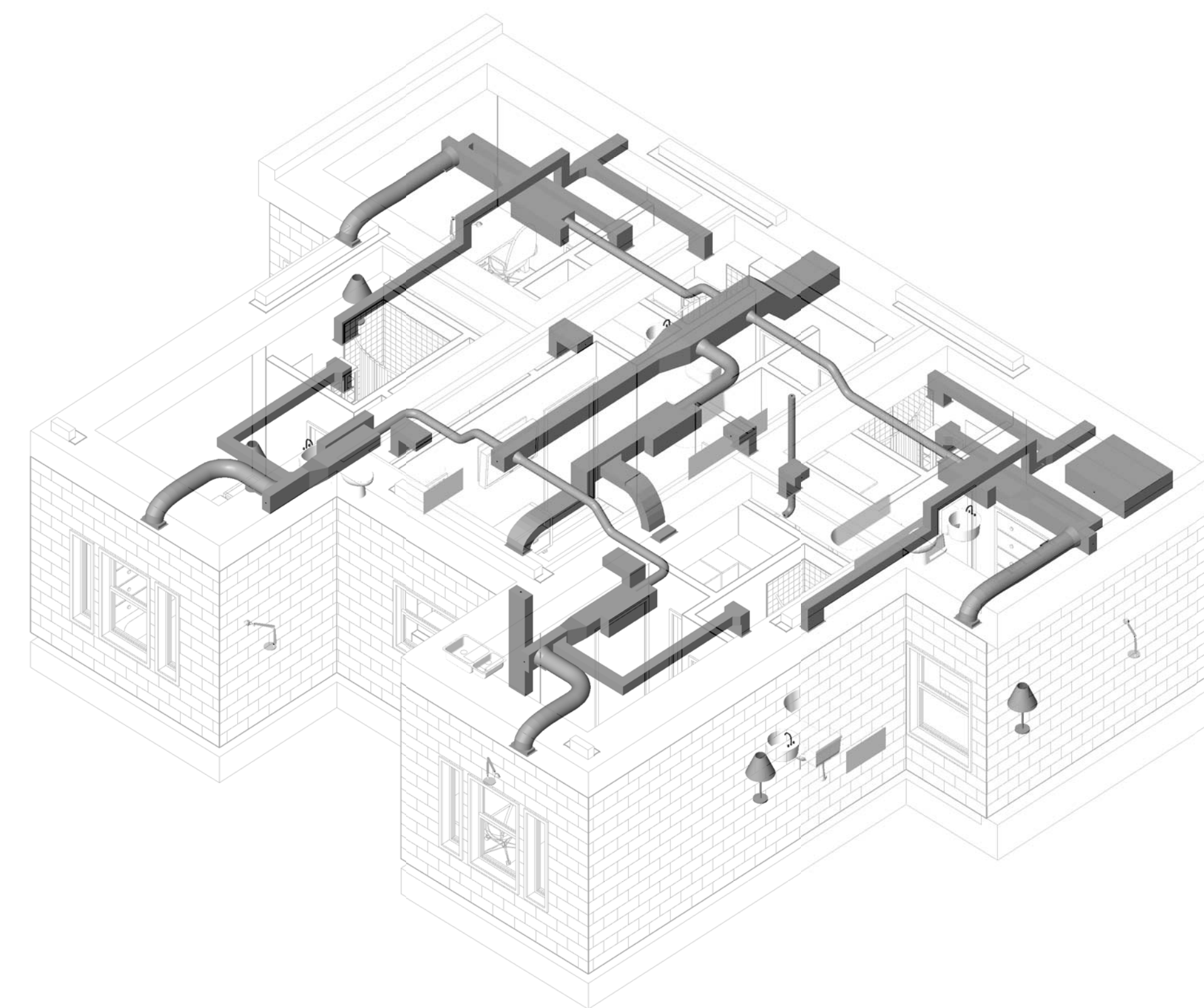
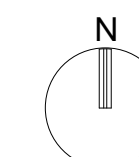
Hot/Humid

Date: May 11, 2009

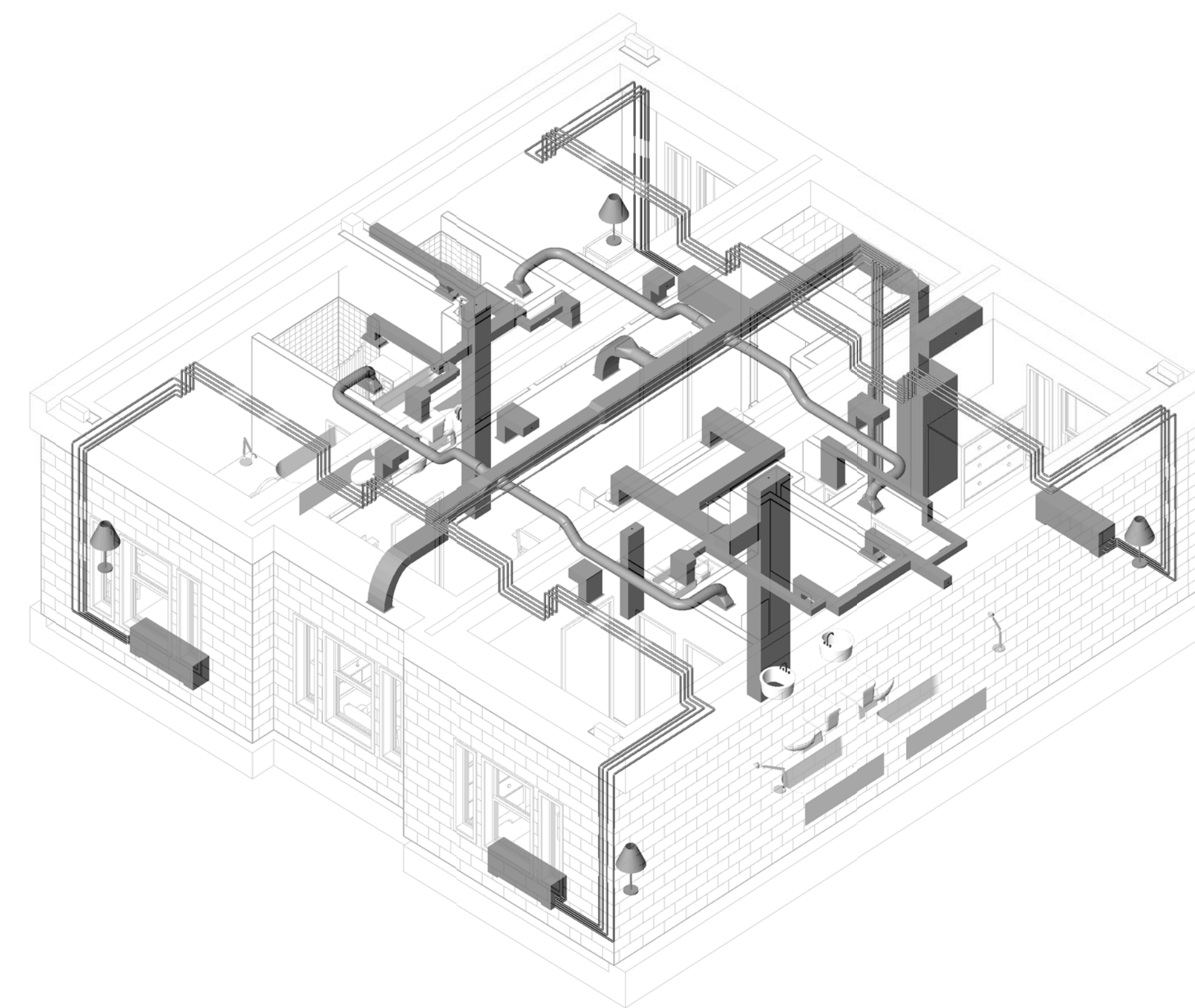
Designed By: Designer Drawing No.:

Drawn By: Author

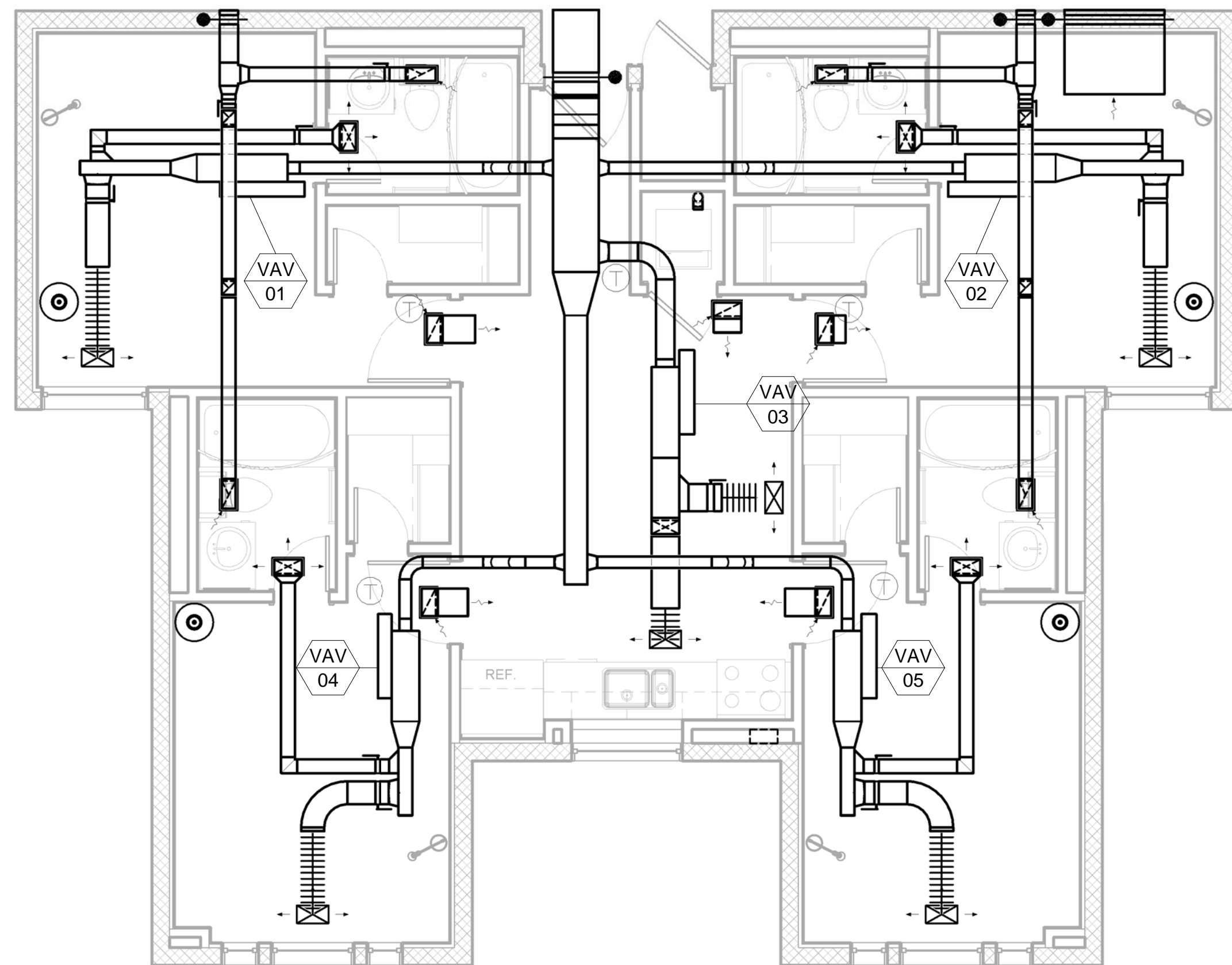
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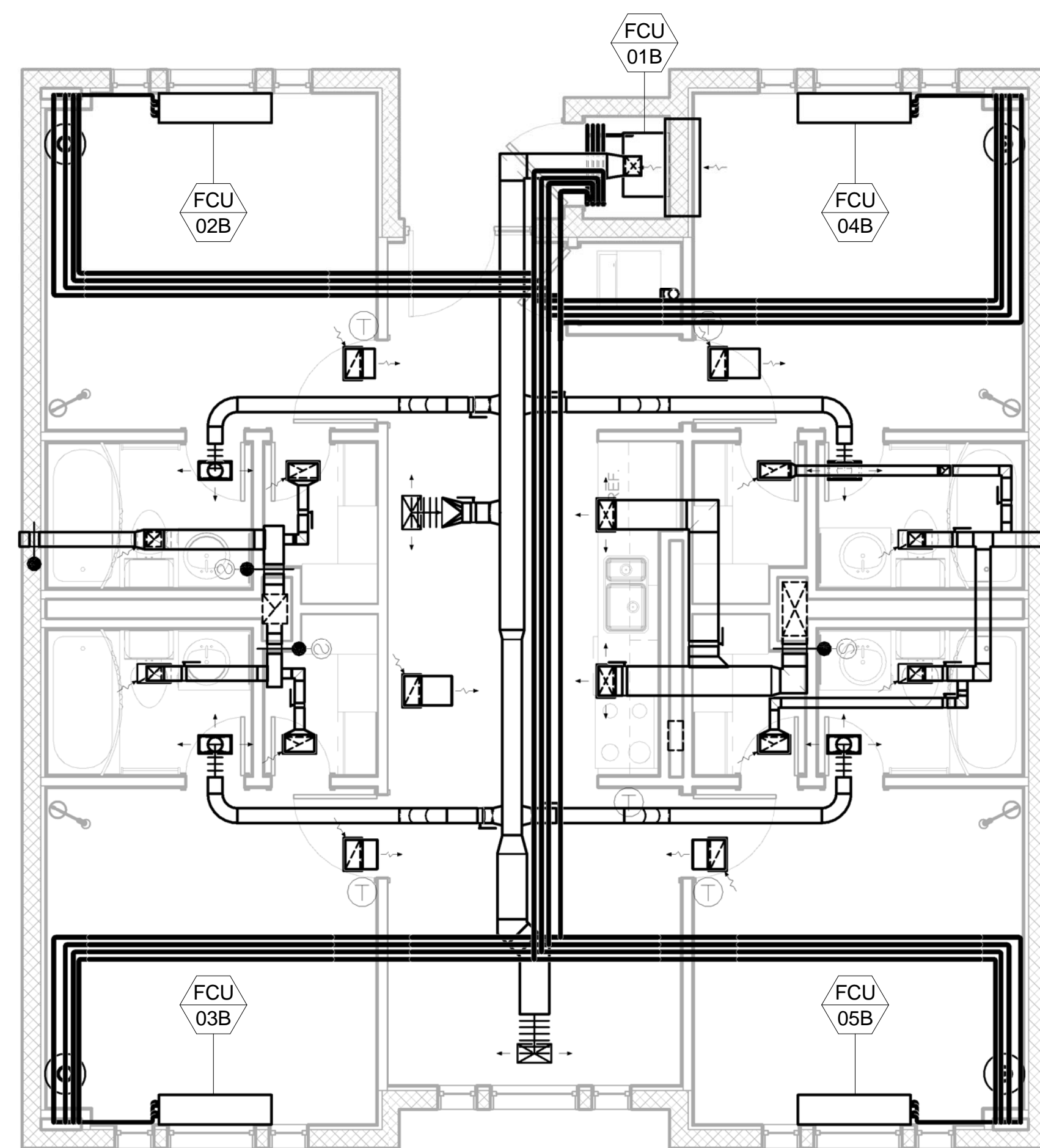
2 Plan A - Hot/Humid



4 Plan B - Hot/Humid



1 Plan A - Hot/Humid
1/4" = 1'-0"



3 Plan B - Hot/Humid
1/4" = 1'-0"

AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE)
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

Scales: As indicated

Jacobs Project No.: FDWD1301

Drawing Title:

Hot/Humid

Date: May 11, 2009

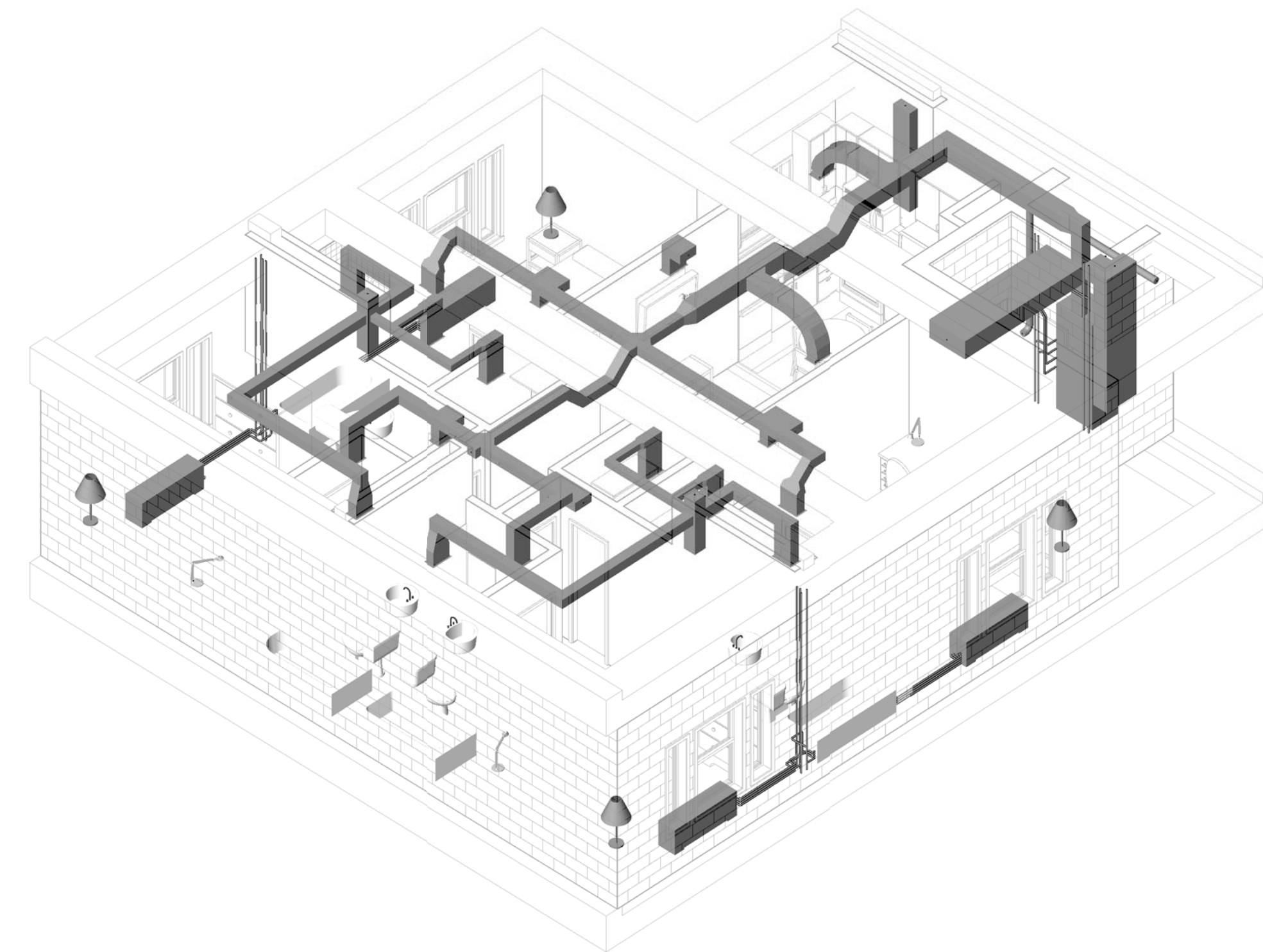
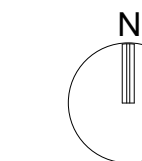
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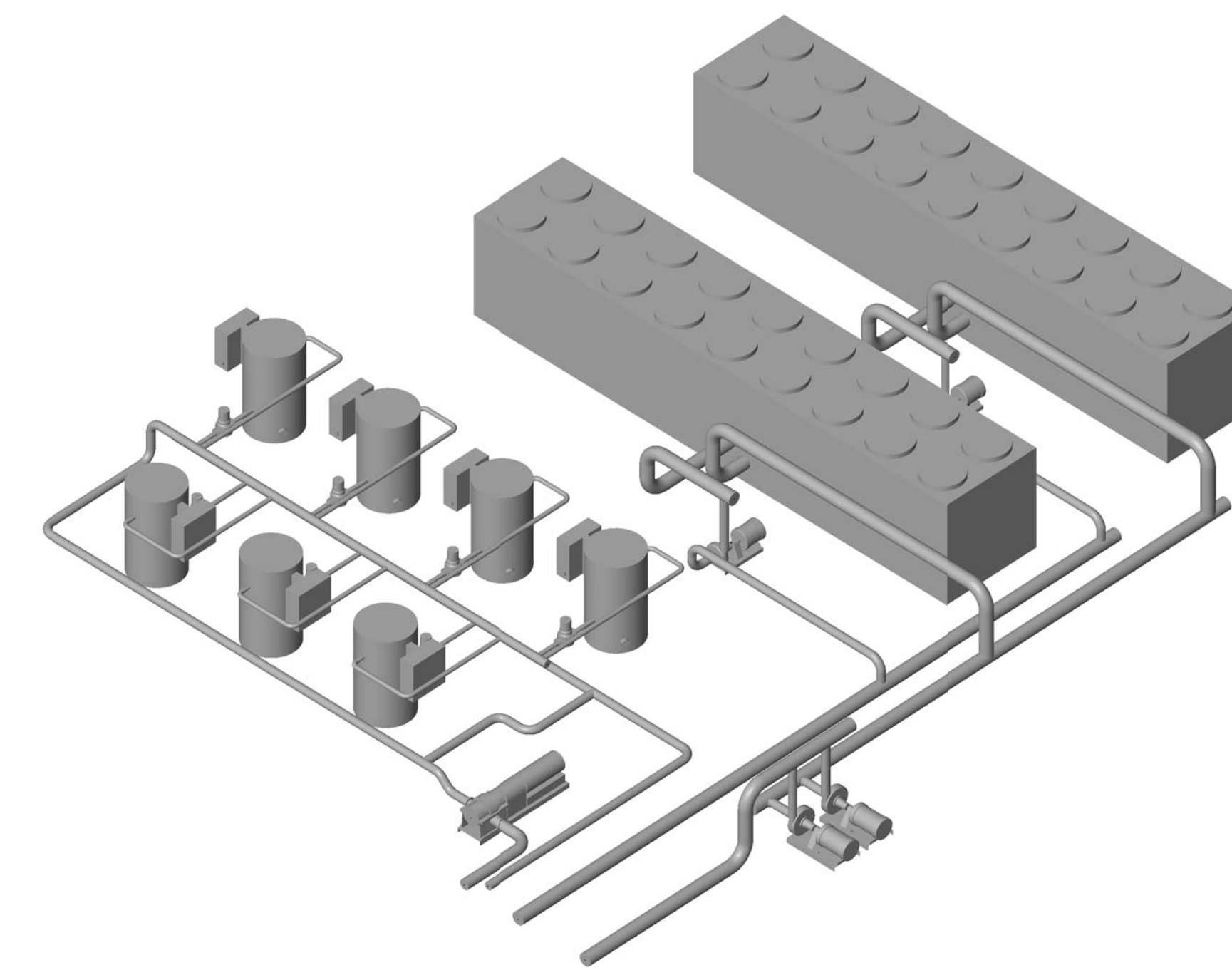
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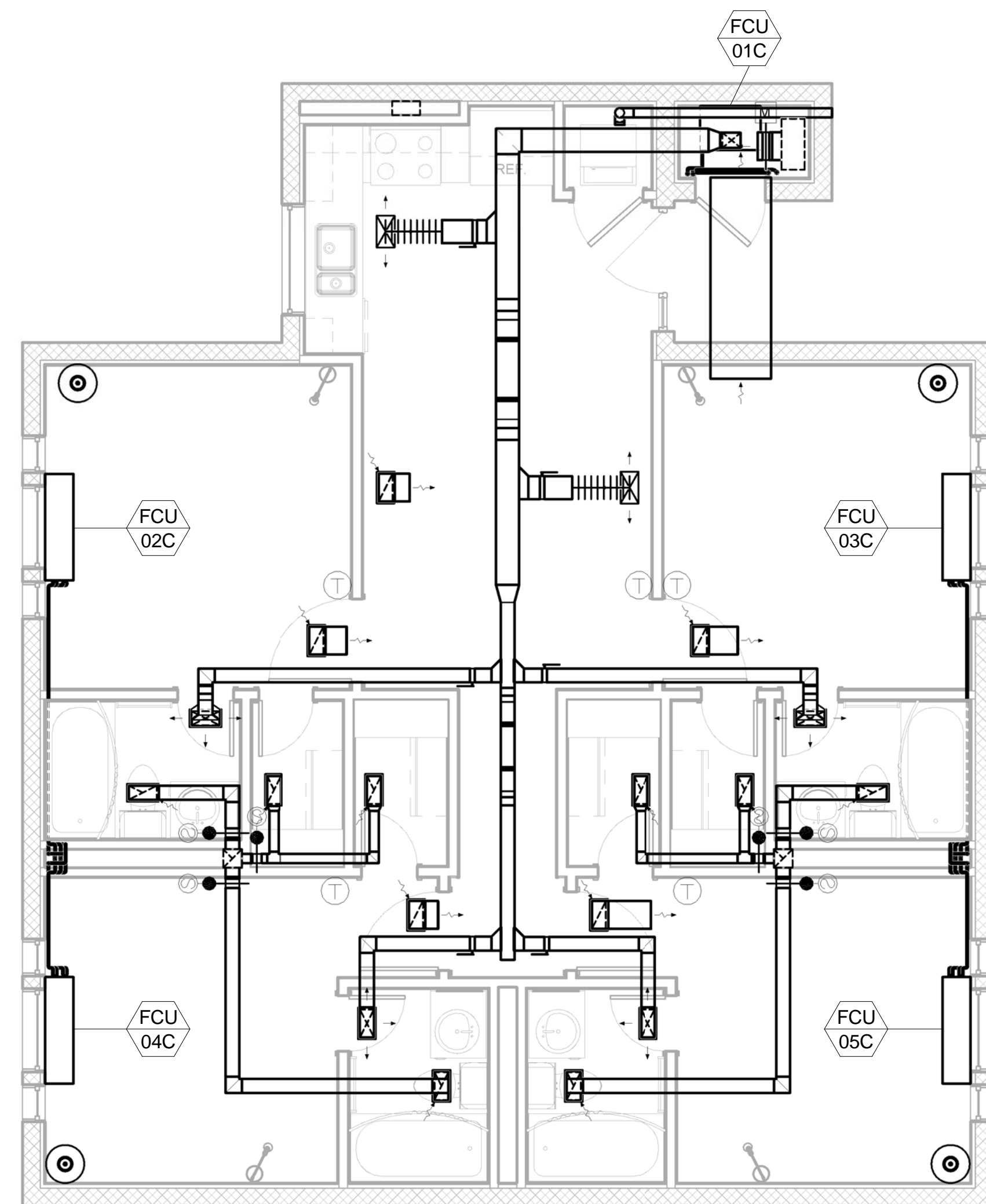
M06



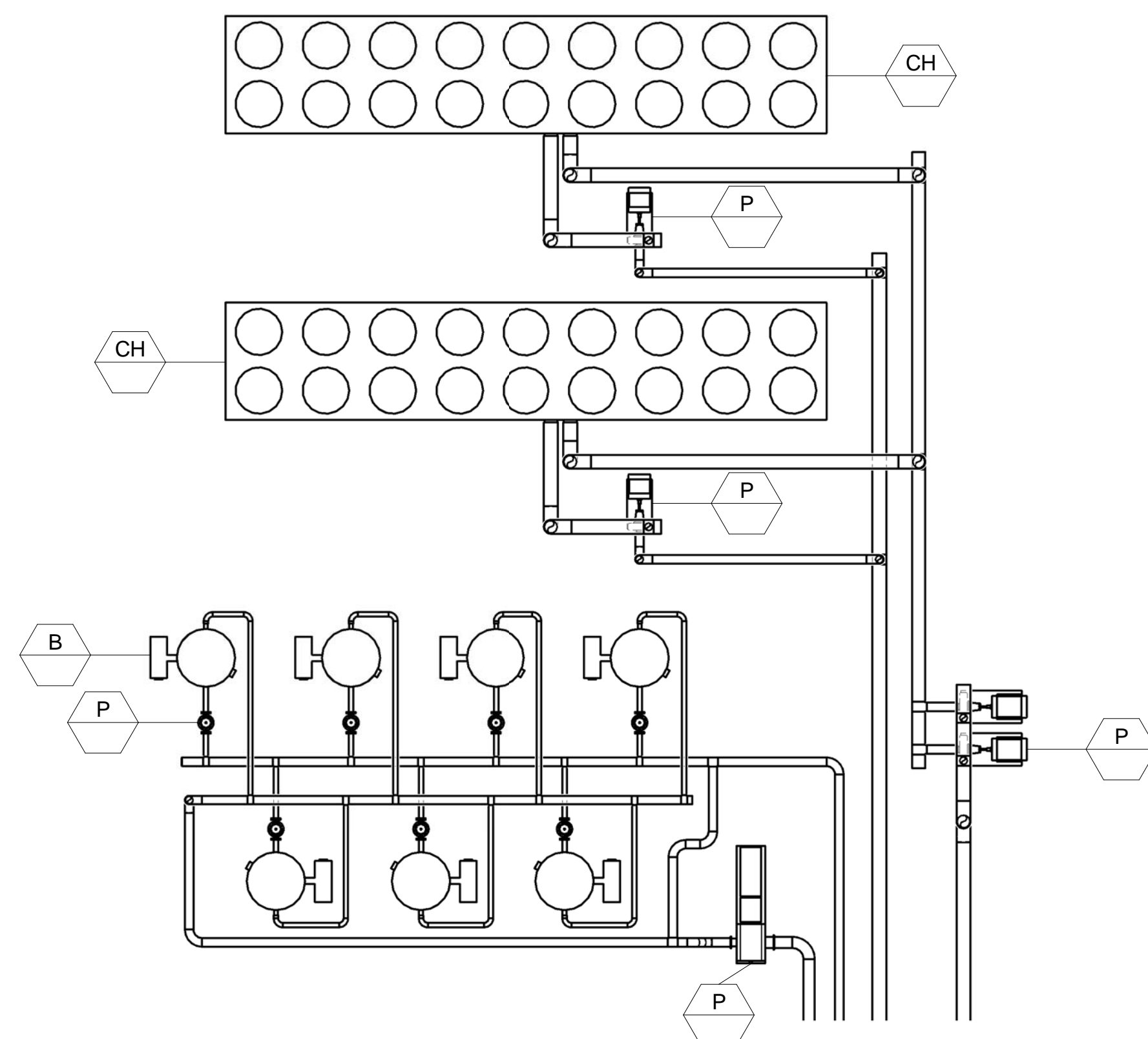
② Plan C - Hot/Humid



④ Mechanical Yard - Hot/Humid



① Plan C - Hot/Humid
1/4" = 1'-0"



③ Mechanical Yard - Hot/Humid
1/8" = 1'-0"

AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE) FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

FAN COIL UNIT SCHEDULE (FCU) Cold/Arid																															
MARK	LOCATION	BASIS OF DESIGN			MOTOR DATA		COOLING COIL								HEATING COIL						ELECTRICAL DATA				OPERATING WEIGHT	REMARKS					
		MANUFACTURER	MODEL	TYPE	AIR FLOW (CFM)	ESP (IN-WG)	TOTAL (BTU/H)	SENSIBLE (BTU/H)	EAT		LAT		FLOW (GPM)	EWT	LWT	WPD (FT-H2O)	HEATING CAPACITY (BTU/H)	EAT		LAT		FLOW (GPM)	EWT	LWT			WPD (FT-H2O)	HP	V	Ph	Hz
									DB	WB	DB	WB						DB	WB	DB	WB										
01B		JOHNSON CONTROLS		VERTICAL CABINET		0.00			75.0 °F		55.0 °F			44.0 °F	54.0 °F	0.00		68.0 °F	95.0 °F			180.0 °F	160.0 °F	0.00	0.000	0	0	0	0		
01C		JOHNSON CONTROLS		VERTICAL CABINET		0.00			75.0 °F		55.0 °F			44.0 °F	54.0 °F	0.00		68.0 °F	95.0 °F			180.0 °F	160.0 °F	0.00	0.000	0	0	0	0		
02B		JOHNSON CONTROLS	FLX-03	HOTEL STYLE	240	0.00	6,700	5,200	75.0 °F	62.9 °F	55.0 °F	53.2 °F	1.34	44.0 °F	54.0 °F	3.40	7,000	68.0 °F	95.0 °F	0.70		180.0 °F	160.0 °F	1.20	0.000	115	1	60	0		
02C		JOHNSON CONTROLS	FLX-03	HOTEL STYLE	240	0.00	6,700	5,200	75.0 °F	62.9 °F	55.0 °F	53.2 °F	1.34	44.0 °F	54.0 °F	3.40	7,000	68.0 °F	95.0 °F	0.70		180.0 °F	160.0 °F	1.20	0.000	115	1	60	0		
03B		JOHNSON CONTROLS	FLX-03	HOTEL STYLE	240	0.00	6,700	5,200	75.0 °F	62.9 °F	55.0 °F	53.2 °F	1.34	44.0 °F	54.0 °F	3.40	7,000	68.0 °F	95.0 °F	0.70		180.0 °F	160.0 °F	1.20	0.000	115	1	60	0		
03C		JOHNSON CONTROLS	FLX-03	HOTEL STYLE	240	0.00	6,700	5,200	75.0 °F	62.9 °F	55.0 °F	53.2 °F	1.34	44.0 °F	54.0 °F	3.40	7,000	68.0 °F	95.0 °F	0.70		180.0 °F	160.0 °F	1.20	0.000	115	1	60	0		
04B		JOHNSON CONTROLS	FLX-03	HOTEL STYLE	240	0.00	6,700	5,200	75.0 °F	62.9 °F	55.0 °F	53.2 °F	1.34	44.0 °F	54.0 °F	3.40	7,000	68.0 °F	95.0 °F	0.70		180.0 °F	160.0 °F	1.20	0.000	115	1	60	0		
04C		JOHNSON CONTROLS	FLX-03	HOTEL STYLE	240	0.00	6,700	5,200	75.0 °F	62.9 °F	55.0 °F	53.2 °F	1.34	44.0 °F	54.0 °F	3.40	7,000	68.0 °F	95.0 °F	0.70		180.0 °F	160.0 °F	1.20	0.000	115	1	60	0		
05B		JOHNSON CONTROLS	FLX-03	HOTEL STYLE	240	0.00	6,700	5,200	75.0 °F	62.9 °F	55.0 °F	53.2 °F	1.34	44.0 °F	54.0 °F	3.40	7,000	68.0 °F	95.0 °F	0.70		180.0 °F	160.0 °F	1.20	0.000	115	1	60	0		
05C		JOHNSON CONTROLS	FLX-03	HOTEL STYLE	240	0.00	6,700	5,200	75.0 °F	62.9 °F	55.0 °F	53.2 °F	1.34	44.0 °F	54.0 °F	3.40	7,000	68.0 °F	95.0 °F	0.70		180.0 °F	160.0 °F	1.20	0.000	115	1	60	0		

VAV SCHEDULE (VAV) Cold/Arid																									
MARK	LOCATION	SERVING	BASIS OF DESIGN		SIZE		CFM		STATIC PRESSURE (in-wg)			NC LEVELS		ELECTRIC REHEAT COIL DATA								REMARKS			
			MANUFACTURER	MODEL	INLET	OUTLET	MAX	MIN	INLET	DOWN	DROP THRU BOX	RAD.	DISCH.	CFM	CAPACITY (BTU/H)	EAT	LAT	APD (in-wg)	KW	V	PH		Hz		
01			TITUS	DESV	5"	12"x8"	350	80	1.00	0.25	0.00	0	0	80	0	0.0 °F	0.0 °F	0.00	0.0	0	0	60			
01			TITUS	DESV	5"	12"x8"	350	80	1.00	0.25	0.00	0	0	80	0	0.0 °F	0.0 °F	0.00	0.0	0	0	60			
01			TITUS	DESV	5"	12"x8"	350	80	1.00	0.25	0.00	0	0	80	0	0.0 °F	0.0 °F	0.00	0.0	0	0	60			
02			TITUS	DESV	5"	12"x8"	350	80	1.00	0.25	0.00	0	0	80	0	0.0 °F	0.0 °F	0.00	0.0	0	0	60			
02			TITUS	DESV	5"	12"x8"	350	80	1.00	0.25	0.00	0	0	80	0	0.0 °F	0.0 °F	0.00	0.0	0	0	60			
02			TITUS	DESV	5"	12"x8"	350	80	1.00	0.25	0.00	0	0	80	0	0.0 °F	0.0 °F	0.00	0.0	0	0	60			
03			TITUS	DESV	8"	12"x10"	350	145	1.00	0.25	0.00	0	0	145	0	0.0 °F	0.0 °F	0.00	0.0	0	0	60			
03			TITUS	DESV	8"	12"x10"	350	145	1.00	0.25	0.00	0	0	145	0	0.0 °F	0.0 °F	0.00	0.0	0	0	60			
04			TITUS	DESV	5"	12"x8"	350	80	1.00	0.25	0.00	0	0	80	0	0.0 °F	0.0 °F	0.00	0.0	0	0	60			
04			TITUS	DESV	5"	12"x8"	350	80	1.00	0.25	0.00	0	0	80	0	0.0 °F	0.0 °F	0.00	0.0	0	0	60			
04			TITUS	DESV	5"	12"x8"	350	80	1.00	0.25	0.00	0	0	80	0	0.0 °F	0.0 °F	0.00	0.0	0	0	60			
05			TITUS	DESV	5"	12"x8"	350	80	1.00	0.25	0.00	0	0	80	0	0.0 °F	0.0 °F	0.00	0.0	0	0	60			
05			TITUS	DESV	5"	12"x8"	350	80	1.00	0.25	0.00	0	0	80	0	0.0 °F	0.0 °F	0.00	0.0	0	0	60			
05			TITUS	DESV	5"	12"x8"	350	80	1.00	0.25	0.00	0	0	80	0	0.0 °F	0.0 °F	0.00	0.0	0	0	60			

FIN TUBE RADIATOR SCHEDULE (FTR)														
MARK	SERVING	BASIS OF DESIGN		ELEMENT	ROWS	FINNED LENGTH	ENCLOSURE HEIGHT	ENCLOSURE LENGTH	TOTAL BTU/h	EWT	LWT	EAT	GPM	NOTES
		MANUFACTURER	MODEL											
01A					2	0' - 0"	24"	48"	0	0.0 °F	0.0 °F	0.0 °F	0.00	
01B					2	0' - 0"	24"	48"	0	0.0 °F	0.0 °F	0.0 °F	0.00	
01C					2	0' - 0"	24"	48"	0	0.0 °F	0.0 °F	0.0 °F	0.00	
02A					2	0' - 0"	24"	48"	0	0.0 °F	0.0 °F	0.0 °F	0.00	
02B					2	0' - 0"	24"	48"	0	0.0 °F	0.0 °F	0.0 °F	0.00	
02C					2	0' - 0"	24"	48"	0	0.0 °F	0.0 °F	0.0 °F	0.00	
03A					2	0' - 0"	24"	48"	0	0.0 °F	0.0 °F	0.0 °F	0.00	
03B					2	0' - 0"	24"	48"	0	0.0 °F	0.0 °F	0.0 °F	0.00	
03C					2	0' - 0"	24"	48"	0	0.0 °F	0.0 °F	0.0 °F	0.00	
04A					2	0' - 0"	24"	48"	0	0.0 °F	0.0 °F	0.0 °F	0.00	
04B					2	0' - 0"	24"	48"	0	0.0 °F	0.0 °F	0.0 °F	0.00	
04C					2	0' - 0"	24"	48"	0	0.0 °F	0.0 °F	0.0 °F	0.00	

RETURN AND EXHAUST AIR DEVICE SCHEDULE											
MARK	BASIS OF DESIGN		DIFFUSER			SLOT		REGISTER/GRILL NOMINAL DUCT SIZE	DAMPER	BORDER TYPE	REMARKS
	MANUFACTURER	MODEL	MODULE SIZE	NECK SIZE	LENGTH (FT)	# OF SLOTS	SLOT WIDTH				
R1	AIR MATE	E240V		SEE PLANS						GYPSUM BOARD	
E1	AIR MATE	E240V		SEE PLANS						GYPSUM BOARD	

SUPPLY AIR DEVICE SCHEDULE											
MARK	BASIS OF DESIGN		DIFFUSER			SLOT		REGISTER/GRILL NOMINAL DUCT SIZE	DAMPER	BORDER TYPE	REMARKS
	MANUFACTURER	MODEL	MODULE SIZE	NECK SIZE	LENGTH (FT)	# OF SLOTS	SLOT WIDTH				
S1	AIR MATE	A140		SEE PLANS						GYPSUM BOARD	
S2	AIR MATE	140		SEE PLANS						GYPSUM BOARD	

Revision: _____
Date: _____ By: _____ Description: _____

AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE) FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

PLUMBING SYMBOLS

(ALL SYMBOLS SHOWN ARE NOT NECESSARILY USED ON THE DRAWINGS)

PIPING SYMBOLS

- PITCH DOWN IN DIRECTION OF ARROW
- DIRECTION OF FLOW
- PIPE ANCHOR
- PIPE GUIDE
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- BRANCH - SIDE CONNECTION
- BRANCH - TOP CONNECTION
- BRANCH - BOTTOM CONNECTION
- RISE OR DROP IN PIPE
- RISER DOWN (ELBOW)
- RISER UP (ELBOW)
- CAPPED PIPE
- BLIND FLANGE
- UNION (SCREWED)
- ORIFICE UNION
- FLANGED CONNECTION
- TEMPERATURE & PRESSURE PORT
- STRAINER WITH BLOWDOWN VALVE
- FLEX PIPE
- FLEX CONNECTION
- BELLOWS CONNECTION (DOUBLE SPHERE NEOPRENE TYPE)
- THERMOMETER
- PRESSURE GAGE WITH COCK
- FLOW SWITCH
- PRESSURE SWITCH
- MANUAL AIR VENT
- AUTOMATIC AIR VENT
- PUMP
- STEAM TRAP
- LINE/WALL CLEANOUT
- WATER METER
- AIR OUTLET VALVE
- WELDED CONNECTION
- FLANGED CONNECTION
- SOLDERED CONNECTION
- THREADED OR "PRESS" CONNECTION BELL & SPIGOT CONNECTION
- SOLVENT CONNECTION

VALVE SYMBOLS

- VALVE IN CENTER DROP
- VALVE IN RISE
- GATE VALVE W/ 3/4" HOSE THREAD ADAPTER
- SOLENOID VALVE
- TWO-WAY CONTROL VALVE
- THREE-WAY CONTROL VALVE
- SAFETY VALVE OR PRESSURE RELIEF VALVE
- MANUAL BALANCING VALVE
- AUTOMATIC BALANCING VALVE
- TEMPERATURE WELL
- ANGLE GATE VALVE
- ANGLE GLOBE VALVE
- DIAPHRAGM VALVE
- QUICK ACTION VALVE
- OS&Y VALVE
- OS&Y VALVE WITH SUPERVISORY SWITCH
- FLANGED VALVE (GATE VALVE SHOWN)
- FLOAT VALVE
- ORIFICE FLOW PLATE

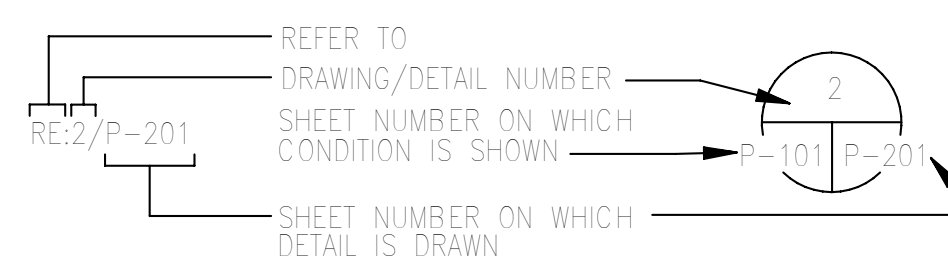
PIPING TYPES

- SANITARY SEWER
- SANITARY VENT
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER (110°F)
- DOMESTIC HOT WATER RETURN
- DOMESTIC HOT WATER (140°F)
- NON POTABLE WATER
- TRAP PRIMER
- DRAIN (AHU CONDENSATE)
- NATURAL GAS
- CONDENSATE DRAIN
- COMPRESSED AIR
- DEBRIS VACUUM (CLEANING)
- VACUUM
- BREATHING AIR
- AIRCRAFT HOT WATER WASH WATER
- INDUSTRIAL WASTE
- RECYCLED WASH WATER
- PUMPED FLUID - "AAA" DENOTED TYPE
- DOUBLED WALL PIPING - "AAA" DENOTED TYPE
- EXISTING PIPE - "AAA" DENOTES TYPE
- EXISTING PIPE TO BE REMOVED - "AAA" DENOTES TYPE
- BELOW FLOOR PIPE - "AAA" DENOTES TYPE

MISCELLANEOUS

- RECESSED FLOOR CLEANOUT
- HOSE BIBB/WALL HYDRANT
- FLOOR DRAIN
- FLOOR DRAIN WITH P-TRAP
- P-TRAP
- PLUMBING FIXTURES
- GAS METER
- DOUBLE CHECK BACKFLOW PREVENTER
- REDUCED PRESSURE BACKFLOW PREVENTER
- RISER DESIGNATION "P": DENOTES SANITARY WASTE AND VENT RISER DIAGRAM OR DOMESTIC COLD AND HOT WATER RISER DIAGRAM
- PROCESS VACUUM CONNECTION
- BREATHING AIR CONNECTION
- PROCESS COMPRESSED AIR CONNECTION
- DEBRIS VACUUM CONNECTION
- DRAWING NOTE REFERENCE
- POINT OF CONNECTION TO EXISTING
- WATER SHOCK ABSORBER

DRAWING/DETAIL REFERENCE KEY



GENERAL NOTES

- A. REFER TO SPECIFICATIONS FOR MATERIALS AND METHODS FOR CONSTRUCTION.
- B. COORDINATE THE EXACT LOCATION OF FLOOR DRAINS WITH THE ARCHITECTURAL DRAWINGS AND MECHANICAL EQUIPMENT LOCATIONS PRIOR TO INSTALLATION OF DRAINS. PROVIDE A RADIUS AROUND THE FLOOR DRAIN THAT SLOPES TOWARD THE FLOOR DRAIN FROM THE FINISHED FLOOR ELEVATION TO A TOP OF DRAIN ELEVATION BETWEEN 1/2" AND 3/4" BELOW FINISHED FLOOR. THE RADIUS AND RATE OF SLOPE IS TO BE FIELD COORDINATED.
- C. COORDINATE ALL SLAB PENETRATIONS AND SLEEVES PRIOR TO EACH CONCRETE POUR.
- D. FURNISH ACCESS DOORS FOR INSTALLATION IN WALLS AND CEILINGS WHERE ACCESS IS REQUIRED TO CONCEALED PLUMBING EQUIPMENT, VALVES, CONTROLS, AND OTHER DEVICES.
- E. PERFORM WORK IN ACCORDANCE WITH THE LATEST EDITIONS, REVISIONS, AMENDMENTS OR SUPPLEMENTS OF APPLICABLE STATUTES, ORDINANCES, CODES, OR REGULATIONS OF FEDERAL, STATE AND LOCAL AUTHORITIES HAVING JURISDICTION IN EFFECT ON THE DATE BIDS ARE RECEIVED.
- F. WHERE APPROVAL CODES HAVE BEEN ESTABLISHED BY OSHA, UNDERWRITERS LABORATORY, AMERICAN CODES, ANSI, ASME, ASA, ASHRAE, ASTM, ARI, NEC, NFPA, SMACNA, OR THE STATE FIRE INSURANCE REGULATORY BODY, FOLLOW THESE STANDARDS WHETHER OR NOT INDICATED ON THE DRAWINGS.
- G. ARRANGE WITH AUTHORITIES AND UTILITY COMPANIES FOR PERMITS, FEES, AND SERVICE CONNECTIONS. VERIFYING LOCATIONS AND ARRANGEMENTS AND PAYING ALL CHARGES, INCLUDING INSPECTIONS.
- H. COORDINATE WORK WITH ARCHITECTURAL FEATURES AND COORDINATE WORK SUCH THAT INTERFERENCES BETWEEN PIPING, DUCTWORK, EQUIPMENT, PLUMBING WORK, ELECTRICAL WORK, AND BUILDING STRUCTURE WILL BE AVOIDED.
- I. PROVIDE THE ENTIRE SYSTEM AND ITS COMPONENT ITEMS OF EQUIPMENT IN OPERATING CONDITION WITHOUT OBJECTIONABLE VIBRATION OR NOISE.
- J. PROVIDE ALL WIRING AND ELECTRICAL CONTROLS IN ACCORDANCE WITH NFPA 70 (NEC).
- K. VERIFY AND DOCUMENT EXISTING CONDITIONS AND DIMENSIONS ON THE JOB SITE PRIOR TO STARTING ANY WORK.
- L. DO NOT SCALE THESE DRAWINGS FOR CONSTRUCTION PURPOSES.
- M. INSTALL PIPING TO PROVIDE THE MAXIMUM POSSIBLE CLEAR HEIGHT UNDERNEATH. MAINTAIN A MINIMUM OF 6 INCHES ABOVE FINISHED CEILING TO PROVIDE CLEARANCE FOR LIGHTING FIXTURES.
- N. CONTRACTOR TO MAKE ALL FINAL CONNECTIONS TO EQUIPMENT.
- O. VENT TERMINALS SHALL EXTEND A MINIMUM OF 6" ABOVE THE FINISHED ROOF AND SHALL BE LOCATED A MINIMUM OF 10 FEET HORIZONTALLY FROM ANY DOOR, OPERABLE WINDOW, OR OTHER AIR INTAKE OF THE BUILDING OR ADJACENT BUILDING UNLESS THE VENT TERMINAL IS AT LEAST 2 FEET ABOVE THE TOP OF SUCH OPENING.
- P. PROVIDE SYSTEM IN ACCORDANCE WITH 2006 ICC INTERNATIONAL PLUMBING CODE.
- Q. ALL VENT LINES ARE TO RISE VERTICALLY (45° ANGLE OR GREATER FROM HORIZONTAL) TO A MINIMUM OF 6" ABOVE THE HIGHEST FLOOD RIM OF THE HIGHEST FIXTURE SERVED BY THE VENT.
- R. SLOPE SANITARY SEWER PIPE SMALLER THAN 3" AT 1/4" PER FOOT AND PIPE 3" AND LARGER AT 1/8" PER FOOT. ALL SLOPES ARE IN THE DIRECTION OF FLOW.
- S. PROVIDE BRACING FOR ALL PIPING AND EQUIPMENT AS REQUIRED BY UFC 4-010-01.

ENERGY CODE COMPLIANCE

THE MECHANICAL AND PLUMBING EQUIPMENT IN THESE DRAWINGS ARE IN COMPLIANCE WITH ASHRAE 90.1-2004 AND THE FEDERAL ENERGY MANAGEMENT PROGRAM (FEMP).

VALVE SYMBOLS

- GATE VALVE
- GLOBE VALVE
- CHECK VALVE (NON SLAM)
- PLUG VALVE
- PRESSURE REDUCING VALVE (PRV)
- BUTTERFLY VALVE
- BALL VALVE
- NEEDLE VALVE
- VALVE IN DROP

EQUIPMENT SYMBOLS

- EXISTING EQUIPMENT TO BE REMOVED
- EXISTING EQUIPMENT TO REMAIN
- NEW EQUIPMENT

Scales: 12" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

PLUMBING LEGEND & NOTES

Date: 11 MAY 2009

Designed By: Designer
Drawn By: Author
Checked By: Checker

Drawing No.:
P00

Revision:
Date: By: Description:

**AIR FORCE CENTER FOR ENGINEERING AND THE
ENVIRONMENT (AFCEE)
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR
DORMITORIES**

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

**PLUMBING FLOOR
PLANS**

Date: 11 MAY 2009

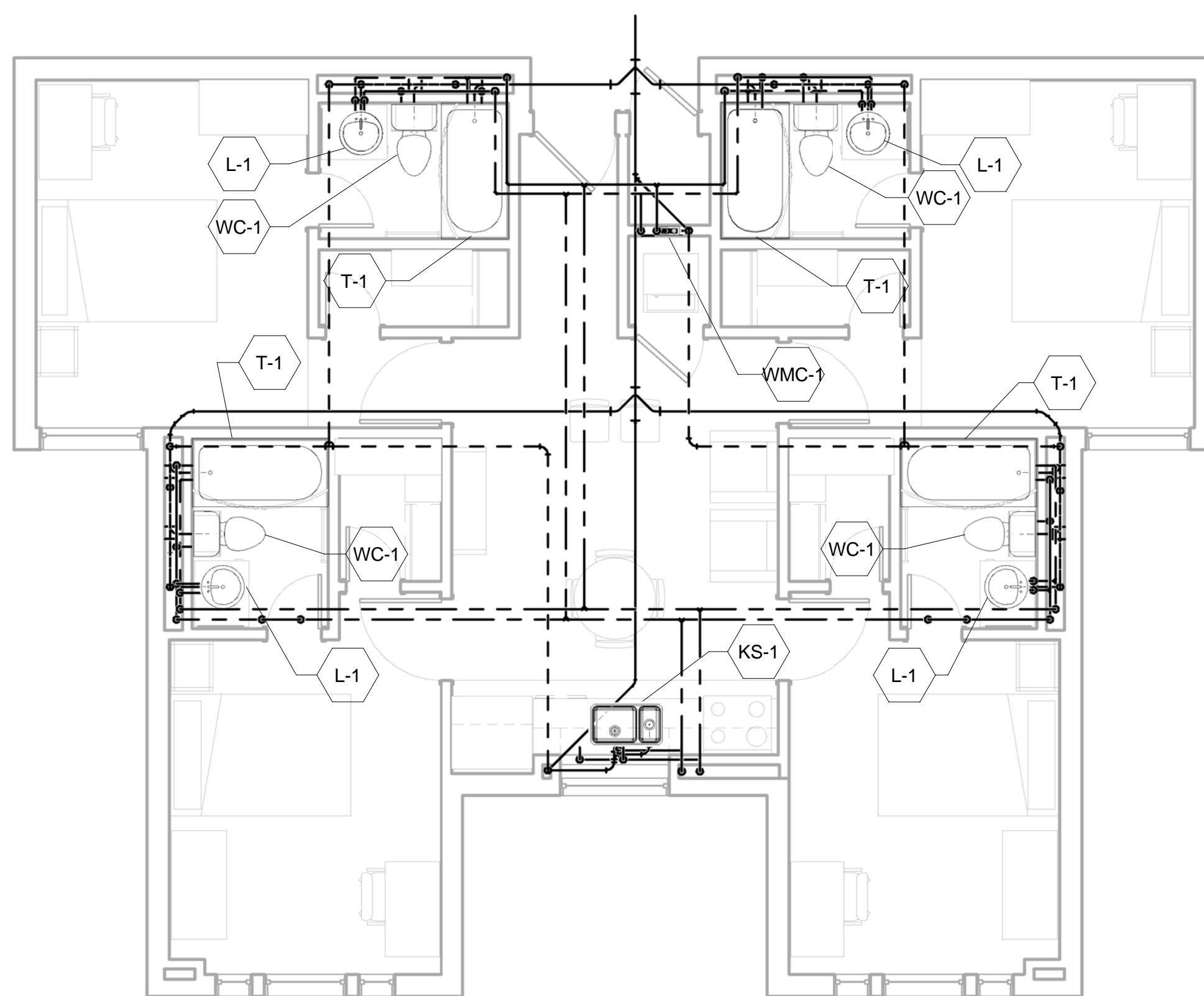
Designed By: Designer

Drawn By: Author

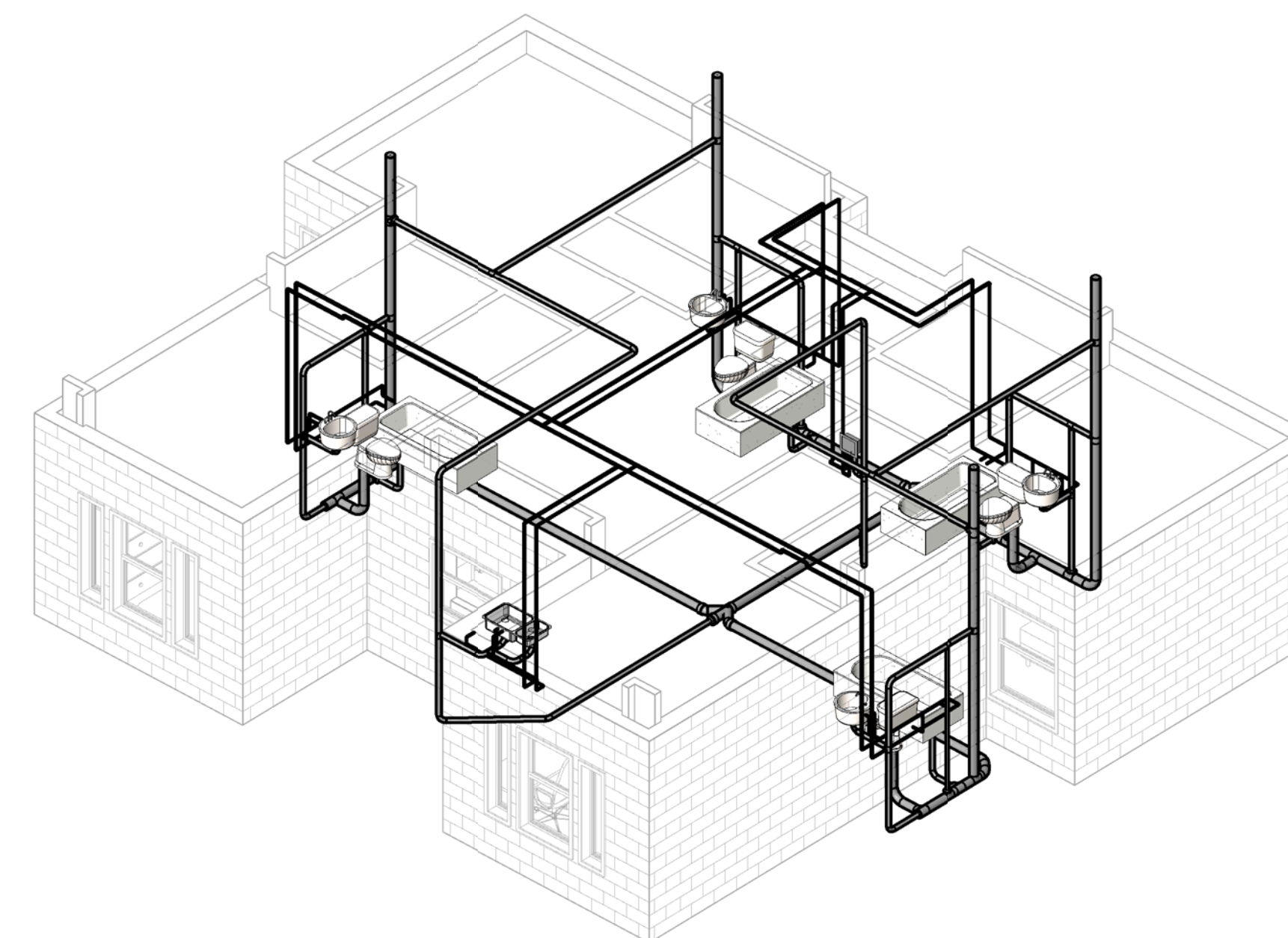
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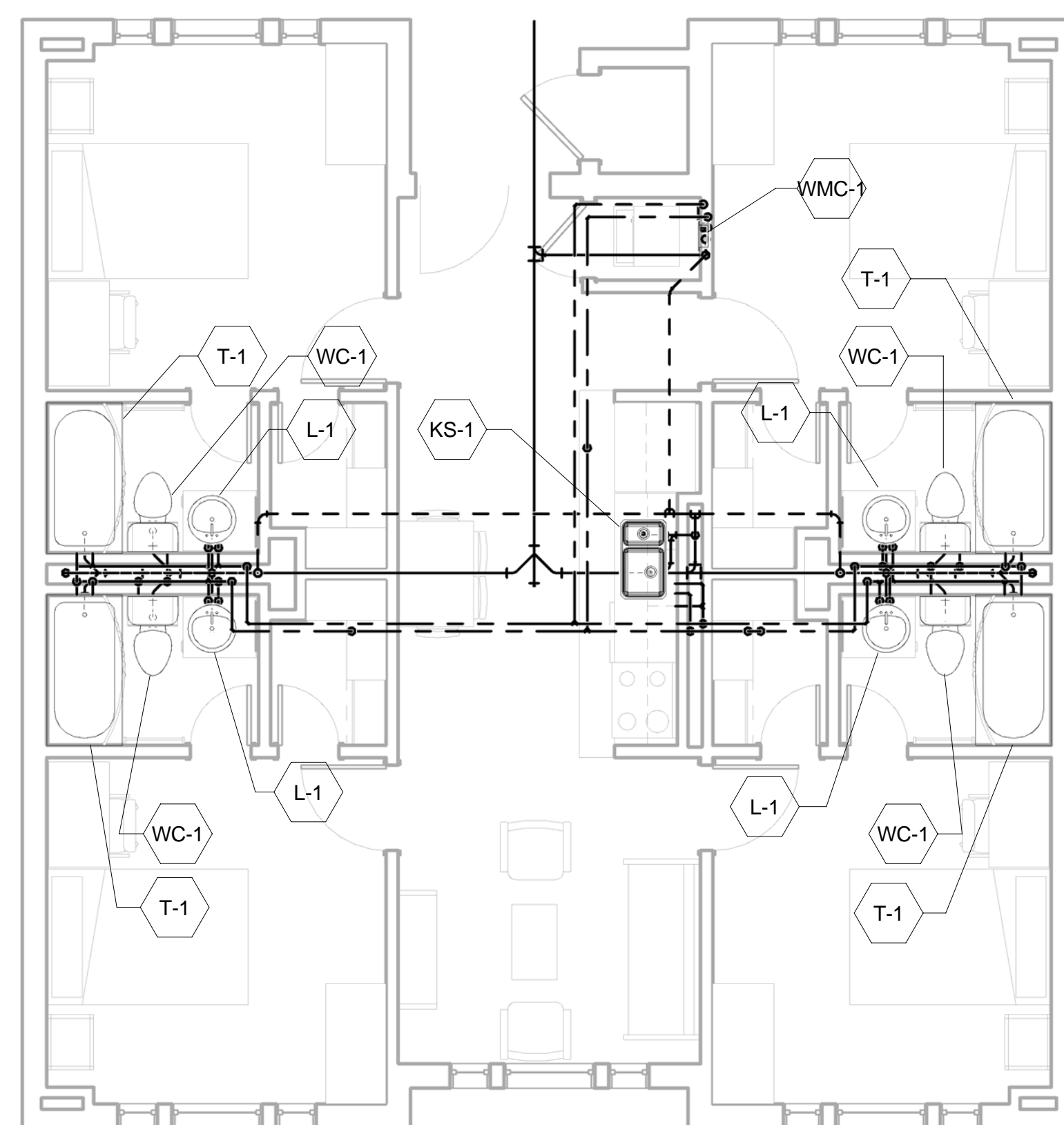
P01



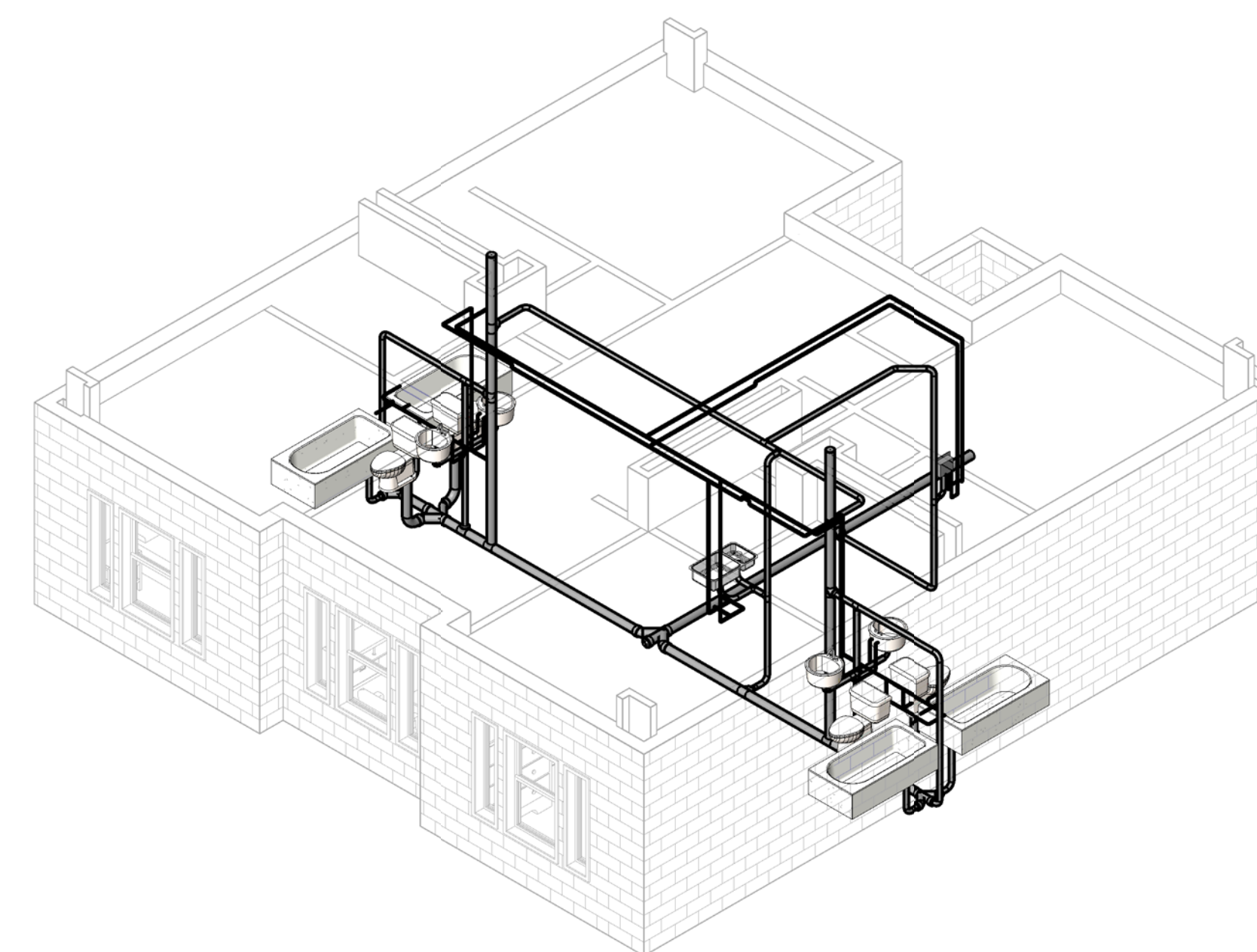
1 - Plumbing - A
1/4" = 1'-0"



2 - 3D Plumbing - A



3 - Plumbing - B
1/4" = 1'-0"



4 - 3D Plumbing - B

Revision:
Date: By: Description:

**AIR FORCE CENTER FOR ENGINEERING AND THE
ENVIRONMENT (AFCEE)
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR
DORMITORIES**

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

**PLUMBING FLOOR
PLANS**

Date: 11 MAY 2009

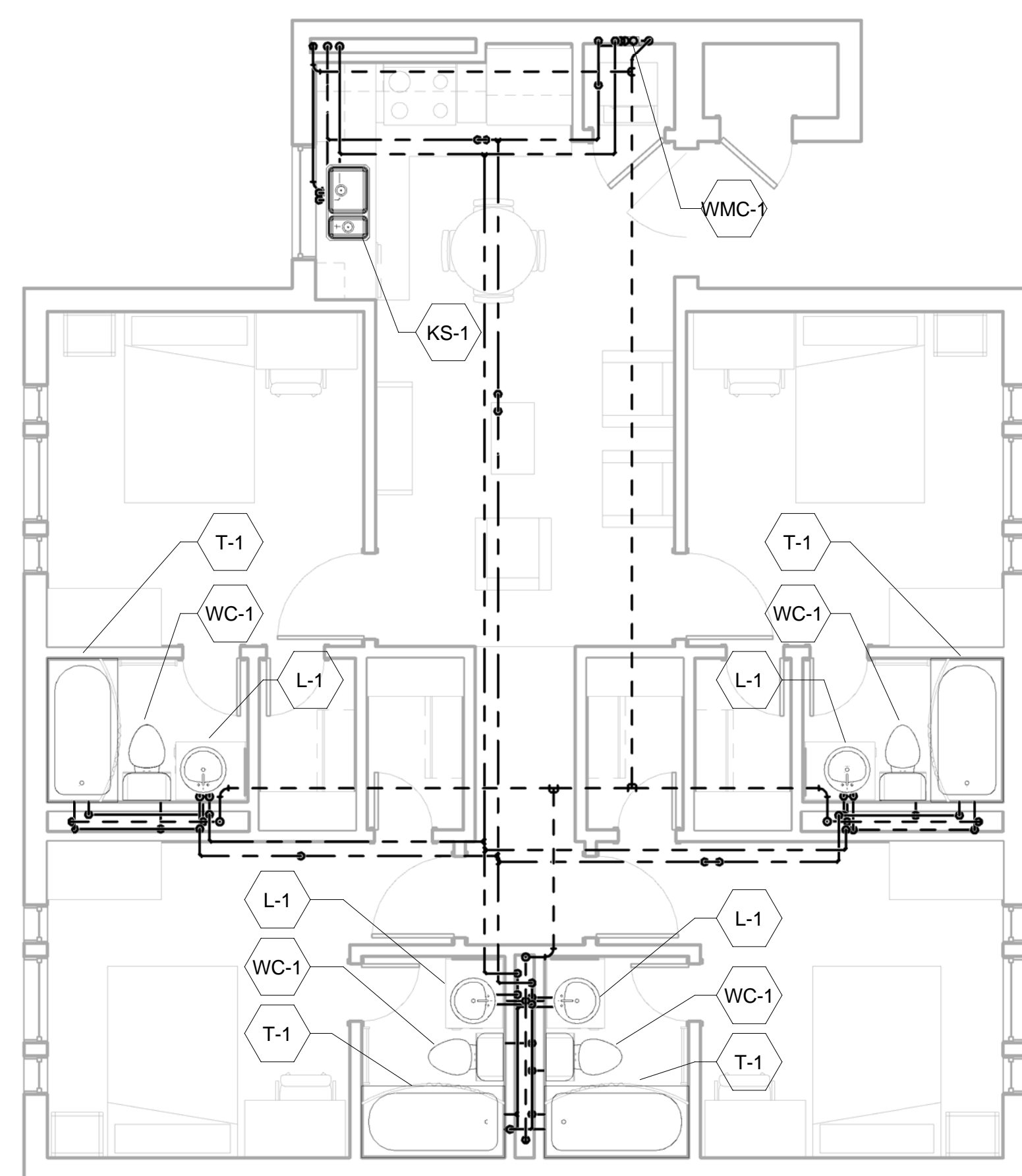
Designed By: Designer

Drawn By: Author

Checked By: Checker

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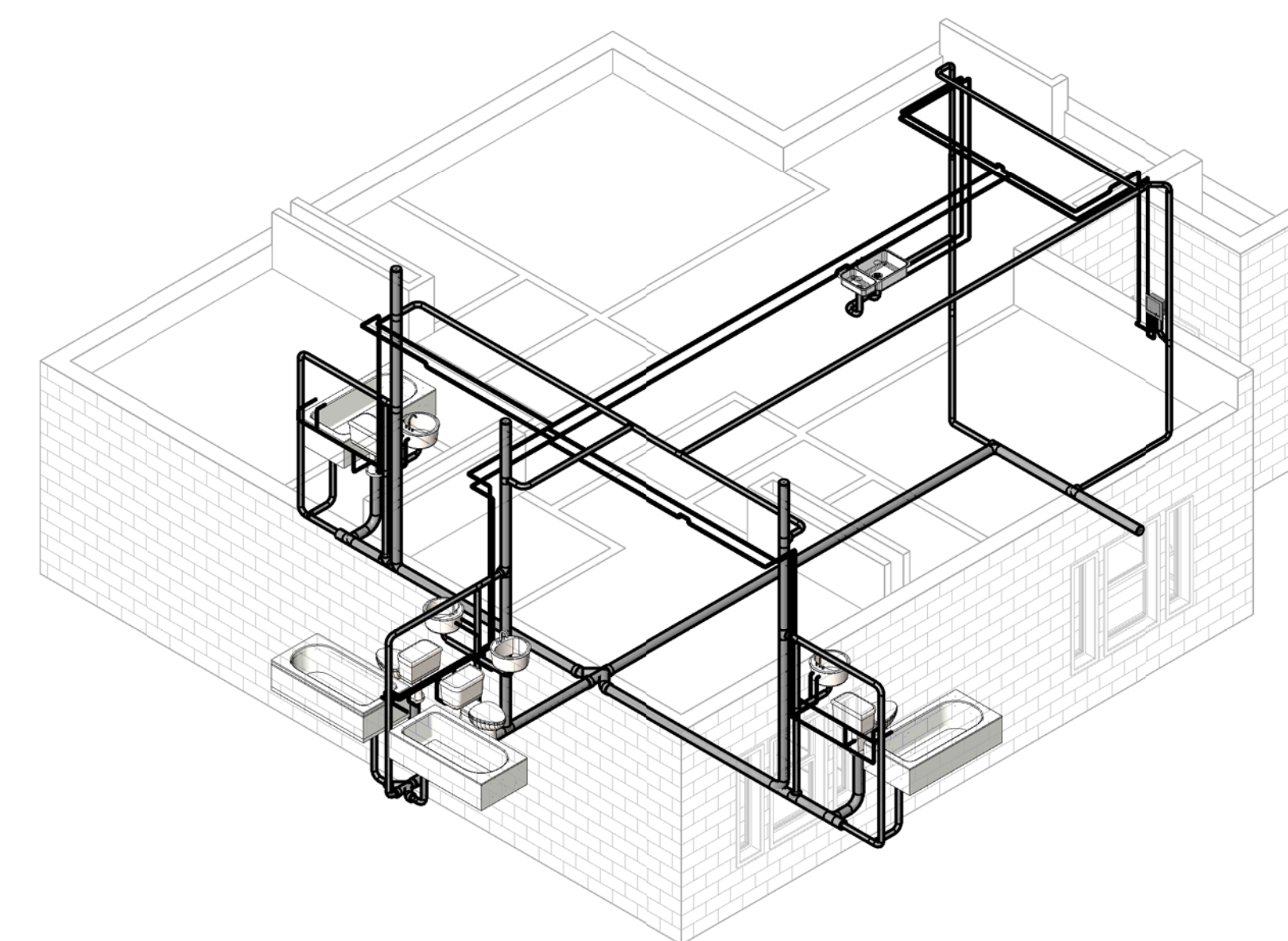
P02



① 1 - Plumbing - C
1/4" = 1'-0"

PLUMBING FIXTURE ROUGH-IN SCHEDULE					
MARK	DESCRIPTION	CONNECTION SIZE			
		CW	HW	SAN	VENT
KS-1		1/2"	1/2"	2"	0"
L-1		1/2"	1/2"	1 1/4"	0"
T-1		1/2"	1/2"	2"	0"
WC-1		1/2"		4"	0"
WMC-1		1/2"	1/2"	2"	0"

② 3D Plumbing - C



NOT FOR
CONSTRUCTION

911 Central Parkway N., Suite 425 San Antonio, TX 78323
501 North Broadway, St. Louis, Missouri 63102-2121

Revision:
Date: By: Description:

**AIR FORCE CENTER FOR ENGINEERING AND THE
ENVIRONMENT (AFCEE)
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR
DORMITORIES**

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

**CONCRETE PLANS/
AXONS (plan A, B and
axon)**

Date: 06 MARCH 2009

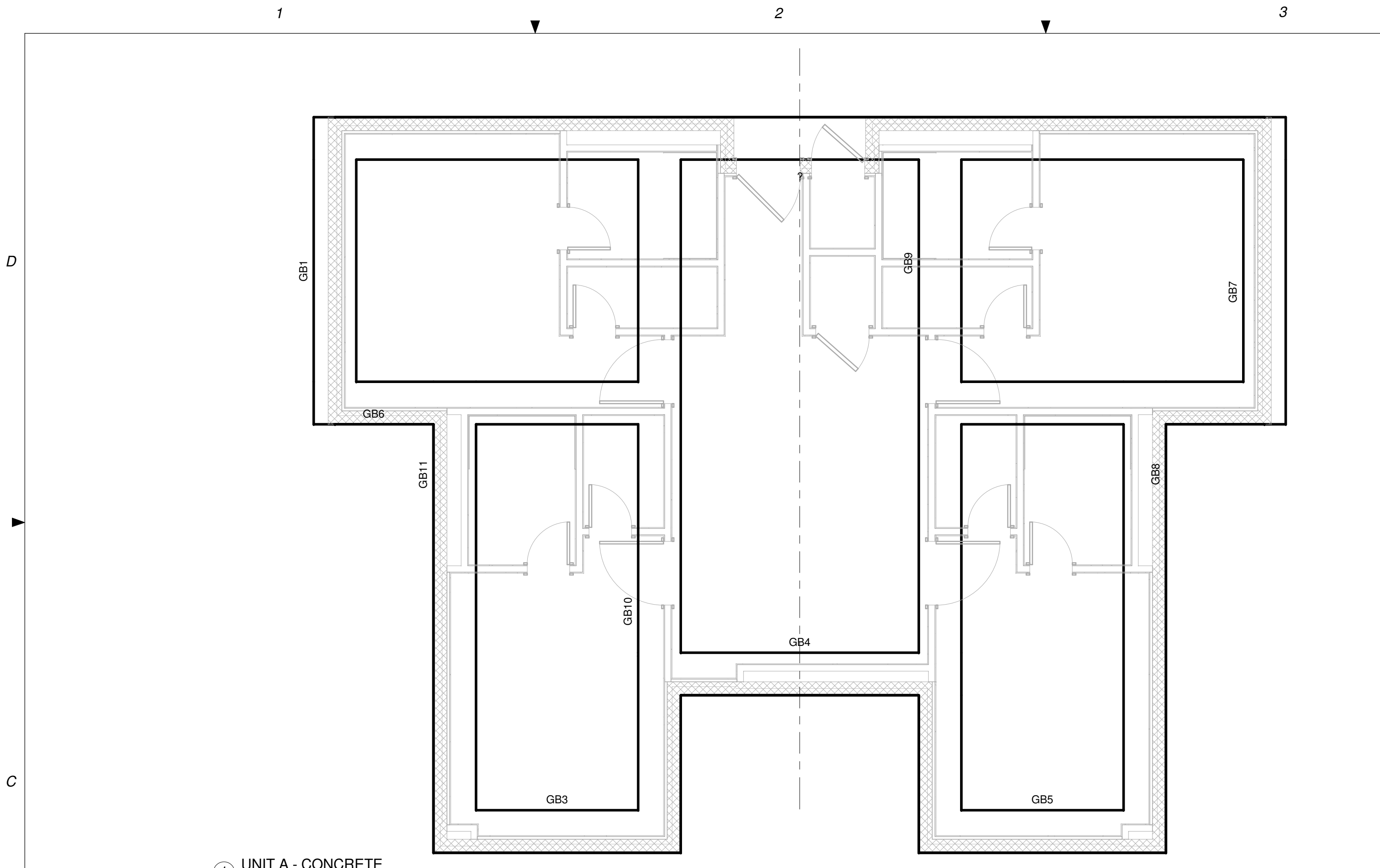
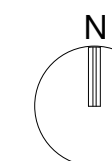
Designed By: Designer

Drawn By: Author

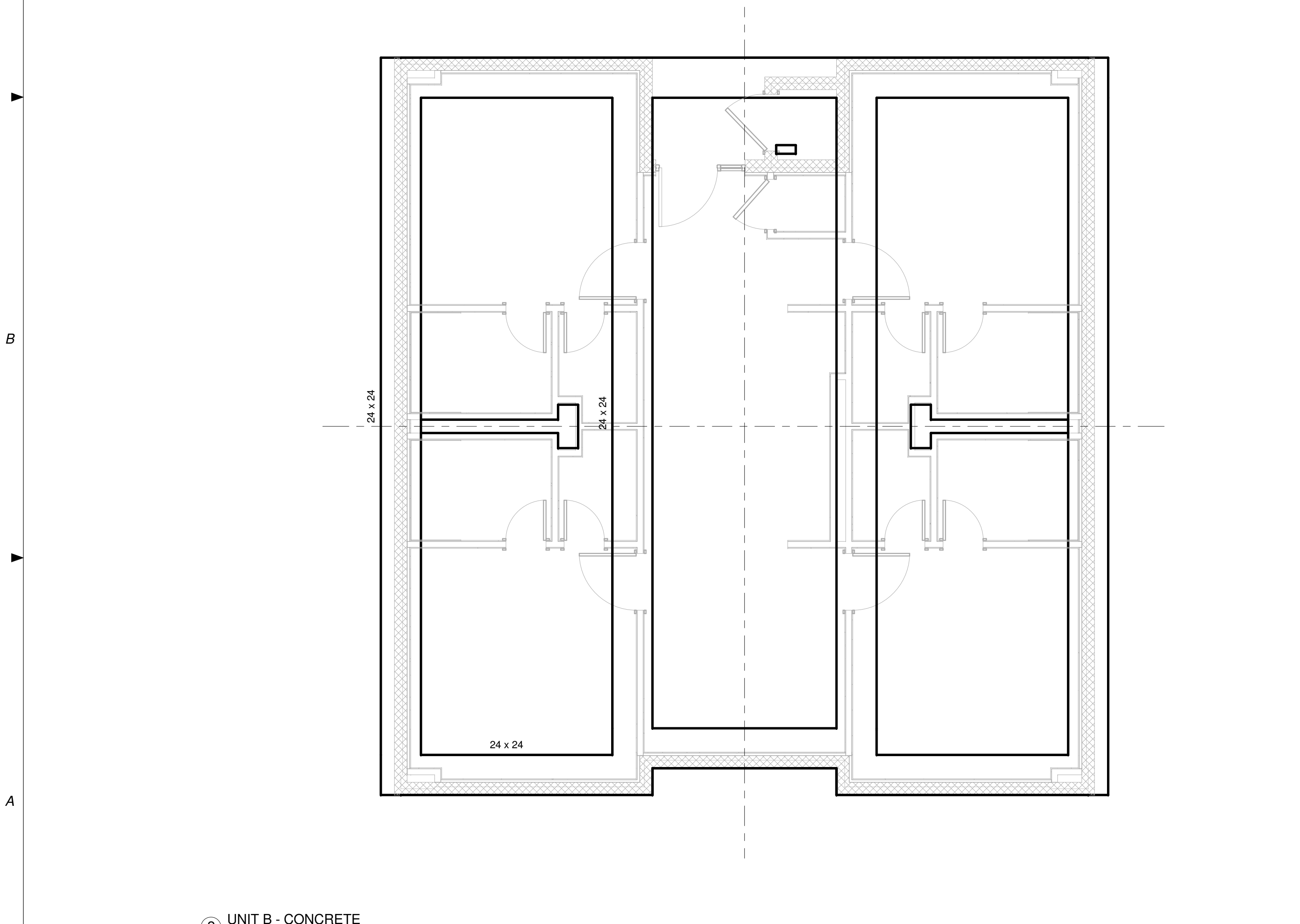
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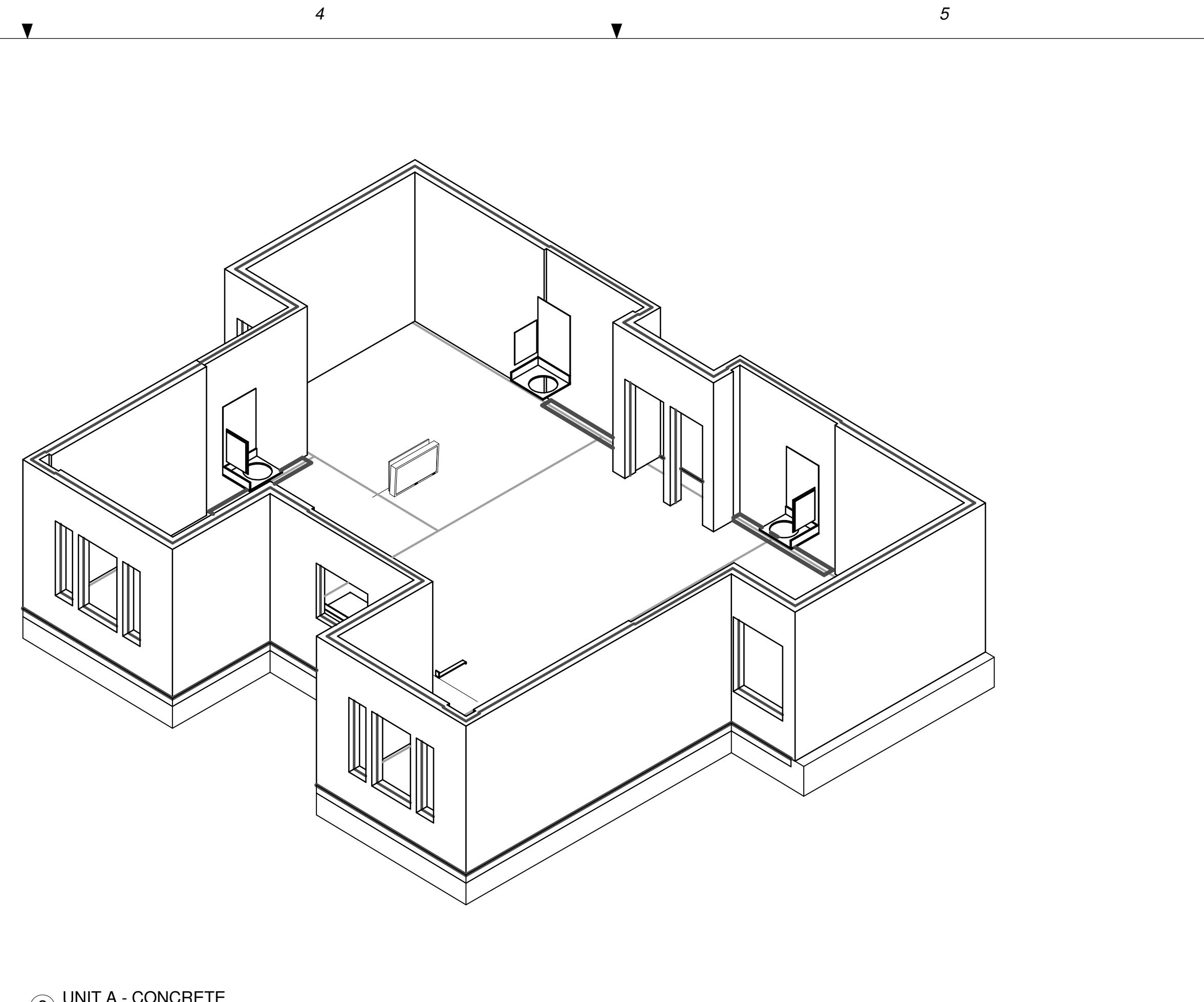
S01



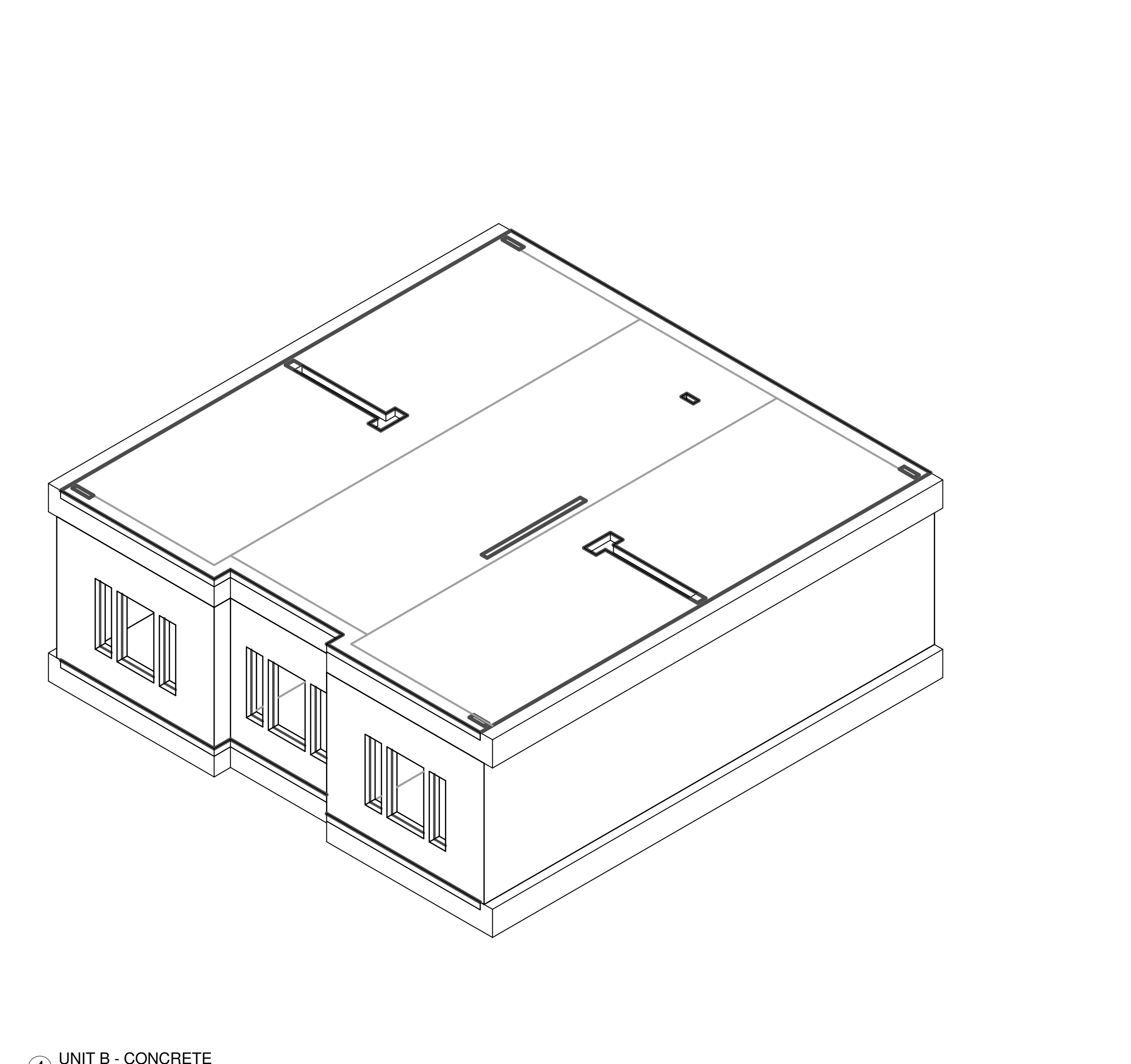
① UNIT A - CONCRETE
1/4" = 1'-0"



② UNIT B - CONCRETE
1/4" = 1'-0"



③ UNIT A - CONCRETE



④ UNIT B - CONCRETE

AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE)
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

CONCRETE PLANS/
AXONS (communal
area and stairs)

Date: 06 MARCH 2009

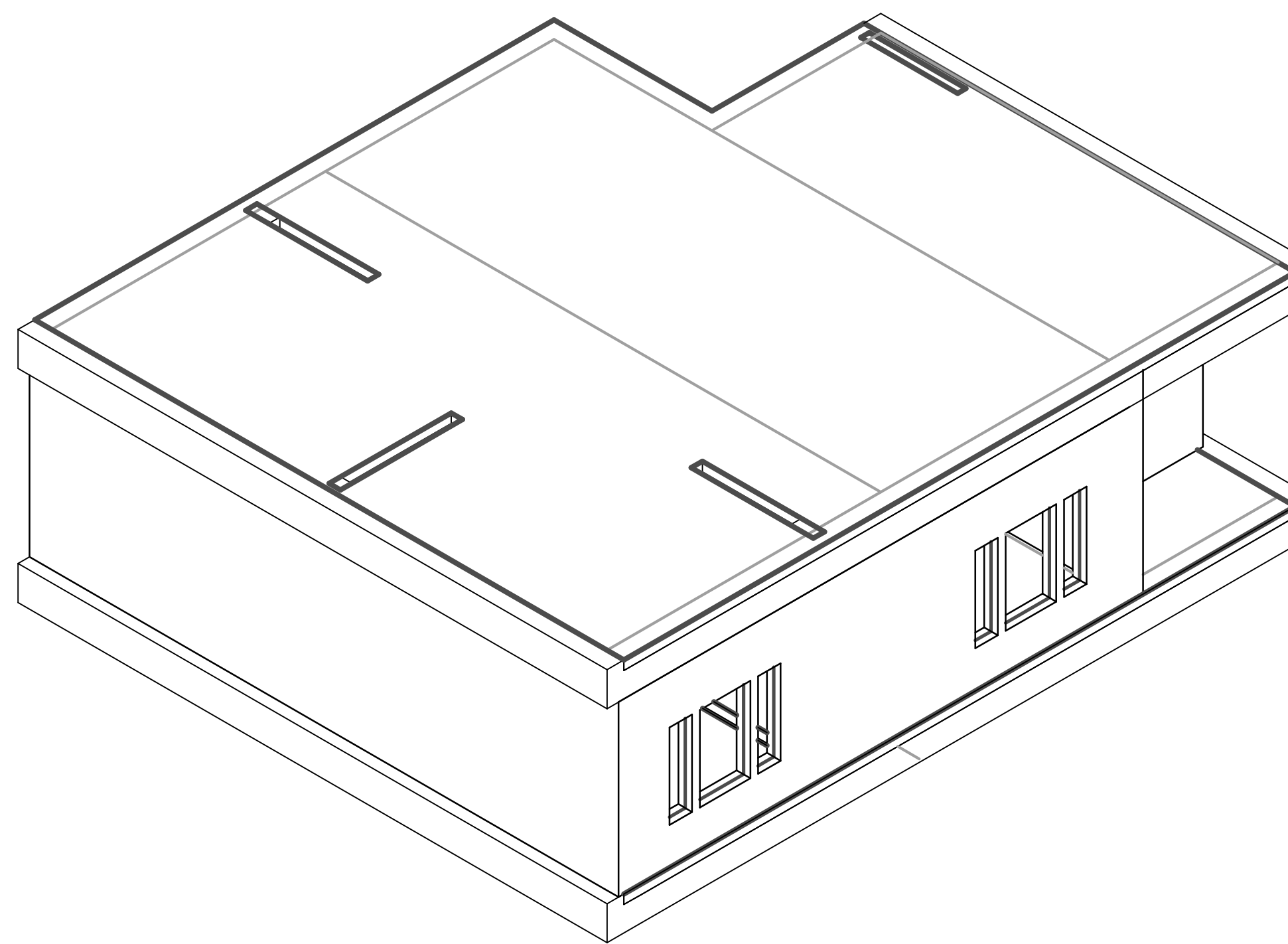
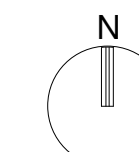
Designed By: Designer

Drawn By: Author

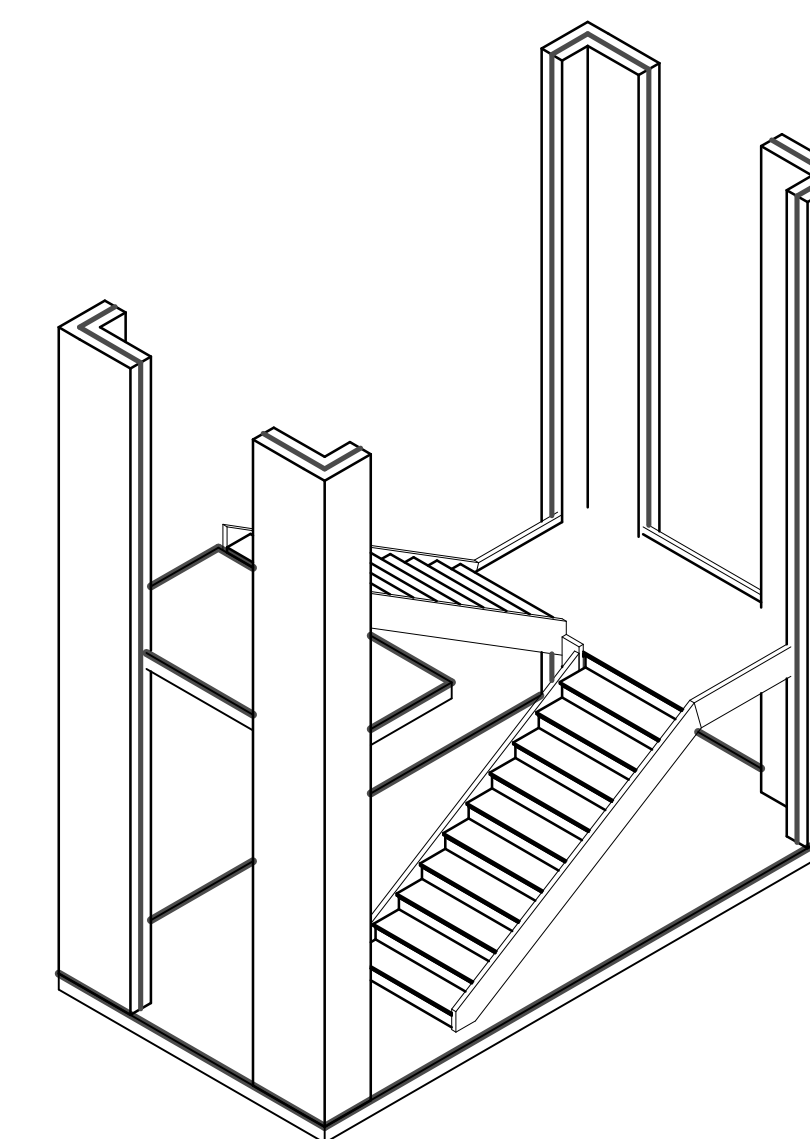
Checked By: Checker

Drawing No.:

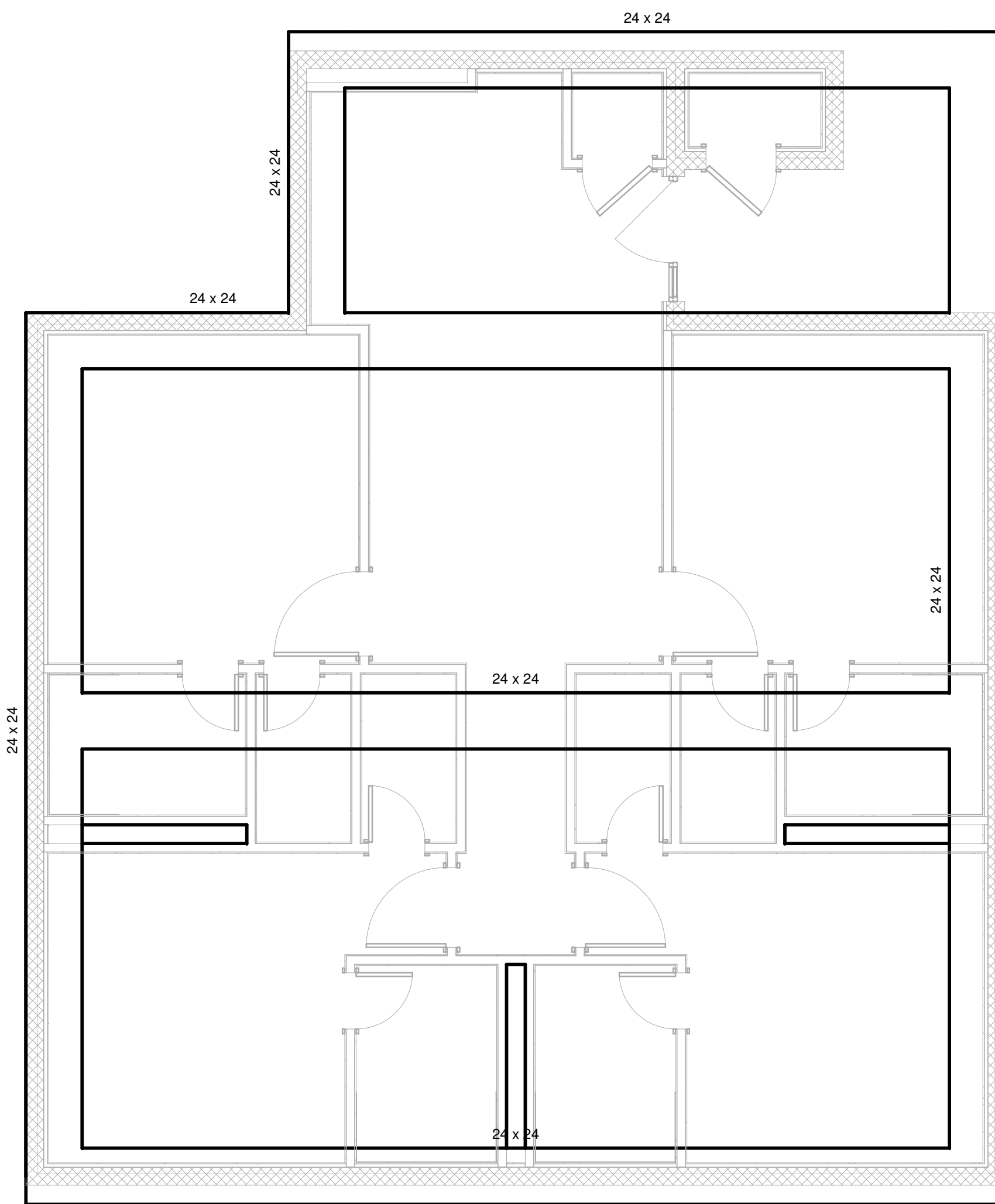
S02



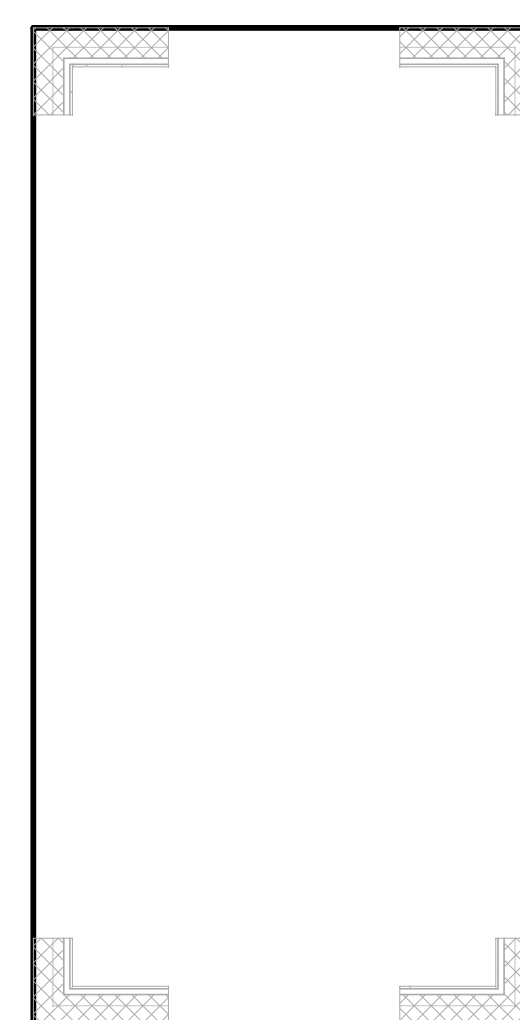
③ UNIT C - CONCRETE



④ STAIRS - CONCRETE



① UNIT C - CONCRETE
1/4" = 1'-0"



② STAIRS - CONCRETE
1/4" = 1'-0"

D

C

B

A

1

2

3

4

5

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CONSTRUCTION

911 Central Parkway N., Suite 425 San Antonio, TX 78323
501 North Broadway, St. Louis, Missouri 63102-2121

Revision:
Date: By: Description:

**AIR FORCE CENTER FOR ENGINEERING AND THE
ENVIRONMENT (AFCEE)
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR
DORMITORIES**

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

**STEEL PLANS/
AXONS (plan A, B and
axon)**

Date: 06 MARCH 2009

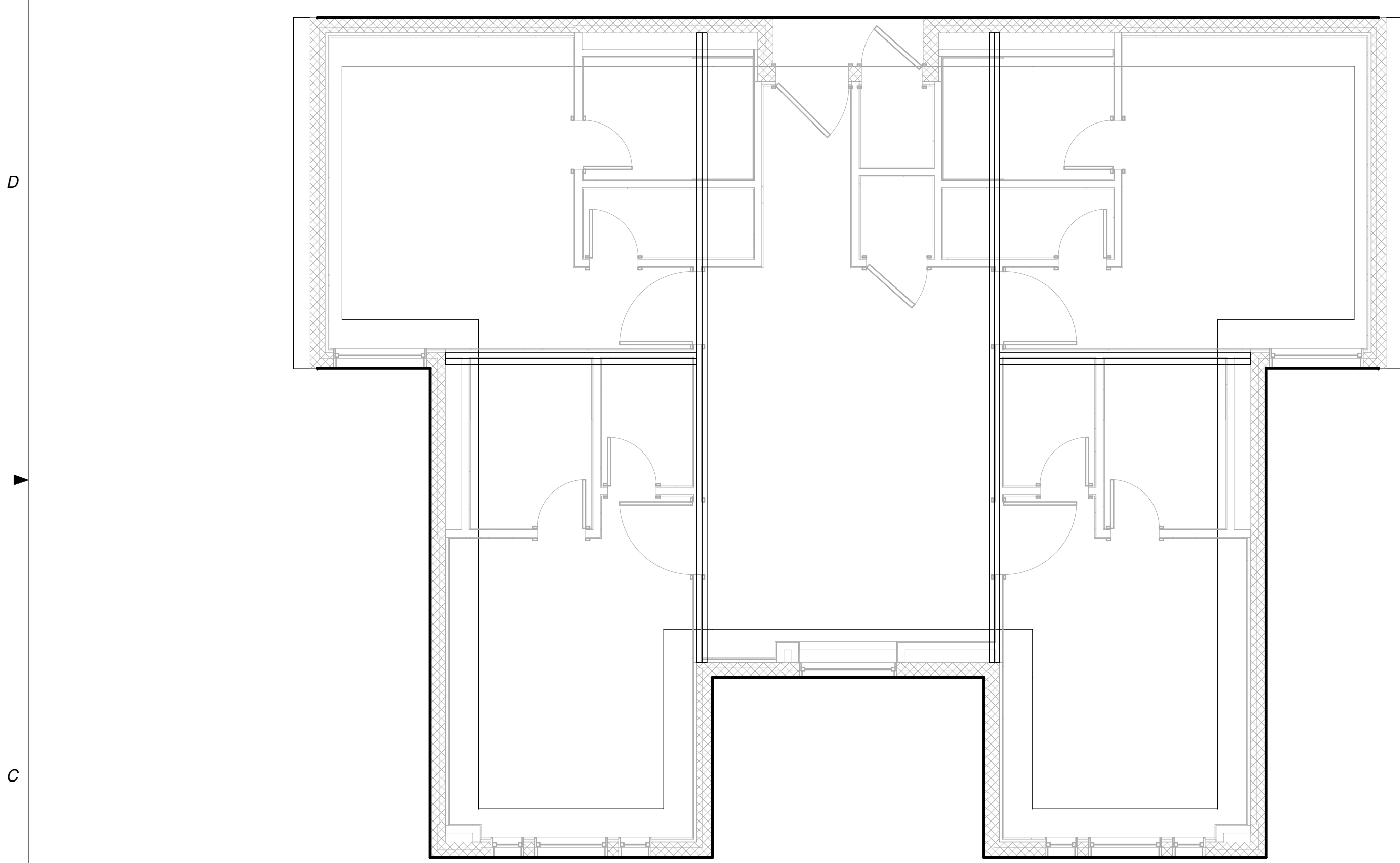
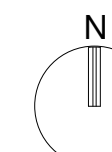
Designed By: Designer

Drawn By: Author

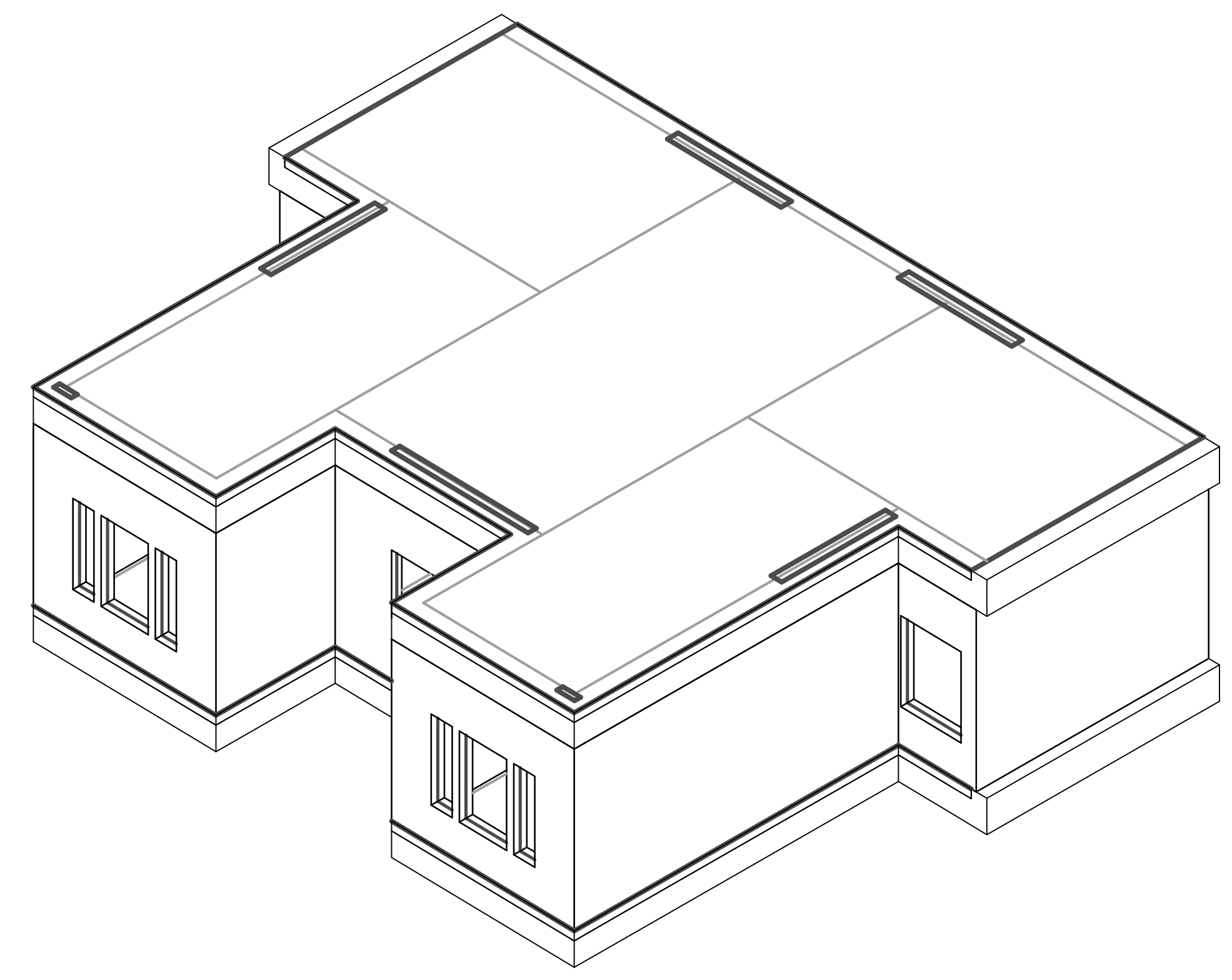
Checked By: Checker

Drawing No.:

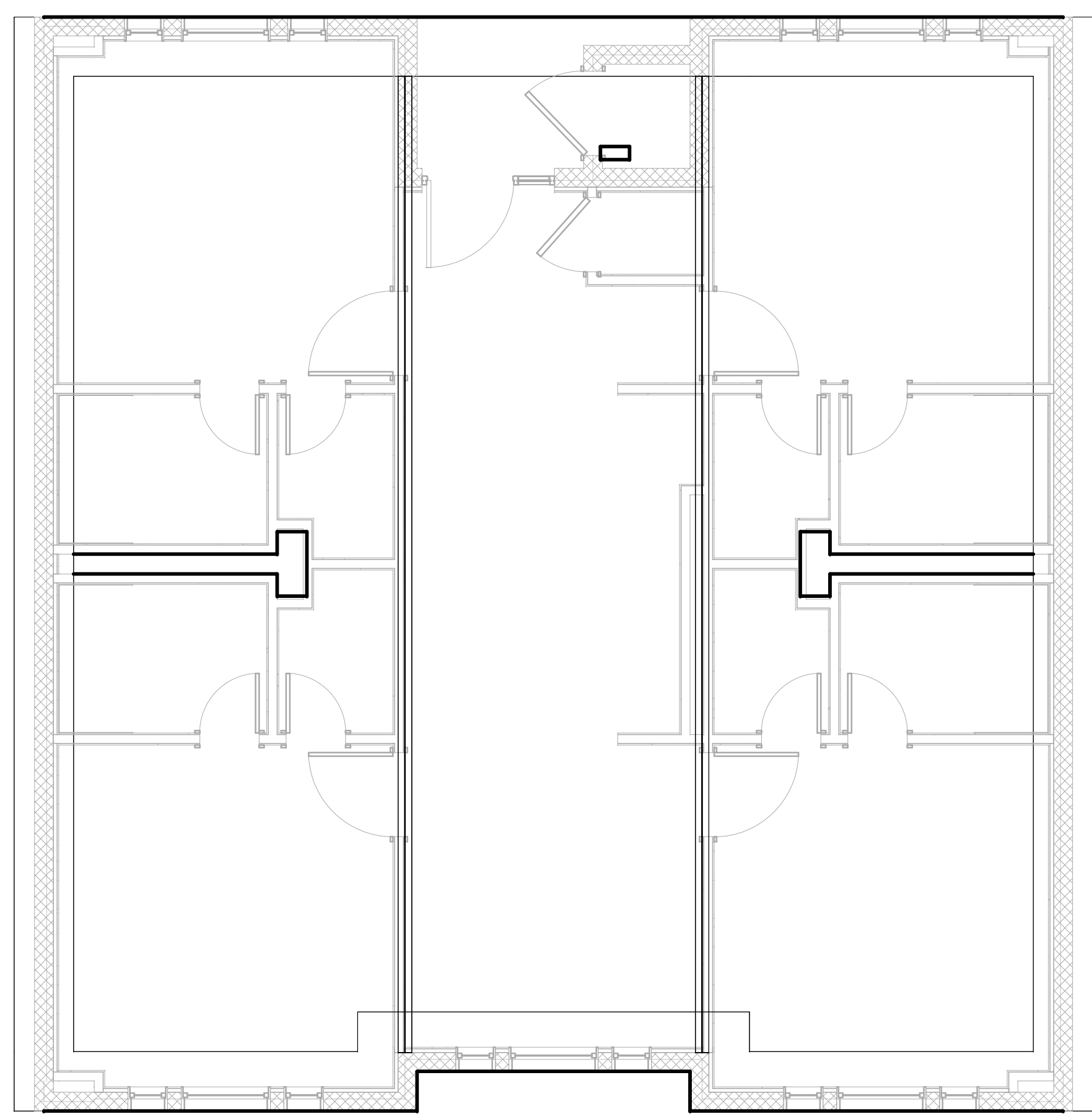
S03



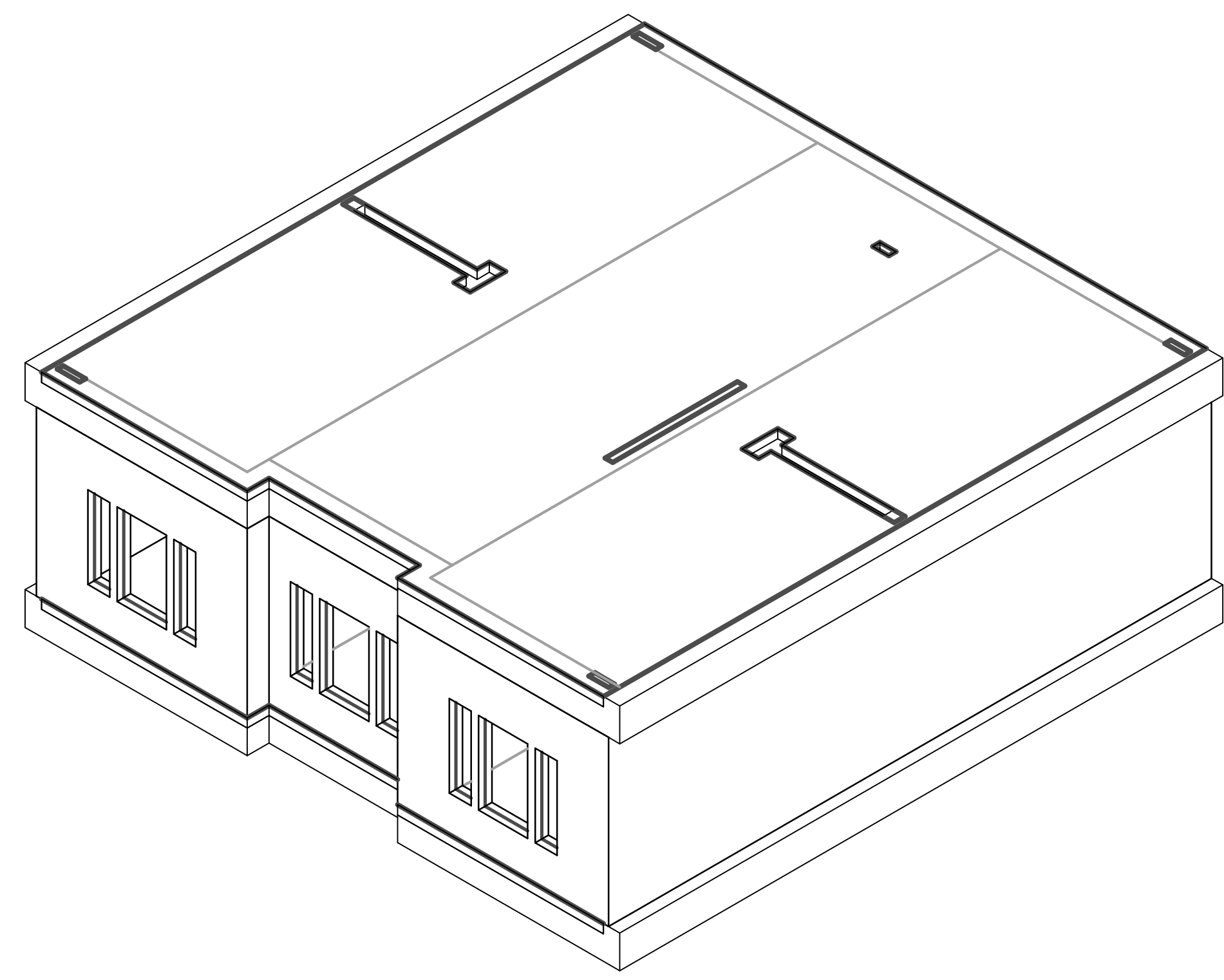
① UNIT A - STEEL
1/4" = 1'-0"



③ UNIT A - STEEL



② UNIT B - STEEL
1/4" = 1'-0"



④ UNIT B - STEEL

**AIR FORCE CENTER FOR ENGINEERING AND THE
ENVIRONMENT (AFCEE)
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR
DORMITORIES**

Scales: 1/4" = 1'-0"

Jacobs Project No.: FDWD1301

Drawing Title:

**STEEL PLANS/
AXONS (communal
area and stairs)**

Date: 06 MARCH 2009

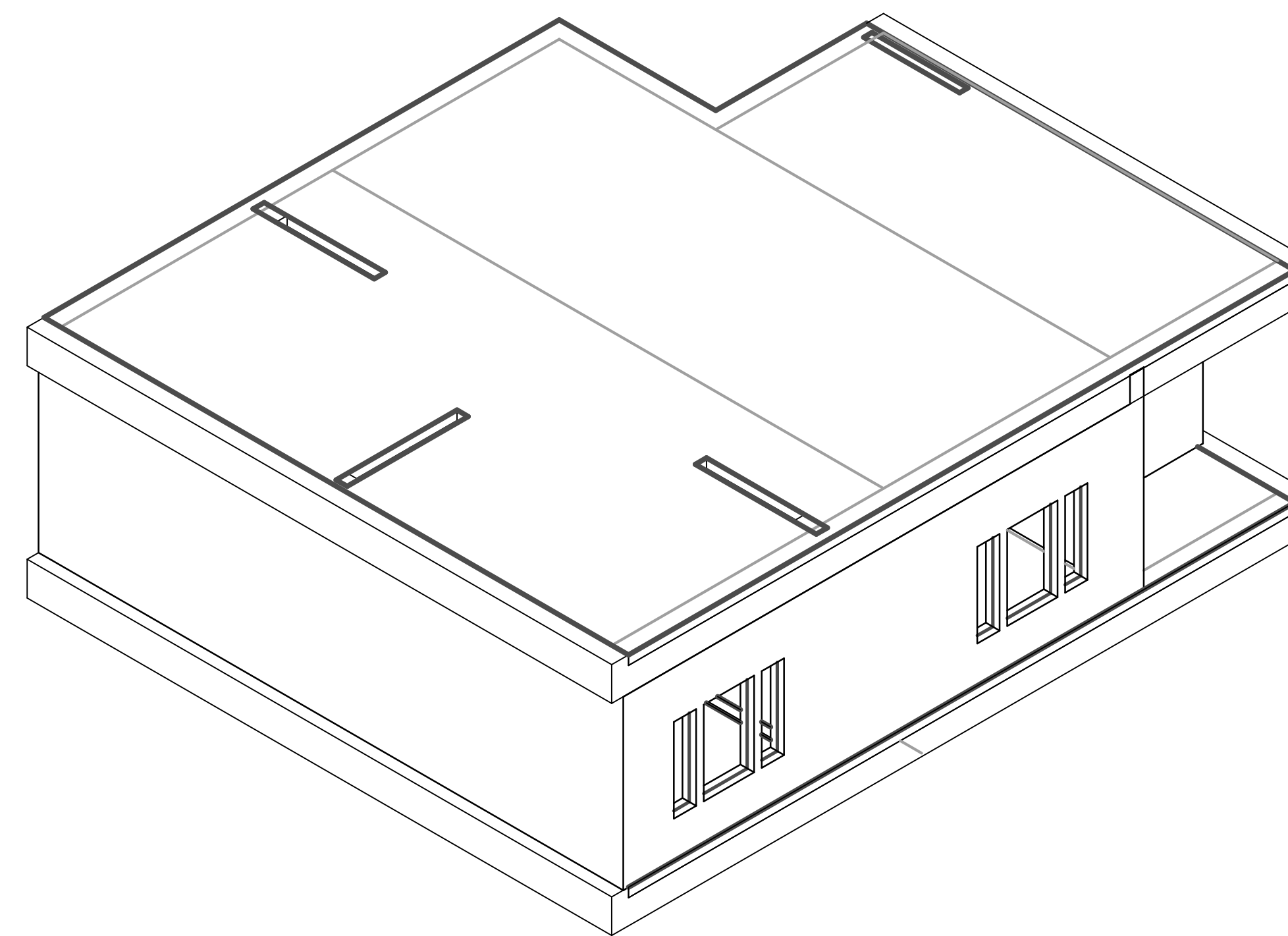
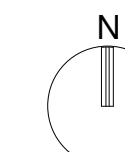
Designed By: Designer

Drawn By: Author

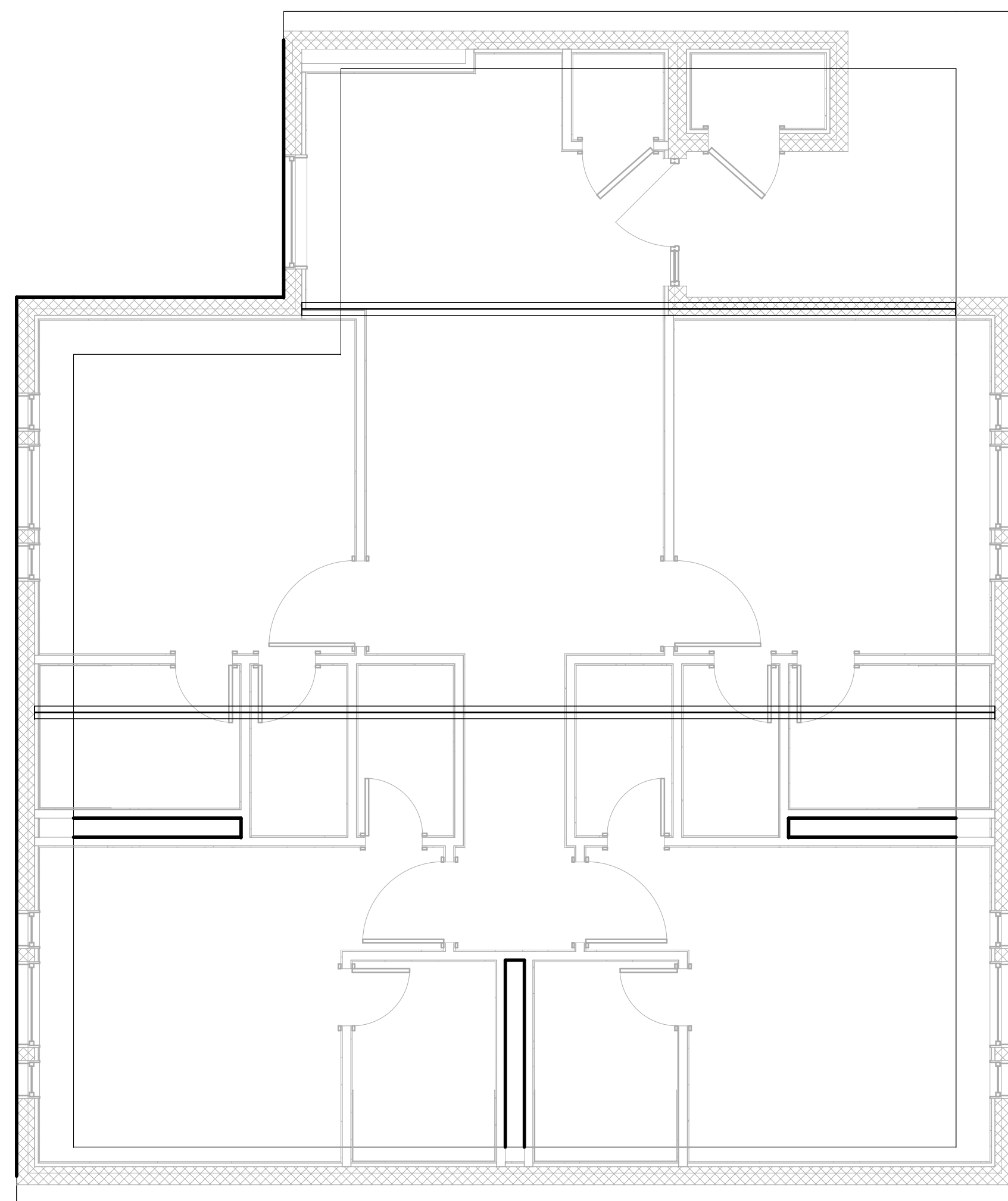
Checked By: Checker

Drawing No.:

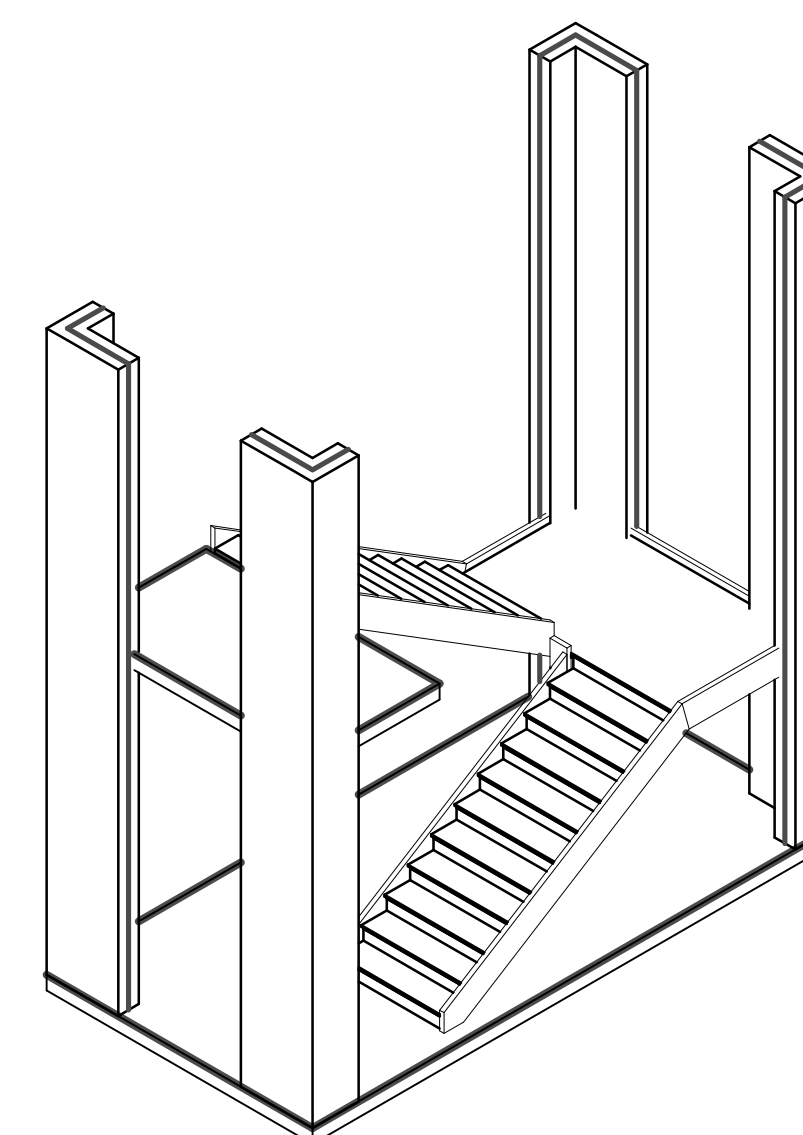
S04



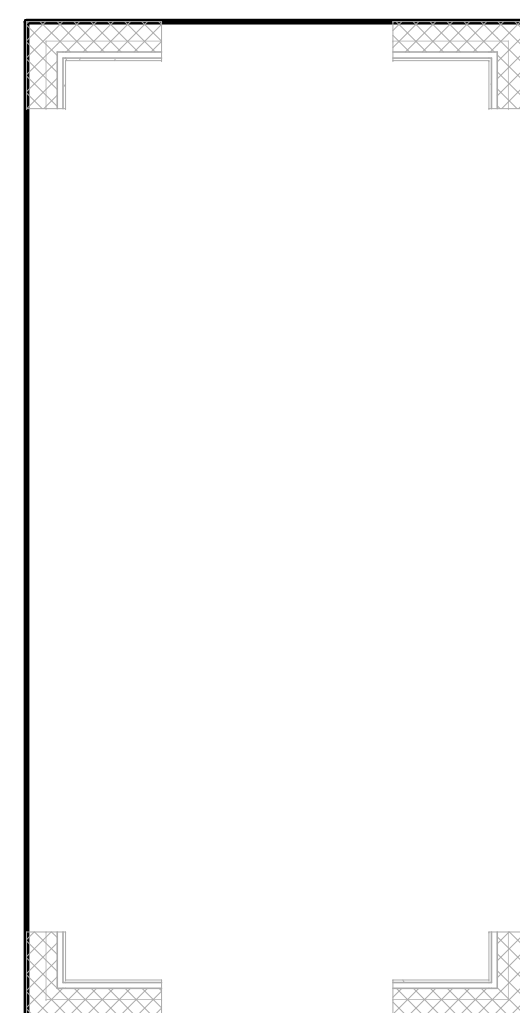
③ UNIT C - STEEL



① UNIT C - STEEL
1/4" = 1'-0"



④ STAIRS - STEEL



② STAIRS - STEEL
1/4" = 1'-0"

D

C

B

A

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Revision:
Date: By: Description:

**AIR FORCE CENTER FOR ENGINEERING AND THE
ENVIRONMENT (AFCEE)
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR
DORMITORIES**

BEAM SCHEDULE - UNIT A									
MARK	SIZE W" X D"	REINFORCING STEEL				STIRRUPS			
		NO.	SIZE	TYPE	RE M A R K S	NO.	SIZE	TYPE	SPACING (EACH END U.N.O.)
GB1	24 x 24								
GB3	24 x 24								
GB4	24 x 24								
GB5	24 x 24								
GB6	24 x 24								
GB6	24 x 24								
GB6	24 x 24								
GB6	24 x 24								
GB7	24 x 24								
GB8	24 x 24								
GB9	24 x 24								
GB9	24 x 24								
GB10	24 x 24								
GB10	24 x 24								
GB11	24 x 24								

BEAM SCHEDULE - UNIT B									
MARK	SIZE W" X D"	REINFORCING STEEL				STIRRUPS			
		NO.	SIZE	TYPE	RE M A R K S	NO.	SIZE	TYPE	SPACING (EACH END U.N.O.)
GB12	24 x 24								
GB13	24 x 24								
GB16	24 x 24								
GB19	24 x 24								
GB20	24 x 24								
GB20	24 x 24								
GB21	24 x 24								
GB21	24 x 24								

Scales:

Jacobs Project No.: FDWD1301

Drawing Title:

BEAM SCHEDULE

Date: 06 MARCH 2009

Designed By: Designer

Drawn By: Author

Checked By: Checker

Drawing No.:

S05

