



BIDDING & CONTRACT REQUIREMENTS

Document 00 20 00 - Addendum No. 5

DATE: January 19, 2026

Project Engineer: RTM Engineering Consultants
20 N.W. 3rd Street Suite 510
Evansville, Indiana 47708-1356
Telephone: 812-401-2260

TO: PROSPECTIVE BIDDERS

SUBJECT: ADDENDUM NO. 5 TO THE BIDDING DOCUMENTS FOR

SE888 Knobview Hall – Replace Air Handling Units
Indiana University Southeast
IU 20250614

This addendum forms a part of the bidding and contract documents and modifies the original bidding documents, date December 15, 2025. Acknowledge receipt of this addendum in space provided on Bid Form. FAILURE TO DO SO MAY SUBJECT BIDDER TO DISQUALIFICATION.

DRAWINGS:

1. Siemens Control Drawings are attached.

ATTACHMENTS:

1. Siemens Temperature Control Drawings.



SIEMENS INDUSTRY, INC.
SMART INFRASTRUCTURE

11001 BLUGRASS PKWY,
LOUISVILLE, KY
US

Draft Print

IU Project 20250614

Note the following:

VFD's provided by contractor (not Siemens).
Air Flow Measuring Stations by contractor.
Dampers provided by contractor.

Control Installation Contractor (CIC) work will
be provided by Siemens in their direct bid to IU.

PHONE: (502) 267-1571
FAX: (502) 267-0316

DATE: 01/19/26

FOR INFORMATION CONTACT
MICHAEL BURTON

ENGINEERING DATA FOR
IUSE KNOBVIEW AHU REPLACEMENT

4201 GRANT LINE RD
NEW ALBANY, 47150-2158
US

PROJECT NO: 44OP-410840

DWG DESCRIPTION			
GENERAL	COVERSHEET CLARIFICATION SHEET TABLE OF CONTENTS	SCHEDULES	FLN SCHEDULE VALVE SCHEDULE
LEG	LEGEND & ABBREVIATIONS	CONTROL DRAWINGS	
CLR	COMMUNICATION RISER	001	FLN/MSTP COMMUNICATION
TOC	FLN/MSTP COMMUNICATION	002	KV AHU 2 CONTROL SYSTEM
		100	KV AHU 2 CONTROL SYSTEM
		100A	KV AHU 2 CONTROL SYSTEM
		100B	KV AHU 2 CONTROL SYSTEM
		100C	KV AHU 2 SYSTEM BOM/SEQ
		101	KV AHU 3 CONTROL SYSTEM
		101A	KV AHU 3 CONTROL SYSTEM
		101B	KV AHU 3 CONTROL SYSTEM
		101C	KV AHU 3 SYSTEM BOM/SEQ
		102	KV AHU 4 CONTROL SYSTEM
		102A	KV AHU 4 CONTROL SYSTEM
		102B	KV AHU 4 CONTROL SYSTEM
		102C	KV AHU 4 SYSTEM BOM/SEQ
			STANDARD DRAWINGS
			ANIXTER BUILDING AUTO. CABLES
			PRODUCT DOCUMENTATION
			ABAC

REVISION HISTORY	SIEMENS	440P-410840
	2400 NELSON MILLER PRYSVILLE, MD 20733-0000	0
	SEMIENS INDUSTRY, INC. SMART INFRASTRUCTURE	USE KNOBVIEW AHU REPLACEMENT
		NEW ALBANY,
		PHONE: (602) 287-1571 FAX: (602) 287-0316
	DC	ENGINEER DRAFTER CHECKED BY INITIAL RELEASE LAST EDIT DATE
	DC	MM 01/19/26 01/19/26
		Table of Contents
		TOCA
		C:\USERS\Z0056WH\ONEDRIVE - SIEMENS AG\VECTG022 - BKY1.BAU USE KNOBVIEW AHU REPLACEMENT_440P-410840 (WORK IN PROGRESS. ENGINEERING FILES 01\W01\TOC-000.DWG

SIEMENS INDUSTRY, INC.**SMART INFRASTRUCTURE**

LOCATION:
JOB NO:
ENGR:

44OP410840
DC

Valve Submittal - Water

PROJECT NAME: TUSE KNOBVIEW AHU REPLACEMENT
DATE: 01/19/26
PAGE: 1
REV:

GENERAL NOTES:

1. All valves 2-1/2" and larger have flanged ends, 2" and smaller have screwed ends.
2. All control valves and wells shall be installed by the mechanical contractor.
3. Standard abbreviations used on control valves are:

BODY TYPES: 3W - Three way; 2W - Two way; A - Angle; N.C. - Normally Closed; N.O. - Normally Open;
NOC - Ball Valve can be N.O. or N.C.; BF - Butterfly Valve; DS - Double Seated;

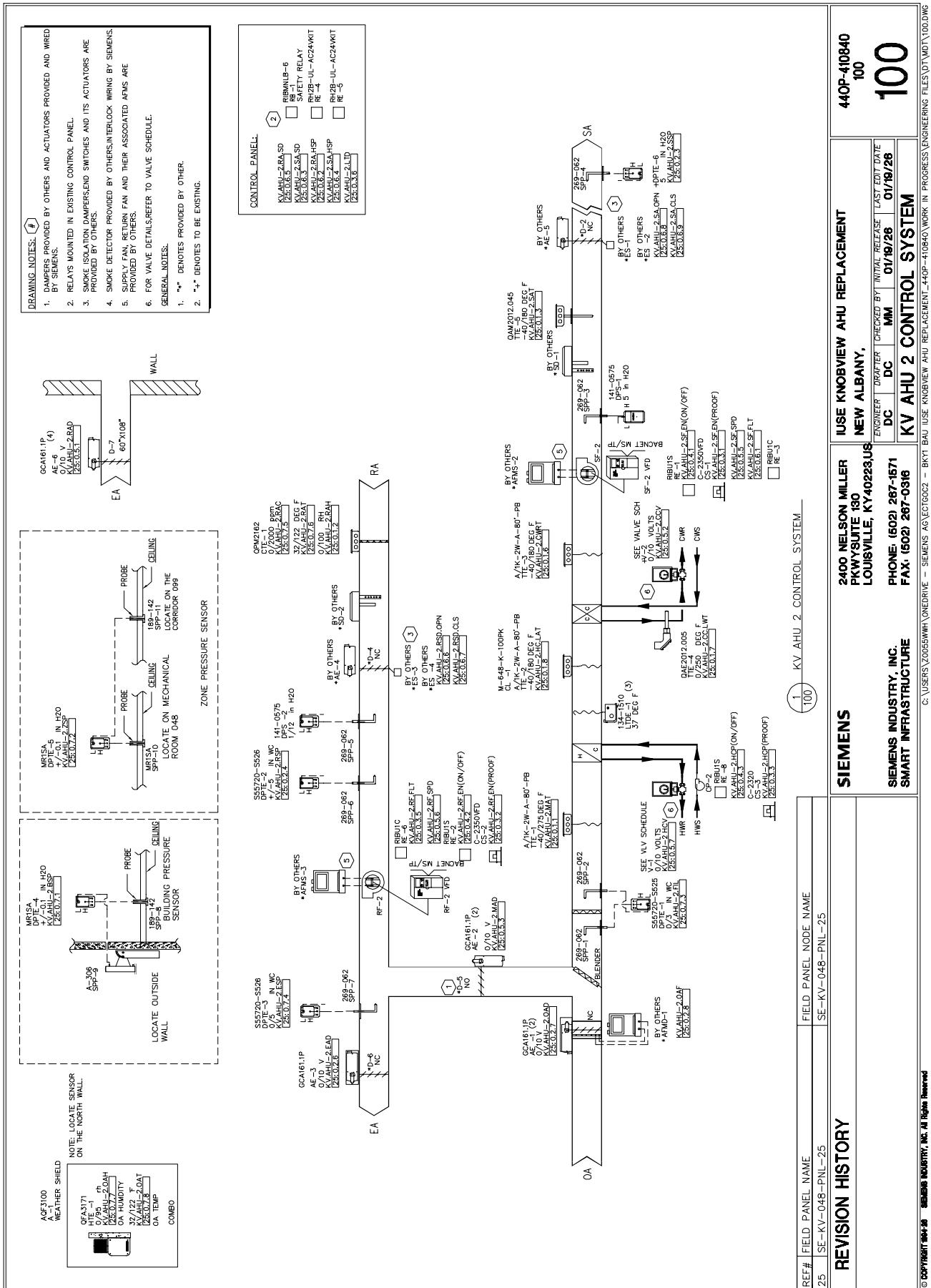
Valve ID/ Location	Qty	Product Number	Valve size	Body Type	Body Style	Actual Cv	Actuator Type	Design P. Drop (psi)	Required Flow (gpm)	Min (gpm)	Max (gpm)	Preset (gpm)	Steam Inlet	Press Drop (psi)	Shut Off	Valve Spec Sheet	ANSI Class	Comment
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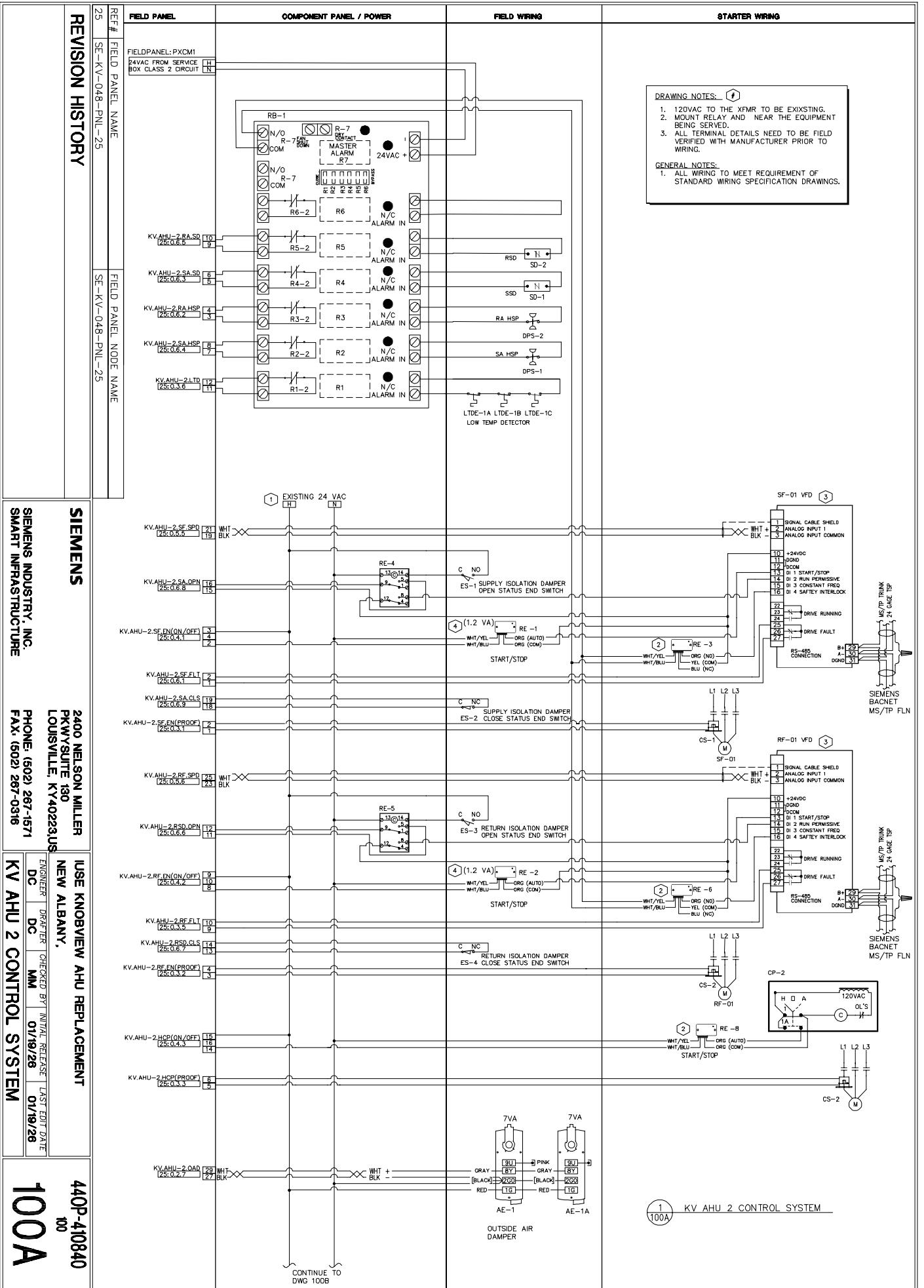
Mechanical System: 100

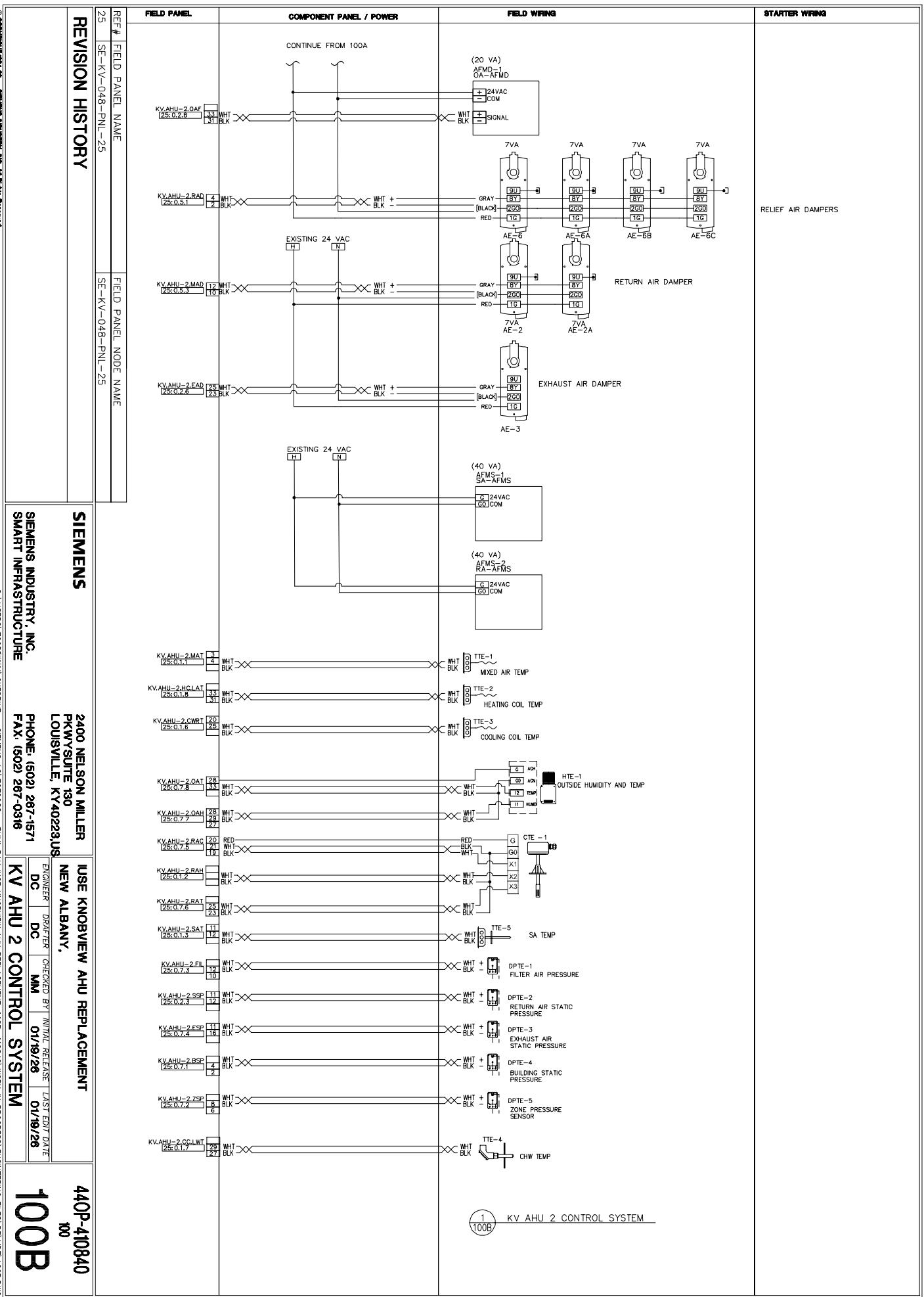
KV AHU 2 CONTROL SYSTEM																			
V-1	1	274-03170	2.00	2W	Globe	40.00	NO-SR	5	56.60	N/A	N/A	N/A	N/A	N/A	--	2.0022	154 006	49	250
																		KV-AHU02-HC	
																		V	
KV AHU 3 CONTROL SYSTEM																			
V-1	1	274-03169	1.50	2W	Globe	25.00	NO-SR	5	30.60	N/A	N/A	N/A	N/A	N/A	--	1.4982	154 006	80	250
																		KV-AHU03-HC	
																		V	
KV AHU 4 CONTROL SYSTEM																			
V-1	1	274-03170	2.00	2W	Globe	40.00	NO-SR	5	56.40	N/A	N/A	N/A	N/A	N/A	--	1.9881	154 006	49	250
																		KV-AHU04-HC	
																		V	

NOTES: All control valves and wells shall be installed by the heating contractor.

CONTROL SYMBOL	CONTROL DESCRIPTION	CONTROL SYMBOL	CONTROL DESCRIPTION
AC	AIR COMPRESSOR	HHC	HAND-HELD OPERATOR'S TERMINAL
AD	AIR DRYER	HMI	HIGH LIMIT
ADR	ACTUATOR DXR	HMI	GAMMA TOUCH PANEL
ACT	ACTUATOR ELECTRIC	HORN	HORN
AEM	APOGEE ETHERNET MICROSERVER	HORN	HORN
AF	AIR FILTER	HPC	HEAT PUMP CONTROLLER
AFS	AIR FLOW STATION	HTD	HIGH TEMPERATURE DETECTOR
AOP	ANALOG OUTPUT, PNEUMATIC	HTP	HUMIDITY TRANSMITTER PNEUMATIC
AP	ACTUATOR PNEUMATIC	INT	INTERCOM
APS	AUX. POWER SUPPLY	KWM	ELECTRIC KILOWATT METER
AT	AUTOMATIC TRAP	LA	LIGHT ACTUATOR
ATD	AUTO TANK DRAIN	LC	LIMIT CONTROLLER (LIMITER)
ATEC	ACTUATOR TEC	LLS	Liquid LEVEL SWITCH
AZM	AUTZERO MODULE	LLT	Liquid LEVEL TRANS.
BCU	BUS COUPLING UNIT	LPR	LOWER SUPPLY 24VAC/24VDC
BELL	BELL	LTD	LOW TEMP. DETECTOR ELECTRIC
BIM	BUS INTERFACE MODULE	LTDPE	LOW TEMP. DETECTOR PNEUMATIC
BOIL	BOILER	LUI	LOCAL USER INTERFACE
BRT	BRIGHTNESS	LMB	MODULAR BUILDING CONTROLLER
BRTT	BRIGHTNESS AND TEMPERATURE	LMD	MODEM
BTN	BUTTON	ME	MODULAR EQUIPMENT CONTROLLER
CBL	CABLES	MEC	MAGNETIC EQUIPMENT CONTROLLER
CKV	CHECK VALVE	MG	MAGNETIC GAUGE
CW	CONSTRUCTION MATERIALS	MFU	MULTI-POINT UNIT
CP	COMPONENT PANEL	MS	MOTOR STARTER
CPU	CENTRAL PROCESSING UNIT	OCC	OCCUPANCY
CRT	CATHODE RAY TUBE	OCCB	OCCUPANCY AND BRIGHTNESS
CS	CURRENT SWITCH	OBS	OBSCU
CT	CURRENT TRANSUDER	ODP	OPERATOR DATA PANEL
CTE	CO2 TEMP. TRANSMITTER ELEC	P	PUMP
CVC	CONSTANT VOLUME CONTROLLER	PA	PULSE ACCUMULATOR
D	DAMPER	PCT	PROGRAMMABLE CLOCK TIMER
DDC	DUAL DUCT CONTROLLER	PE	PRESSURE ELECTRIC SWITCH
DEM	DEMAND ENERGY MONITOR	PL	PILOT LIGHT
DP	DEW POINT TRANSMITTER	PM	POWER MONITOR
DPR	DIFFERENTIAL PRESSURE TRANSDUCER	PPM	POINT PICKUP MODULE
DPS	DIFFERENTIAL PRESSURE TRANSMITTER ELEC	PRC	PRESSURE REG. CONTROLLER
DPIE	DIFFERENTIAL PRESSURE, PNEUMATIC	PRV	PRESSURE REDUCING VALVE
DPTP	DIGITAL POINT UNIT	PS	POSITIONING SWITCH
DPU	TERMINAL EQUIPMENT CONTROLLER	PSE	POSITION SENSOR ELECTRIC
DPV	DEW POINT TRANSMITTER	PST	PULL STATION
DPR	DIFFERENTIAL PRESSURE, REGULATOR	PT	PIOT TUBE
DPS	DIFFERENTIAL PRESSURE TRANSMITTER ELEC.	PTE	PRESSURE TRANSMITTER ELECTRIC
DPTP	DIGITAL POINT UNIT	PTP	PRESSURE TRANSMITTER PNEUMATIC
DPU	FAN	PTR	PRINTER
DYR	FUME HOOD CONTROLLER	PV	PILOT VALVE
EC	FLOW MTR. (FLOW METER STATION)	PXCC	PX COMPACT CONTROLLER
EP	FIRE MGMT. SYSTEM	PXCM	PX-C MODULAR CONTROLLER
ES	FLOW SWITCH	PXG3	BACNET ROUTER ETHERNETIP-MS/TP
ET	FLOW TRANSMITTER PNEU.	RBC	REMOTE BUILDING CONTROLLER
EXP	END SWITCH	RC	RECEIVER CONTROLLER
FAN	ENTHALPY TRANSMITTER		
FHC	EXPANSION PANEL		
FM	FUME MTR. (FLOW METER STATION)		
FMS	FIRE MGMT. SYSTEM		
FS	FLOW SWITCH		
FTP	FLOW TRANSMITTER PNEU.		
G	GAUGE		
CO	GAS DETECTOR		
H	HIGROSTATS		
HE	HUMIDIFIER ELECTRIC		
<u>DDC ELECTRICAL POINT</u>		<u>DDC PNEUMATIC POINT</u>	<u>DETAILS</u>
PTNAME	PTNAME	\$	
TRUNK NUMBER	TRUNK NUMBER	AOP	ELECTRICAL TERMINATION
CABINET NUMBER	CABINET NUMBER	R	PNEUMATIC TERMINATION
LAN TRUNK	LAN TRUNK	TO CONTROL DEVICE	
DROP NUMBER	DROP NUMBER		
POINT NUMBER	POINT NUMBER		
DETAIL	XX	STANDARD DDC TERMINATION	
DETAIL	XX	NOTE OR REVISION	
DETAIL	XX	PAGE REFERENCE	
<u>REVISION HISTORY</u>		<u>440P-410840</u>	<u>0</u>
<u>SIEMENS</u>		<u>USE KNOBVIEW AHU REPLACEMENT</u>	<u>LEG</u>
<u>SEIENS INDUSTRY, INC.</u>		<u>NEW ALBANY,</u>	
<u>SMART INFRASTRUCTURE</u>		<u>NEW YORK, NY 10022-3016</u>	
<u>PHONE: (602) 287-0571</u>		<u>LOGICAL POINT NAME - AHI1TD</u>	
<u>FAX: (602) 287-0316</u>		<u>LOGICAL POINT NAME - AHI1TD [0.0.3.0.2]</u>	
<u>DETAIL</u>		<u>DETAIL 5A</u>	<u>READ AS " SEE PAGE 5A FOR MORE DETAIL "</u>
<u>DETAIL</u>		<u>DETAIL MC</u>	<u>READ AS " SEE PAGE 5A FOR MORE DETAIL "</u>
<u>DETAIL</u>		<u>DIGITAL INPUT</u>	
<u>DETAIL</u>		<u>DIGITAL INPUT</u>	
<u>APOGEE: ETHERNET - EXAMPLE</u>		<u>APOGEE: ETHERNET - EXAMPLE</u>	
<u>APOGEE: POINT NAME - AHI1TD</u>		<u>APOGEE: POINT NAME - AHI1TD</u>	
<u>APOGEE: POINT NAME - AHI1TD [0.0.3.0.2]</u>		<u>APOGEE: POINT NAME - AHI1TD [0.0.3.0.2]</u>	
<u>DETAIL</u>		<u>DETAIL 5A</u>	<u>READ AS " SEE PAGE 5A FOR MORE DETAIL "</u>
<u>DETAIL</u>		<u>DETAIL MC</u>	<u>READ AS " SEE PAGE 5A FOR MORE DETAIL "</u>
<u>DETAIL</u>		<u>DIGITAL INPUT</u>	
<u>DETAIL</u>		<u>DIGITAL INPUT</u>	







Control Device	Qty	Product Number	Manufacturer	Description	Document Number	Manufacturer	Document Number	Description
Field Mounted Devices								
A 1	1	AF3100	SIEMENS	N/A				
AE 1-3	5	GCA161.1P	SIEMENS	154001	MOD(V) SR-24V, MED. PLNM	RE 4-5	2	RH2B-UL-AC24VKIT
AE 6	4	GCA161.1P	SIEMENS	154001	MOD(V) SR-24V, MED. PLNM	RE 8	1	RIBU1S
CL 1	1	M-643-K-100PK	KELE INC	N/A	CAPILLARY MOUNTING CLIP-T00 PAK-COPPER	FUNCTIONAL DEVICES	1208cu0105	RIB 120VAC 24VAC/DC HOA SPST
CS 1-2	2	C-2350VFD	SEVENA INC	C(VFD)	Current Srv, Split, AutoSet VFD, 3.5-135A	VAV AIR HANDLING UNIT AHU-2 SEQUENCE OF OPERATION		
CS 3	1	C-2320	SEVENA	N/A	CURRENT SW/SPLIT/PRESET AND 0.45-100A	THIS UNIT INCLUDES A SINGLE PATH AIR HANDLING UNIT WITH VAV SUPPLY FAN, VAV RETURN FAN, OUTSIDE AIR DAMPER, RELIEF AIR DAMPER, RETURN AIR DAMPER, HOT WATER PREHEAT, COIL AND CHILLED WATER COOLING COIL. THIS UNIT SHALL BE CONTROLLED BY A DEDICATED DIGITAL CONTROLLER. THE CONTROLLER SHALL BE CONNECTED TO THE FACILITY MANAGEMENT SYSTEM (FMS) CONTROL NETWORK TO ALLOW COMMUNICATION BETWEEN CONTROLLERS. THE CONTROLLER SHALL BE EXPANDABLE FOR THE ADDITION OF FUTURE INPUTS AND OUTPUTS.		
CIE 1	1	QPM2162	SIEMENS	149909	DUCT CO2 + TEMP + RH SENSOR, 0-10V	THIS UNIT SHALL OPERATE IN OCCUPIED OR UNOCCUPIED MODE BASED ON THE OCCUPANCY SCHEDULE. THE OCCUPANCY SCHEDULE SHALL BE ADJUSTABLE AT THE OPERATOR INTERFACE.		
D					SEE DAMPER SUBMITTAL			
DPS 1-2	2	141-0575	SIEMENS	155 052	AIR FLOW SWITCH,0.5/12 MAN REST	DURING UNOCCUPIED MODE, THE SUPPLY FAN AND RETURN FAN SHALL BE OFF, THE OUTSIDE AIR AND RELIEF AIR DAMPERS SHALL BE CLOSED, THE RETURN DAMPER SHALL BE OPEN, THE HOT WATER VALVE SHALL REMAIN UNDER CONTROL, THE CHILLED WATER VALVE SHALL BE CLOSED, ON A CALL FOR HEATING OR COOLING FROM AN AIR TERMINAL UNIT CONTROLLER, UNIT OPERATION SHALL BE AS DESCRIBED IN OCCUPIED MODE, MINIMUM OUTDOOR AIR POSITION SHALL BE ZERO.		
DPTE 1	1	S55720-S525	SIEMENS	N/A	QBM3230U3D Pressure Sensor	DURING OCCUPIED MODE, THE SUPPLY FAN SPEED SHALL MODULATE TO MAINTAIN DUCT STATIC PRESSURE. THE RETURN FAN SPEED SHALL MODULATE TO MAINTAIN AN AIRFLOW DIFFERENTIAL BETWEEN THE SUPPLY AIRFLOW AND RETURN AIRAIRFLOW. THE CONTROLLER SHALL MODULATE THE OUTSIDE AIR DAMPER, RELIEF AIR DAMPER, AND THE RETURN AIR DAMPER TO MAINTAIN MINIMUM OUTDOOR AIRFLOW BASED ON OUTDOOR AIRFLOW MEASURING STATION. THE CONTROLLER SHALL MODULATE THE COOLING COIL CONTROL VALVE TO MAINTAIN A 56 DEG. F (ADJ) UNIT DISCHARGE AIR TEMPERATURE. IF THE OUTDOOR AIR TEMPERATURE IS BELOW 55 DEGREES, THE OUTSIDE AIR AND RETURN AIR DAMPERS SHALL MODULATE BETWEEN MINIMUM POSITIONS AND MAXIMUM POSITION (100% O.A. 0% R.A.) IN UNISON TO MAINTAIN ECONOMIZER COOLING ECONOMIZER COOLING IS UNABLE TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT, THE CONTROLLER SHALL MODULATE THE COOLING COIL CONTROL VALVE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT. IF SUPPLY AIR DISCHARGE AIR TEMPERATURE FALLS BELOW 56F, THE CONTROLLER SHALL MODULATE THE PREHEAT COIL CONTROL VALVE TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT.		
DPTE 2-3	2	S55720-S526	SIEMENS	N/A	QBM3230U5D Pressure Sensor			
DPTE 4-5	2	MR1SA	SETRA SYST	N/A	MR1SA Multi range DP Trans, 0.1-1", %			
HTE 1	1	QF3171	SIEMENS	149922	ROOM RH & TEMP SENSOR, 4-20mA, 2%			
LTDE 1	3	134-1510	SIEMENS	155 115	LOW TEMP DET STATAUTO RESET			
RB 1	1	RIBNNLB-6	FUNCTIONAL	REBMLB-6	AHU FAN SAFETY ALARM CIRCUIT 6-INPUT			
RE 3	1	RIBU1C	FUNCTIONAL DEVICES	1208cu0103	0BS/BY RIBU1C FD 120VAC 24VAC/DC SPDT			
RE 6	1	RIBU1C	FUNCTIONAL DEVICES	1208cu0103	0BS/BY RIBU1C FD 120VAC 24VAC/DC SPDT			
SPP 1-7	7	269-062	SIEMENS	N/A	PR269 ACCESSORY, SENSING TUBE			
SPP 8	1	139-142	SIEMENS	155 061	STAT PRES ACC, SENSOR KIT			
SPP 9	1	A-306	DYWER	1011cu060	STATIC PRESSURE SENSOR OUTDOOR			
SPP 11	1	139-142	SIEMENS	155 061	STAT PRES ACC, SENSOR KIT			
TTE 1-3	3	A/1K-2W-A-80°-PB	ACI	N/A	RTD,COPPER AVERAGING,80°			
TTE 4	1	QAE2012.005	SIEMENS	149919	IMMERSION TMP SNSR, PT 1K OHM(385) 2.5"			
TTE 5	1	QAN2012.045	SIEMENS	149915	DUCT PNT TEMP, PT 1K OHM(385), 18" RIGID			
V					SEE VALVE SUBMITTAL			
Panel Mounted Devices								
RE 1-2	2	RIBU1S	FUNCTIONAL DEVICES	1208cu0105	RIB 120VAC 24VAC/DC HOA SPST			
REVISION HISTORY								
SIEMENS				2400 NELSON MILLER LOUISVILLE, KY 40223, US	IUSE KNOBVIEW AHU REPLACEMENT	4402410840	100	
SIEMENS INDUSTRY, INC. SMART INFRASTRUCTURE				PHONE: (502) 267-1571 FAX: (502) 267-0316	NEW ALBANY, OHIO			
ENGINEER DRAFTER CHECKED BY INITIAL RELEASE DATE DC DC MM 01/19/26								
KV AHU 2 SYSTEM BOM/SEQ								

TRIPPED. SAFETY DEVICES SHALL CONSIST OF LOW TEMPERATURE DETECTION THERMOSTATS, HIGH DUCT STATIC PRESSURE SWITCH AND SMOKE DETECTORS.

ALL SAFETY DEVICES SHALL BE HARDWIRED. ALARMS:

1. SUPPLY AIR TEMPERATURE – SUPPLY AIR TEMPERATURE ABOVE MAXIMUM BY A USER DEFINED AMOUNT (ADJ).
2. SUPPLY FAN FAILURE
3. RETURN FAN FAILURE
4. SUPPLY FAN VFD FAULT
5. RETURN FAN VFD FAULT
6. RETURN AIR HUMIDITY – RETURN AIR HUMIDITY ABOVE MAXIMUM BY A USER DEFINED AMOUNT (ADJ).
7. COIL PUMP – ALARM IF PUMP STATUS DOES NOT MATCH COMMANDED PUMP STATE
8. RETURN STATIC PRESSURE BELOW USER DEFINED AMOUNT
9. SUPPLY STATIC PRESSURE ABOVE USER DEFINED AMOUNT (PRESSURE UPSTREAM OF SMOKE ISOLATION DAMPER)

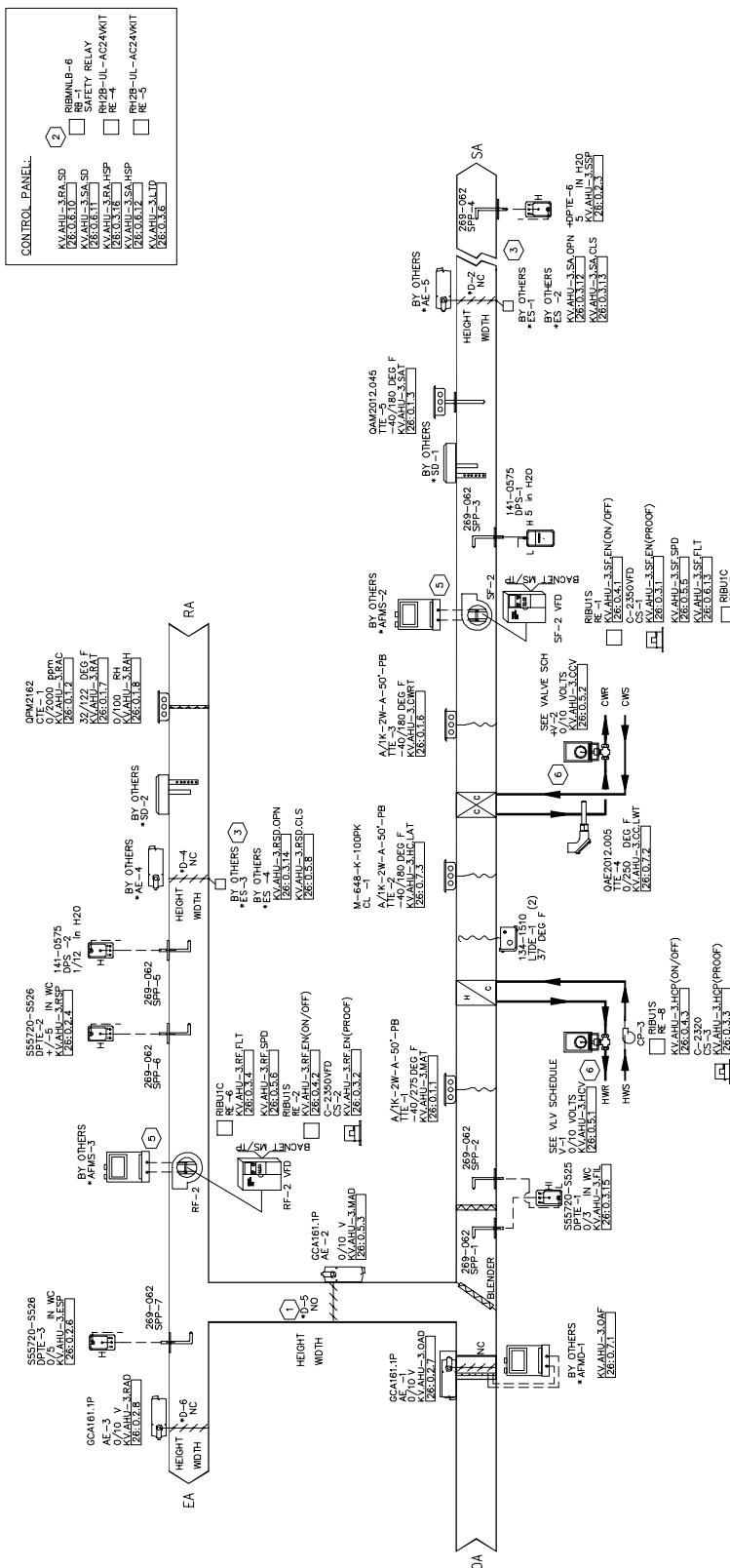
REVISION HISTORY	SIEMENS	440P410840	440P410840
		USE KNOBVIEW AHU REPLACEMENT	USE KNOBVIEW AHU REPLACEMENT
		NEW ALBANY,	NEW ALBANY,
		PRYSVILLE, KY 40223, US	PRYSVILLE, KY 40223, US
		PHONE: (602) 287-1571	PHONE: (602) 287-1571
		FAX: (602) 287-0316	FAX: (602) 287-0316
	SEMIENS INDUSTRY, INC.		
	SMART INFRASTRUCTURE		
		100D	100D
		KV AHU 2 CONTROL SYSTEM	KV AHU 2 CONTROL SYSTEM
		100	100
		01/19/26	01/19/26
		LAST EDIT DATE	LAST EDIT DATE
		DC	DC
		MM	MM
		ENGINEER	DRAFTER
		CHEKED BY	INITIAL RELEASE

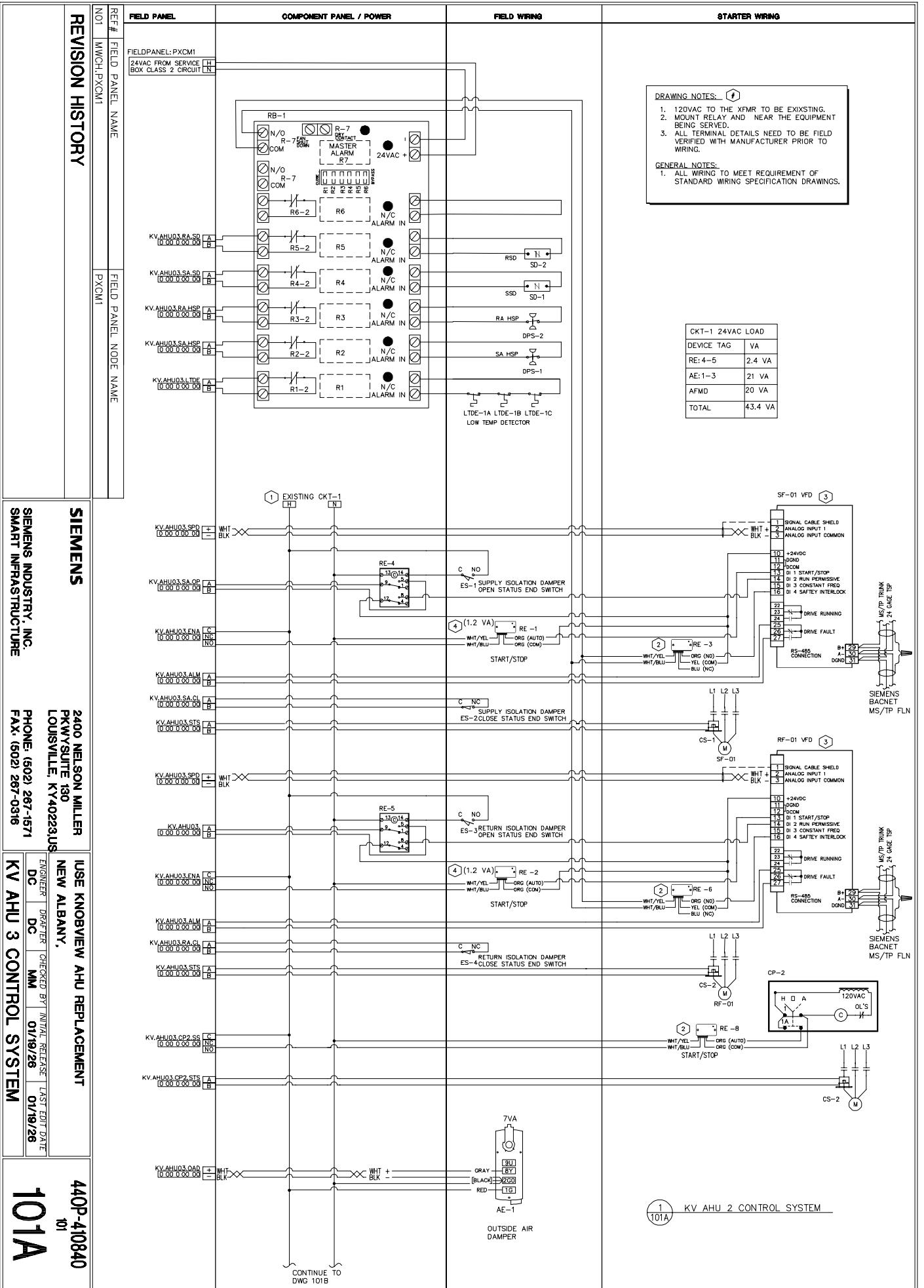
DRAWING NOTES: 

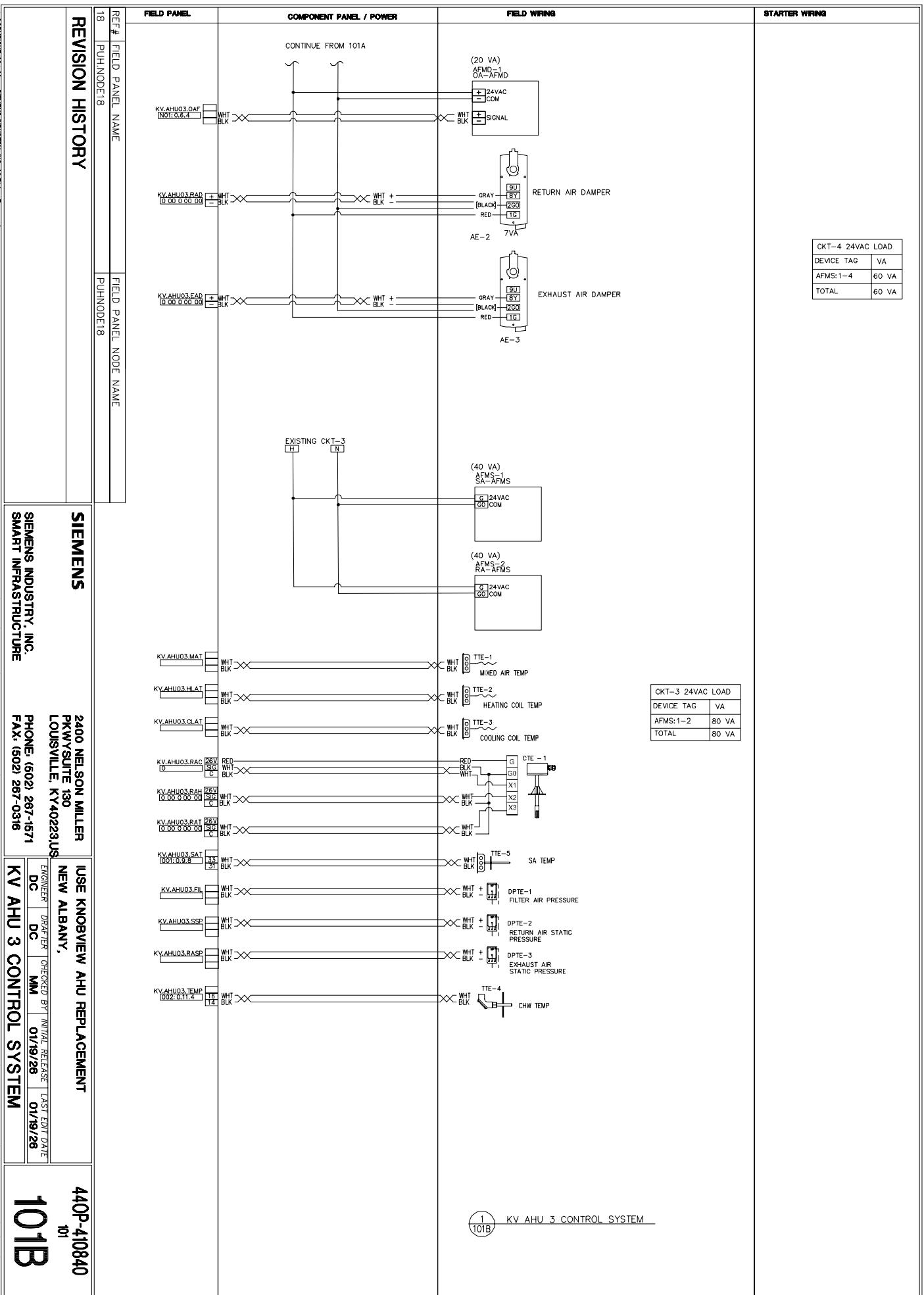
1. DAMPERS PROVIDED BY OTHERS AND ACTUATORS PROVIDED AND WIRED BY SEACERS.
2. RELAYS MOUNTED IN EXISTING CONTROL PANEL.
3. SMOKE ISOLATION DAMPERS, SWITCHES AND ITS ACTUATORS ARE PROVIDED BY OTHERS.
4. SMOKE DETECTOR PROVIDED BY OTHERS, INTERLOCK WIRING BY SIEMENS.
5. SUPPLY FAN, RETURN FAN AND THEIR ASSOCIATED ARMS ARE PROVIDED BY OTHERS.
6. FOR VALVE DETAILS REFER TO VALVE SCHEDULE.

GENERAL NOTES:

1. "*" DENOTES PROVIDED BY OTHER.
2. "+" DENOTES TO BE EXISTING.







MANAGEMENT SYSTEM (FMS) CONTROL NETWORK TO ALLOW COMMUNICATION BETWEEN CONTROLLERS. THE CONTROLLER SHALL BE EXPANDABLE FOR THE ADDITION OF FUTURE INPUTS AND OUTPUTS.					
THIS UNIT SHALL OPERATE IN OCCUPIED OR UNOCCUPIED MODE BASED ON THE OCCUPANCY SCHEDULE. THE OCCUPANCY SCHEDULE SHALL BE ADJUSTABLE AT THE OPERATOR INTERFACE.					
Control Device	Qty	Product Number	Manufacturer	Document Number	Description
Field Mounted Devices					
AE	1-3	3 GCA101JP	SIEMENS	154001	MOD(V) SR324V, MED. PLNM
CS	1-2	2 C-2350VFD	SENA INC	C(Vfd)	Current SW Split AutoSet VFD, 3.5-135A
CS	3	1 C-2320	SENA	N/A	CURRENT SW/SPLIT/PRESET ADU0.45-100A
CIE	1	1 QPM2162	SIEMENS	149909	DUCT CO2 + TEMP + RH SENSOR, 0-10V
DP5	1-2	2 141-0575	SIEMENS	155 052	AIR FLOW SWITCH, 0.5/12 MAN REST
DPTE	1	1 \$55720-\$5256	SIEMENS	N/A	QBM3230U30 Pressure Sensor
DPTE	2-3	2 \$55720-\$5256	SIEMENS	N/A	QBM3230U30 Pressure Sensor
HTTE	1	1 QFM2100	SIEMENS	149991	DUCT RH SENSOR, 0-10V, 5%
LDE	1	2 134-1510	SIEMENS	155 115	LOW TEMP DET STA/AUTO RESET
RB	1	1 RBMNLB-6	FUNCTIONAL	RBMLNLB-6	AHU FAN SAFETY ALARM CIRCUIT 6-INPUT
RE	1-2	2 RBU1C	FUNCTIONAL DEVICES	1208cu1015	RELAY 24VAC/DC HDA SPST
RE	3	1 RBU1C	FUNCTIONAL DEVICES	1208cu1013	OBS/BY RIBUC FD 120VAC 24VAC/DC SPDT
RE	4-5	2 RH2B-UL-AC24VKIT	IDE	1202cu1016	RELAY&S20C,GP DPDT AC24V W/LED
RE	6	1 RBU1C	FUNCTIONAL DEVICES	1208cu1013	OBS/BY RIBUC FD 120VAC 24VAC/DC SPDT
RE	8	1 RBU1C	FUNCTIONAL DEVICES	1208cu1013	OBS/BY RIBUC FD 120VAC 24VAC/DC SPDT
SPP	1-7	7 269-062	SIEMENS	N/A	PR269 ACCESSORY, SENSING TUBE
TTE	1-3	3 A/1K-2W-A-50°-PB	ACI	N/A	RTD, COPPER AVERAGING, 50°
TTE	4	1 QAN2012.005	SIEMENS	149919	IMMERSION TMP SNSR, PT 1K OHM(385) 2.5"
TTE	5	1 QAN2012.045	SIEMENS	149915	DUCT PNT TEMP, PT 1K OHM(385), 18" ROD
V					SEE VALVE SUBMITAL

VAV AIR HANDLING UNIT AHU-3 SEQUENCE OF OPERATION

THIS UNIT INCLUDES A SINGLE PATH AIR HANDLING UNIT WITH VAV SUPPLY FAN, VAV RETURN FAN, OUTSIDE AIR DAMPER, RELIEF AIR DAMPER, RETURN AIR DAMPER, HOT WATER PREHEAT COIL AND CHILLED WATER COOLING COIL. THIS UNIT SHALL BE CONTROLLED BY A DEDICATED DIGITAL CONTROLLER. THE CONTROLLER SHALL BE CONNECTED TO THE FACILITY

MANAGEMENT SYSTEM (FMS) CONTROL NETWORK TO ALLOW COMMUNICATION BETWEEN CONTROLLERS. THE CONTROLLER SHALL BE EXPANDABLE FOR THE ADDITION OF FUTURE INPUTS AND OUTPUTS.

THIS UNIT SHALL OPERATE IN OCCUPIED OR UNOCCUPIED MODE BASED ON THE OCCUPANCY SCHEDULE. THE OCCUPANCY SCHEDULE SHALL BE ADJUSTABLE AT THE OPERATOR INTERFACE.

DURING UNOCCUPIED MODE, THE SUPPLY FAN AND RETURN FAN SHALL BE OFF, THE OUTSIDE AIR AND RELIEF AIR DAMPERS SHALL BE CLOSED. THE RETURN DAMPER SHALL BE OPEN, THE HOT WATER VALVE SHALL REMAIN UNDER CONTROL, THE CHILLED WATER VALVE SHALL BE CLOSED. ON A CALL FOR HEATING OR COOLING FROM AN AIR TERMINAL UNIT CONTROLLER, UNIT OPERATION SHALL BE AS DESCRIBED IN OCCUPIED MODE. MINIMUM OUTDOOR AIR POSITION SHALL BE ZERO.

DURING OCCUPIED MODE, THE SUPPLY FAN SPEED SHALL MODULATE TO MAINTAIN DUCT STATIC PRESSURE. THE RETURN FAN SPEED SHALL MODULATE TO MAINTAIN AN AIRFLOW DIFFERENTIAL BETWEEN THE SUPPLY AIRFLOW AND RETURN AIRFLOW. THE CONTROLLER SHALL MODULATE THE OUTSIDE AIR DAMPER, RELIEF AIR DAMPER, AND THE RETURN AIR DAMPER TO MAINTAIN MINIMUM OUTDOOR AIRFLOW BASED ON OUTDOOR AIRFLOW MEASURING STATION. THE CONTROLLER SHALL MODULATE THE COOLING COIL CONTROL VALVE TO MAINTAIN A 55 DEG. F (ADJ) UNIT DISCHARGE AIR TEMPERATURE. IF THE OUTDOOR AIR TEMPERATURE IS BELOW 55 DEGREES, THE OUTSIDE AIR AND RETURN AIR DAMPERS SHALL MODULATE BETWEEN MINIMUM POSITIONS AND MAXIMUM POSITION (100% OA, 0% RA). IN UNISON TO MAINTAIN ECONOMIZER COOLING SEQUENCE. RETURN AIR DAMPER SHALL BE REVERSE ACTING TO OUTSIDE AIR DAMPER AND RELIEF AIR DAMPER. IF ECONOMIZER COOLING IS UNABLE TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT, THE CONTROLLER SHALL MODULATE THE COOLING COIL CONTROL VALVE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT. IF SUPPLY AIR TEMPERATURE FALLS BELOW 55F, THE CONTROLLER SHALL MODULATE THE PREHEAT COIL CONTROL VALVE TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT.

THE CONTROLLER SHALL MONITOR OUTDOOR AIR FLOW. IF OUTDOOR AIR FLOW FALLS BELOW OUTDOOR AIR DESIGN SETPOINT, THE CONTROLLER SHALL ALARM AT THE OPERATOR INTERFACE. PRE-HEAT COIL PUMP SHALL OPERATE AT ANY TIME OA IS BELOW 40F (ADJ).

THE CONTROLLER SHALL RESET THE SUPPLY DUCT STATIC PRESSURE SETPOINT BASED ON AIR TERMINAL DAMPER POSITION. CRITICAL ZONE RESET SEQUENCE.

THE MECHANICAL ROOM 048 RELIEF AIR DAMPER SHALL BE ENABLED DURING OCCUPIED OPERATION OF AHU-2, AHU-3, AND AHU-4 LOCATED IN MECHANICAL ROOM 048. THE CONTROLLER SHALL MODULATE THE MECHANICAL ROOM 048 RELIEF AIR DAMPER TO MAINTAIN 0.03" W.C. CONTROLLER SHALL ALARM IF ZONE PRESSURE IS ABOVE OR BELOW SETPOINT BY USER DEFINED AMOUNT.

THIS UNIT SHALL BE STOPPED AND AN ALARM GENERATED AT THE OPERATOR INTERFACE WHENEVER A SAFETY DEVICE IS TRIPPED. SAFETY DEVICES SHALL CONSIST OF LOW TEMPERATURE DETECTION THERMOSTATS, HIGH DUCT STATIC PRESSURE SWITCH AND SMOKE DETECTORS. ALL SAFETY DEVICES SHALL BE HARDWIRED. ALARMS:

1. SUPPLY AIR TEMPERATURE – SUPPLY AIR TEMPERATURE ABOVE MAXIMUM BY A USER DEFINED AMOUNT (ADJ).
2. SUPPLY FAN FAILURE
3. RETURN FAN FAILURE
4. SUPPLY FAN VFD FAULT
5. RETURN FAN VFD FAULT
6. RETURN AIR HUMIDITY – RETURN AIR HUMIDITY ABOVE MAXIMUM BY A USER DEFINED AMOUNT (ADJ).
7. COIL PUMP – ALARM IF PUMP STATUS DOES NOT MATCH COMMANDED PUMP STATE
8. RETURN STATIC PRESSURE BELOW USER DEFINED AMOUNT
9. SUPPLY STATIC PRESSURE ABOVE USER DEFINED AMOUNT (PRESSURE UPSTREAM OF SMOKE ISOLATION DAMPER)

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REVISION HISTORY	SIEMENS	440P-410340
	SIEMENS INDUSTRY, INC. SMART INFRASTRUCTURE	101 101C
	2400 NELSON MILLER PRYSM SITE 80 LOUISVILLE, KY 40223, US PHONE: (502) 267-1571 FAX: (502) 267-0316	USE KNOBVIEW AHU REPLACEMENT NEW ALBANY, KY 40423, US

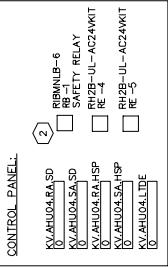
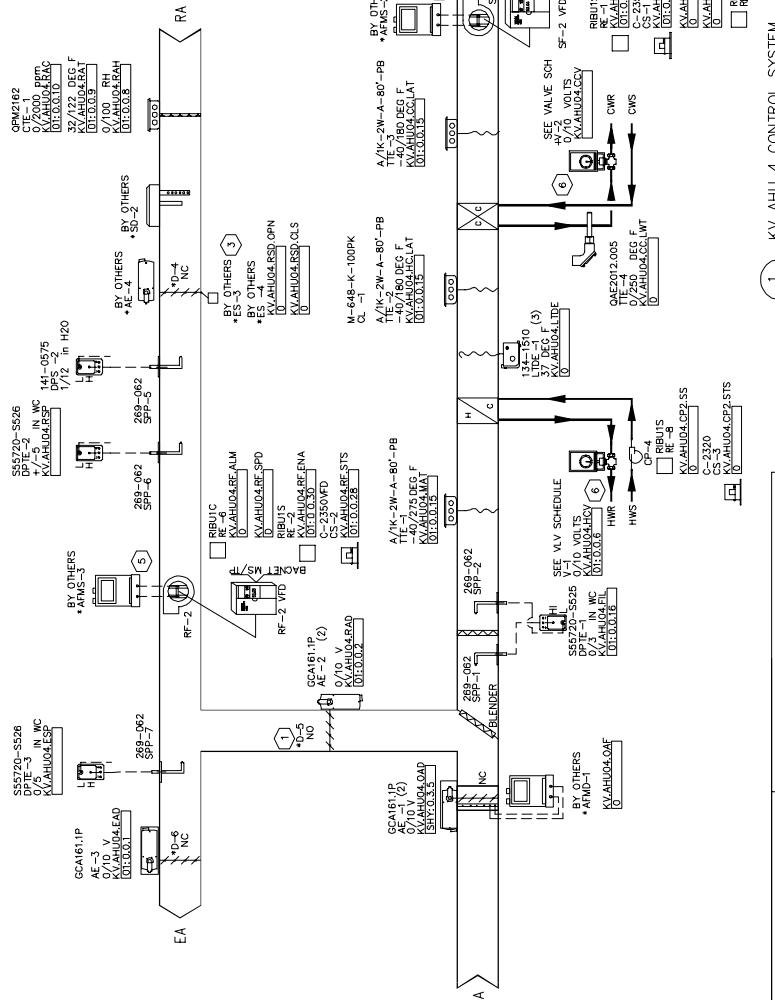
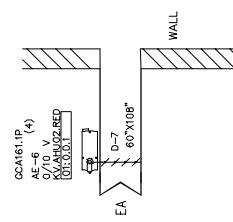
DRAWING NOTES: 

1. DAMPERS PROVIDED BY OTHERS AND ACTUATORS PROVIDED AND WIRED BY SIEMENS.
2. RELAYS MOUNTED IN EXISTING CONTROL PANEL.
3. SMOKE ISOLATION DAMPERS, SEND SWITCHES AND ITS ACTUATORS ARE PROVIDED BY OTHERS.
4. SMOKE DETECTOR PROVIDED BY OTHERS, INTERLOCK WIRING BY SIEMENS.
5. SUPPLY FAN, RETURN FAN AND THEIR ASSOCIATED AFMS ARE PROVIDED BY OTHERS.
6. FOR VALVE DETAILS REFER TO VALVE SCHEDULE.

GENERAL NOTES:

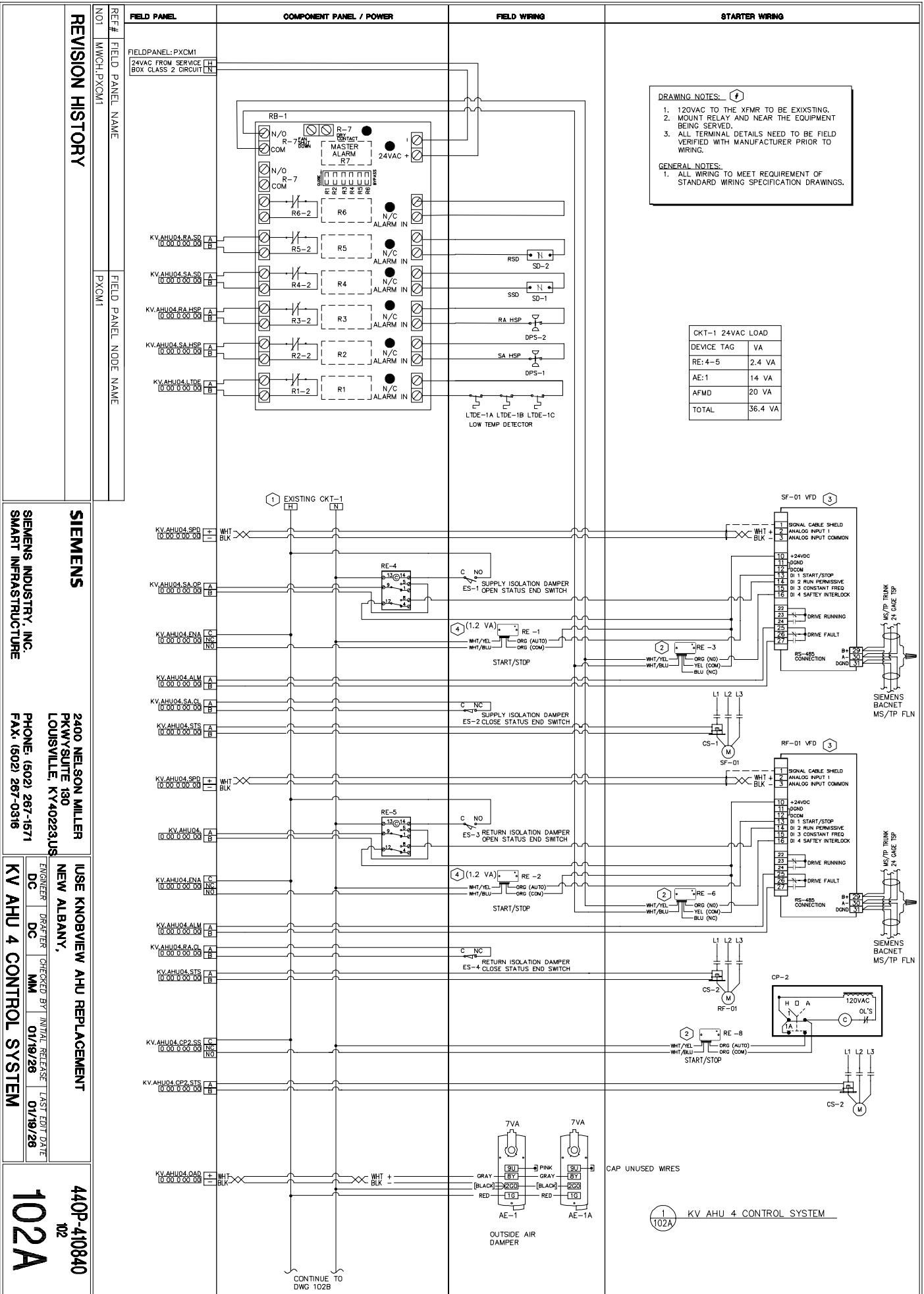
1. * DEMOVES PROVIDED BY OTHER.

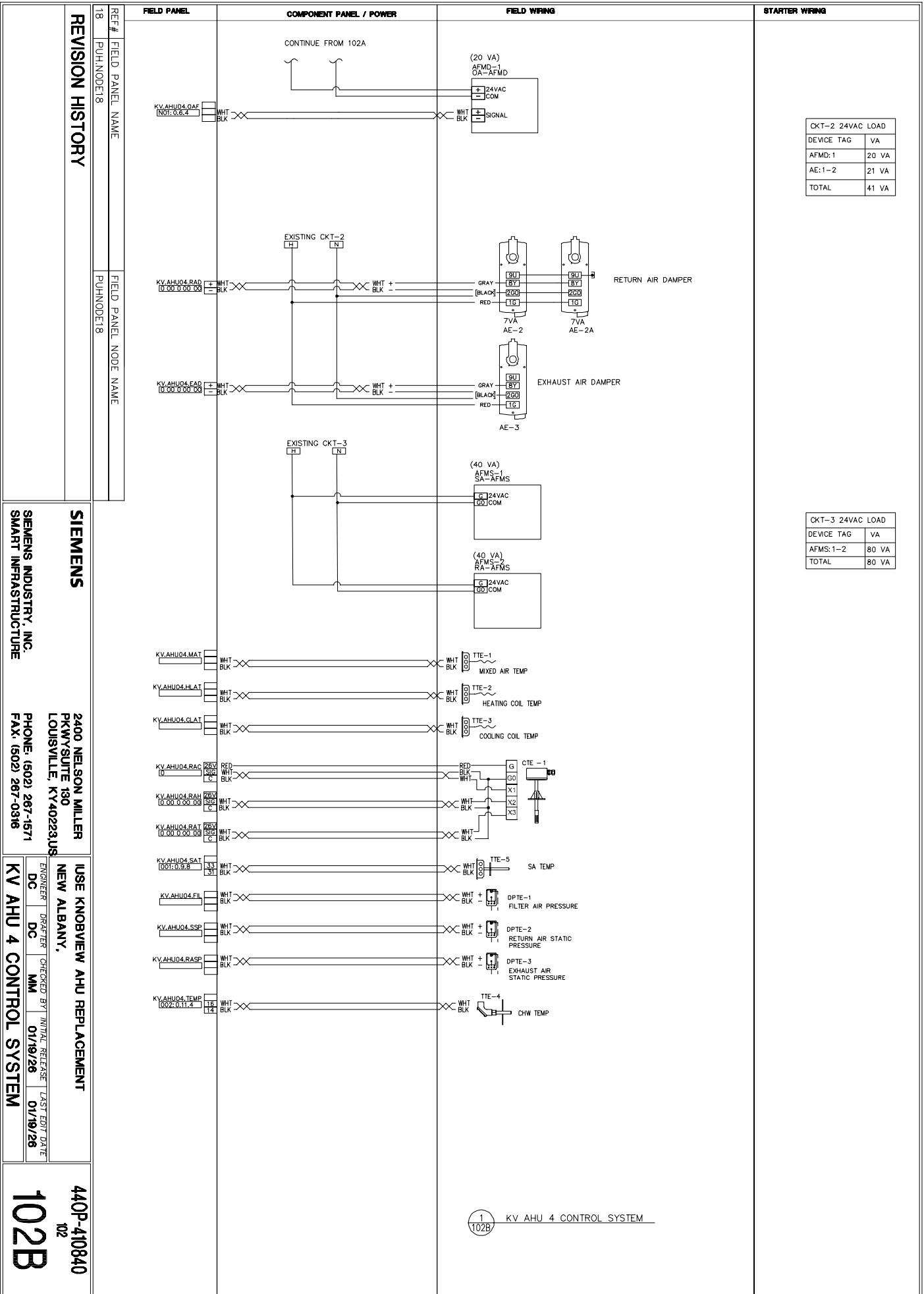
2. + DEMOVES TO BE EXISTING.



REF#	FIELD PANEL NAME	FIELD PANEL NODE NAME
01	CSA.SACI.PXC36	CSASACI.PXC36

KV AHU 4 CONTROL SYSTEM		440P-410840	
2400 NELSON MILLER PKWYSITE 130 LOUISVILLE, KY 40223,US		102	
PHONE: (602) 287-1671 FAX: (602) 287-0316		102	
IUSE KNOBVIEW AHU REPLACEMENT NEW ALBANY,		01/19/26	
ENGINER: DRAFTER: DC: DC: MM: MM:		LAST EDIT DATE: 01/19/26	
KV AHU 4 CONTROL SYSTEM			





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Control Device	Qty	Product Number	Manufacturer	Document Number	Description
Field Mounted Devices					
AE	1-3	5 GCA101JP	SIEMENS	154001	MOD(V) SR324V, MED. PLNM
CS	1-2	2 C-2350VFD	SENA INC	C(Vfd)	Current SW Split AutoSet VFD, 3.5-135A
CS	3	1 C-2320	SENA	N/A	CURRENT SW/SPLIT/PRESET ADU0.45-100A
CIE	1	1 QPM2162	SIEMENS	149909	DUCT CO2 + TEMP + RH SENSOR, 0-10V
DP5	1-2	2 141-0575	SIEMENS	155 052	AIR FLOW SWITCH, 0.5/12 MAN REST
DPTE	1	1 \$55720-\$5256	SIEMENS	N/A	QBN3230U30 Pressure Sensor
DPTE	2-3	2 \$55720-\$5256	SIEMENS	N/A	QBN3230U30 Pressure Sensor
HTTE	1	1 QFM2100	SIEMENS	149991	DUCT RH SENSOR, 0-10V, 5%
LDE	1	3 134-1510	SIEMENS	155 115	LOW TEMP DET STA/AUTO RESET
RB	1	1 RBMNLB-6	FUNCTIONAL	RBMLNLB-6	AHU FAN SAFETY ALARM CIRCUIT 6-INPUT
RE	1-2	2 RBUIC	FUNCTIONAL DEVICES	1208cu1015	RELAY 24VAC/DC HDA SPST
RE	3	1 RBUIC	FUNCTIONAL DEVICES	1208cu1013	OBS/BY RIBUC FD 120VAC 24VAC/DC SPDT
RE	4-5	2 RH2B-UL-AC24VKIT	IDE	1202cu1016	RELAY&S20C,GP DPDT AC24V W/LED
RE	6	1 RBUIC	FUNCTIONAL DEVICES	1208cu1013	OBS/BY RIBUC FD 120VAC 24VAC/DC SPDT
RE	8	1 RBUIC	FUNCTIONAL DEVICES	1208cu1013	OBS/BY RIBUC FD 120VAC 24VAC/DC SPDT
SPP	1-7	7 269-062	SIEMENS	N/A	PR269 ACCESSORY, SENSING TUBE
TTE	1-3	3 A/1K-2W-A-80°-PB	ACI	N/A	RTD, COPPER AVERAGING, 80°
TTE	4	1 QAN2012.005	SIEMENS	149919	IMMERSION TMP SNSR, PT 1K OHM(385) 2.5"
TTE	5	1 QAN2012.045	SIEMENS	149915	DUCT PNT TEMP, PT 1K OHM(385), 18" ROD
V					SEE VALVE SUBMITAL

VAV AIR HANDLING UNIT AHU-2, AHU-3, AND AHU-4 SEQUENCE OF OPERATION

THIS UNIT INCLUDES A SINGLE PATH AIR HANDLING UNIT WITH VAV SUPPLY FAN, VAV RETURN FAN, OUTSIDE AIR DAMPER, RELIEF AIR DAMPER, RETURN AIR DAMPER, HOT WATER PREHEAT COIL AND CHILLED WATER COOLING COIL. THIS UNIT SHALL BE CONTROLLED BY A DEDICATED DIGITAL CONTROLLER. THE CONTROLLER SHALL BE CONNECTED TO THE FACILITY

REVISION HISTORY	SIEMENS	2400 NELSON MILLER PRYSVILLE, MD 21773-1022	USE KNOBVIEW AHU REPLACEMENT NEW ALBANY, LOUISVILLE, KY 40223, US	440P-410340
	SEMIENS INDUSTRY, INC. SMART INFRASTRUCTURE	PHONE: (602) 287-0571 FAX: (602) 287-0316	ENGINEER DRAFTER CHECKED BY INITIAL RELEASE DATE DC MM 01/19/26 01/19/26	102C
				C:\Users\jv005\www\OneDrive - Siemens AG\VECTO2 - BK71 B&V USE Knobview AHU Replacement - 440P-410340\Work In Progress\Engineering Files\DNWMD\102-K00.dwg