

GENERAL NOTES

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH BY IBC 2018 EDITION AND SHALL CONFORM TO ALL OTHER APPLICABLE MUNICIPAL, STATE, AND FEDERAL REGULATIONS INCLUDING THE ILLINOIS ACCESSIBILITY CODE (2018) AND THE AMERICANS WITH DISABILITIES ACT.

A. GENERAL NOTES

- 1. ALL CONTRACTORS ARE REQUIRED TO VISIT THE SITE AND BE KNOWLEDGEABLE REGARDING EXISTING CONDITIONS AND THEIR EFFECT ON THE PROPOSED WORK. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ANY CONDITIONS REQUIRING MODIFICATION BEFORE PROCEEDING WITH THE PROJECT.
2. NOTIFY THE OWNER'S REPRESENTATIVE A MINIMUM OF 72 HOURS PRIOR TO THE INTERRUPTION OF ANY UTILITY.
3. PROTECT AND KEEP IN SERVICE ACTIVE UNDERGROUND UTILITIES, PIPES, OR CONDUITS, WHETHER INDICATED ON THE DRAWINGS OR NOT, UNLESS SPECIFICALLY CALLED FOR TO BE REMOVED, RELOCATED, OR DISCONNECTED AND ABANDONED.
4. CONTRACTORS AND SUBCONTRACTORS SHALL COORDINATE THEIR WORK WITH THAT OF OTHER TRADES.
5. NO WORK WILL BE PERMITTED TO BE INSTALLED WITHOUT RECEIPT AND SUBSEQUENT REVIEW OF FULL AND COMPLETE SUBMITTALS BY THE ARCHITECT/ENGINEER.
6. DO NOT SCALE DRAWINGS, DIMENSIONS INDICATED TAKE PRECEDENCE OVER SCALE.
7. VERIFY ALL DIMENSIONS AND ELEVATIONS IN THE FIELD. WHERE DISCREPANCIES ARE FOUND BETWEEN DIMENSIONS OR ELEVATIONS SHOWN AND ACTUAL FIELD CONDITIONS, NOTIFY ARCHITECT/ENGINEER.
8. WHERE CONFLICTS MAY EXIST BETWEEN THE REQUIREMENTS OF PORTIONS OF THE CONTRACT DOCUMENTS, THE GREATER QUANTITY, HIGHER QUALITY OR MORE STRINGENT REQUIREMENT SHALL GOVERN. THEREFORE, BY EXECUTING A CONTRACT FOR CONSTRUCTION, THE CONTRACTOR AGREES THAT, IF IT RAISED NO QUESTIONS REGARDING SUCH CONFLICTS DURING THE BIDDING PROCESS, AND IN THE ABSENCE OF A CLARIFYING ADDENDUM ISSUED DURING THE BIDDING PROCESS, IT HAS VOLUNTEERED TO COMPLY WITH THE MORE EXPENSIVE REQUIREMENT AS PART OF ITS BASE BID AND IS NOT ENTITLED TO ANY ADDITIONAL COMPENSATION TO RESOLVE THE CONFLICT.
9. THE CONTRACT DOCUMENTS REQUIRE THE CONTRACTOR TO FURNISH AND INSTALL COMPLETE PRODUCTS, SYSTEMS AND SERVICES. BY EXECUTING A CONTRACT FOR CONSTRUCTION, THE CONTRACTOR AGREES THAT THE DRAWINGS SET FORTH THE DESIGN INTENT AND, THEREFORE, MAY NOT EXPRESSLY DEPICT EVERY LENGTH, SEGMENT, PIECE, PART, COMPONENT OR UNIT OF A PRODUCT, SYSTEM OR SERVICE. THE CONTRACTOR FURTHER AGREES THAT, AS PART OF ITS BID, IT MUST FURNISH AND INSTALL EVERY LENGTH, SEGMENT, PIECE, PART, COMPONENT OR UNIT OF A PRODUCT, SYSTEM OR SERVICE AND, CONSEQUENTLY, THE CONTRACTOR IS NOT ENTITLED TO ANY ADDITIONAL COMPENSATION FOR ANY LENGTH, SEGMENT, PIECE, PART COMPONENT OR UNIT OF A PRODUCT, SYSTEM OR SERVICE BECAUSE IT IS NOT EXPRESSLY DEPICTED HEREIN.

B. MISCELLANEOUS AND DEMOLITION NOTES

- 1. COORDINATE PENETRATIONS AND/OR SLEEVES REQUIRED IN WALLS, FLOORS, CEILINGS OR ROOFS FOR MECHANICAL AND ELECTRICAL WORK REQUIRED BY ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS.
2. SEAL WITH UL APPROVED MATERIALS PENETRATIONS OF DUCTWORK, CONDUIT AND PIPES THROUGH FIRE-RATED ASSEMBLIES. TO MAINTAIN THE RATING INTEGRITY OF THOSE ASSEMBLIES, PROVIDE FIRE DAMPERS AS INDICATED ON THE DRAWINGS.
3. SEAL WITH ACOUSTICAL SEALANT PENETRATIONS OF DUCTWORK, CONDUIT AND PIPES THROUGH NON-RATED FLOORS, FULL-HEIGHT WALLS/PARTITIONS, ACOUSTICALLY INSULATED WALLS/PARTITIONS, AND SOUND-RATED WALLS/PARTITIONS, TO MAINTAIN THE ACOUSTICAL INTEGRITY OF THOSE ASSEMBLIES.
4. APPLY APPROPRIATE & COMPATIBLE SEALANT MATERIALS AS REQUIRED TO SEPARATE DISSIMILAR METALS, FILL GAPS IN EXISTING ASSEMBLIES OR WHERE NEW AND EXISTING ASSEMBLIES MEET OR WHERE OTHERWISE REQUIRED BY THE SPECIFICATIONS.
5. BRING ANY UNFORESEEN OR CONFLICTING CONDITIONS TO THE IMMEDIATE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK.
6. REPAIR, PATCH, OR REPLACE FINISH MATERIALS OR VISIBLE ASSEMBLIES THAT ARE SOILED, CUT OR DAMAGED IN ANY FASHION DURING THE COURSE OF THE WORK. PERFORM PATCHING SUCH THAT EDGES BLEND INTO CONTIGUOUS SURFACES SMOOTHLY, MATCHING TEXTURE AND COLOR OF ADJACENT SURFACES.

C. BIDDING NOTES

- 1. CONTRACTOR TO PROVIDE A \$7,500 ALLOWANCE IN HIS/HER BID FOR UNFORESEEN/MISCELLANEOUS CONDITIONS. WHEN FIGURING THE ALLOWANCE IN THE BID, CONTRACTOR IS TO INCLUDE ALL NECESSARY OVERHEAD AND PROFIT. THIS ALLOWANCE IS NOT FOR THE CONTRACTOR'S BENEFIT, AND IS ONLY AUTHORIZED TO CHARGE AGAINST THE ALLOWANCE WHEN DIRECTED AND APPROVED BY JOLIET JUNIOR COLLEGE. THE CONTRACTOR WILL BE ALLOWED TO INVOICE FOR MATERIAL AND RAW LABOR COST ONLY.

STANDARD ABBREVIATIONS

Table with 6 columns of abbreviations and their corresponding full names. Includes terms like AT ANCHOR BOLT, EWH ELECTRIC WATER HEATER, PTN PARTITION, etc.

THE MATERIALS, ABBREVIATIONS, AND DRAFTING SYMBOLS LEGEND ARE EACH AN ALL INCLUSIVE MASTER LIST USED BY THIS FIRM. THE INCLUSION OF THESE LEGENDS INTO THESE DOCUMENTS DOES NOT IMPLY THAT ALL THE SYMBOLS OR MATERIALS INCLUDED IN THESE LEGENDS ARE INCORPORATED INTO THIS PROJECT. ABBREVIATIONS MAY APPEAR WITH PERIODS OR OTHER PUNCTUATION SEPARATING CHARACTERS ON THE DRAWINGS; THE MEANING REMAINS THE SAME.

DRAFTING SYMBOLS AND MATERIALS LEGEND

Table of drafting symbols and materials legend. Includes symbols for detail numbers, column numbers, room numbers, door types, and various materials like concrete, brick, stone, steel, etc.



PROJECT

BUILDING 'S' AND BUILDING 'B' PIPING MODIFICATIONS 1215 HOUBOLT ROAD JOLIET, IL 60431

OWNER

JOLIET JUNIOR COLLEGE 1215 HOUBOLT ROAD JOLIET, IL 60431

ARCHITECT/ENGINEER

KLUBER ARCHITECTS + ENGINEERS 41 W BENTON STREET AURORA, ILLINOIS 60506 TEL (630) 406-1213 FAX (630) 406-9472 www.kluberinc.com

BID DOCUMENTS

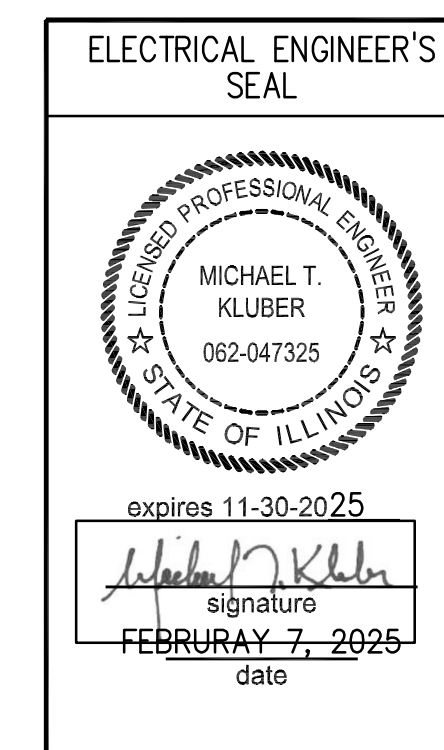
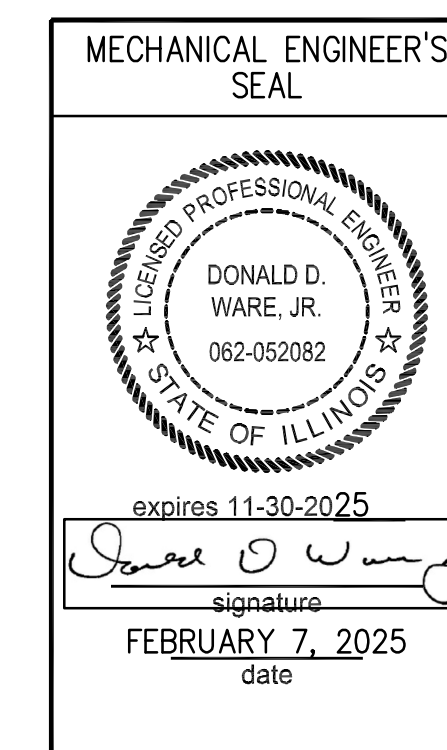
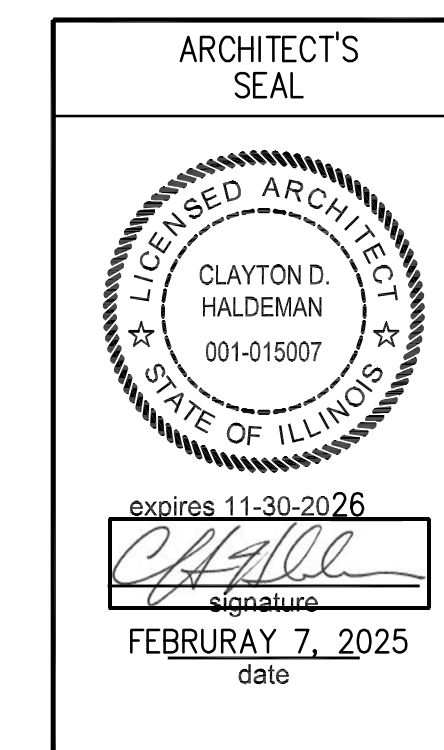
INDEX OF DRAWINGS

Table listing drawing numbers and descriptions: G100 COVER SHEET, GENERAL NOTES, SYMBOLS, & DRAWING INDEX; M100 PARTIAL CAMPUS MECHANICAL FLOOR PLAN; M310 BUILDING 'S' - PARTIAL FLOOR PLANS AND DETAILS; ME320 BUILDING 'B' - MECHANICAL ROOM PLANS AND DETAILS; ME321 BUILDING 'C' - MECHANICAL PLATFORM PLANS AND DETAILS.

APPLICABLE CODES

- 2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL FUEL AND GAS CODE
2018 INTERNATIONAL EXISTING BUILDING CODE
2020 NATIONAL ELECTRICAL CODE
LOCAL AMENDMENTS TO THE ABOVE CODES
2014 ILLINOIS PLUMBING CODE
2018 ILLINOIS ENERGY CONSERVATION CODE (2018 INTERNATIONAL ENERGY CONSERVATION CODE W/STATE AMENDMENTS)
2018 ILLINOIS ACCESSIBILITY CODE

SEALS & CERTIFICATIONS



I HAVE PREPARED, OR CAUSED TO BE PREPARED UNDER MY DIRECT SUPERVISION, THE ATTACHED PLANS AND SPECIFICATIONS AND STATE THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND TO THE EXTENT OF MY CONTRACTUAL OBLIGATION, THEY ARE IN COMPLIANCE WITH IBC 2018 EDITION, THE ENVIRONMENTAL BARRIERS ACT AND THE ILLINOIS ACCESSIBILITY CODE.

KLUBER, INC. ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE #184-001284

"G" SERIES, "ME320", "ME321"

"G" SERIES, "M" SERIES

"G" SERIES, "ME320", "ME321"



Kluber, Inc. Aurora, Illinois 60506 Tel: (630) 406-1213 Fax: (630) 406-9470 www.kluberinc.com

BUILDING 'S' AND BUILDING 'B' PIPING MODIFICATIONS

JOLIET JUNIOR COLLEGE 1215 HOUBOLT ROAD JOLIET, ILLINOIS 60431

Table with 2 columns: ISSUED, 12/07/25. BID DOCUMENTS.

JOB NO. 24-292-1575 DRAWN DDW CHECKED DDW APPROVED DDW

SHEET TITLE

COVER SHEET, GENERAL NOTES, SYMBOLS AND DRAWING INDEX

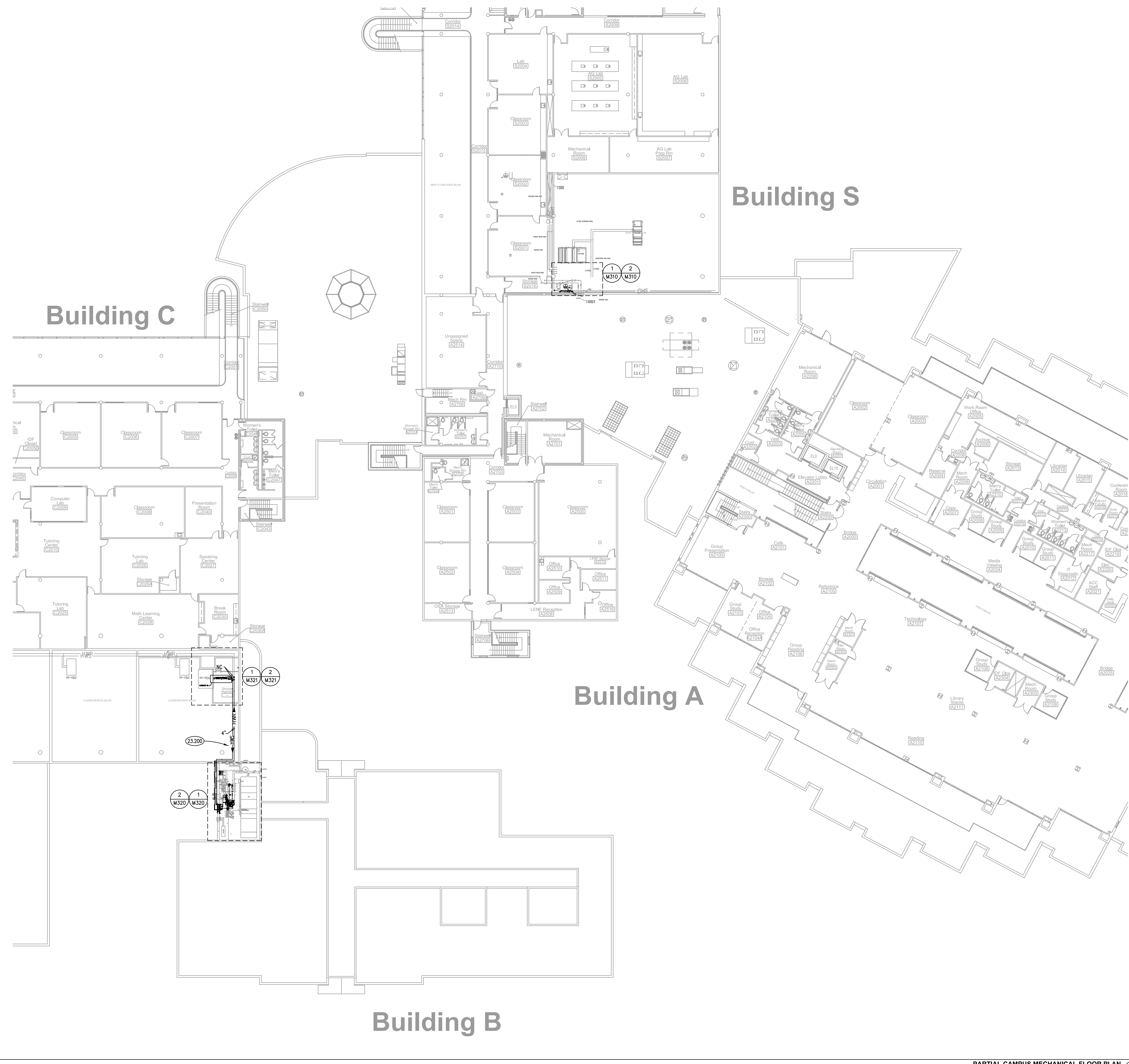
SHEET NUMBER

G100

### KEYNOTES

KEYNOTES ARE TYPICALLY NOT DUPLICATED WITHIN A GIVEN DETAIL. AN UNKEYNOTED ITEM IN A DETAIL IS THE SAME AS A KEYNOTED ITEM HAVING THE SAME APPEARANCE WITHIN THE SAME DETAIL.

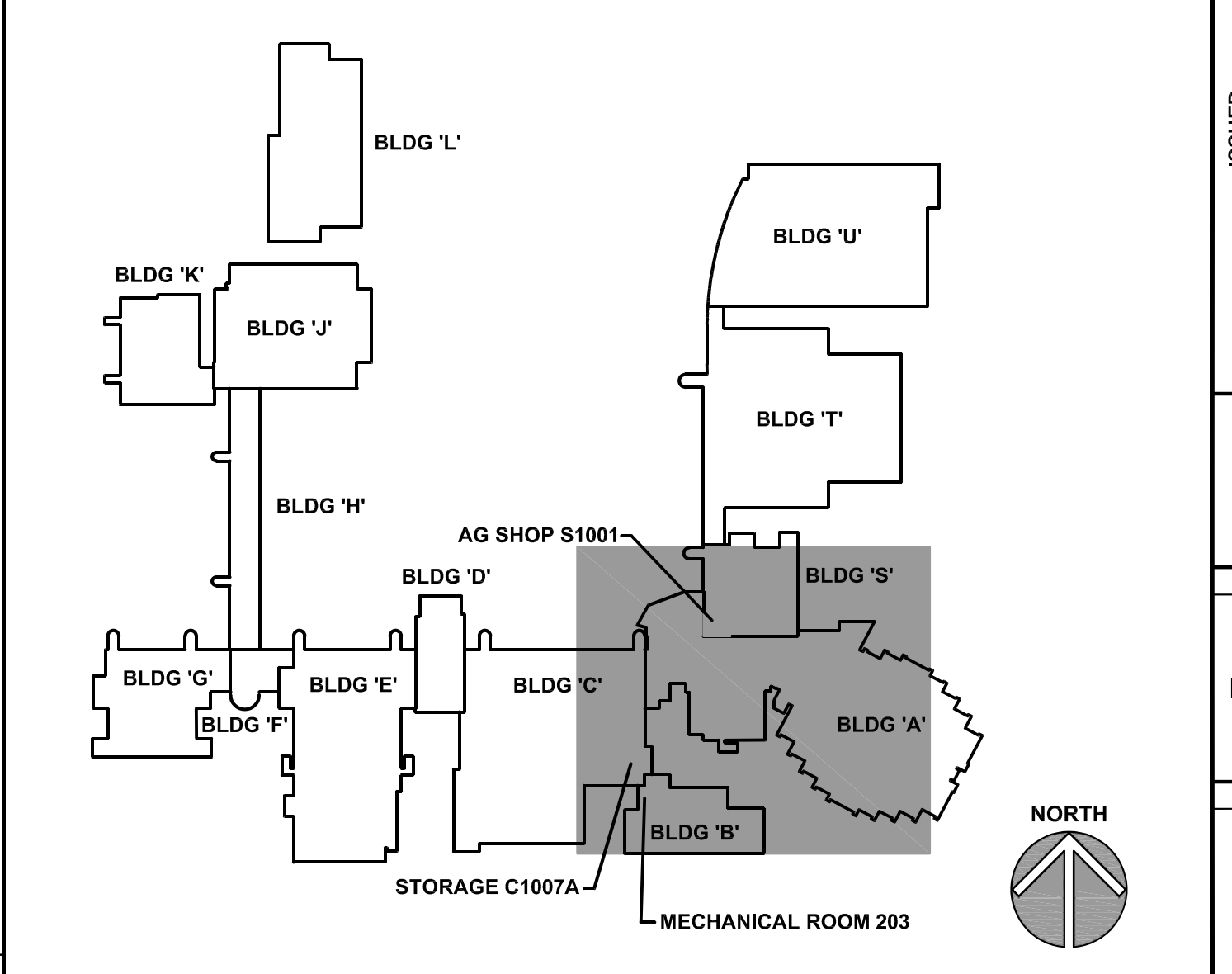
23.200 PROVIDE INSULATED HOT WATER HEATING PIPES FROM BUILDING 'C' PLATFORM TO BUILDING 'B' MECHANICAL MEZZANINE. PIPES SHALL BE INSTALLED ABOVE LAY-IN CEILING ABOVE CLASSROOM.



### GENERAL NOTES

- REFER TO DRAWING G100 FOR PROJECT GENERAL NOTES.
- ALL PIPING AND DUCTWORK IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL REQUIRED FITTINGS, OFFSETS, DROPS AND RISERS. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL MATERIAL AND LABOR FOR A COMPLETE AND WORKING SYSTEM. COORDINATE WITH OTHER TRADES FOR SPACE AVAILABLE AND RELATIVE LOCATIONS OF EQUIPMENT, PIPING, DUCTWORK, ETC.

### KEY PLAN



PARTIAL CAMPUS MECHANICAL FLOOR PLAN  
SCALE: 1/16" = 1'-0"

ISSUED	DATE	BY	DESCRIPTION

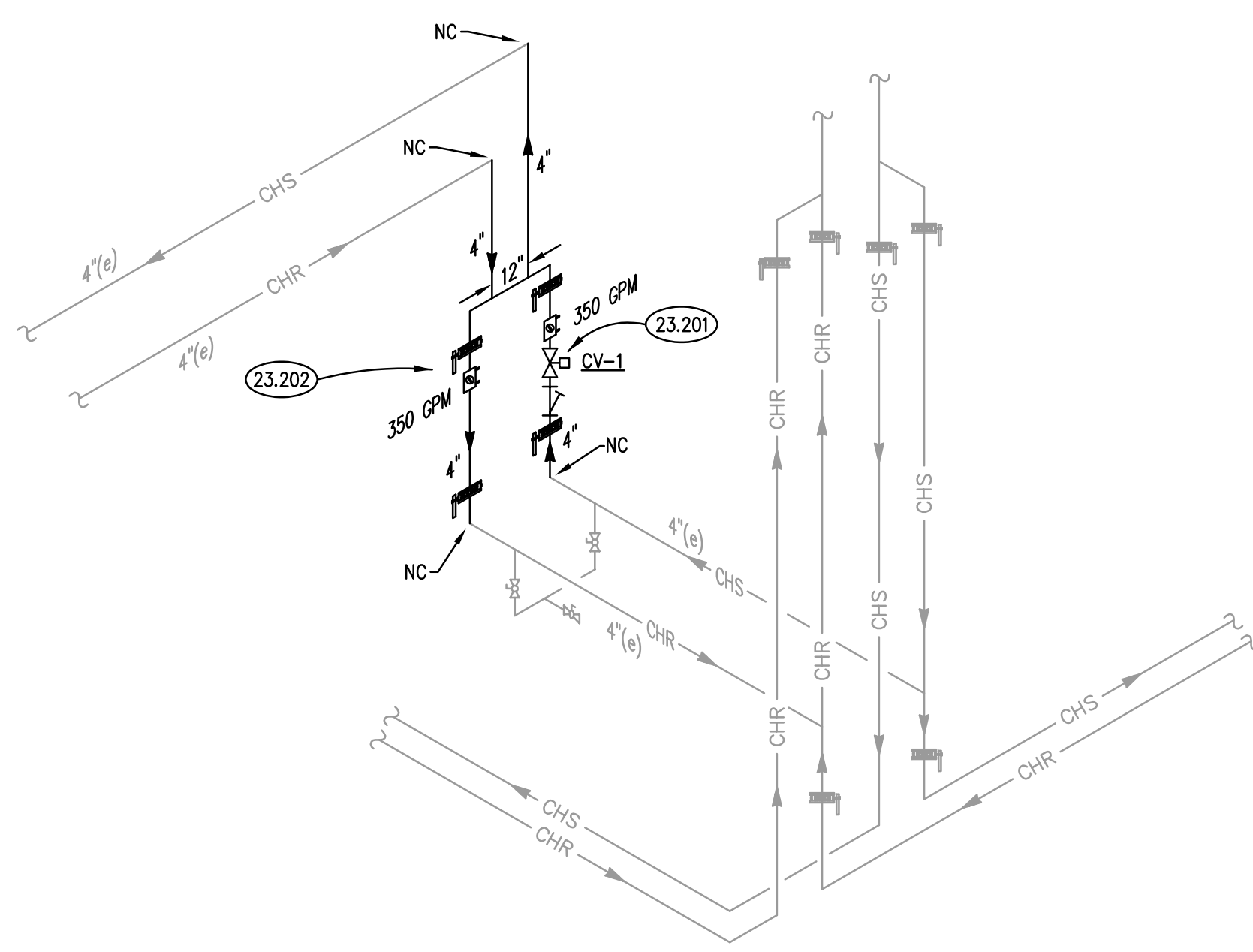
JOB NO. 24-292-1575  
 DRAWN DW  
 CHECKED DW  
 APPROVED DW

SHEET TITLE  
 PARTIAL CAMPUS  
 MECHANICAL FLOOR  
 PLAN

SHEET NUMBER

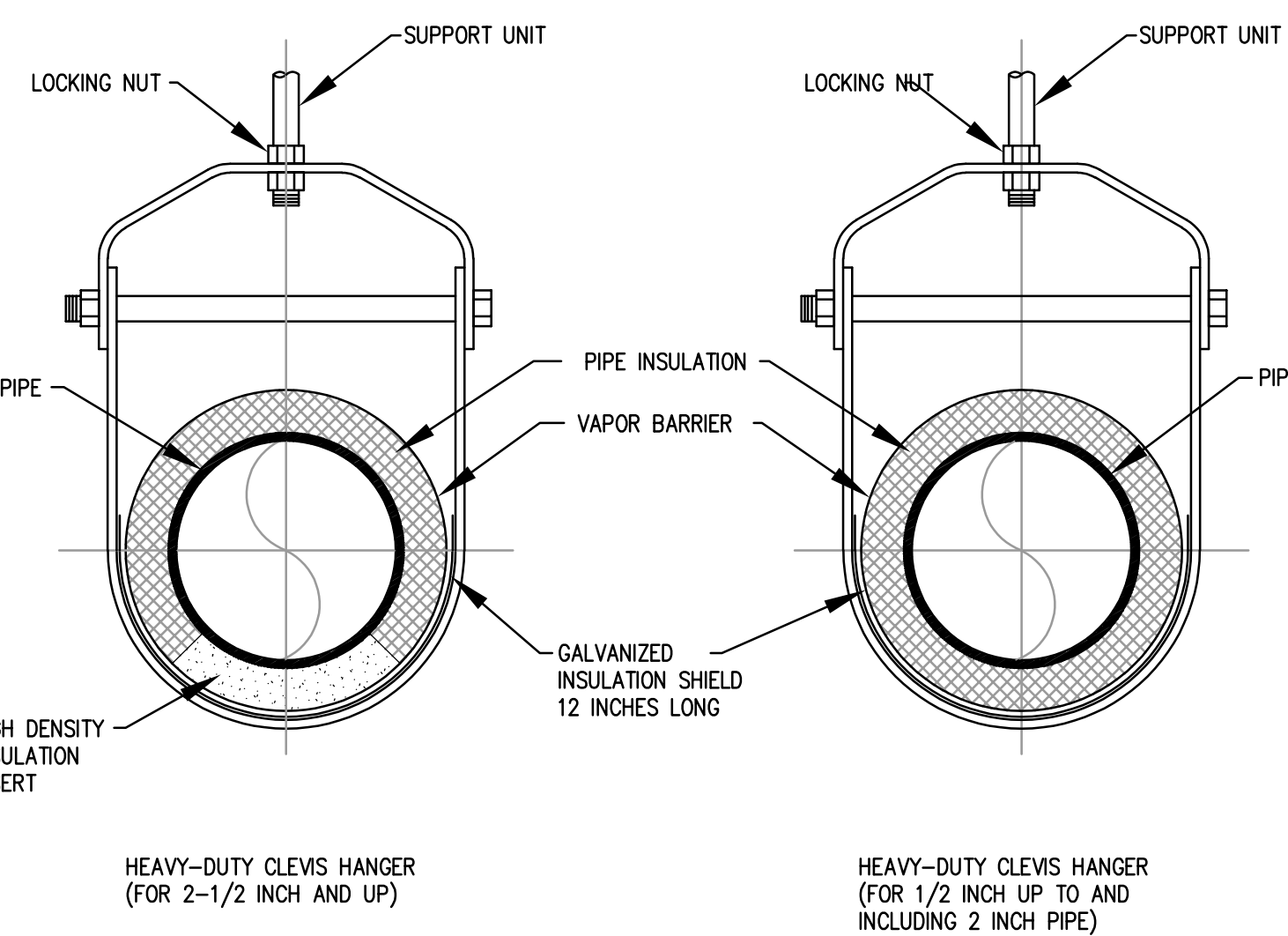
# M100

NOTE: SCALES DEPICTED ON THIS DRAWING ARE NOT CORRECT UNLESS PLOTTED SHEET SIZE IS 30 X 42 INCHES.



**AGRICULTURAL SHOP PIPING DIAGRAM**  
SCALE: NTS

3



**PIPE HANGER DETAILS**  
SCALE: NTS

4

**EXISTING SEQUENCE OF OPERATIONS**

**SUPPLEMENTAL CHILLED WATER SYSTEM SEQUENCE OF OPERATION**

- SUPPLEMENTAL CHILLED WATER PUMP CWP-1 SHALL BE STARTED AND STOPPED THROUGH A HAND-OFF-AUTO SWITCH ON THE FACE OF THE MOTOR VFD. WHEN PLACED IN THE HAND POSITION, PUMP MOTOR SHALL RUN CONTINUOUSLY. WHEN PLACED IN THE AUTO POSITION, THE FMCS SHALL CONTROL PUMP OPERATION. WHEN PLACED IN THE OFF POSITION, PUMP MOTOR SHALL BE DE-ENERGIZED.
- SUPPLEMENTAL CHILLED WATER PUMP (SUPPLEMENTAL COOLING MODE) SHALL BE ENABLED TO RUN WHEN COMMANDED BY THE FMCS BASED ON THE LEAVING WATER TEMPERATURE FROM THE WATER TO WATER HEAT PUMP SYSTEM. THE SYSTEM SHALL BE ENABLED WHEN THE FOLLOWING OCCURS:
  - WHEN THE CHILLED/HEATING WATER LOOP IS IN COOLING MODE AND THE CHW SUPPLY TEMPERATURE IS MORE THAN 2 DEGREES F ABOVE SETPOINT (ADJ) FOR MORE THAN 10 MINUTES (ADJ) OR,
  - ONCE ENABLED THE SYSTEM ISOLATION VALVES SHALL BE COMMANDED OPEN, INCLUDING ISOLATION VALVE (CV-1) LOCATED IN AGRICULTURE SHOP.
  - ONCE ENERGIZED, THE SUPPLEMENTAL CHILLED WATER PUMP (CWP-1) SHALL REMAIN IN OPERATION FOR A MINIMUM OF 10 MINUTES (ADJ) TO PREVENT SHORT CYCLING.
  - THE PUMP SHALL RUN INITIALLY AT A MINIMUM SPEED OF 25%.
  - IF ENABLED MORE THAN 2 TIMES IN AN OCCUPIED PERIOD IT SHALL REMAIN ENABLED FOR THE REMAINDER OF THE OCCUPIED PERIOD.

**CHILLED WATER TEMPERATURE SETPOINT SHALL BE CONTROLLED AS FOLLOWS:**

- WHEN THE CHW TEMPERATURE MEASURED AFTER THE CWP-1 (OR CWP-2) PUMP IS MORE THAN SETPOINT BY MORE THAN 2 DEGREES F (ADJ) FOR 5 MINUTES AFTER THE SUPPLEMENTAL CHILLED WATER SYSTEM HAS BEEN ENABLED, DECREASE THE CHILLED WATER TEMPERATURE BY INCREASING THE FLOW OF SUPPLEMENTAL CHILLED WATER TO THE SYSTEM (INCREASING SPEED OF CWP-1).
- CONTINUE INCREASING THE FLOW OF CHILLED WATER IN 2% GPM INCREMENTS UNTIL THE CHW SUPPLY TEMPERATURE IS MAINTAINED AT 2 DEGREES F (ADJ) ABOVE SETPOINT.
- REVERSE THE SEQUENCE AS THE CHW SUPPLY TEMPERATURE LOWERS BELOW SETPOINT FOR MORE THAN 10 MINUTES OR UNTIL THE CHW TEMPERATURE REMAINS CONSTANT AT 2 DEGREES F BELOW SETPOINT (ADJ) FOR 15 MINUTES.
- ALLOW SYSTEM TO REMAIN ENABLED WITH THE SUPPLEMENTAL CHILLED WATER PUMP (CWP-1) RUNNING AT MINIMUM SPEED FOR THE BALANCE OF THE OCCUPIED MODE OR UNTIL THE SYSTEM RECEIVES A CALL FOR HEATING. ONCE THE SYSTEM GOES INTO UNOCCUPIED MODE, OR THE FMCS CALL FOR HEATING, DISABLE THE SUPPLEMENTAL CHILLED WATER SYSTEM FOR THE REMAINDER OF THAT PERIOD.
- ONCE DISABLED, STOP SUPPLEMENTAL CHILLED WATER PUMP AND CLOSE SYSTEM ISOLATION VALVES, INCLUDING ISOLATION VALVE (CV-1) LOCATED IN AGRICULTURE SHOP.

**ALARMS, INTERLOCKS & SAFETIES - FMCS SHALL INDICATE AN ALARM TO THE FMCS OPERATOR WORKSTATION IN THE EVENT THE FOLLOWING OCCURS:**

- DDC FMCS COMMANDS THE SUPPLEMENTAL CHILLED WATER PUMP TO OPERATE AND THE VFD FAILS TO START, AN ALARM SHALL BE INDICATED AT THE FMCS OPERATOR WORKSTATION.
- WHEN THE EXISTING T-BUILDING CHILLED WATER SYSTEM IS NOT ONLINE.
- WHEN THE EXISTING T-BUILDING CHILLED WATER TEMPERATURE IS ABOVE 45 DEGREES F (ADJ).

**SUPPLEMENTAL CHILLED WATER SYSTEM REPORT GENERATION - FMCS SHALL MONITOR THE FOLLOWING POINTS, WHEN THE SYSTEM IS ENABLED, ON 5 MINUTE (ADJ) INTERVALS WITHIN A SINGLE TREND. THE TREND SHALL RUN FOR THE DURATION THAT THE SYSTEM IS ENABLED AT WHICH POINT IT SHALL BE STORED FOR VIEW. THE FOLLOWING VALUES SHALL BE INDICATED:**

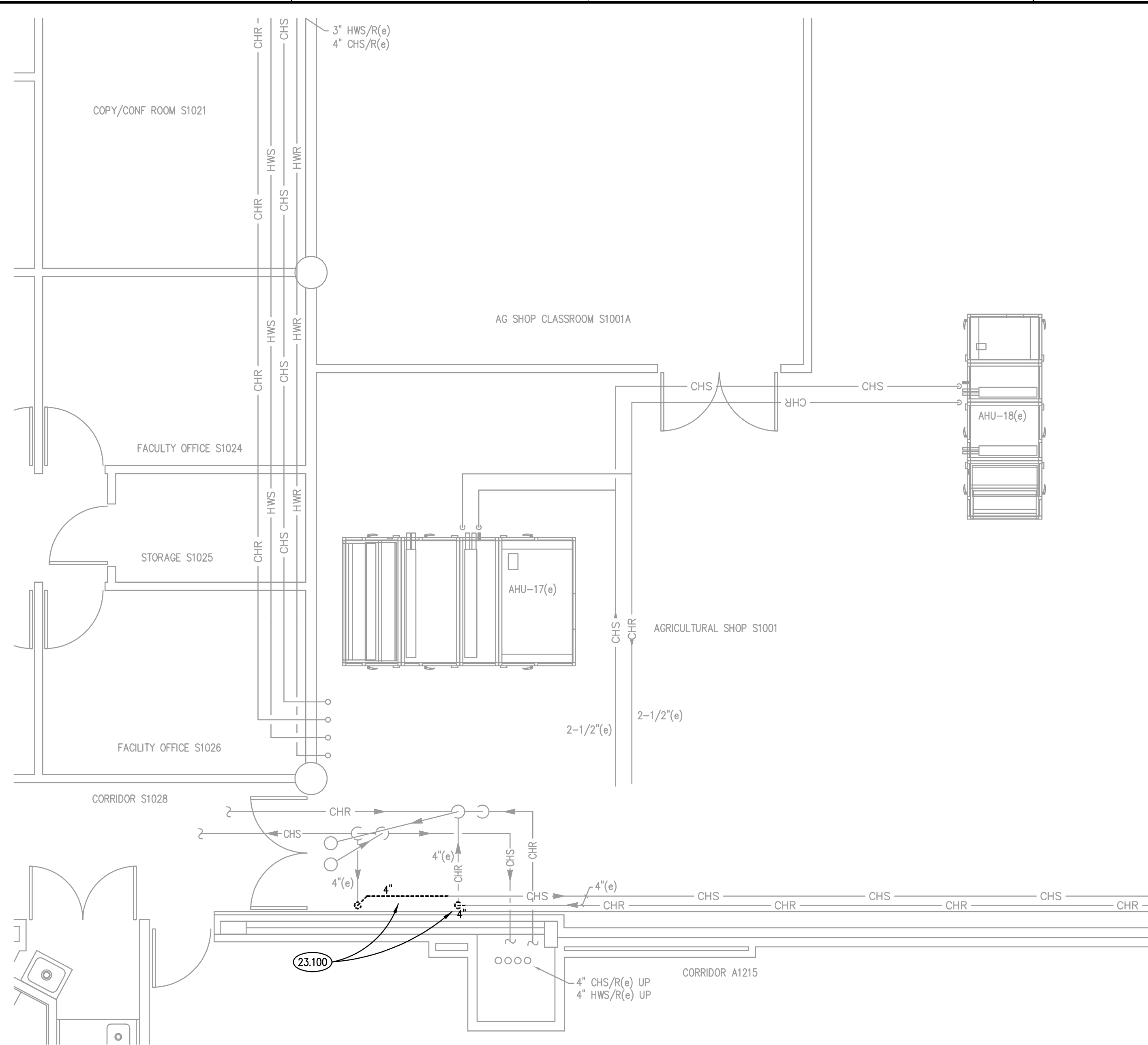
- DATE
  - TIME
  - GLOBAL OUTSIDE AIR TEMP (°F)
  - CHILLED WATER SUPPLY TEMP (°F)
  - CHILLED WATER RETURN TEMP (°F)
  - OPERATIONAL RUN TIME OF PUMPS
  - CHILLED WATER PUMP STATUS
  - CHILLED WATER PUMP SPEED
  - CHILLED WATER FLOW (GPM)
  - SUPPLEMENTAL CHILLED WATER TONNAGE (CALCULATED FROM CHILLED WATER FLOW RATE, CHW TEMPERATURE AND CWR TEMPERATURE)
- THIS INFORMATION SHALL BE ACCESSIBLE TO VIEW IN EITHER TABULAR OR GRAPHICAL FORM ON THE FMCS OPERATOR INTERFACE.

MANUAL SYSTEM COMMAND MODE - IN THE EVENT OF A HEAT PUMP FAILURE, PLANNED MAINTENANCE, ETC., PROVIDE A MANUAL OPERATOR SELECTABLE "ENABLE" POINT WHICH WILL ALLOW THE SUPPLEMENTAL CHILLED WATER SYSTEM TO BE ENABLED UPON COMMAND. MANUAL "ENABLE" SHALL OPEN REQUIRED ISOLATION VALVES (INCLUDING ISOLATION VALVE (CV-1) LOCATED IN AGRICULTURE SHOP), START PUMP CWP-1 AND CONTROL PUMP SPEED TO MAINTAIN CHILLED/HOT WATER LOOP TEMPERATURE SETPOINT OF 42 DEGREES F (ADJ).

**KEYNOTES**

KEYNOTES ARE TYPICALLY NOT DUPLICATED WITHIN A GIVEN DETAIL. AN UN-KEYNOTED ITEM IN A DETAIL IS THE SAME AS A KEYNOTED ITEM HAVING THE SAME APPEARANCE WITHIN THE SAME DETAIL.

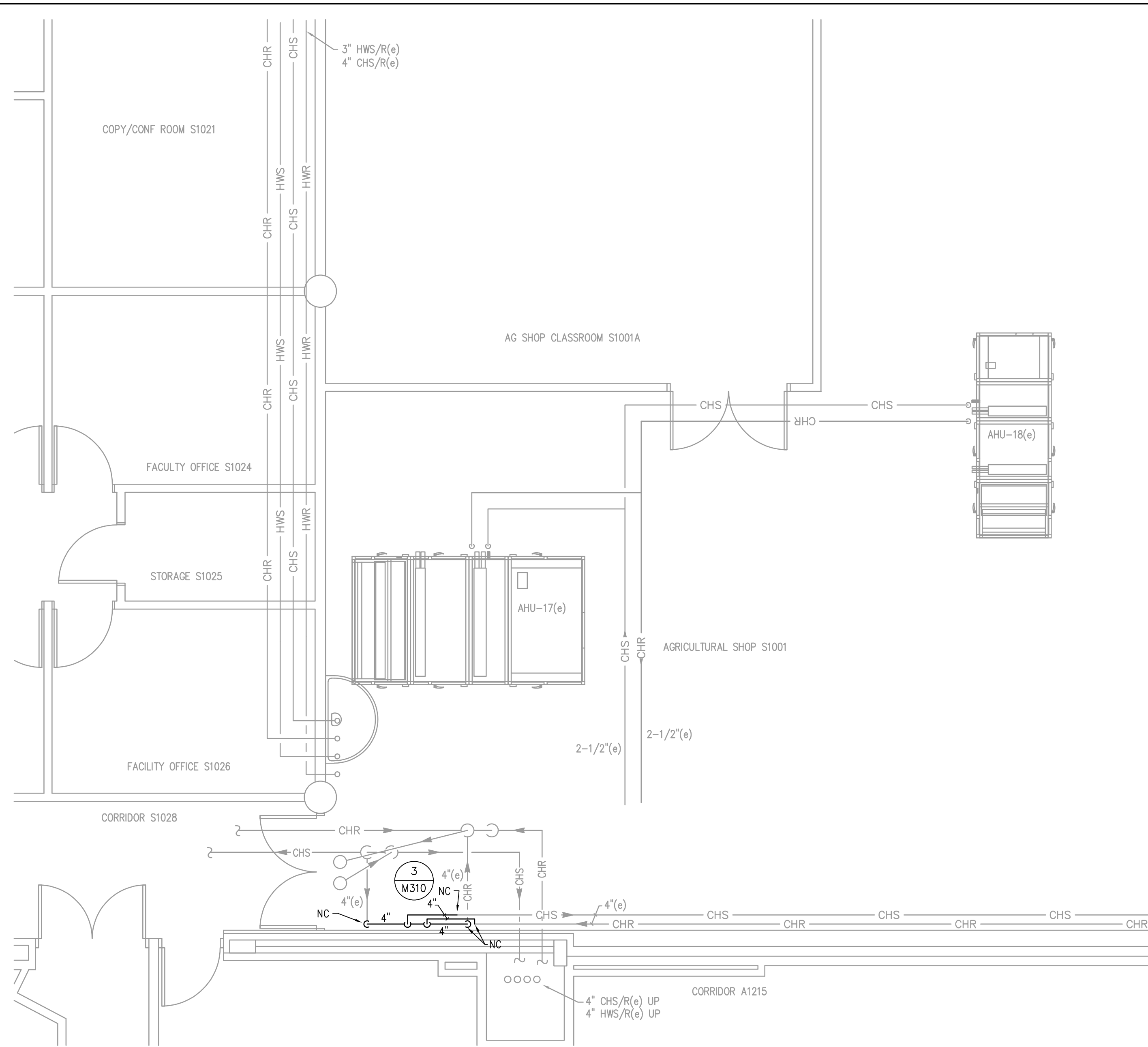
- 23.100 REMOVE SECTIONS OF CHILLED WATER SUPPLY/RETURN PIPES AS REQUIRED TO RECONFIGURE PIPING AS SHOWN ON NEW WORK PLAN. COORDINATE WITH OWNER FOR DRAINING/RECLAIMING GLYCOL FROM PIPING.
- 23.201 TEMPERATURE CONTROLS CONTRACTOR TO MODIFY EXISTING SUPPLEMENTAL COOLING SEQUENCES FOR CHILLED WATER SYSTEM IN BUILDING 'A' 2ND FLOOR MECHANICAL ROOM. ADD NEW ISOLATION CONTROL VALVE TO SEQUENCES AND GRAPHICS. CAMPUS CONTROLS CONTRACTOR IS JOHNSON CONTROLS, INC., JIM PERISIN - 708-418-2268.
- 23.202 TEST AND BALANCE SYSTEM AT INITIAL SUPPLEMENTAL COOLING INITIATION AND IN MANUAL SYSTEM COMMAND MODE. SEE SEQUENCE OF OPERATIONS. COORDINATE WITH OWNER FOR BEST TIME TO COMPLETE TEST AND BALANCE ACTIVITIES. SYSTEM PUMPS ARE LOCATED IN BUILDING 'A' MECHANICAL ROOM A2206.



**AGRICULTURAL SHOP S1001 MECHANICAL DEMOLITION PLAN**

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

1



**AGRICULTURAL SHOP S1001 MECHANICAL NEW WORK PLAN**

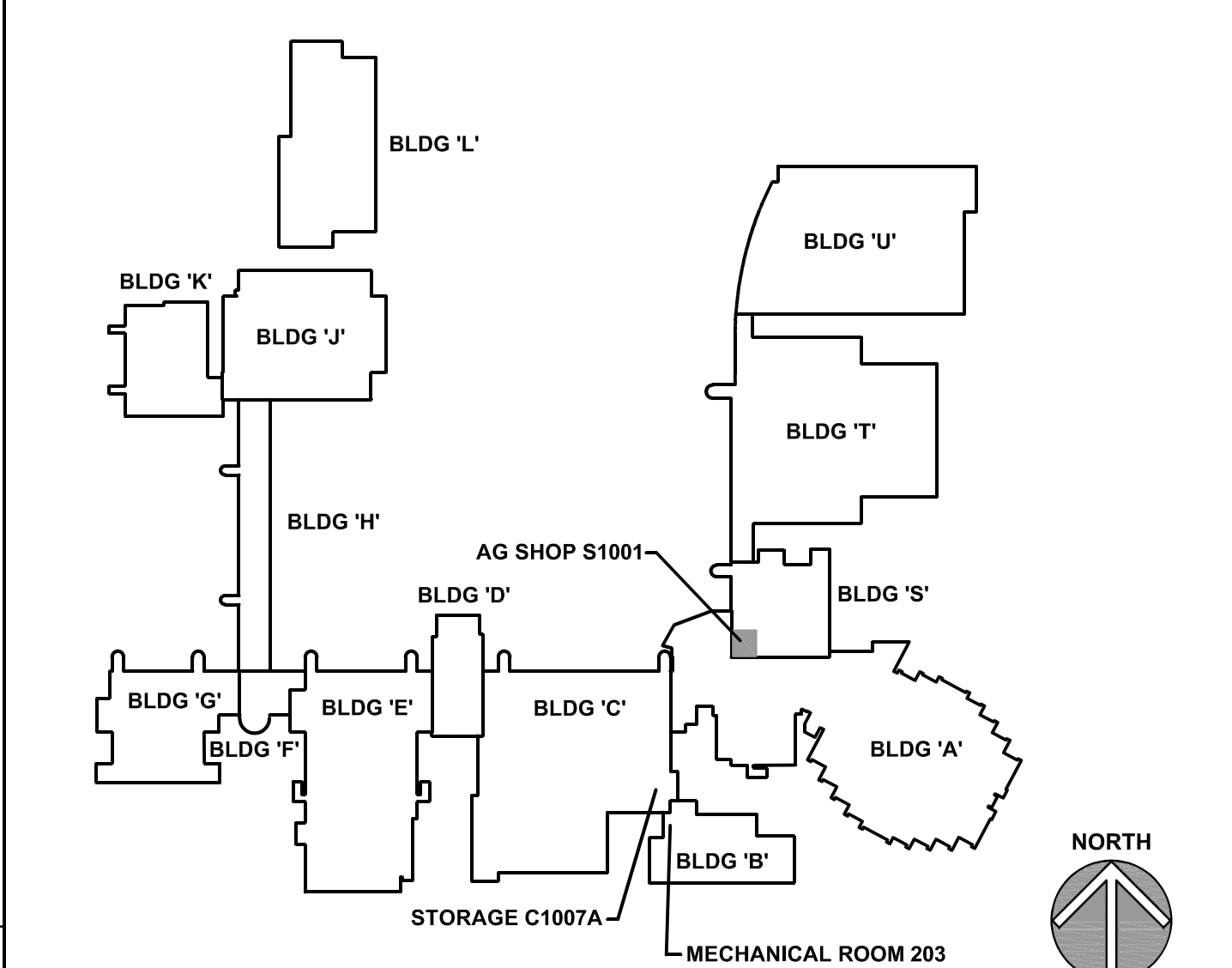
SCALE: 1/4" = 1'-0"

2

**GENERAL NOTES**

- REFER TO DRAWING G100 FOR PROJECT GENERAL NOTES.
- ALL PIPING AND DUCTWORK IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL REQUIRED FITTINGS, OFFSETS, DROPS AND RISES. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL MATERIAL AND LABOR FOR A COMPLETE AND WORKING SYSTEM. COORDINATE WITH OTHER TRADES FOR SPACE AVAILABLE AND RELATIVE LOCATIONS OF EQUIPMENT, PIPING, DUCTWORK, ETC.

**KEY PLAN**

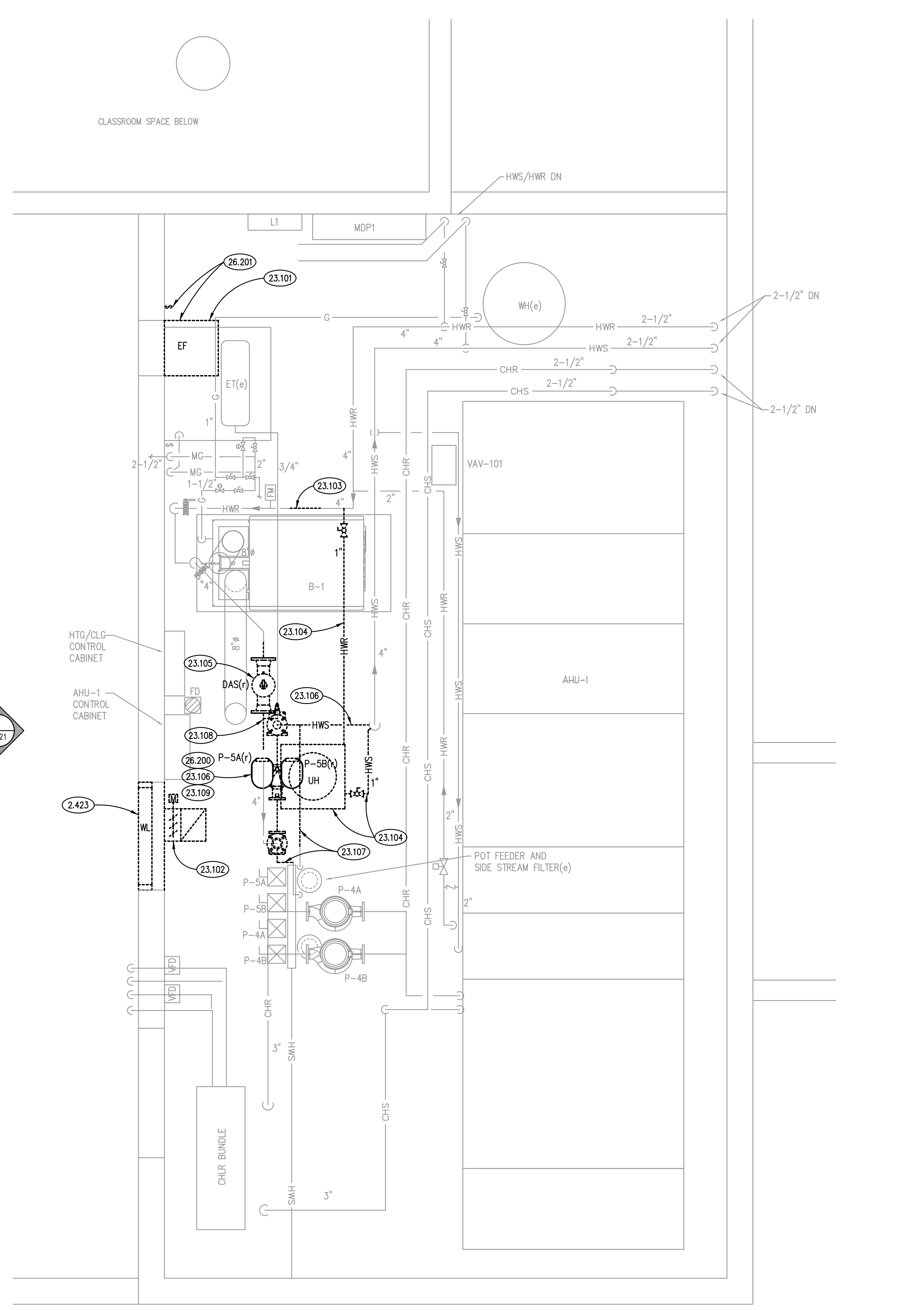


ISSUED	DATE	BY	REVISION

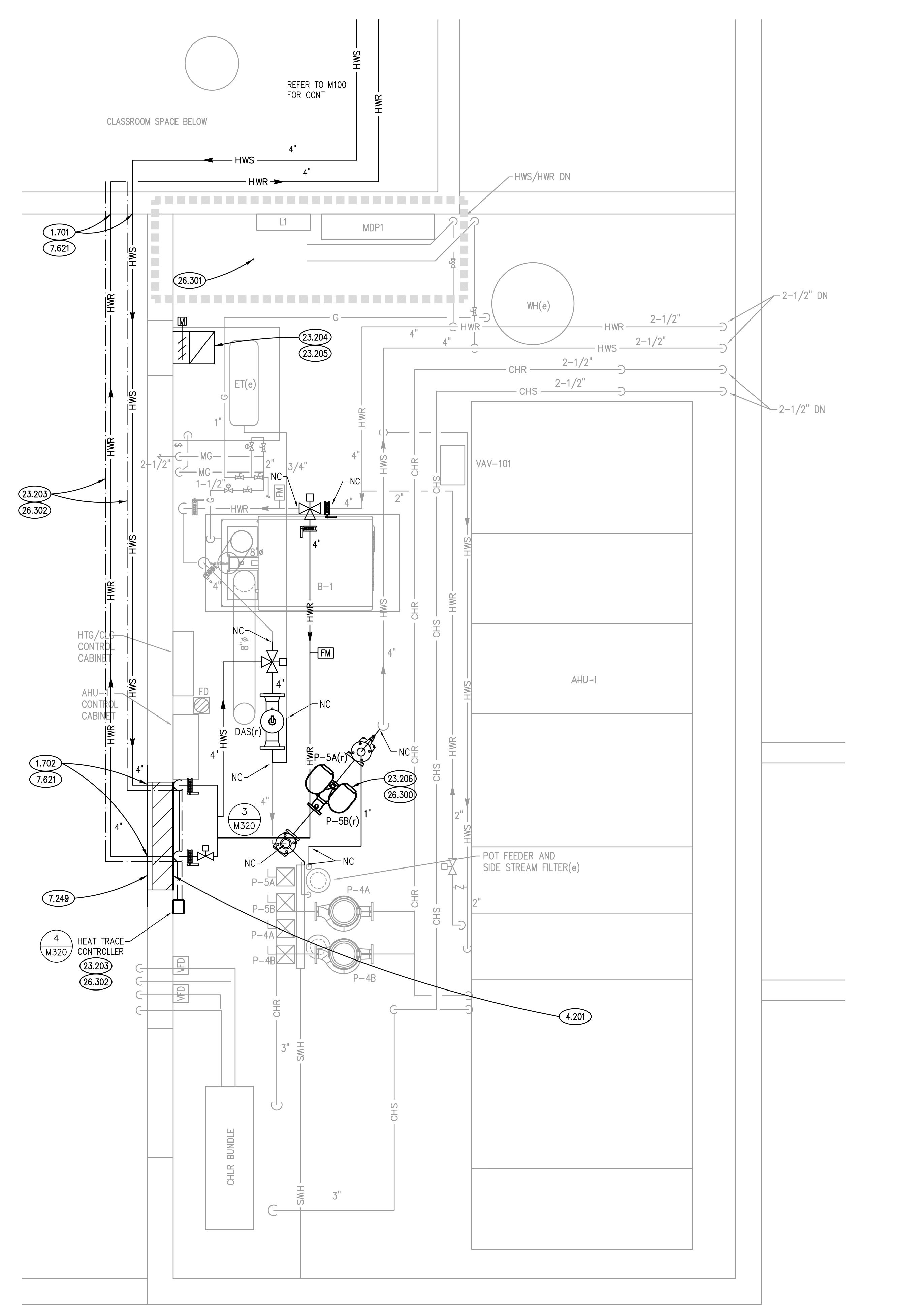
JOB NO.	24-292-1575
DRAWN	BWG
CHECKED	DDW
APPROVED	DDW

SHEET TITLE	BUILDING 'S' - PARTIAL FLOOR PLANS AND DETAILS
SHEET NUMBER	

**M310**



**MEZZANINE ROOM 203 MECHANICAL DEMOLITON PLAN**  
SCALE: 1/2" = 1'-0" 2



**MEZZANINE ROOM 203 MECHANICAL NEW WORK PLAN**  
SCALE: 1/2" = 1'-0" 1

**KEYNOTES**

- KEYNOTES ARE TYPICALLY NOT DUPLICATED WITHIN A GIVEN DETAIL. AN UN-KEYNOTED ITEM IN A DETAIL IS THE SAME AS A KEYNOTED ITEM HAVING THE SAME APPEARANCE WITHIN THE SAME DETAIL.
- 1.701 CORE THROUGH EXISTING STUCCO-CLAD STEEL-FRAMED WALL; SIZE HOLES TO ACCOMMODATE PIPING AND INSULATION.
  - 1.702 CORE THROUGH EIFS AND CONCRETE BLOCK; SIZE HOLES TO ACCOMMODATE PIPING AND INSULATION.
  - 4.201 MASONRY WALL ASSEMBLY: INFILL EXISTING OPENING WITH 8" (NOM.) CONCRETE BLOCK, WITH INTEGRAL WATER REPELLANT; PROVIDE SINGLE-WYTHE COURSE EVERY OTHER BED JOINT; TIE RIGIDLY TO PERIMETER OF EXISTING MASONRY OPENING.
  - 2.423 REMOVE EXISTING WALL LOUVER.
  - 7.249 EXTERIOR INSULATION AND FINISH SYSTEM ASSEMBLY: INFILL EXISTING OPENING; 2" EPS INSULATION; DRAINAGE PLANE BEHIND INSULATION; PROVIDE BASE FLASHING AT BOTTOM OF INFILL AREA; MATCH EXISTING EPS FINISH TEXTURE, COLOR AND V-GROOVE PATTERN; BLEND HEAD AND JAMBS INTO EXISTING ADJACENT EPS SURFACES; CLEAN SURROUNDING EPS SURFACES TO BLEND INFILL SURFACE TO EXISTING; REFER TO SPECIFICATIONS.
  - 7.621 SHEET METAL FLASHING: PROVIDE 24 GA. GALVANIZED, FACTORY PREFINISHED STEEL FLASHING COLLAR AROUND PIPING INSULATION; SEAL WATER-TIGHT TO SURFACE OF INSULATION AND TO FACE OF STUCCO/EIFS WALL SURFACE; HEM FLANGED FACE EDGES OF FLASHING.
  - 23.101 REMOVE EXHAUST FAN. PROVIDE TEMPORARY CAP OVER WALL LOUVER.
  - 23.102 REMOVE, RETAIN AND PROTECT COMBUSTION AIR TRACE AND DAMPER FOR RELOCATION. REFER TO NEW WORK PLAN. REMOVE CONTROLS AND REWIRE FOR NEW LOCATION.
  - 23.103 REMOVE SECTION OF HWR PIPE FOR INSTALLATION OF NEW 3-WAY VALVE.
  - 23.104 REMOVE UNIT HEATER AND ALL ASSOCIATED PIPING BACK TO ACTIVE HEATING PIPE MAINS. CAP TAKE-OFFS THAT REMAIN.
  - 23.105 REMOVE, RETAIN AND PROTECT DIRT/AIR SEPARATOR FOR RELOCATION.
  - 23.106 REMOVE SECTIONS OF HWS PIPING AS REQUIRED TO ROTATE PUMPS AND SPECIALTIES.
  - 23.107 REMOVE SECTIONS OF POT FEEDER AND SIDE STREAM FILTER SUPPLY/RETURN PIPE AS REQUIRED TO RECONFIGURE SUPPLY PIPE FOR NEW PIPE CONFIGURATION.
  - 23.108 REMOVE SECTIONS OF EXPANSION TANK PIPING CONNECTION TO HOT WATER SYSTEM AS REQUIRED TO RECONFIGURE FOR DAS(R) NEW LOCATION.
  - 23.109 REMOVE CONTROL COMPONENTS AND WIRING AS REQUIRED FOR RELOCATING PUMPS. CAMPUS CONTROLS CONTRACTOR IS JOHNSON CONTROLS, INC., JIM PERISIN - 708-418-2268.
  - 23.203 PROVIDE EXTERIOR WELDED PIPE WITH INSULATION AND ALUMINUM JACKET. COORDINATE EXACT LOCATION WITH OWNER. INSTALL OWNER FURNISHED HEAT TRACE COMPONENTS ON EXTERIOR PIPES. REFER TO P320/DETAIL 4 FOR LIST OF OWNER FURNISHED MATERIAL. PROVIDE ADDITIONAL COMPONENTS AS RECOMMENDED BY MANUFACTURER FOR A COMPLETE AN OPERATIONAL SYSTEM.
  - 23.204 PROVIDE INSULATED METAL PANEL OVER BACKSIDE OF EXISTING LOUVER. PROVIDE OPENING TO MATCH COMBUSTION AIR DUCT AND REINSTALL IN NEW LOCATION.
  - 23.205 PROVIDE MATERIAL AND LABOR TO RECONNECT DAMPER OPERATOR TO EXISTING CONTROL PANEL AND SEQUENCE OF OPERATION.
  - 23.206 PROVIDE MATERIAL AND LABOR TO RECONNECT HOT WATER PUMPS TO EXISTING CONTROL PANEL AND SEQUENCE OF OPERATION. PROVIDE MATERIAL AND LABOR AS REQUIRED TO RE-INSTALL CONTROL COMPONENTS FOR PUMP'S NEW LOCATION.
  - 26.200 INTERCEPT AND EXTEND EXISTING CONNECTION FOR REUSE IN NEW LOCATION OF P-5A & P-5B. PROTECT EXPOSED CABLING FROM DAMAGE, AND PROVIDE NEW AS NECESSARY. COORDINATE LOCATION OF FINAL CONNECTION WITH MECHANICAL CONTRACTOR.
  - 26.201 DEMOLISH EXISTING EXHAUST FAN & DISCONNECT SWITCH CONDUIT & CABLING BACK TO SOURCE.
  - 26.300 NEW LOCATION OF P-5A & P-5B.
  - 26.301 APPROXIMATE LOCATION FOR PANEL EMV ON THE FLOOR BELOW.
  - 26.302 HEAT TRACE TO BE INSTALLED FOR EXTERIOR PIPING ALONG THIS WALL.

**GENERAL NOTES**

1. REFER TO DRAWING G100 FOR PROJECT GENERAL NOTES.
2. ALL PIPING AND DUCTWORK IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL REQUIRED FITTINGS, OFFSETS, DROPS AND RISES. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL MATERIAL AND LABOR FOR A COMPLETE AND WORKING SYSTEM. COORDINATE WITH OTHER TRADES FOR SPACE AVAILABLE AND RELATIVE LOCATIONS OF EQUIPMENT, PIPING, DUCTWORK, ETC.

**SEQUENCE OF OPERATIONS**

**SECONDARY HEATING SUPPLY:**

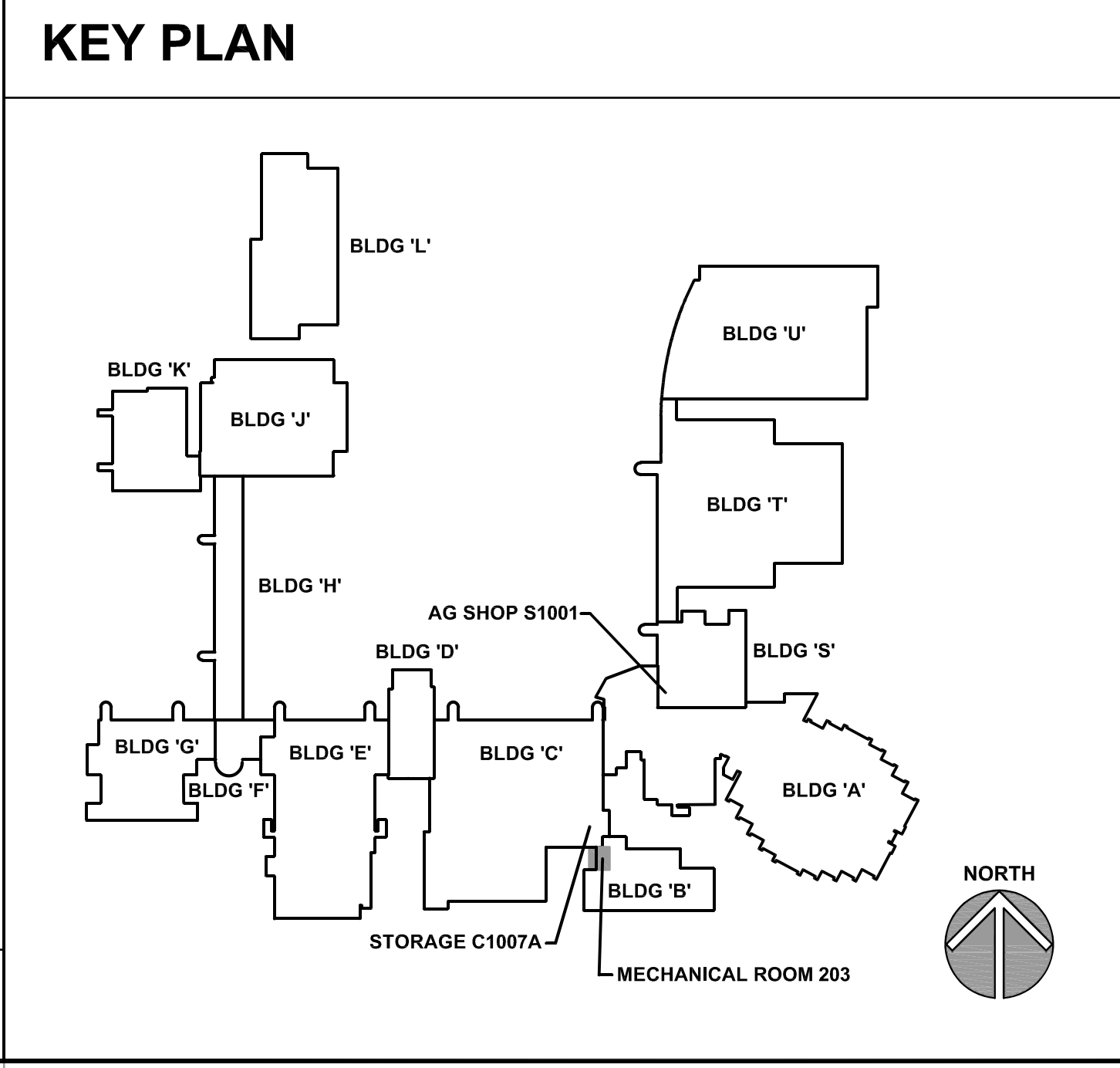
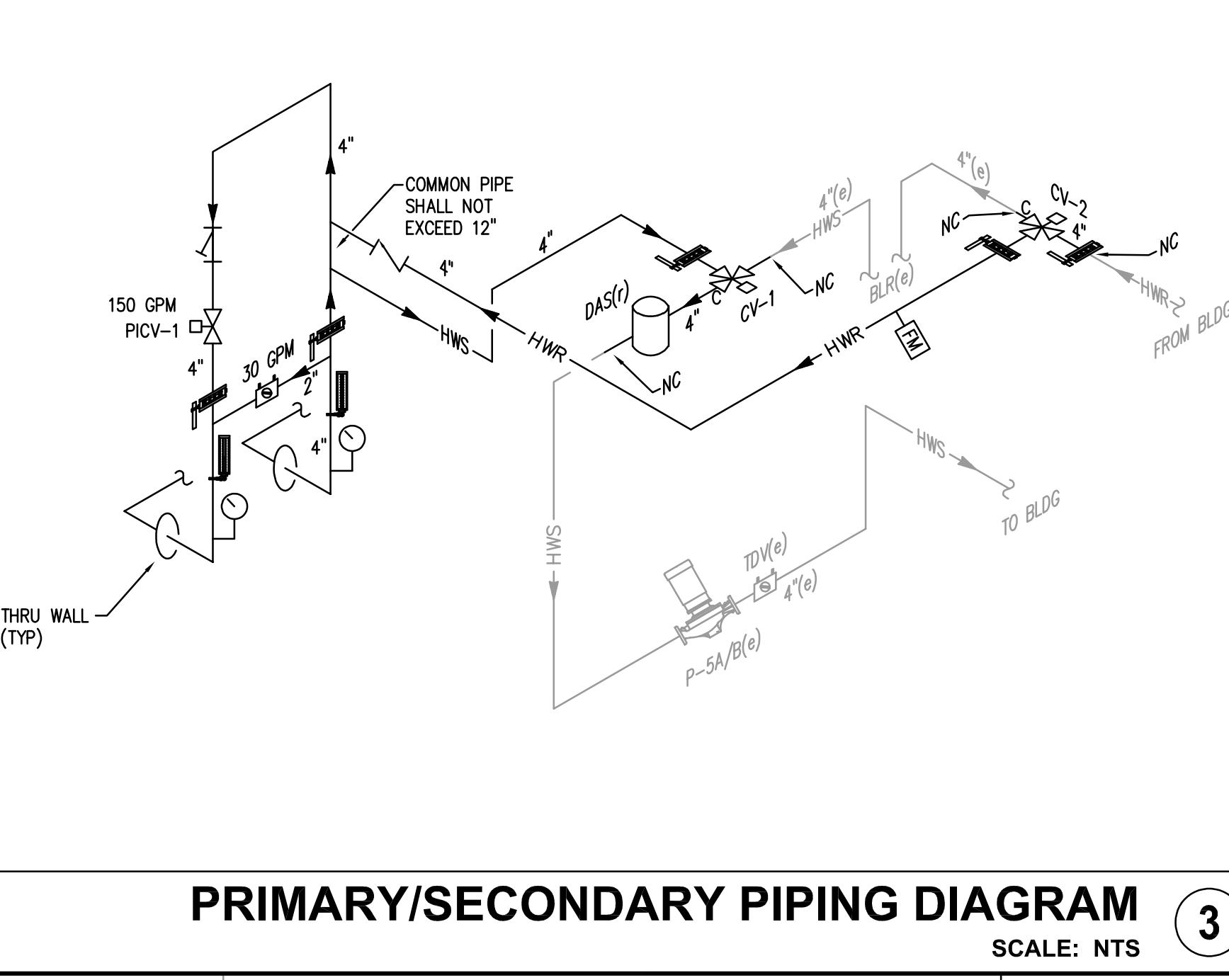
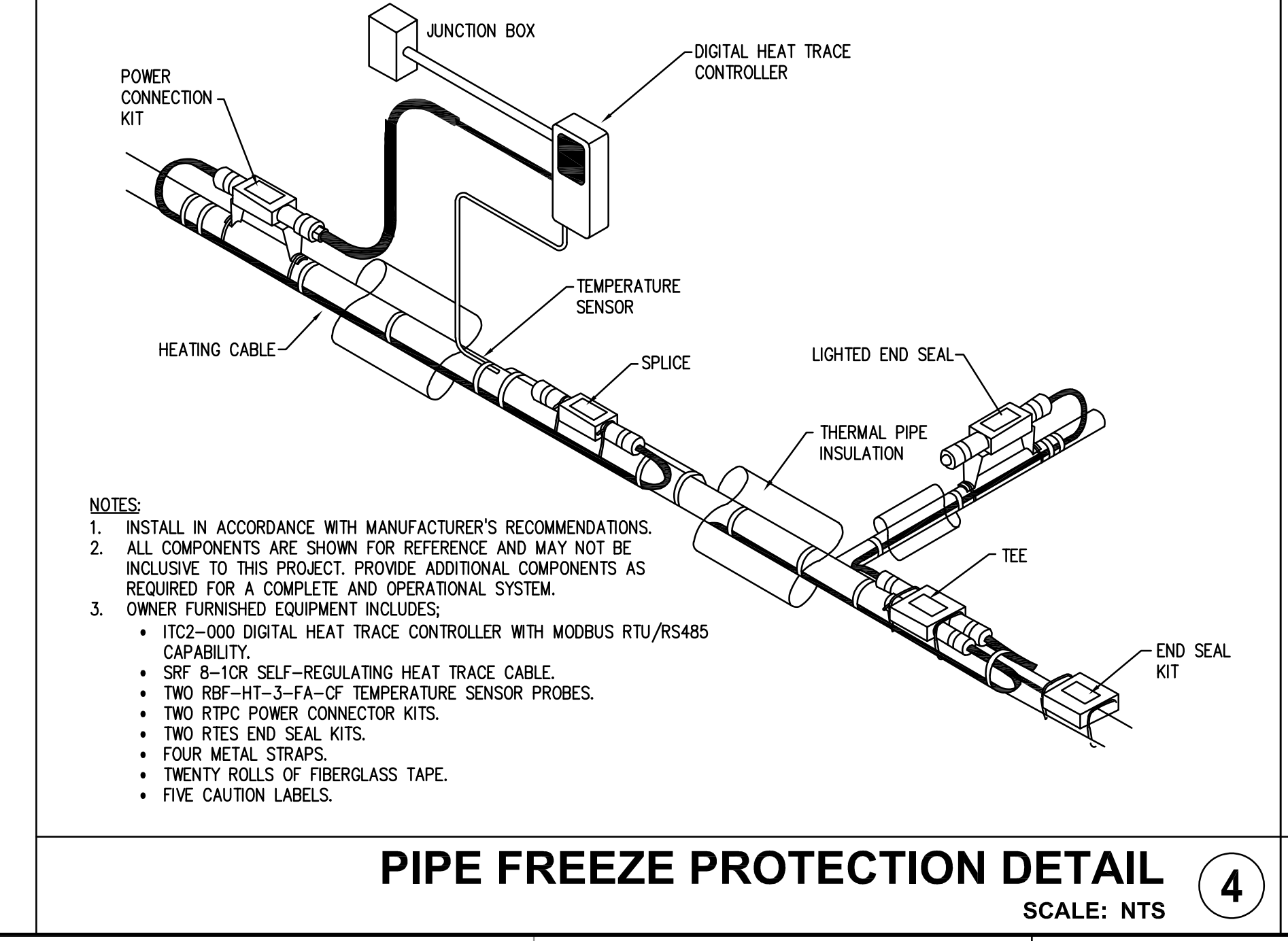
THE SWITCH FROM BUILDING 'B' BOILER TO CAMPUS HEATING HOT WATER SYSTEM SHALL BE CONTROLLED IN THE BUILDING AUTOMATION SYSTEM.

WHEN THE SYSTEM IS SWITCHED TO THE CAMPUS SYSTEM, THE BOILER SHALL BE DE-ENERGIZED, THE 3-WAY VALVES SHALL CHANGE POSITION TO ISOLATE THE BOILER, CV-1 SHALL OPEN.

SYSTEM PUMPS P-5A AND P-5B SHALL OPERATE AS REQUIRED TO MAINTAIN THE SYSTEM FLOW RATE.

**POINTS LIST**

NEW POINT TO ADD TO MECHANICAL ROOM GRAPHICS	HARDWARE				SOFTWARE			
	AI	AD	DI	DO	SCHED	TREND	ALARM	GRAPHIC
CONTROL VALVE STATUS (PICV-1)		X						X
CONTROL VALVE STATUS (CV-1, CV-2, 3-WAY)		X						X
BOILER BYPASS FLOW RATE (FM)	X					X		X
HEAT TRACE STATUS			X			X	X	X
HEAT TRACE TEMPERATURE SETPOINT (CIRCUIT 1, CIRCUIT 2)		X						X
HEAT TRACE TEMPERATURE (CIRCUIT 1, CIRCUIT 2)	X					X	X	X
LOW TEMPERATURE ALARM (CIRCUIT 1, CIRCUIT 2)			X			X	X	X
HIGH TEMPERATURE ALARM (CIRCUIT 1, CIRCUIT 2)			X			X	X	X
HEAT TRACE SENSOR ERROR (CIRCUIT 1, CIRCUIT 2)			X			X	X	X
FIELD INSTALLED AMP CLAMP (CIRCUIT 1, CIRCUIT 2)	X						X	X
SECONDARY SYSTEM HEATING FLOW METER (FM)		X				X		X



**KLUBER** Architects + Engineers

Klubler, Inc.  
Aurora, Illinois 60506  
Tel: 630.346.5213  
Bloomington, Illinois 61714  
Tel: 309.430.0400  
www.klubertec.com

**BUILDING 'S' AND BUILDING 'B' PIPING MODIFICATIONS**

JOLIET JUNIOR COLLEGE  
1215 HOUBOLT ROAD  
JOLIET, ILLINOIS 60431

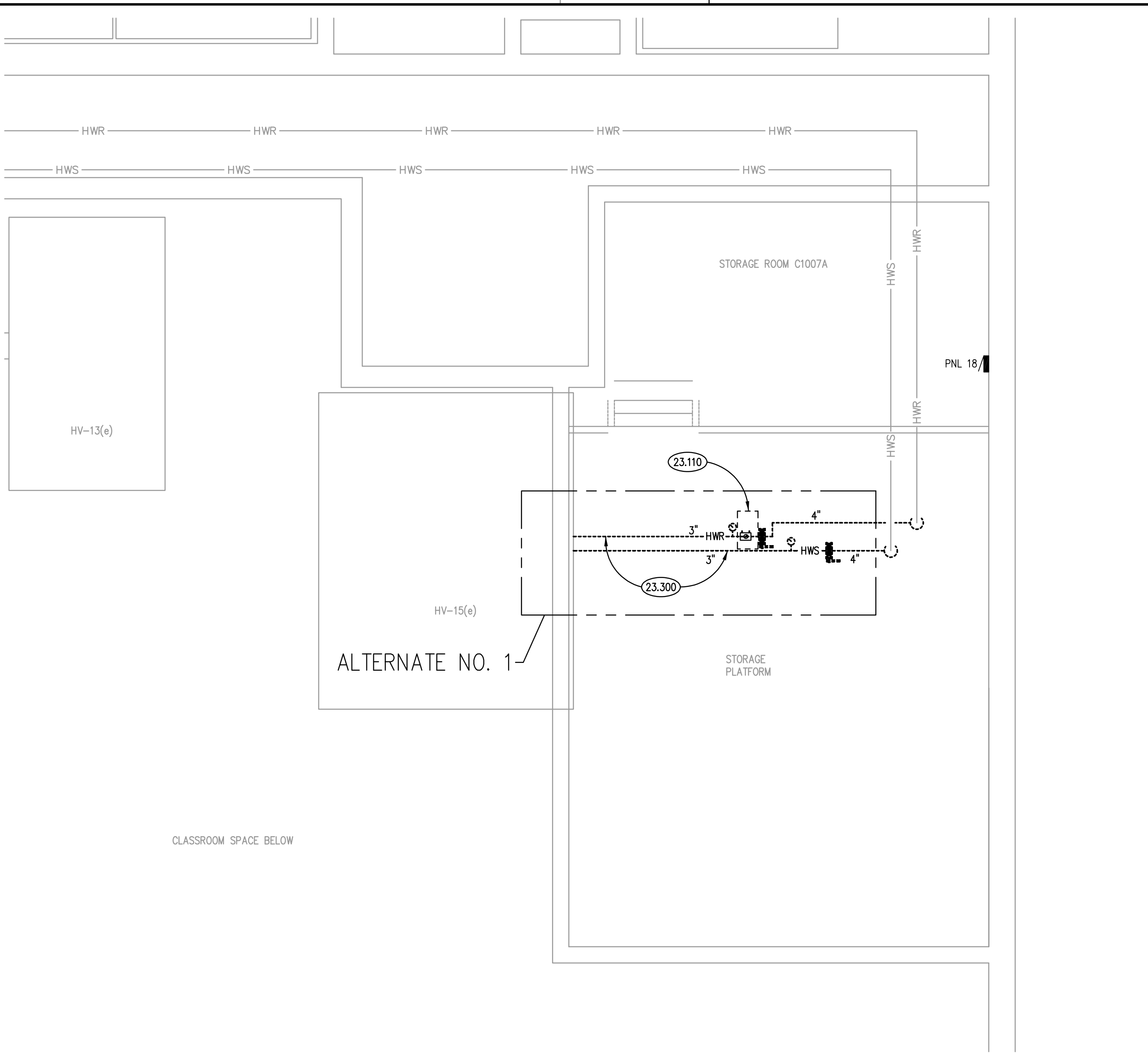
ISSUED  
1/20/25 BID DOCUMENTS

JOB NO. 24-292-1575  
DRAWN BWG  
CHECKED DDW  
APPROVED DDW

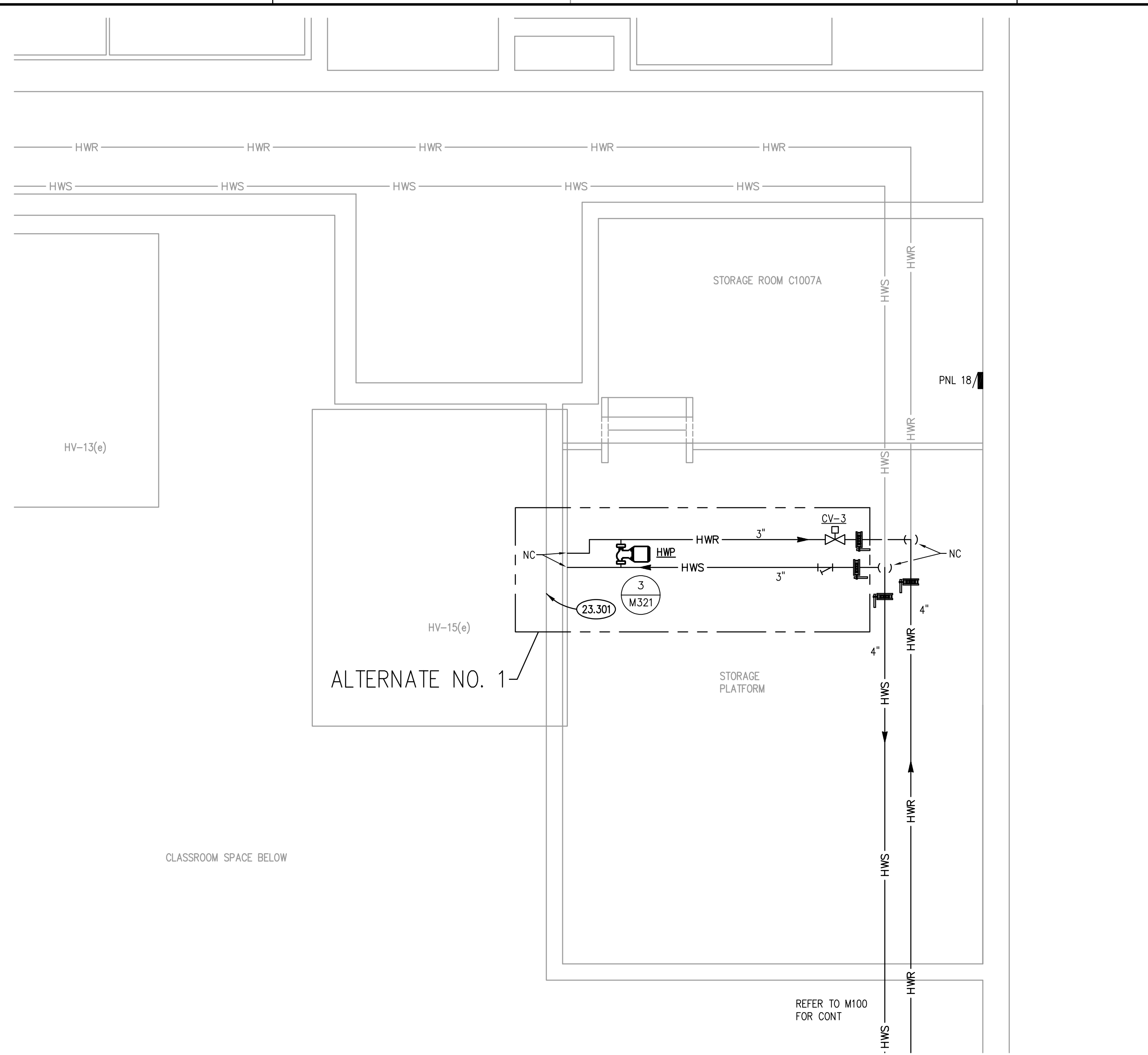
SHEET TITLE  
**BUILDING 'B' - MECHANICAL ROOM PLANS AND DETAILS**

SHEET NUMBER  
**ME320**

NOTE: SCALES DEPICTED ON THIS DRAWING ARE NOT CORRECT UNLESS PLOTTED SHEET SIZE IS 30 X 42 INCHES.



**PLATFORM MECHANICAL DEMOLITON PLAN**  
SCALE: 1/2" = 1'-0" ②



**PLATFORM MECHANICAL NEW WORK PLAN**  
SCALE: 1/2" = 1'-0" ①

- ### KEYNOTES
- KEYNOTES ARE TYPICALLY NOT DUPLICATED WITHIN A GIVEN DETAIL. AN UN-KEYNOTED ITEM IN A DETAIL IS THE SAME AS A KEYNOTED ITEM HAVING THE SAME APPEARANCE WITHIN THE SAME DETAIL.
- 2.201 EXISTING CONCRETE MASONRY WALL.
  - 2.202 EXISTING EXTERIOR INSULATION AND FINISH SYSTEM (EIFS)
  - 2.423 REMOVE EXISTING WALL LOUVER.
  - 5.501 METAL FABRICATION: PIPE SUPPORT BRACKET; CONFIGURATION AS INDICATED; 1-5/8" GALVANIZED UNISTRUT MEMBERS.
  - 5.504 METAL FABRICATION: GALVANIZED 1" (NOM.) STANDARD WEIGHT STEEL PIPE SLEEVE; EXTEND FROM INSIDE FACE OF EXISTING CONCRETE MASONRY WALL TO EXTERIOR FACE OF EIFS.
  - 5.507 METAL FABRICATION ACCESSORY: GALVANIZED PIPE CLAMP; SIZE TO FIT INSULATED PIPING.
  - 5.508 METAL FABRICATION ACCESSORY: 1/2" DIA. GALVANIZED THREADED ROD; WITH NUTS AND WASHERS AS SHOWN.
  - 5.509 METAL FABRICATION ACCESSORY: PLATE WASHER; SET IN SILICONE JOINT SEALANT.
  - 7.249 EXTERIOR INSULATION AND FINISH SYSTEM ASSEMBLY: INFILL EXISTING OPENING; 2" EPS INSULATION; DRAINAGE PLANE BEHIND INSULATION; PROVIDE BASE FLASHING AT BOTTOM OF INFILL AREA; MATCH EXISTING EIFS FINISH TEXTURE, COLOR AND V-GROOVE PATTERN; BLEND HEAD AND JAMBS INTO EXISTING ADJACENT EIFS SURFACES; CLEAN SURROUNDING EIFS SURFACES TO BLEND INFILL SURFACE TO EXISTING; REFER TO SPECIFICATIONS.
  - 7.921 JOINT SEALANT: SILICONE; NON-STAINING; NEUTRAL-CURING.
  - 23.110 UNDER BASE BID REMOVE SECTION OF HOT WATER RETURN PIPING UPSTREAM OF SHUT-OFF VALVE AND ADD AUTO-FLOW VALVE FOR HV-15(e). VALVE SHALL BE SIZED FOR 108 GPM.
  - 23.300 ALTERNATE NO.1: REMOVE HWS AND HWR PIPING BETWEEN HV-15(e) COIL AND 4-INCH MAINS. PROVIDE TEMPORARY CAP FOR NEW CONNECTION.
  - 23.301 ALTERNATE NO. 1: REMOVE ALL PNEUMATIC CONTROLS FOR HV-15(e) AND ABANDONED PNEUMATIC LINES BACK TO NEXT ACTIVE BRANCH. PROVIDE NEW DDC CONTROLS AND INTERFACE INTO CAMPUS BUILDING AUTOMATION SYSTEM.

**Kluber**  
Architects + Engineers

Kluber, Inc.  
Aurora, Illinois 60506  
Tel: 630.346.5213  
Bloomington, Illinois 61704  
Tel: 309.330.6400  
www.kluberinc.com

**BUILDING 'S' AND BUILDING 'B' PIPING MODIFICATIONS**  
JOLIET JUNIOR COLLEGE  
1215 HOUBOLT ROAD  
JOLIET, ILLINOIS 60431

### ALTERNATE NO. 1 - SEQUENCE OF OPERATIONS

**HEATING VENTILATING UNIT - HV-15(e).**

HV-15(e) IS MANUALLY ACTIVATED FOR MAKE-UP AIR ASSOCIATED WITH EXHAUST HOOD IN METALS LAB. WHEN THE UNIT IS ENERGIZED THE OUTSIDE AIR DAMPER SHALL OPEN AND THE SUPPLY FAN SHALL BE ENERGIZED. THE EXISTING SEQUENCES AND GRAPHICS SHALL BE MODIFIED TO ADD NEW EQUIPMENT ASSOCIATED WITH HV-15(e).

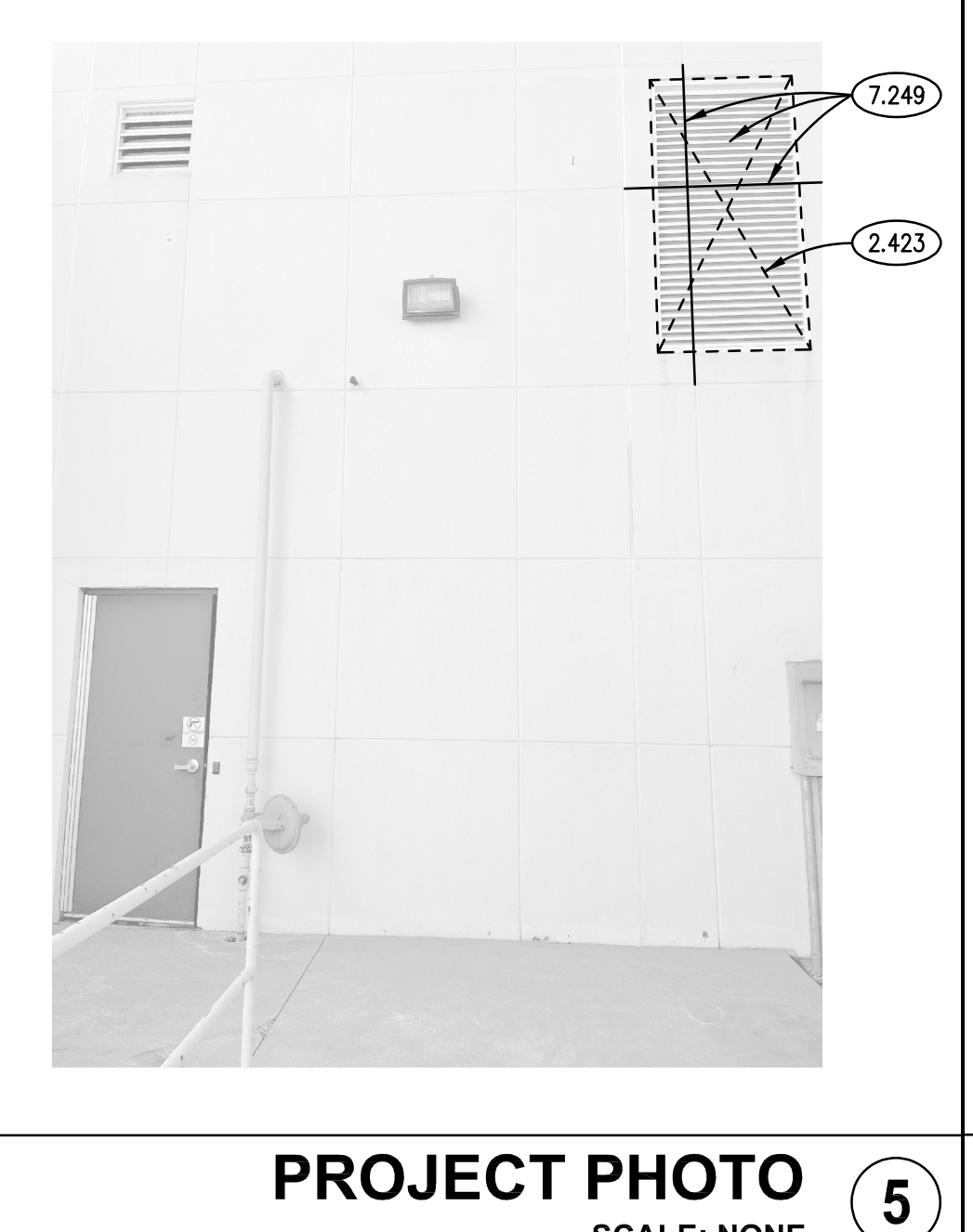
**HEATING MODE** - THE HOT WATER COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN A DISCHARGE TEMPERATURE SETPOINT OF 65 DEGREES F WHEN THE UNIT IS ENABLED.

**FACE & BYPASS DAMPERS** - THE DAMPERS SHALL BE LOCKED IN THE FACE POSITION.

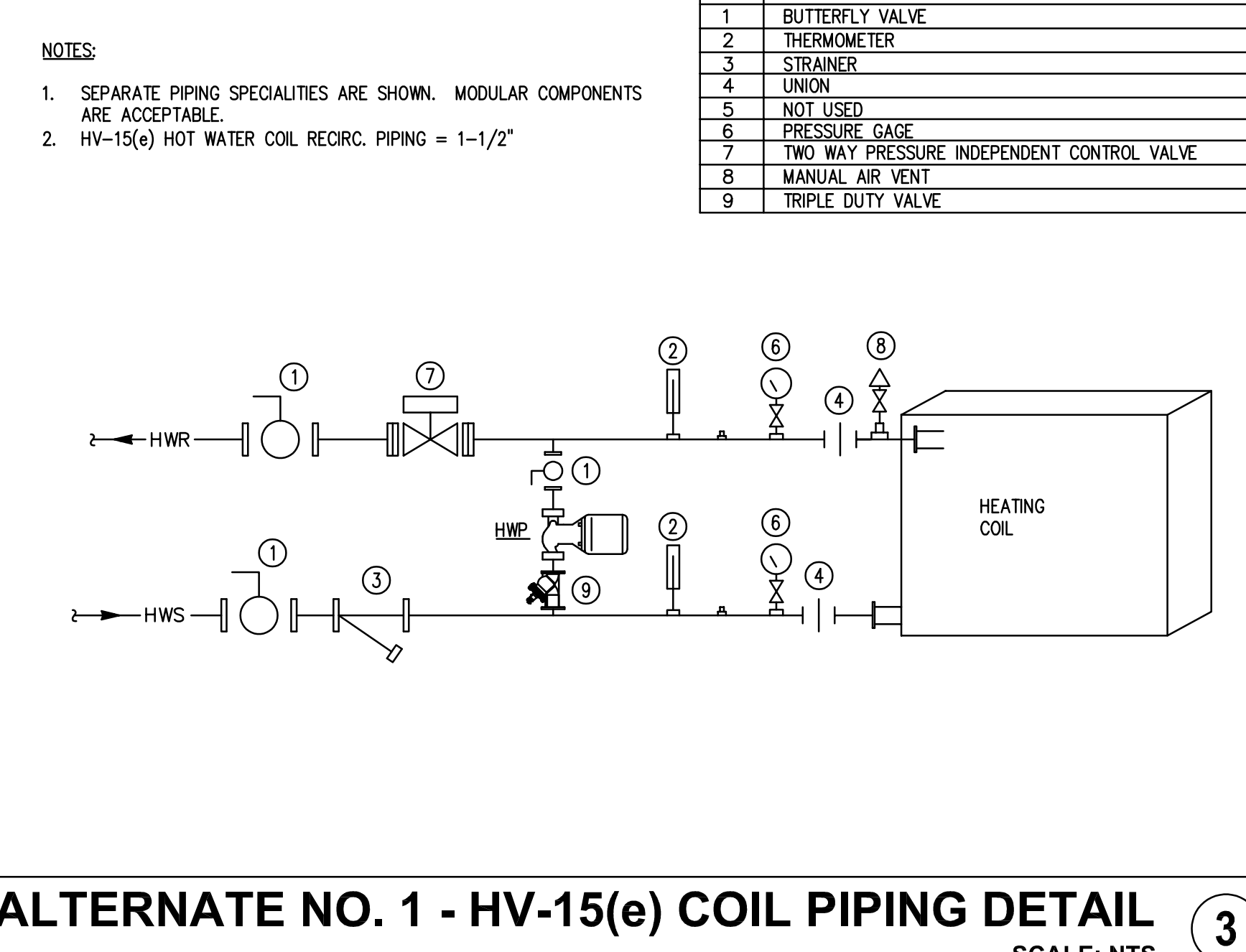
**PUMP (HWP)** - THE PUMP SHALL RUN CONTINUOUSLY WHEN THE OUTSIDE AIR IS BELOW 40 DEG F (ADJ). WHEN THE OUTSIDE AIR IS ABOVE 40 DEG F THE PUMP SHALL BE DE-ENERGIZED.

### ALTERNATE NO. 1 - POINTS LIST

HEATING VENTILATING UNIT (HV-15(e))	HARDWARE				SOFTWARE			
	AI	AO	DI	DO	SCHED	TREND	ALARM	GRAPHIC
SUPPLY FAN STATUS			X				X	X
OUTSIDE AIR TEMPERATURE	X						X	X
SUPPLY AIR TEMPERATURE	X						X	X
OUTSIDE AIR DAMPER		X					X	X
FILTER STATUS			X				X	X
LOW LIMIT TEMPERATURE			X				X	X
HOT WATER COIL CONTROL VALVE		X					X	X
PUMP STATUS		X	X				X	X
PUMP START/STOP				X			X	X



**PROJECT PHOTO**  
SCALE: NONE ⑤



**ALTERNATE NO. 1 - HV-15(e) COIL PIPING DETAIL**  
SCALE: NTS ③

- ### GENERAL NOTES
- REFER TO DRAWING G100 FOR PROJECT GENERAL NOTES.
  - ALL PIPING AND DUCTWORK IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL REQUIRED FITTINGS, OFFSETS, DROPS AND RISES. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL MATERIAL AND LABOR FOR A COMPLETE AND WORKING SYSTEM. COORDINATE WITH OTHER TRADES FOR SPACE AVAILABLE AND RELATIVE LOCATIONS OF EQUIPMENT, PIPING, DUCTWORK, ETC.

### HVAC/PLUMBING EQUIPMENT SCHEDULE

NO.	DESCRIPTION	FLA	KW	HP	VOL	PH	CCT NO.	DISC. FURN BY	STARTER		CIRCUIT WIRING	NOTE
									TYPE	BY		
HWP	HOT WATER PUMP	-	-	1/6	120	1	PNL-18-25	E.C.	INT.	M.C.	2#12, #12G, 3/4"	2,4
HT-1	HEAT TRACE - 8W/FT	-	-	-	277	1	EM3V-9	E.C.	N/A	N/A	2#12, #12G, 3/4"	1,3

**NOTES:**

- OWNER FURNISHED
- PROVIDE (1) 120V/1P 20A GE BRAND BREAKER
- PROVIDE (1) 277V/1P 20A SQUARE D BRAND BREAKER
- PART OF ALTERNATE 1

### ALTERNATE NO. 1 - PUMP SCHEDULE

MARK	WATER FLOW RATE (GPM)	HEAD (FT)	TYPE	MOTOR POWER (HP)	ELECTRICAL (V/PH/Hz)	MOTOR SPEED (RPM)	SERVICE	MODEL	NOTES
HWP	25	15	INLINE	1/6	115/1/60	3,300	HV-15(e)	PL-45	1

**NOTES:**

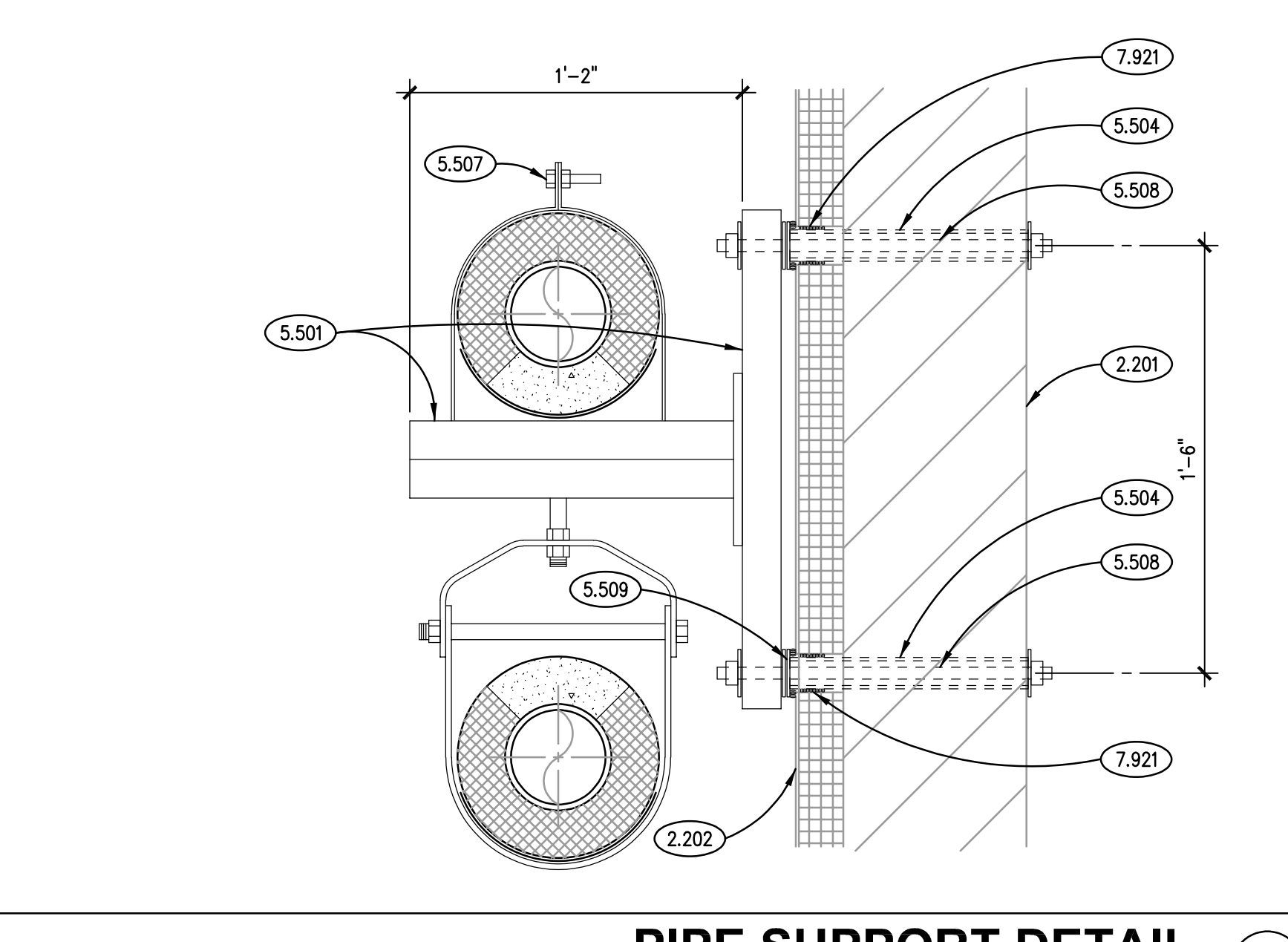
- MODEL BASED ON BELL & GOSSETT.

### PRESSURE INDEPENDENT CONTROL VALVE SCHEDULE

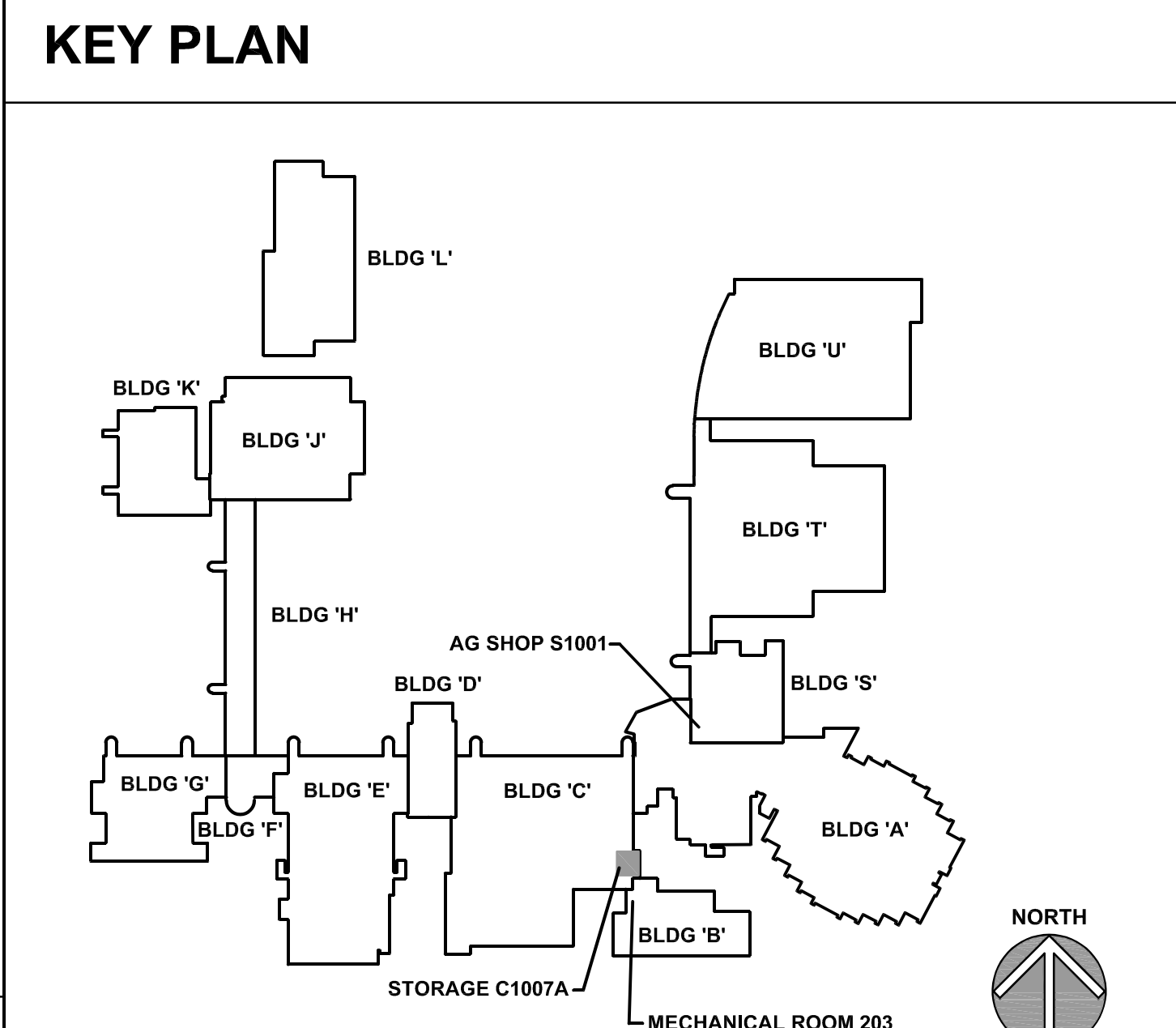
TAG	SIZE (IN)	VALVE FLOW RATE (GPM)	MIN FLOW RATE (GPM @ 5 PSIG)	MAX FLOW RATE (GPM)	MAX FLOW VARIATION (%)	MIN DELTA P ACROSS VALVE (PSIG)	CLOSE OFF PRESSURE (PSIG)	BODY PRESSURE RATING (PSIG)	FAIL (LAST OPEN CLOSED)	VALVE MATERIALS		CONNECTION TYPE	NOTES	
										BODY	INTERNALS			SEALS
PICV-1	4	150	-	165	5	4.4	232	200	OPEN	CAST IRON	BRASS / 304 SS	EDPM	FLANGED	1, 2, 3, 4

**NOTES:**

- DESIGN BASIS: DANFOSS AB-QM.
- VALVE SHALL HAVE LINEAR FLOW CHARACTERISTIC, FIELD ADJUSTABLE FLOW RATE AND MODULATING ACTUATOR.
- PROVIDE WITH SHUT-OFF VALVE AND STRAINER (200 MESH).
- PROVIDE WITH PRESSURE AND TEMPERATURE MEASUREMENT PORTS.



**PIPE SUPPORT DETAIL**  
SCALE: 3" = 1'-0" ④



ISSUED	DATE	BY	DESCRIPTION

JOB NO. 24-292-1575  
DRAWN BWG  
CHECKED DDW  
APPROVED DDW

SHEET TITLE  
**BUILDING 'C' - MECHANICAL PLATFORM PLANS AND DETAILS**

SHEET NUMBER  
**ME321**