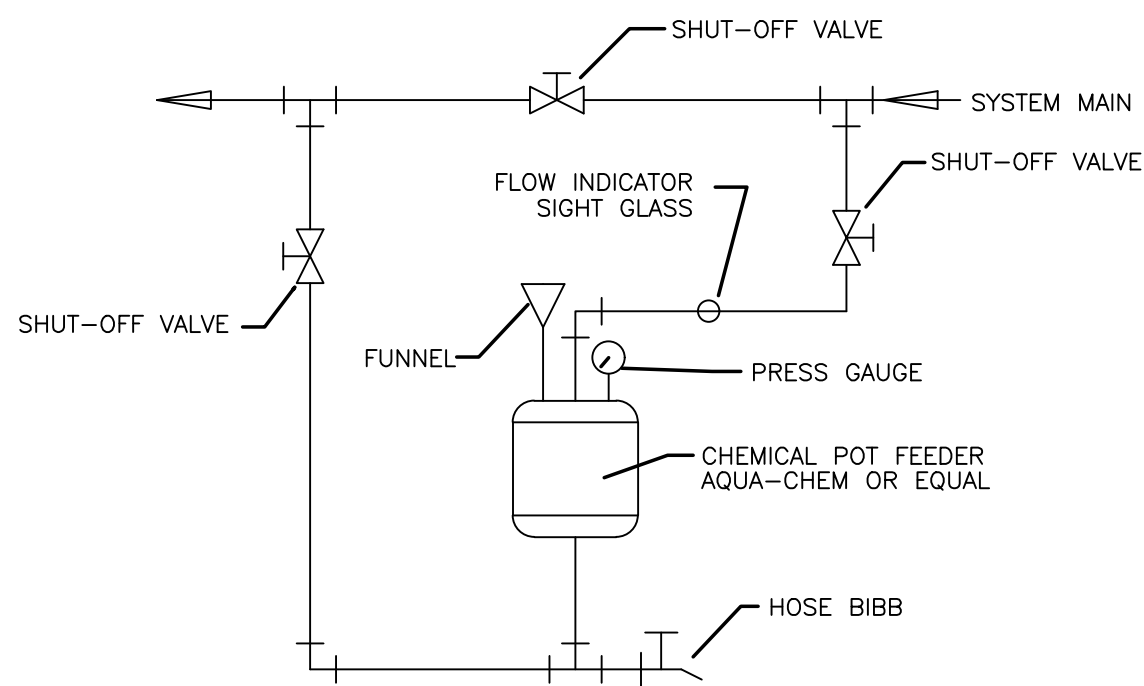
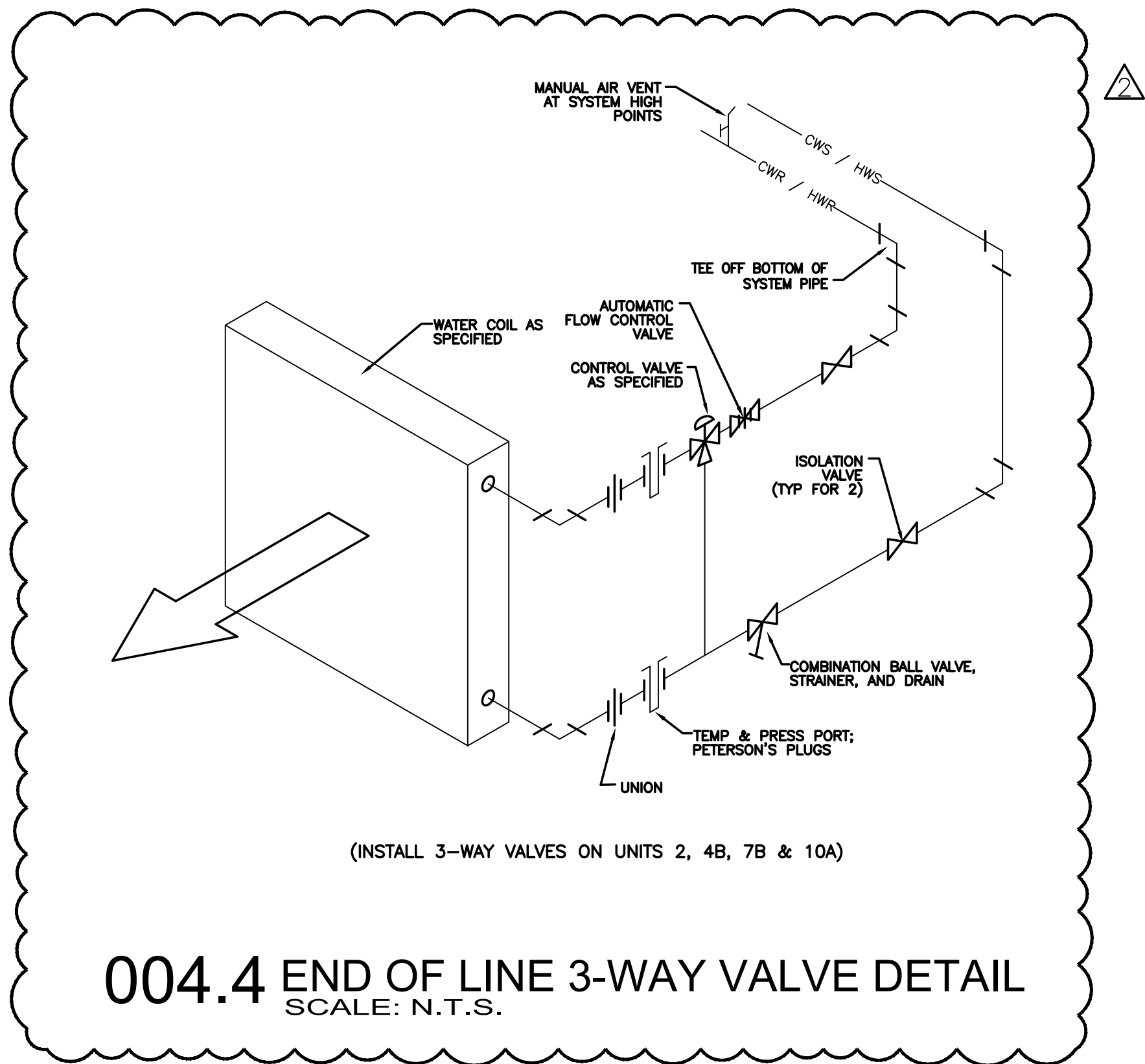


004.1 BASE MOUNTED END SUCTION PUMP DETAIL
SCALE: N.T.S.

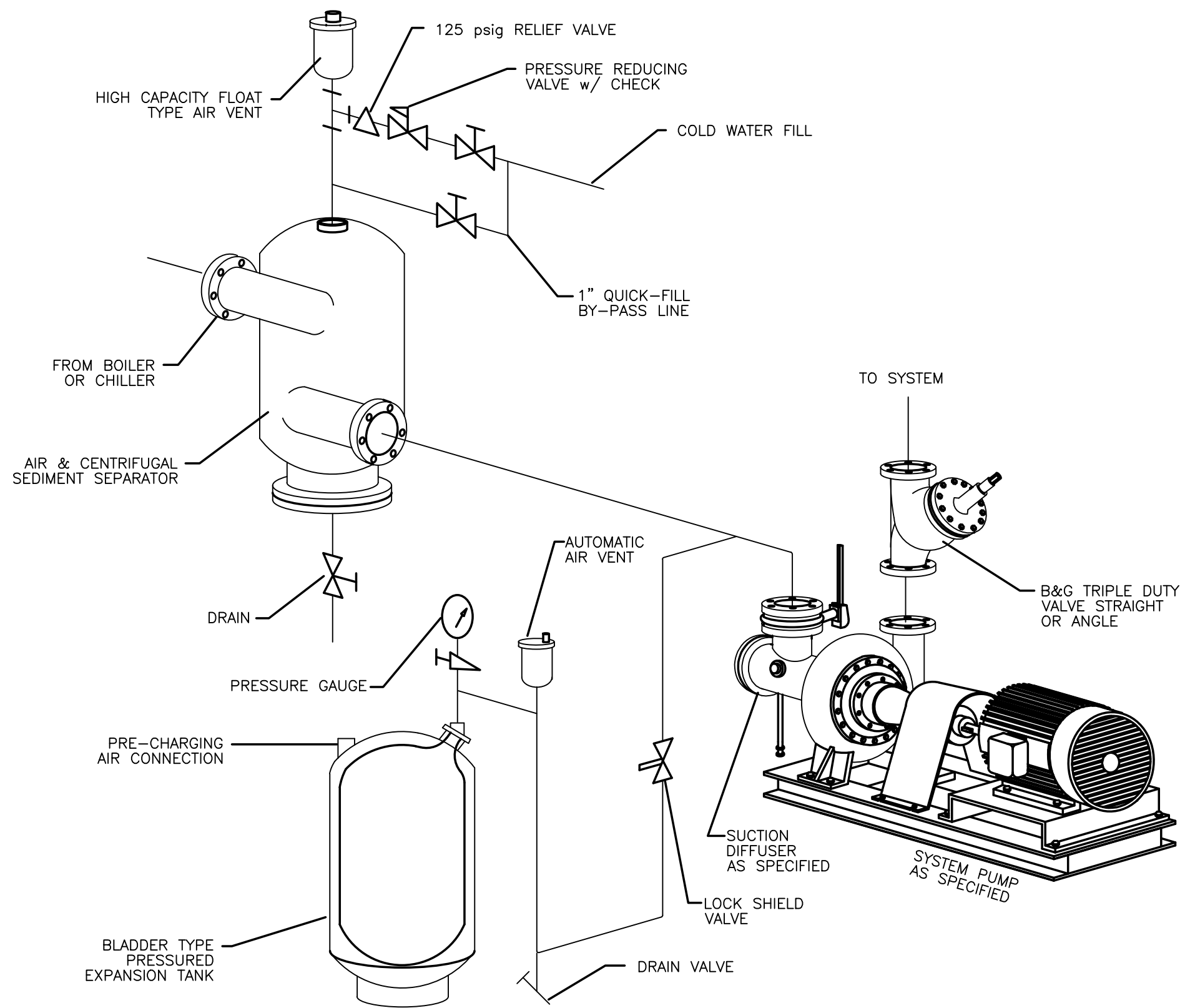


NOTE: FOR HW SYSTEM ONLY

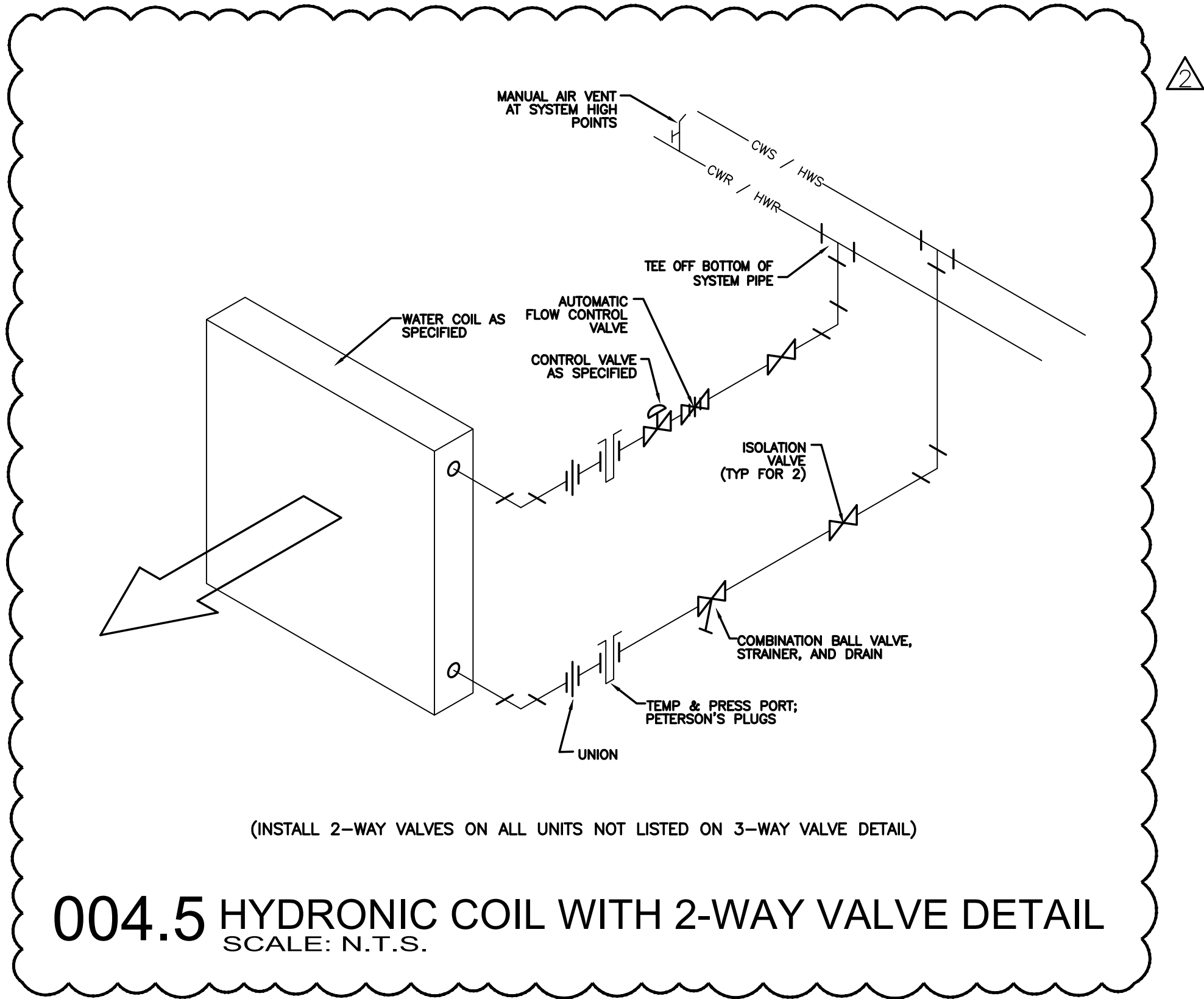
004.3 CHEMICAL SHOT FEEDER DETAIL
SCALE: N.T.S.



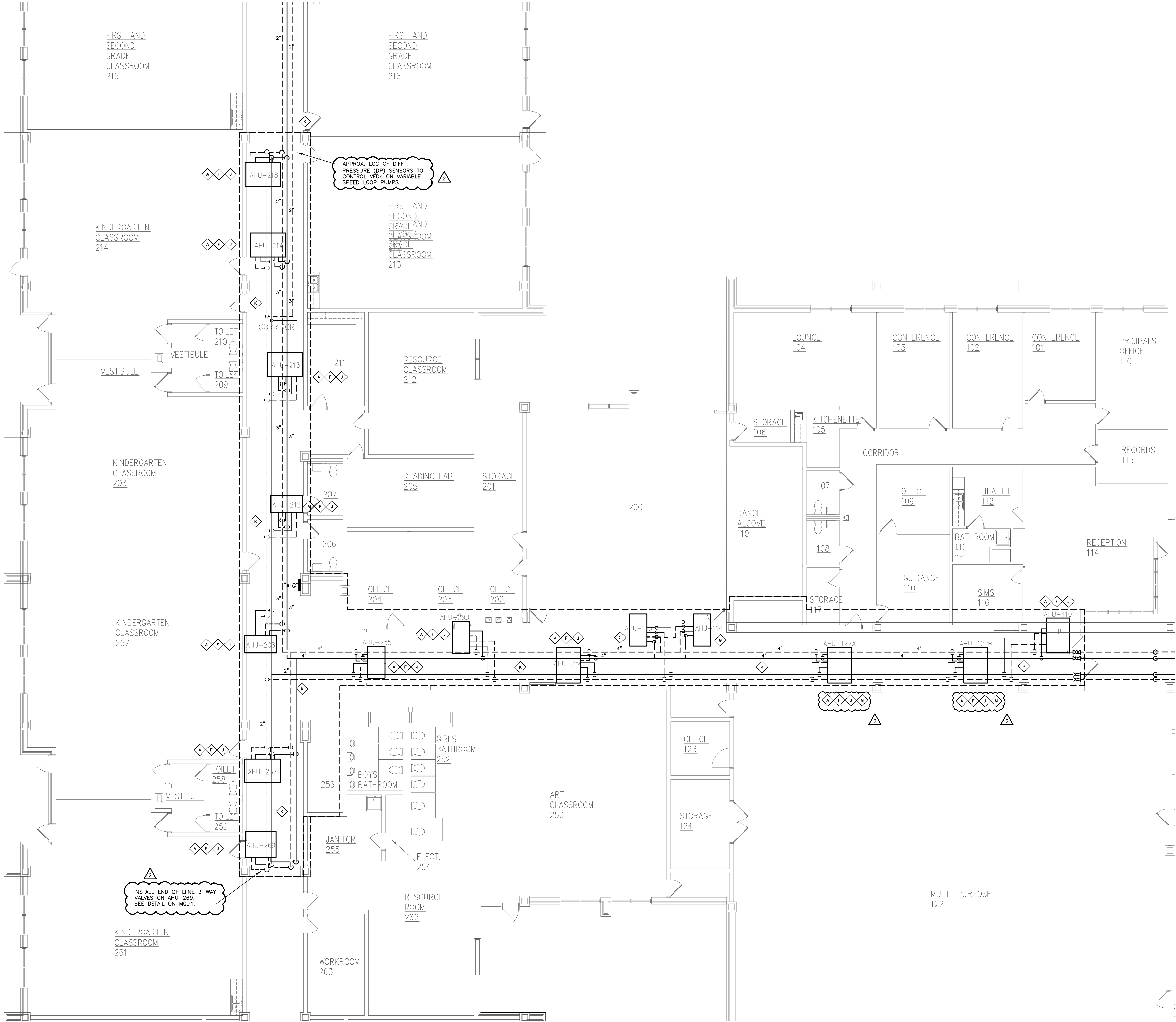
004.4 END OF LINE 3-WAY VALVE DETAIL
SCALE: N.T.S.



004.2 AIR CONTROL DETAIL
SCALE: N.T.S.



004.5 HYDRONIC COIL WITH 2-WAY VALVE DETAIL
SCALE: N.T.S.



201.1 100 & 200 WING PLATFORM MECHANICAL PLAN


-

KEY PLAN
SCALE: NTS

ES2400S

ENGINEERING


SOURCE of NC, PA.



102-A2 Regency Blvd. Greenville, NC 27834

E-Mail Address: generalinfo@engsource.com


Web (252) 438-0338 • Fax (252) 438-0462 • Fax (813) 373-1173




A diagram showing a 2D grid with four cells. The top row contains two cells with values 200 and 400. The bottom row contains two cells with values 100 and 300. The cell with the value 300 is shaded gray.

ES Project Name: ES24003

ENGINEERING
S O U R C E S of NC, P.A.



102-A2, Agency Blvd., Greenville, NC 27834
E-Mail Address: generalinfo@engrsource.com
Voice (252) 438-0208 • Fax (252) 438-0482 • TDD (252) 438-1573



GENERAL- ELEC NEW WORK KEY NOTES:
MECHANICAL NOTE COMMENT: CONTRACTORS ARE RESPONSIBLE FOR READING AND UNDERSTANDING ALL EXISTING AND NEW DRAWINGS, SEQUENCING/PHASING PLAN WITH REGARDS TO WHEN THE FOLLOWING WORK IS TO BE SCHEDULED, COMPLETED AND OPTIMIZED.

THE EXISTING OA DUCT WHERE PRE-CONDITIONING UNIT WAS REMOVED INTO NEW HUB MIXING BOX OR RETURN AIR DUCT IF IT DOESN'T HAVE A MIXING BOX. INSTALL DAMPERS FOR AIR BALANCE AND RETURN BOX IS NOT REQUIRED.

PLACE CEILING TIES IN THIS AREA AFTER NEW CHILLED WATER PIPING IS INSTALLED. INSULATED, INSPECTED AND ACCEPTED.

INSTALL NEW LIGHTS IN GRID AND THE BACK TO LOCAL POWER & CONTROL CIRCUITS AS INDICATED.

INSTALL NEW FLOURESCENT LIGHTS IN THIS AREA AS INDICATED. CONNECT EXISTING AND NEW LIGHTS TO CONTROL WIRING AS SHOWN, MODIFY SWITCH-LEG AS NECESSARY. REMOVE ANY EXISTING LIGHTS THAT WERE INSTALLED ONCE NEW LIGHTS ARE INSTALLED AND FUNCTIONAL.

INSTALL NEW PUMP AND ASSOCIATED PUMP TRIM BACK TO EXISTING SUPPLY AND RETURN PIPING DRIPS MAINTAINED FOR RECONNECTION DURING DEMOLITION.

RECONNECT NEW EQUIPMENT BACK TO EXISTING CONDUIT SWITCH AND FEEDER MAINS. REUSE LABEL PANEL DIRECTORY WITH NEW EQUIPMENT ID AS APPROPRIATE.

SEQUENTIALLY INSTALL NEW AIR HANDLERS ACCORDING TO SCHEDULE DEVELOPED WITH OWNER, REUSE EXISTING MAINTENANCE PADS & POSSIBLE EXISTING INSTALLATION PADS AS REQUIRED FOR NEW UNITS IN NEW LOCATIONS. CONNECT NEW UNIT BACK TO RETURN AND SUPPLY MAINTAINED FOR REUSE.

INSTALL NEW HYDRONIC UNIT IN PLACE OF EXISTING DX AIR COOLED SPLIT SYSTEM REMOVED. PROVIDE NEW HYDRONIC SUPPLY & RETURN PIPING TO THE UNIT. REUSE EXISTING PIPING AS MUCH AS POSSIBLE.

REMOVE EXISTING TRANS MODULAR AIR HANDLERS TO ADD A 2-ROW HEATING COIL IN THE REHEAT POSITION. MOVE THE EXIST. COILING COIL, AS NECESSARY TO MAKE ROOM FOR THE NEW COIL.

CONNECT NEW EQUIPMENT BACK TO EXISTING DISCONNECT SWITCH AND FEEDER MAINS. REUSE NEW FUSES AS REQUIRED TO MATCH THE EXISTENT DATA. LABEL PANEL DIRECTORY WITH NEW HUB NUMBER AS NECESSARY.

INSTALL NEW INSULATION ON ALL EXISTING HYDRONIC PIPING THAT HAD INSULATION REMOVED AND HAD EXISTING PIPE PREPARED FOR INSULATION. INSULATE ALL NEW PIPING TO BE INSTALLED DURING ALL COOLING SEASONS TO PREVENT SWEATING.

INSTALL NEW ELECTRIC UNIT HEATER AS INDICATED.

REMOVE EXISTING RECESSED CAN LIGHTS IN THIS AREA. MAINTAIN POWER AND CONTROL TO ALL UP AND DOWN STREAM LIGHTING TO REMAIN. THE NEW LAT-IN LIGHTS TO UNSWITCHED LEG OF EXISTING CIRCUIT. REMOVE EXISTING LIGHTS.

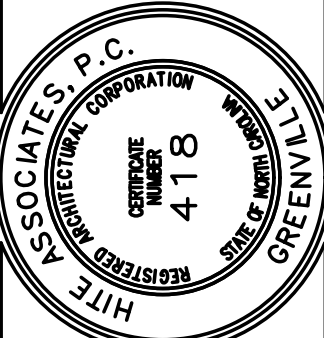
H-W & CHW CPD TANKS SHALL BE EQUAL TO 8BG MODEL, 8" BURN, 40" AIR SEPARATORS SHALL BE EQUAL TO 8BG AIRTROL, SIZE EQUAL TO CONNECTING PIPE SIZE.

MC SHALL PROVIDE AND INSTALL A MOTORIZED DAMPER ON THE OA DUCT AT THE UNIT AND A WALL MOUNTED CO2 SENSOR IN THE HALLWAY. THE CO2 SENSOR SHALL BE CALIBRATED TO 0.05% CO2. THE CO2 SENSOR, SEE SEQ. OF OP FOR DEMAND CONTROL, INSTR. INFORM.

THIS DRAWING IS THE PROPERTY OF ENGINEERING SOURCE OF NC, P.A. THIS DRAWING IS NOT TO BE COPIED IN WHOLE OR IN PART. THIS DRAWING OR THE INFORMATION HEREON IS NOT TO BE USED ON ANY OTHER PROJECT AND MUST BE RETURNED TO ENGINEERING SOURCE OF NC, P.A. UPON REQUEST. DO NOT SCALE THESE DRAWINGS. REFERENCE TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.

2	12/9/24	ADDEN #2
1	11/22/24	PRE-BID MTG & ADDEN #1
No.	Date	Revision

Hite associates
ARCHITECTURE / PLANNING / TECHNOLOGY
2600 Meridian Drive / Greenville, NC 27834 / tel (252) 757-0333



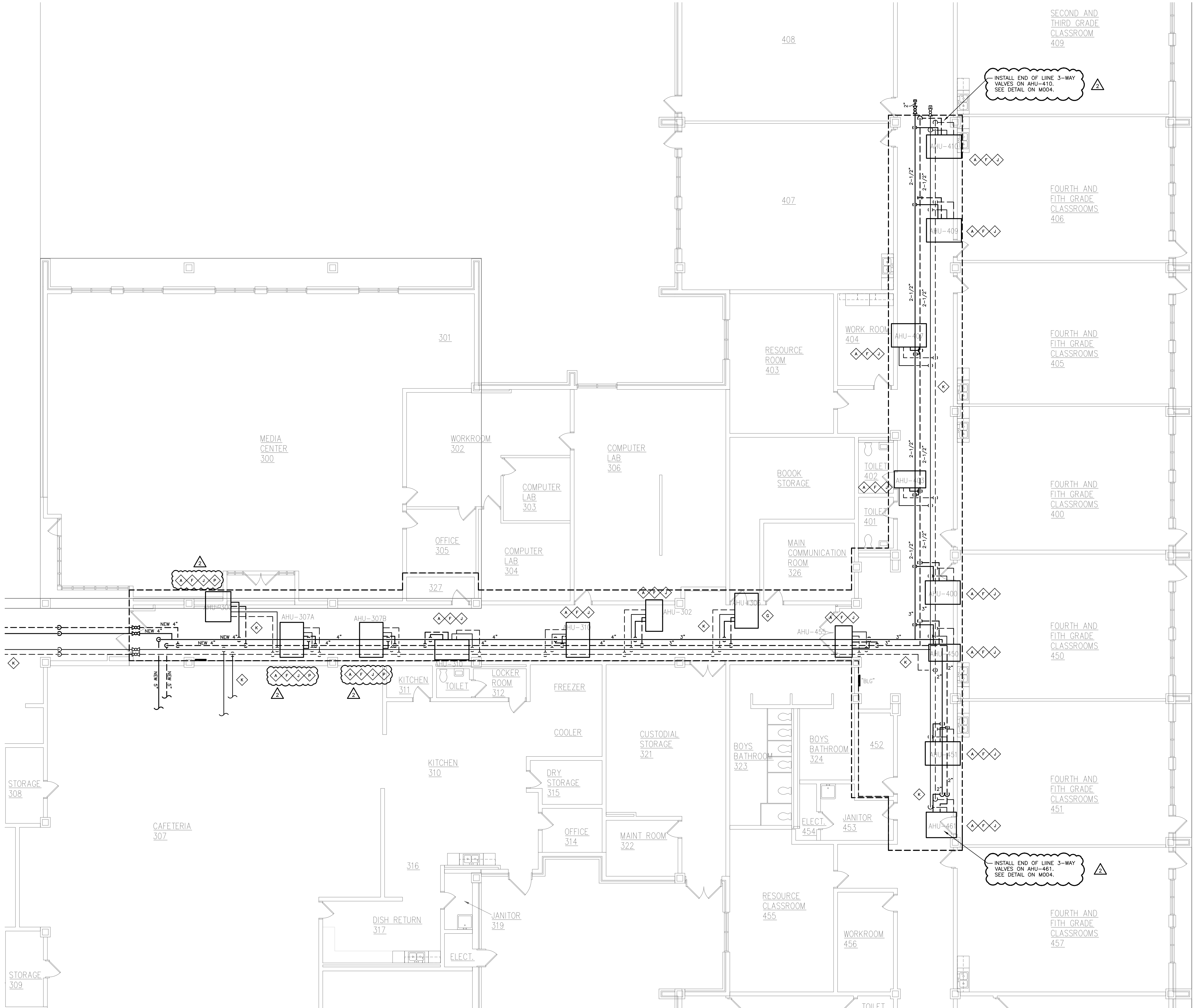
HVAC Renovations to
Bogue Elementary School
3355 Hwy. 24, Newport, NC 28570
Carteret County Schools / North Carolina

Project No. 22419

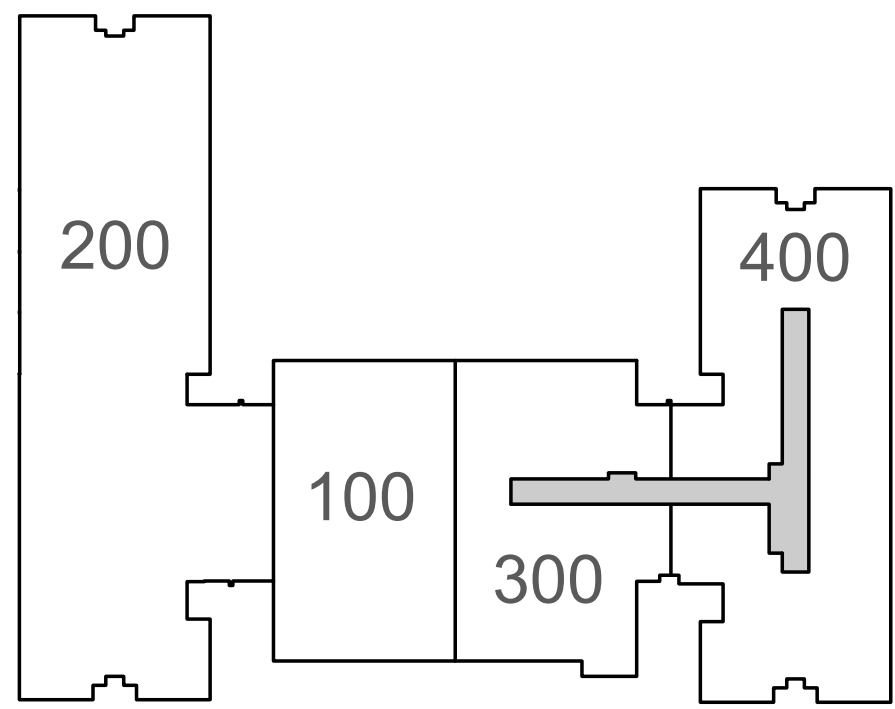
Date: 11 Nov 2024

Drawing no.

M
301



401.1 300 & 400 WING PLATFORM MECHANICAL PLAN
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: NTS

- MECH-ELEC NEW WORK KEY NOTES:**
- GENERAL NOTE COMMENT: CONTRACTORS ARE RESPONSIBLE FOR READING, UNDERSTANDING AND FOLLOWING WORK SEQUENCING/PHASING PLAN WITH REGARDS TO WHEN THE FOLLOWING WORK IS TO BE SCHEDULED, COMPLETED AND OPERATIONAL.
- ◇ TIE EXISTING OA DUCT WHERE PRE-CONDITIONING UNIT WAS REMOVED INTO NEW AHU MIXING BOX OR RETURN AIR DUCT IF IT DOESN'T HAVE A MIXING BOX. INSTALL DAMPERS FOR AIR BALANCE IF MIXING BOX IS NOT PRESENT.
 - ◇ REPLACE CEILING TILES IN THIS AREA AFTER NEW CHILLED WATER PIPING IS INSTALLED, INSULATED, INSPECTED AND ACCEPTED. INSTALL NEW LIGHTS IN GRID AND TIE BACK TO LOCAL POWER & CONTROL CIRCUITS AS INDICATED.
 - ◇ INSTALL NEW FLUORESCENT LIGHTS IN THIS AREA AS INDICATED. CONNECT BACK TO EXISTING POWER AND CONTROL WIRING AS SHOWN. MODIFY SWITCH-LEG AS NECESSARY. REMOVE ANY TEMPORARY LIGHTS THAT WERE INSTALLED ONCE NEW LIGHTS ARE INSTALLED AND FUNCTIONING.
 - ◇ INSTALL NEW PUMP AND ASSOCIATED PUMP TRIM BACK TO EXISTING SUPPLY AND RETURN PIPING DROPS MAINTAINED FOR RECONNECTION DURING DEMOLITION.
 - ◇ RECONNECT NEW EQUIPMENT BACK TO EXISTING DISCONNECT SWITCH AND FEEDER MAINTAINED FOR REUSE. LABEL PANEL DIRECTORY WITH NEW EQUIPMENT ID AS APPROPRIATE.
 - ◇ SEQUENTIALLY INSTALL NEW AIR HANDLERS ACCORDING TO SCHEDULE DEVELOPED WITH OWNER. REUSE EXISTING MAINTENANCE PAD WHERE POSSIBLE. EXPAND OR INSTALL NEW PADS AS REQUIRED FOR NEW UNITS IN NEW LOCATIONS. CONNECT NEW UNIT BACK TO RETURN AND SUPPLY MAINTAINED FOR REUSE.
 - ◇ INSTALL NEW HYDRONIC UNIT IN PLACE OF EXISTING DX AIR COOLED SPLIT SYSTEM REMOVED. PROVIDE NEW HYDRONIC SUPPLY & RETURN PIPING BACK TO MAINS WITH ASSOCIATED COIL TRIM.
 - ◇ REWORK EXISTING TRANE MODULAR AIR HANDLERS TO ADD A 2-ROW HEATING COIL IN THE REHEAT POSITION. MOVE THE EXIST. COOLING COIL AS NECESSARY TO MAKE ROOM FOR THE NEW COIL.
 - ◇ CONNECT NEW EQUIPMENT BACK TO EXISTING DISCONNECT SWITCH MAINTAINED FOR REUSE. PROVIDE NEW FUSES AS REQUIRED TO MATCH NEW EQUIPMENT DATA PLATE. LABEL PANEL DIRECTORY WITH NEW AHU NUMBER AS NECESSARY.
 - ◇ INSTALL NEW INSULATION ON ALL EXISTING HYDRONIC PIPING THAT HAD INSULATION REMOVED AND HAD EXISTING PIPE PREPARED FOR NEW INSULATION. COLD/CHILLED WATER PIPING MUST BE INSULATED DURING ALL COOLING SEASONS TO PREVENT SWEATING.
 - ◇ INSTALL NEW ELECTRIC UNIT HEATER AS INDICATED.
 - ◇ REMOVE EXISTING RECESSED CAN LIGHTS IN THIS AREA. MAINTAIN POWER AND CONTROL TO ALL UP AND DOWN STREAM LIGHTING TO REMAIN. THE NEW LAY-IN LIGHTS TO UNSWITCHED LEG OF EXISTING CORRIDOR LIGHTS (CKT L-12 PER RECORD DWGS).
 - ◇ HW & CHW EXP TANKS SHALL BE EQUAL TO A B&G MODEL B-500. AIR SEPARATORS SHALL BE EQUAL TO B&G AIRTROL. SIZE EQUAL TO CONNECTING PIPE SIZE.
 - ◇ MC SHALL PROVIDE AND INSTALL A MOTORIZED DAMPER ON THE OA DUCT AT THE UNIT AND A WALL MOUNTED CO2 SENSOR IN THE ROOM ASSOCIATED WITH THE UNIT. LOCATE SENSOR NEXT TO T&H SENSOR. SEE SEQ. OF OP FOR DEMAND CONTROL VENT. INFOR.

ES24005
Project No.

ENGINEERING
SOURCE OF NC, P.A.

102-42 Regency Blvd. Greenville, NC 27834
E-Mail Address: general@hiteengineering.com
Tel (252) 438-0328 • Fax (252) 438-0462 • TOLL FREE (800) 438-0328

D. Wilson, P.E.
12/19/24
NORTH CAROLINA
PROFESSIONAL ENGINEER
WILSON, D.

No.	Date	Revision
1	11/12/24	PRE-BID MTR & ADDEN #1
2	12/9/24	ADDEN #2

Hite associates
ARCHITECTURE / PLANNING / TECHNOLOGY
2600 Meridian Drive / Greenville, NC 27834 / tel (252) 757-0333

HITE ASSOCIATES, P.C.
NORTH CAROLINA
PROFESSIONAL ENGINEER
418
11/11/24

HVAC Renovations to
Bogue Elementary School
3355 Hwy. 24, Newport, NC 28570
Carteret County Schools / North Carolina







Project No.
22419

Date:
11 Nov 2024

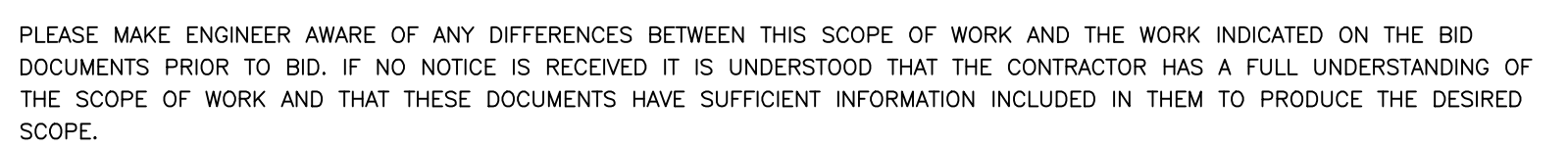
Drawing no.
**M
401**



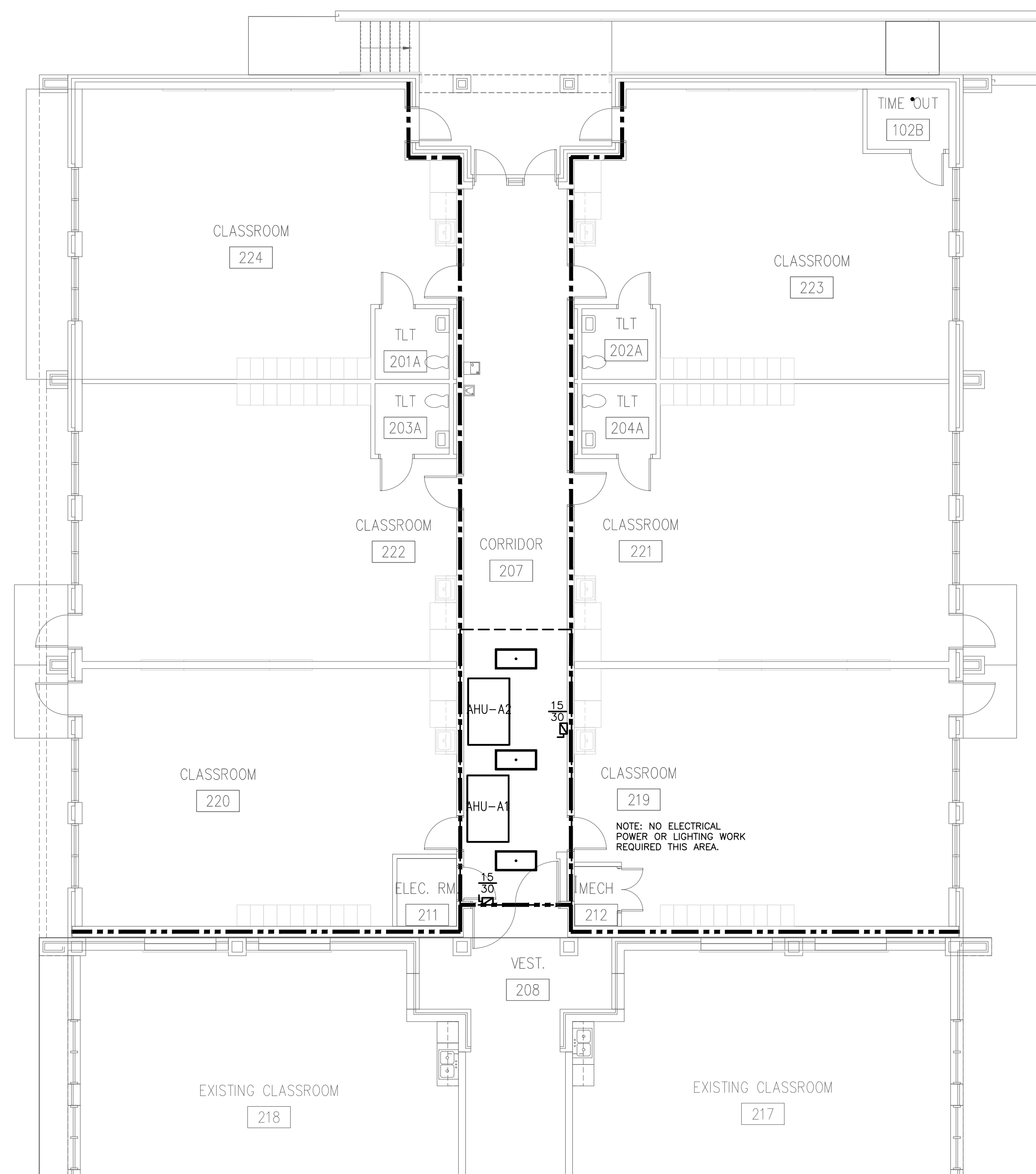
1 EXISTING UNDERGROUND SERVICE ENTRANCE

DINING AREA LTS	DINING AREA LTS	DINING AREA LTS	DINING AREA LTS	DINING AREA LTS	DINING AREA LTS
					
SW-A	SW-B	SW-C	SW-D	SW-E	SW-F

EP DEMAND CALCS					
LIGHTING	6.50	KVA	X 125 %	=	8.1 KVA
RECEPTACLES	1.20	KVA			
1ST	10.00	KVA	X 100 %	=	1.2 KVA
REMAIN	0.00	KVA	X 50 %	=	0.0 KVA
MOTORS	1.00	KVA	X 100 %	=	1.0 KVA
LARGEST 0.0		KVA	X 125 %	=	0.0 KVA
A/C	0.00	KVA	X 100 %	=	0.0 KVA
HEATING	6.95	KVA	X 100 %	=	6.9 KVA
EXST CKTS		KVA	X 100 %	=	0.0 KVA
KITCHEN	0.00	KVA	X 65 %	=	0.0 KVA
MISCELLANEOUS	10.40	KVA	X 100 %	=	10.4 KVA
TOTAL	=	76.8 amps	=	27.7 KVA	



001.4 ELECTRICAL CONNECTION DETAIL

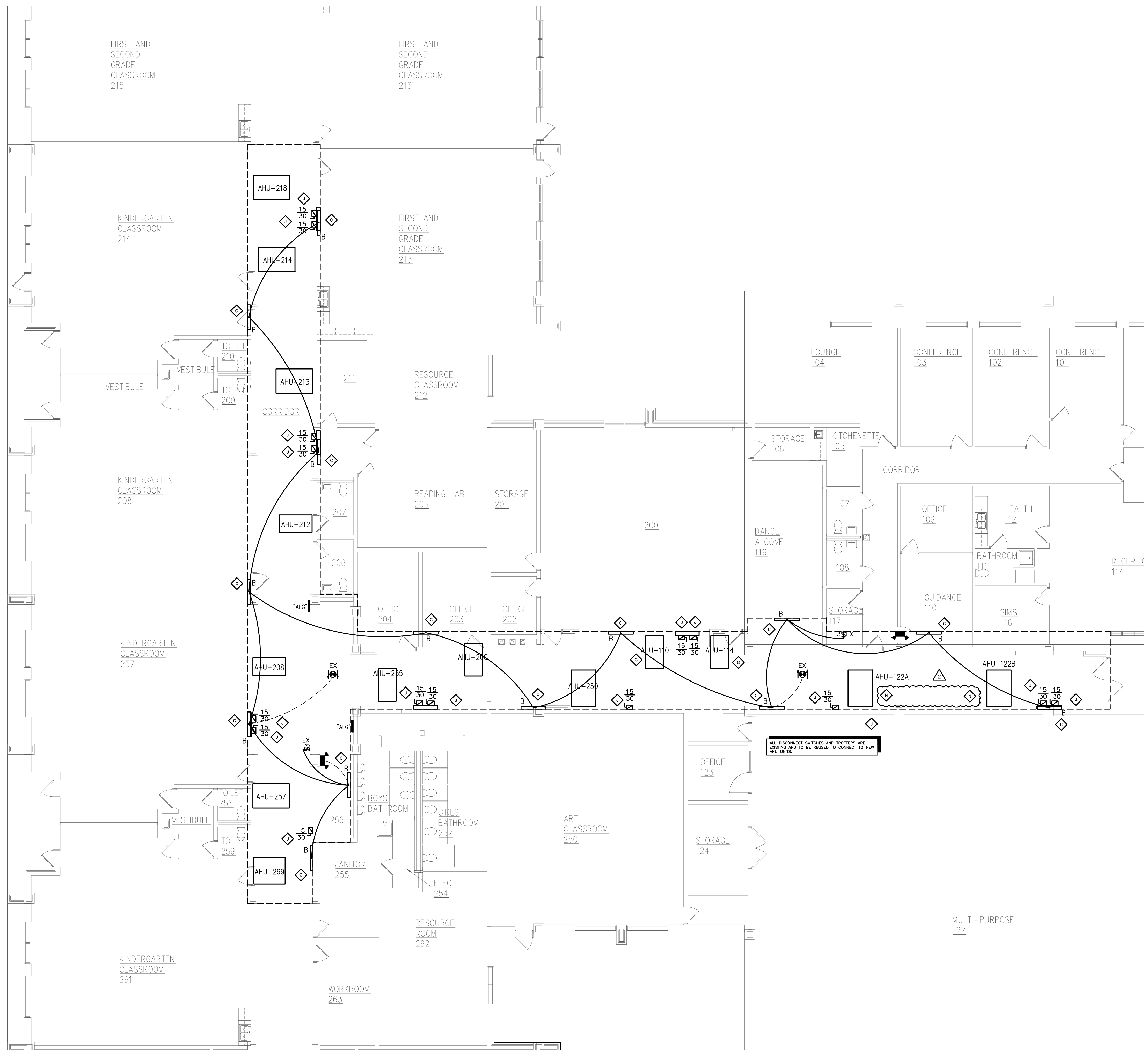


201.2 UPPER 200 WING PLATFORM ELECTRICAL PLAN

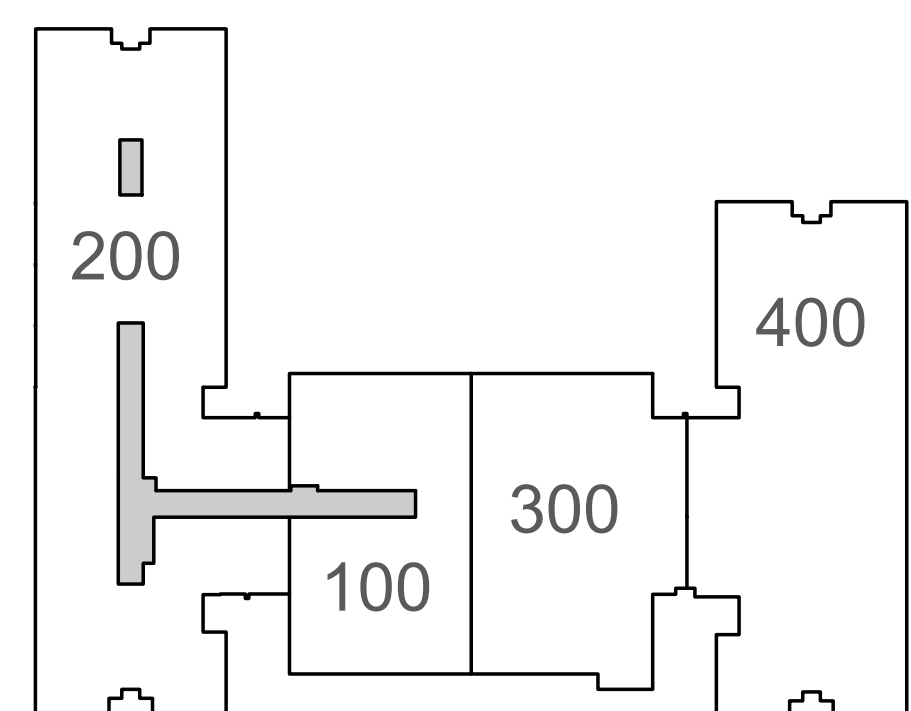
MECH-ELEC NEW WORK KEY NOTES:

GENERAL NOTE COMMENT: CONTRACTORS ARE RESPONSIBLE FOR READING, UNDERSTANDING AND FOLLOWING WORK SEQUENCING/PHASING PLAN WITH REGARDS TO WHEN THE FOLLOWING WORK IS TO BE SCHEDULED, COMPLETED AND OPERATIONAL.

- THE EXISTING OA DUCT WHERE PRE-CONDITIONING UNIT WAS REMOVED INTO NEW MIXING BOX OR RETURN AIR DUCT IF IT IS NOT A MIXING BOX. INSTALL DAMPERS FOR AIR BALANCE IF MIXING BOX IS NOT PRESENT.
- REPLACE CEILING TILES IN THIS AREA AFTER NEW CHILLED WATER PIPING IS INSTALLED, INSULATED, INSPECTED AND ACCEPTED. REMOVE ALL LIGHTS IN THIS AREA. BACK TO LOCAL POWER & CONTROL CIRCUITS AS INDICATED.
- INSTALL NEW FLUORESCENT LIGHTS IN THIS AREA AS INDICATED. CONNECT BACK TO EXISTING POWER AND CONTROL WIRING AS INDICATED. REMOVE SATISFACTION SWITCH. REMOVE ALL TEMPORARY LIGHTS THAT WERE INSTALLED. ONCE NEW LIGHTS ARE INSTALLED AND FUNCTIONING.
- INSTALL NEW PUMP AND ASSOCIATED PUMP TRIM BACK TO EXISTING SUPPLY AND RETURN PIPING. REMOVE DAMPERS MAINTAINED FOR RECONNECTION DURING DEMOLITION.
- RECONNECT NEW EQUIPMENT BACK TO EXISTING DISCONNECT SWITCH AND FEEDER MAINTAINED FOR REUSE. LABEL PANEL DIRECTORY WITH NEW EQUIPMENT NUMBER AS ASSIGNED.
- SEQUENTIALLY INSTALL NEW AIR HANDLERS ACCORDING TO SCHEDULE DEVELOPED WITH OWNER. REMOVE EXISTING MAINTENANCE PAD WHERE POSSIBLE. EXPAND OR INSTALL NEW PAS AS REQUIRED TO SERVICE NEW UNIT. REMOVE EXISTING PAS. CONNECT NEW UNIT BACK TO RETURN AND SUPPLY MAINTAINED FOR REUSE.
- INSTALL NEW HYDRONIC UNIT IN PLACE OF EXISTING DX AIR COOLED SPLIT SYSTEM REMOVED. PROVIDE NEW HYDRONIC SUPPLY AND RETURN PIPING. BACK TO EXISTING POWER AND CONTROL CIRCUITS.
- REMOVE EXISTING TRANE MODULAR AIR HANDLERS TO ADD A 2-RW HEATING COIL IN THE REHEAT POSITION. MOVE THE EXIST. COOLING COIL AS NECESSARY TO MAKE ROOM FOR THE NEW COIL.
- INSTALL NEW DISCONNECT (BY MC) AND BACK TO EXISTING CIRCUIT MAINTAINED FOR REUSE. MC TO PROVIDE FUSES AS REQUIRED FOR NEW EQUIPMENT. LABEL PANEL DIRECTORY WITH NEW EQUIPMENT NUMBER AS NECESSARY.
- INSTALL NEW INSULATION ON ALL EXISTING HYDRONIC PIPING THAT HAS INSULATION REMOVED AND HAS EXISTING PIPE PREPARED FOR INSULATION. COOL/DRAIN/DEWATER WATER PIPING MUST BE ISOLATED DURING ALL COOLING SEASONS TO PREVENT SWEATING.
- INSTALL NEW ELECTRIC UNIT HEATER AS INDICATED.
- REMOVE EXISTING RECESSED CAN LIGHTS IN THIS AREA. MOUNT POWER AND CONTROL TO ALL UP AND DOWN STREAM LIGHTING TO NEW LAY-OUT. REMOVE EXISTING RECESSED CAN LIGHTS. REMOVE EXISTING CORRIDOR LIGHTS. (OK L-12 PER RECORD DWGS.).
- EC SHALL PROVIDE AND INSTALL A 20V OCP ON THE NEW MOTORIZED DAMPER ON THE OA DUCT AT THE UNIT AND CONDUIT SHALL BE MOUNTED TO THE UNIT. THE DAMPER SHALL BE ASSOCIATED WITH THE UNIT. LOCATE SENSOR NEAR TO T4H SENSOR.



201.1 100 & 200 WING PLATFORM ELECTRICAL PLAN

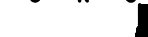


KEY PLAN
SCALE: NTS

ES24005

ENGINEERING

SOURCE of NC, P.A.



102-42 Regency Blvd. Greenville, NC 27834
E-Mail Address: general@engsource.com
Tel (252) 438-0038 • Fax (252) 438-0042 • Fm (3)-1973

Seal: NORTH CAROLINA ENGINEERING PROFESSIONAL SOCIETY
D. Wilson
12/9/2006
D. WILSON

