

DOCUMENT 00 90 00
ADDENDUM

ADDENDUM NO. [2] Date: January 23, 2020

**RE: SCHOOL DISTRICT OF HOLMEN
 VIKING ELEMENTARY SECURE ENTRY
 500 EAST WALL ST.
 HOLMEN, WISCONSIN 54636
 HSR PROJECT NO. 19022**

**FROM: HSR Associates, Inc
 100 Milwaukee Street
 La Crosse, WI 54603
 (608) 784-1830**

To: Prospective Bidders

This addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated January 2020. Acknowledge receipt of this Addendum in the space provided on the bid form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of [2] pages, [1] specification section and [3] 30 x 42 drawings.

CHANGES TO SPECIFICATIONS:

1. Section 08 71 00 DOOR HARDWARE
 - a. 3.06 Hardware Schedule:
 - i. Group 1: Door 100B only shall have a VonDuprin 6300 US32D electric strike.
2. Section 23 21 23 WATER CIRCULATING PUMPS
 - a. Revised section attached hereto. All of Part 2 was revised.

CHANGES TO DRAWINGS

3. Sheet A600 WALL TYPES
 - a. At wall types D2, D3 and D19 stud spacing shall be 16" o.c.
4. Sheet M101 MECHANICAL PIPING REMODELING PLAN 30 x 42 attached hereto
 - a. Revisions clouded on Drawing.
 - b. Revised HWS&R pipe size to be 1-1/2" to accommodate lower pump head.
 - c. Revised new pumps (P-1 and P-2) arrangement.
 - d. Revised detail 3M101 so a triple duty valve is installed downstream of pumps in lieu of the standard shut-off valve.
5. Sheet M600 HVAC SCHEDULES 30 x 42 attached hereto
 - a. Revisions clouded on Drawing.
 - b. All radiant panels shall be 2-way valves.
 - c. Revision to Cab Heater Schedule for all valves to be 3-way.
 - d. Revision to E.S.P. on Rooftop Heating/Cooling Unit Schedule.
 - e. Revision to Fans Schedule, EF-1 static pressure increased to 0.9 inches w.g. causing full load amps to go up to 2.2 and wattage to be 165 W.
 - f. Revised new Pumps (P-1 and P-2) to be Grundfos Magna 3 type with revised pump head of 40ft. Wattages have also been revised.

6. Sheet E101 ELECTRICAL POWER PLAN 30 x 42 attached hereto
 - a. Revisions clouded on Drawing

END OF DOCUMENT 00 90 00

SECTION 23 21 23

WATER CIRCULATING PUMPS

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.
- B. The requirements of Section 23 05 00 apply to this Section.

1.02 DESIGN CRITERIA

- A. Pump sizes, capacities, pressures and operating characteristics shall be as scheduled.
- B. Pumps shall meet or exceed operating efficiencies scheduled.
- C. Provide all pumps with motors, impellers, drive assemblies, bearings, coupling guard, and other accessories specified. Statically and dynamically balance all rotating parts. Provide flanged connections on all pumps unless specified otherwise. Service or repair of base mounted pumps shall not require breaking piping connections or removal of motor.
- D. Provide pump with a motor sized for non-overloading over the entire pump curve. Motors to be 1750 rpm unless specified otherwise.
- E. Pump selections shall meet the scheduled capacities and be selected so the scheduled design flow rate is not greater than 85% of the published end of curve flow rate for the impeller selected. Extrapolations beyond the published curve will not be accepted. Unless noted on the schedule, the maximum suction velocity shall be 20 FPS for double suction pumps and 12 FPS for end suction and inline pumps.
- F. Furnish each pump and motor with a nameplate giving the manufacturer's name, serial number of pump, capacity in GPM and head in feet at design condition, horsepower, voltage, frequency, speed and full load current.
- G. Test all pumps, clean and paint before shipment. The manufacturer shall certify all pump ratings.
- H. All pumps to operate without excessive noise or vibration.

1.03 EXTRA MATERIALS

- A. Furnish one spare seal and casing gasket for each pump to user agency.

1.04 SUBMITTALS

- A. Submit in accord with Section 01300.
 - 1. Shop drawings and descriptive product data describing all material furnished under Part 2 of this Section.

1.05 EQUIPMENT START-UP

- A. Provide system start-up; the equipment manufacturer's representative will provide supervision and be in attendance during unit start-up.

1. Equipment shall not be placed in operation until a competent installation and service representative of the manufacturer has inspected the installation and certified that the equipment is properly installed, adjusted and lubricated; that preliminary operating instructions have been given; and that the equipment is ready for operation. Submit four copies of a written startup report following the initial start up to be included to O&M manuals. Include in the report: work done to the system, all readings taken, a statement certifying that the unit(s) have been placed in proper running condition as recommended by the manufacturer and as intended in the drawings and specifications.

PART 2: PRODUCTS

2.01 IN-LINE ECM WET ROTOR CENTRIFUGAL PUMPS WITH INTEGRAL VFD

- A. Based on product by Grundfos MAGNA3.**
 1. **Armstrong, Bell and Gossett Ecocirc XL, Wilo Stratos and Taco Viridian equals are acceptable.**
- B. The MAGNA3 is of the canned-rotor type, i.e. pump and motor form an integral unit without shaft seal and with only two gaskets for sealing. The bearings are lubricated by the pumped liquid. The innovative clamp with only one screw enables easy repositioning of the pump head. Provide a pump of size, type and capacities listed in schedule on Drawings. Pumps shall be suitable fluid media and application.**
- C. The pump is characterized by the following:**
 1. **Controller integrated in the control box.**
 2. **Control panel with TFT display on the control box.**
 3. **Control box prepared for optional CIM modules.**
 4. **Built-in differential-pressure and temperature sensor.**
 5. **Cast-iron pump housing (depending on model). Carbon-fiber-reinforced composite rotor can.**
 6. **Stainless-steel bearing plate and rotor cladding.**
 7. **Aluminum alloy stator housing.**
 8. **Air-cooled power electronics**
- D. The MAGNA3 is a single-phase pump with the following characteristic features:**
 1. **AUTOADAPT.**
 2. **FLOWADAPT and FLOWLIMIT (more than a pump function as it reduces the need for pump throttling valves).**
 3. **Proportional-pressure control.**
 4. **Constant-pressure control.**
 5. **Constant-temperature control.**
 6. **Constant-curve duty.**
 7. **Maximum or minimum curve duty.**
 8. **Automatic Night Setback. No external motor protection required.**
 9. **Insulating shells supplied with single-head pumps for heating systems.**
 10. **Large temperature range where the liquid temperature and the ambient temperature are independent of each other.**
- E. Communication. The MAGNA3 enables communication via the following:**
 1. **Wireless Grundfos GO Remote**
 2. **Fieldbus communication via CIM modules**
 3. **Digital inputs**
 4. **Relay outputs**

5. **Analog input (more than a pump function as heat energy meter)**

F. Motor and electronic controller

1. **The MAGNA3 incorporates a 4- or 8-pole synchronous, permanent-magnet motor (PM motor). This motor type is characterized by higher efficiency than a conventional asynchronous squirrel-cage motor. Conventional asynchronous squirrel-cage motors shall not be acceptable.**
2. **Each motor shall be of the integrated Variable Speed Drive design consisting of a motor and a Variable Frequency Drive (VFD) built and tested as one unit by the same manufacturer.**

G. Interface and Communication

1. **The pump shall have an integrated operator interface consisting of:**
 - a. **Minimum 2.4" (measured diagonally) color TFT display**
 - b. **7 push buttons for navigation of menu**
 - c. **Push buttons must be able to operate at minimum 25,000 times**
 - d. **Push buttons must be isolated from the main supply by reinforced insulation according to UL60730**
 - e. **LEDs to signal pump status for quick indication**
2. **The pump shall have a sensor integrated directly into the pump housing with 4 wires consisting of Ground, Supply, and two signals for Differential Pressure and Media Temperature.**
 - a. **Sensor Supply shall be 4.8VDC $\pm 2\%$ at 20mA referenced to Ground. The supply must be able to withstand a permanent short circuit.**
 - b. **The electrical values for the signal shall be 4.8VDC $\pm 2\%$ referenced to ground.**
3. **The pump module shall have one analog input configurable for either 4-20mA or 0-10VDC input signal configurable for external Temperature or Pressure sensor, or Setpoint influence. Sensor input shall have three wires for Ground, Supply, and Signal. The Supply for external analog input shall be 24VDC 10% at 22mA reference to Ground. The supply must be able to withstand a permanent short circuit. Connection can be made to a screw terminal capable of wire sizes up to AWG16.**
4. **The pump shall have 3 digital inputs galvanically isolated from the main supply by a reinforced insulation according to UL60730.**
 - a. **Start/Stop – Used to start or start the pump. The pump shall be enabled when connected to common ground by an external potential free short circuit. An open circuit to this input shall disable the pump. Connection can be made to a screw terminal capable of wire sizes up to AWG16.**
 - b. **Minimum – used to force the pump to run at minimum load (curve). When connected to common ground by an external potential free short circuit the pump must run at minimum load. Connection can be made to a screw terminal capable of wire sizes up to AWG16.**
 - c. **Maximum - used to force the pump to run at maximum load (curve). When connected to common ground by an external potential free short circuit the pump must run at maximum load. Connection can be made to a screw terminal capable of wire sizes up to AWG16.**
 - d. **The pump module shall have two output relays. Each relay shall be configurable for Alarm, Reading, or Operating indication. Each relay must have three screw terminals capable of wire sizes up to AWG16. Output relays contacts shall be rated for maximum 250VAC at 2A and minimum 5VDC at 20mA. Each must have galvanic isolation from the internal supply by reinforced insulation according to UL60730.**
5. **Provide add-on module for integration into Building Automation Systems:**

- 1) **Coordinate communication protocol for BAS integration with control contractor, Section 23 09 93 Controls.**
 - 2) **See Section 23 09 93 Controls for Equipment Integrations and list of points to be integrated.**
6. **The pump module shall have wireless connectivity for two pumps to communicate with one another or for the pump to communicate to a mobile device with additional hardware.**
- a. **Communication range shall at minimum within 30 feet of the pump without walls or barriers.**
 - b. **Two identical pumps shall be capable of wireless communication with one another to operate as a two pump system in:**
 - 1) **Duty/Standby**
 - 2) **Alternating Mode, pumps alternate operation every 24 hours**
 - 3) **Cascade operation with both pumps running simultaneously in constant differential pressure mode.**

PART 3: EXECUTION

3.01 IN-LINE PUMPS

- A. Provide adequate pipe hangers immediately on both sides of in-line pumps. The pump must be installed in such a way that it is not stressed by the pipework. The pump may be suspended direct in the pipes, provided that the pipework can support the pump. Twin-head pumps are prepared for installation on a mounting bracket or base plate.
- B. Inline wet rotor pumps shall be designed for indoor installation. The wet rotor pumps must be installed with horizontal motor shaft. The pump may be installed in horizontal as well as vertical pipes. Arrows on the pump housing indicate the liquid flow direction through the pump. The control box must be in horizontal position with the Grundfos logo in vertical position.
- C. To ensure adequate cooling of motor and electronics, the following must be observed:
 1. Position the pump in such a way that sufficient cooling is ensured.
 2. The temperature of the ambient air must not exceed 104 °F [+40 °C].

3.02 WIRING

- A. Wiring under Division 26, Electrical. .
- B. The electrical connection and protection should be carried out in accordance with local regulations.
 1. The pump must be connected to an external mains switch.
 2. The pump must always be correctly earthed.
 3. The pump requires no external motor protection.
 4. The pump incorporates thermal protection against slow overloading and blocking.
 5. When switched on via the power supply, the pump will start pumping after approx. 5 seconds.
 6. **Note:** The number of starts and stops via the power supply must not exceed four times per hour.
 7. The pump has a digital input that can be used for external control of start/stop without switching the power supply on/off. The pump mains connection must be made as shown in the diagrams on the following pages.

- C. Use screened cables for external on/off switch, digital input, sensor and setpoint signals.
 - 1. All cables used must be heat-resistant up to at least 185 °F [+85 °C].
 - 2. All cables used must be installed in accordance with EN 60204-1 and EN 50174-2:2000.

- D. **Additional protection**
 - 1. If the pump is connected to an electric installation where an earth leakage circuit breaker (ELCB) is used as an additional protection, this circuit breaker must trip when earth fault currents with DC content (pulsating DC) occur

END OF SECTION 23 21 23

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Consultant:

Project Title: **SCHOOL DISTRICT OF HOLMEN
VIKING ELEMENTARY SECURE ENTRY**
Project Location: **500 EAST WALL STREET
HOLMEN, WI 54636**
Sheet Title: **MECHANICAL PIPING REMODEL PLAN**

HSR Project Number: **19022**

Project Date: **JANUARY 2020**

Drawn By: **LESCHER**

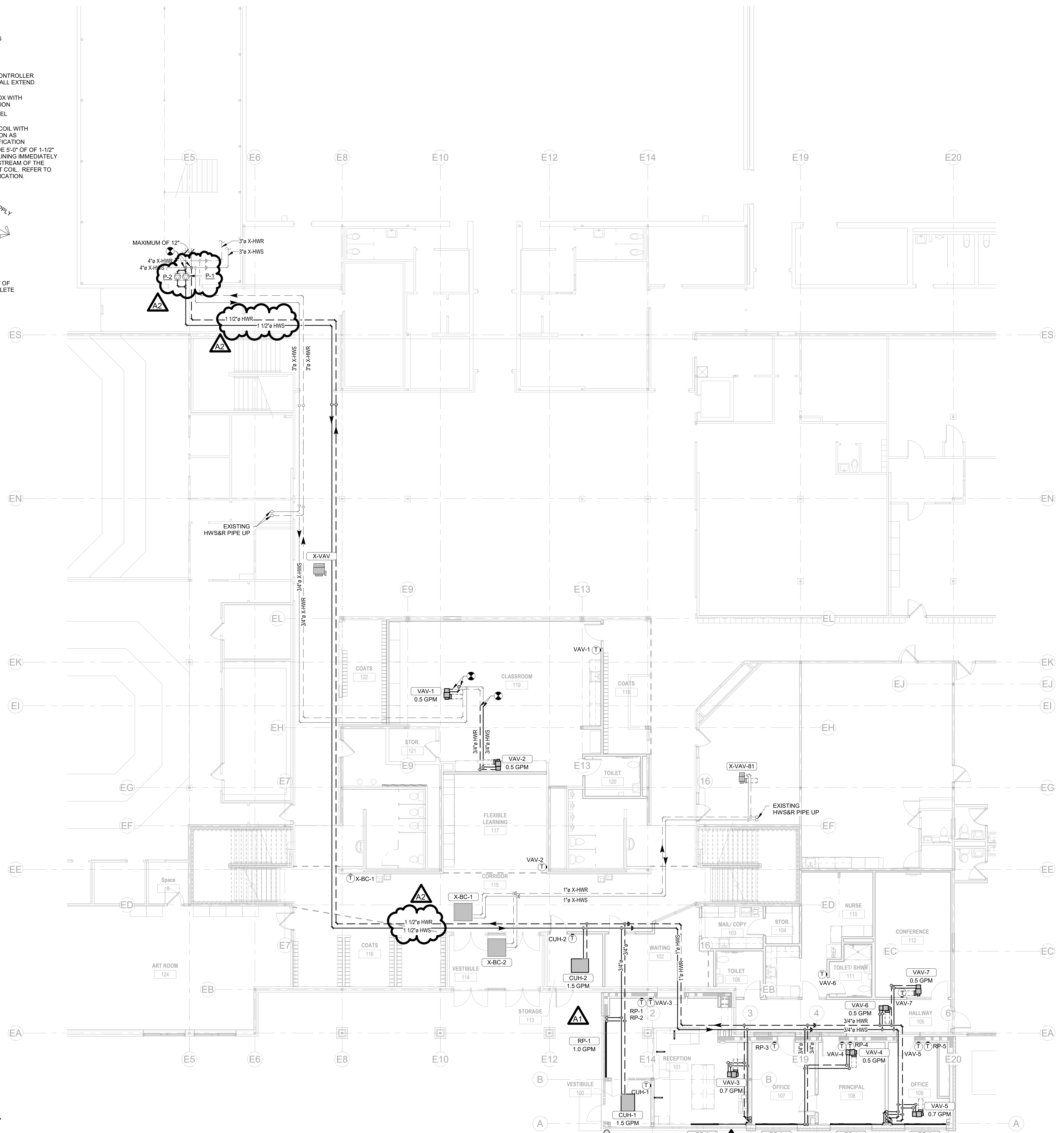
Key Plan:

No.	Description	Date
A1	ADDENDUM 1	1/21/2020
A2	ADDENDUM 2	1/23/2020

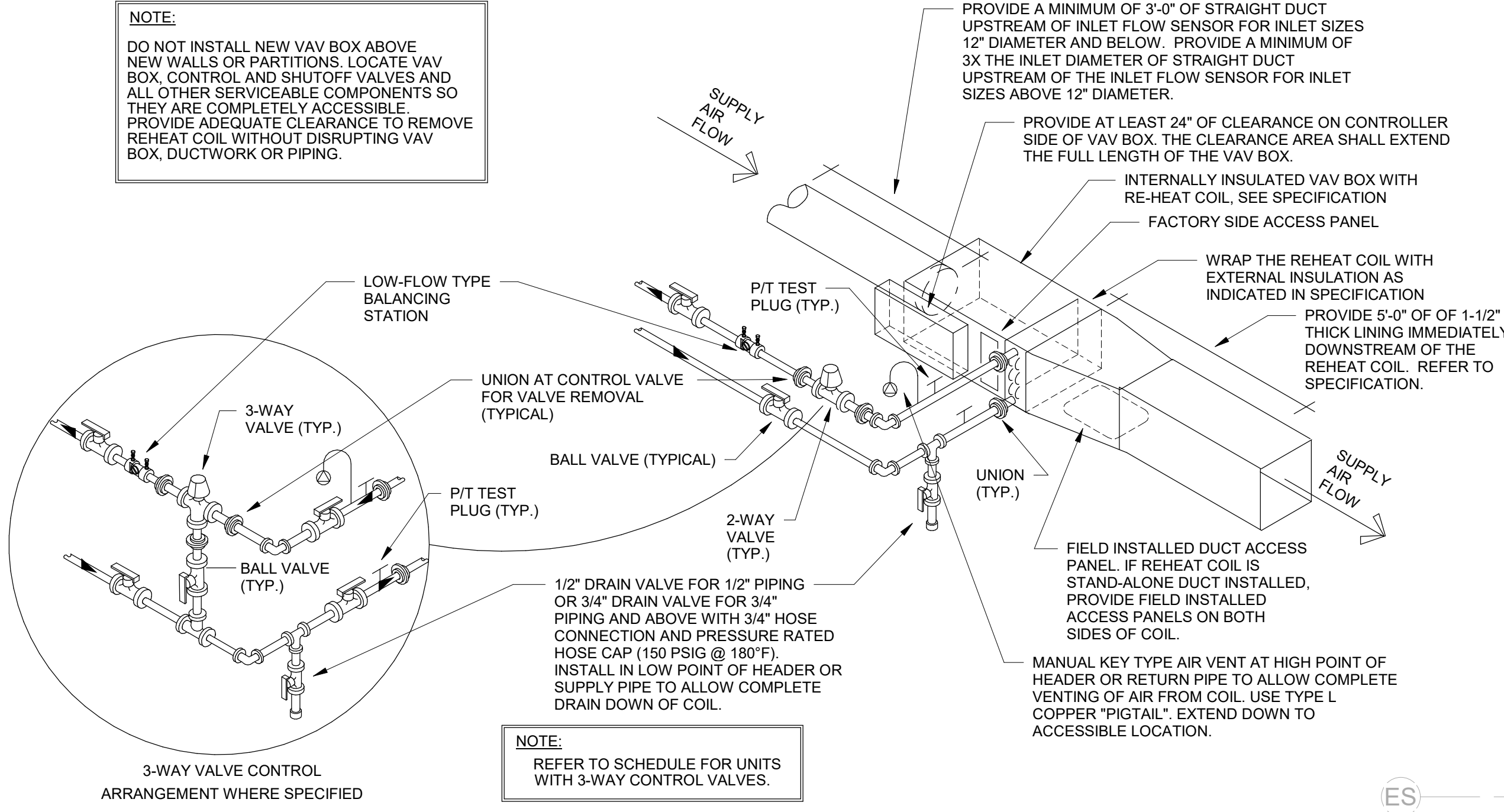
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Last Update: **1/23/2020 11:33:44 AM**

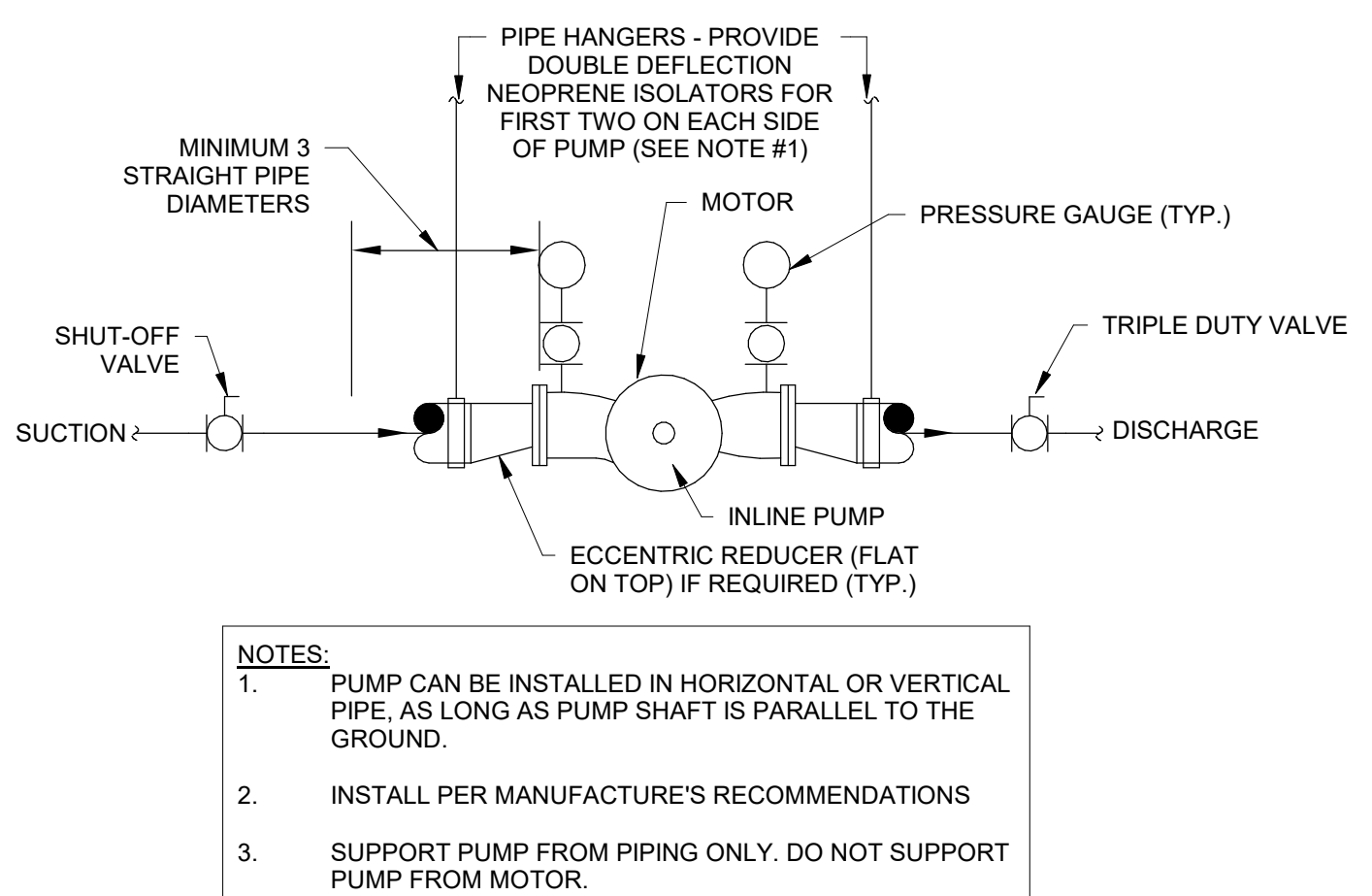
M101



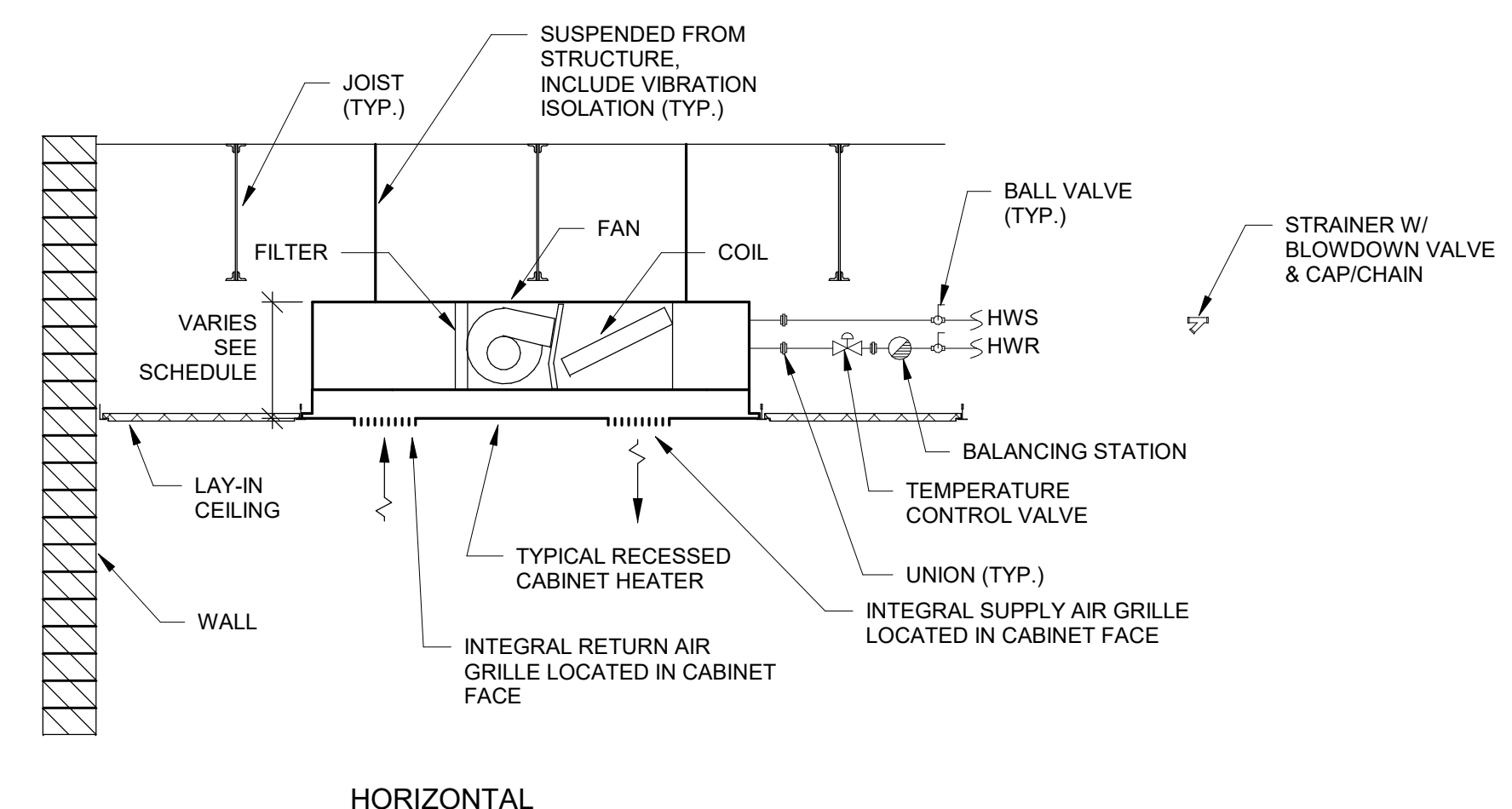
NOTE:
DO NOT INSTALL NEW VAV BOX ABOVE NEW WALLS OR PARTITIONS. LOCATE VAV BOX, CONTROL, AND SHUT-OFF VALVES AND ALL OTHER SERVICEABLE COMPONENTS SO THEY ARE COMPLETELY ACCESSIBLE. PROVIDE ADEQUATE CLEARANCE TO REMOVE REHEAT COIL WITHOUT DISRUPTING VAV BOX, DUCTWORK OR PIPING.



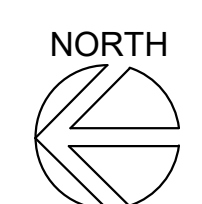
4 TYPICAL TAKE-OFF TO VAV BOX - HW COIL
N.T.S.



3 INLINE PUMP DETAIL
N.T.S.



2 HOT WATER CABINET HEATER RECESSED DETAIL
N.T.S.



1 HVAC PIPING LEVEL 1 REMODEL PLAN
1/8" = 1'-0"



Consultant:

AIR DISTRIBUTION DEVICES								
UNIT NO.	SYSEM CLASSIFICATION	SIZES	LOCATION	DAMPER	INLET SIZE	MODEL NUMBER	MOUNTING	COMMENTS
G-1	Supply Air	24"x24"	CEILING	-	6"Ø	SERIES PLQ 4-WAY	LAY-IN	1 & 2
G-2	Supply Air	24"x24"	CEILING	-	8"Ø	SERIES PLQ 4-WAY	LAY-IN	1 & 2
G-3	Supply Air	24"x24"	CEILING	-	10"Ø	SERIES PLQ 4-WAY	LAY-IN / SURFACE	1 & 2
G-4	Supply Air	24"x24"	CEILING	-	12"Ø	SERIES PLQ 4-WAY	LAY-IN	1 & 2
G-5	Supply Air	48" LINEAR	CEILING	-	6"Ø	DFL-10-1	LAY-IN	1 & 2
G-6	Return Air	24"x6"	CEILING	-	22"x4"	EGC-5 1/2" EGG CRATE	LAY-IN	1 & 2
G-7	Return Air	24"x12"	CEILING	-	22"x10"	EGC-5 1/2" EGG CRATE	LAY-IN	1 & 2
G-8	Exhaust Air	12"x12"	CEILING	-	REFER TO PLANS	S580	LAY-IN	1 & 2

COMMENTS:
1. SELECTION BASED ON PRODUCT BY KRUEGER.
2. COLOR TO BE SELECTED BY ARCHITECT.

RADIANT PANELS									
Mark	LOCATION	TOTAL MBH INSTALLED	GPM	PANEL			MITERED CORNER	TEMPERATURE CONTROL	REMARKS
				NUMBER OF TUBES	WIDTH	LENGTH			
RP-1	RECEPTION 101	6.2	1.0	2	5"	10'-0"		T-STAT	1, 2, 3, 4, 6
RP-2	RECEPTION 101	2.4	1.0	2	5"	4'-0"		T-STAT	1, 2, 3, 4, 5
RP-3	OFFICE 107	4.5	1.0	2	5"	7'-6"		T-STAT	1, 2, 3, 4, 5
RP-4	PRINCIPAL 108	4.5	1.0	2	5"	7'-6"		T-STAT	1, 2, 3, 4, 5
RP-5	OFFICE 109	4.5	1.0	2	5"	7'-6"		T-STAT	1, 2, 3, 4, 5

COMMENTS:
1. SELECTION BASED ON PRODUCT BY RUNTAL.
2. BASED ON ENTERING WATER TEMPERATURE OF 180°F WITH 20° TEMPERATURE DIFFERENTIAL.
3. INCLUDE END TRIM, CAPS, CORNERS, WALL TRIM AT INTERMEDIATE COLUMNS, AND RETURN UNDER COVER AS REQUIRED FOR COMPLETE INSTALLATION.
4. REFER TO DETAIL 7M500 FOR INSTALLATION.
5. PROVIDE WALL MOUNTING COMPONENTS.
6. PROVIDE FEDESTAL MOUNTING COMPONENTS.

VAV BOXES (HOT WATER REHEAT)																	
Mark	SERVES ROOM	MODEL NO.	MAX CFM	MINIMUM COOLING CFM	MINIMUM HEATING CFM	MAX UNIT STATIC PRESSURE DROP	MINIMUM INLET STATIC PRESSURE	INLET DUCT SIZE	NO LEVEL (BOX) RADIATED	COIL SIZING AND CAPACITY DATA						ROOM HEAT LOSS (MBH)	REMARKS
										COIL TYPE	MAX GPM	COIL PRESSURE DROP	ENTERING HOT WATER TEMPERATURE	ENTERING AIR TEMPERATURE (DRY BULB)	TOTAL MBH INSTALLED		
VAV-1	CLASSROOM 119	VCWF08	680	205	260	0.250		8"Ø	26	1 ROW	0.50	0.67	180°F	55°F	8.48	4.82	1 & 2
VAV-2	GALLERY 117	VCWF06	280	85	200	0.140		6"Ø	26	1 ROW	0.50	0.50	180°F	55°F	6.62	3.80	1 & 2
VAV-3	RECEPTION 101, WAITING 102 & MAIL / COPY 103	VCWF08	690	210	280	0.440		8"Ø	26	2 ROW	0.70	0.05	180°F	55°F	11.14	7.20	1 & 2
VAV-4	OFFICE 107 & PRINCIPAL 108	VCWF08	480	145	225	0.230		8"Ø	22	2 ROW	0.50	0.03	180°F	55°F	8.67	5.50	1 & 2
VAV-5	OFFICE 109	VCWF06	240	75	180	0.110		6"Ø	26	1 ROW	0.70	0.87	180°F	55°F	6.84	4.30	1 & 2
VAV-6	HALLWAY 105 & NURSE 110	VCWF06	200	60	200	0.07		6"Ø	24	1 ROW	0.50	0.50	180°F	55°F	6.62	3.80	1 & 2
VAV-7	CONFERENCE 112	VCWF06	270	80	200	0.130		6"Ø	26	1 ROW	0.50	0.50	180°F	55°F	6.62	3.80	1, 2, 3

COMMENTS:
1. SELECTION BASED ON PRODUCT BY TRANE.
2. REFER TO DETAIL 4M101 FOR INSTALLATION.
3. PROVIDE 3-WAY CONTROL VALVE.

CAB HEATERS												
UNIT NO.	ROOM NUMBER	QUANTITY	MBH	MODEL	SIZE	FULL DEPTH	CABINET HEIGHT	LENGTH	GPM	CFM	HP (VOLT/PHASE)	COMMENTS
CUH-1	VESTIBULE 100	1	22.53	FFEB040	040	11"	30"	38"	1.5	300	58W (115/1)	1, 2, 3, 4
CUH-2	STORAGE 113	1	17.58	FFEB040	040	11"	30"	33"	1.5	220	58W (115/1)	1, 2, 3, 4

COMMENTS:
1. SELECTION BASED ON PRODUCT BY TRANE.
2. UNIT SHALL BE A SIDE-FLOW CONFIGURATION.
3. ENTERING WATER TEMPERATURE BASED ON 180°F.
4. INCLUDE 3-WAY VALVE PER EACH UNIT.

ROOFTOP HEATING/COOLING UNITS															
UNIT NO.	MANUFACTURER	MODEL	TONS	TOTAL SEN CLG MBH NET	AMB. TEMP.	ENT. TEMP. DBWB	REFR. TYPE	CFM	E.S.P.	FILTER TYPE	SUPPLY FAN HP	INPUT MBH	OUTPUT MBH	MIN. O.A. %	COMMENTS
RTU-1	Trane	YZC072F4M4KE	6.0	71.56	95°F	80°F / 67°F	R-410A	2220 CFM	1.5	ERV 8	2.75	120	97.20	10%	1, 2, 3, 4, 5

COMMENTS:
1. OUTSIDE AIR ECONOMIZER (MODULATION 0-100%)
2. UNIT SHALL BE A SIDE-FLOW CONFIGURATION.
3. UNIT SHALL INCLUDE POWERED CONVENIENCE OUTLET, CLOGGED FILTER/FAN FAILURE SWITCH AND HINGED ACCESS DOOR.
4. INCLUDE FUSED DISCONNECT SWITCH.
5. HOUSEKEEPING PAD PROVIDED BY GENERAL CONTRACTOR.

FANS										
UNIT NO.	SERVES ROOM	LOCATION	MODEL	SOUND LEVEL MAX SPEED	CFM	S.P. DROP INCHES W.G.	FULL LOAD AMPS	WATTS (VOLT/PHASE)	WEIGHT	COMMENTS
EF-1	TOILET ROOMS	CEILING (INLINE)	CSP-B150	2.0 SONES	150	0.9	2.2	165 W (115/1)	11 LBS	1

COMMENTS:
1. SELECTION BASED ON PRODUCT BY GREENHECK.

PUMPS									
UNIT NO.	LOCATION	SERVES	TYPE		MODEL	GPM	TOTAL HEAD	WATTS (VOLTS/PHASE)	COMMENTS
			INLINE	FLOOR MOUNTED					
P-1	CUSTODIAN	REFER TO PLANS	YES	---	MAGNA 3 40-180 F	11.0 GPM	40	16-600W (208/1)	1 & 2
P-2	CUSTODIAN	REFER TO PLANS	YES	---	MAGNA 3 40-180 F	11.0 GPM	40	16-600W (208/1)	1 & 2

COMMENTS:
1. SELECTION BASED ON PRODUCT BY GRUNDFOSS.
2. BASED ON ENTERING 180°F ENTERING WATER TEMPERATURE.

SCHOOL DISTRICT OF HOLMEN
VIKING ELEMENTARY SECURE ENTRY

500 EAST WALL STREET
HOLMEN, WI 54636

HVAC SCHEDULES

Project Title:
Project Location:
Sheet Title:

HSR Project Number:
19022
Project Date:
JANUARY 2020
Drawn By:
LESCHER

Key Plan:

No.	Description	Date
A1	ADDENDUM 1	1/21/2020
A2	ADDENDUM 2	1/23/2020

Graphic Scale:
Last Update:
1/23/2020 11:33:44 AM

M600

PANELBOARD SCHEDULE																	
PANEL TYPE	ROOM NO.	MFR. TYPE	MOUNT	SIZE	MAINS					BRANCHES				SPACE	REMARK NUMBER		
					FLUSH SURFACE	WIDTH	DEPTH	ELECTRICAL SERVICE	AMP.	LUSS	SWITCH BREAKER	FEED THRU LUGS	NO.			AMP.	POLE
P1B	ELEC. E100	SQ. D NQ	X	20"	5.75"	120/208 VOLT 3 PH. 4 WIRE	100	X				16	20	1	P1B-1, 2-32		1
												6	20	1	SPARES		

* SEE REMARKS

PANELBOARD SCHEDULE REMARKS:
 1. PROVIDE NEW 42 SPACE PANELBOARD WITH THIS PROTECTION; OR REUSE EXISTING GE PANEL TO BE REMOVED AND REINSTALL AT NEW LOCATION. PROVIDE NEW SURFACE BACKBOX NEW FRONT PANEL COVER/DOOR AND ADDITIONAL CIRCUIT BREAKERS. CONTRACTORS OPTION TO PROVIDE NEW PANEL OR REUSE EXISTING.

EQUIPMENT SCHEDULE									
MARK NUMBER	EQUIPMENT DESCRIPTION	LOCATION ROOM NUMBER	RATING				WIRING		REMARK NUMBER
			K.W.	H.P.	VOLT	PH.	SIZE CONDUCTORS	GROUND	
DO	DOOR OPERATORS	SEE DRWGS.	.80		120	1	2 #12	#12	
PS	PADDLE STATION	SEE DRWGS.	.25		120/24	1	2 #12	#12	1
ES	ELECTRIC DOOR STRIKE	SEE DRWGS.	.25		120/24	1	2 #12	#12	2
FD	FIRE DOOR	SEE DRWGS.	1.20		120	1	2 #12	#12	3
CHU-1	CABINET HEATER	VEST. 100	.25		120	1	2 #12	#12	
CHU-2	CABINET HEATER	STOR.113	.25		120	1	2 #12	#12	
EF-1	EXHAUST FAN	CORR. 105	.25		120	1	2 #12	#12	
RTU-1	ROOF TOP UNIT	EXTERIOR	15.0		480	3	3 #10	#10	

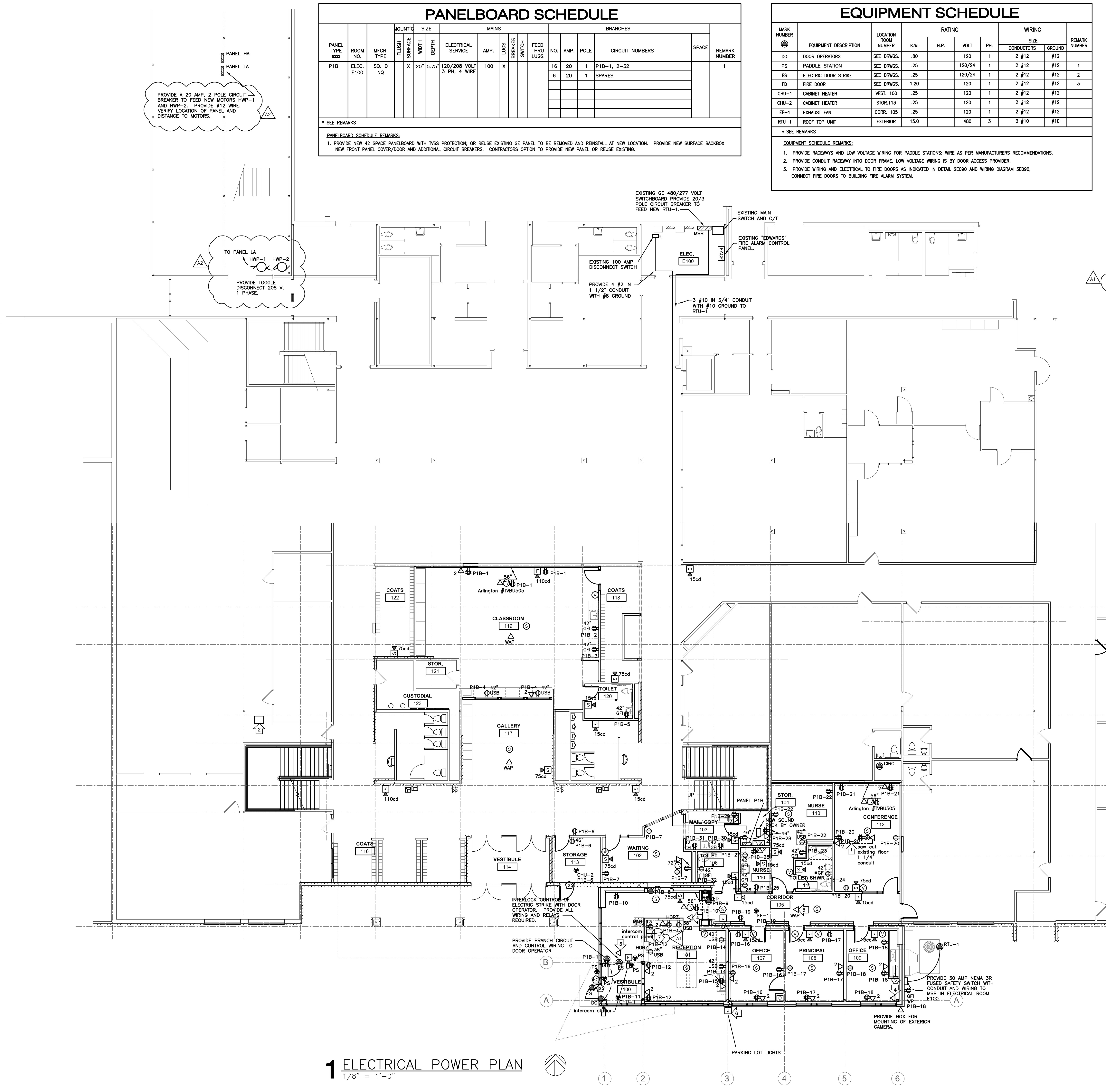
* SEE REMARKS

EQUIPMENT SCHEDULE REMARKS:
 1. PROVIDE RACEWAYS AND LOW VOLTAGE WIRING FOR PADDLE STATIONS, WIRE AS PER MANUFACTURERS RECOMMENDATIONS.
 2. PROVIDE CONDUIT RACEWAY INTO DOOR FRAME. LOW VOLTAGE WIRING IS BY DOOR ACCESS PROVIDER.
 3. PROVIDE WIRING AND ELECTRICAL TO FIRE DOORS AS INDICATED IN DETAIL 22090 AND WIRING DIAGRAM 3E090, CONNECT FIRE DOORS TO BUILDING FIRE ALARM SYSTEM.

- CONSTRUCTION NOTES: REMODEL
- GENERAL NOTES:
- ALL ELECTRICAL DEVICES SHOWN TO BE NEW, UNLESS INDICATED OTHERWISE.
 - MAINTAIN OPERATION OF ALL EXISTING ELECTRICAL DEVICES, EXTEND WIRING/CONDUIT TO LIGHTS, RECEPTACLES, CLOCKS, INTERCOM, SPEAKERS, ETC.
 - PROVIDE GROUND CONDUCTOR IN ALL NEW CONDUITS.
 - REINSTALL EXISTING SMOKE DETECTORS, SPEAKERS, AND FIRE ALARM HORN/STROBES WHERE INDICATED. PROVIDE NEW CONDUIT AND WIRING AS REQUIRED.
 - PROVIDE FIRE STOPPING AND SMOKE DRAFT STOPPING AT ALL CONDUIT PENETRATIONS. REFER TO SPECIFICATION SECTION 07840 FOR FIRE RESISTIVE AND NON-FIRE RESISTIVE ASSEMBLIES.
 - PROVIDE SEPARATE NEUTRAL CONDUCTORS FOR EACH BRANCH CIRCUIT. (NO COMMON NEUTRALS)
 - PROVIDE CONDUIT RACEWAYS INTO DOOR FRAMES FOR OWNER WIRING OF ELECTRIC STRIKES AND DOOR CONTACTS.
 - PROVIDE BOXES AND RACEWAYS FOR CARD READERS TO BE INSTALLED BY THE OWNER.
 - CAMERAS AND MOTION DETECTION DEVICES TO BE INSTALLED AND WIRED BY THE OWNER.
- SPECIFIC NOTES:
- SAW-CUT EXISTING CONCRETE FLOOR FOR INSTALLATION OF NEW FLOOR BOX AND CONDUIT RACEWAYS.
 - EXISTING DATA RACK ON SECOND FLOOR. ROUTE ALL NEW DATA CABLES TO THIS LOCATION. VERIFY ROUTING AND DISTANCE. OWNER TO PROVIDE AN ADDITIONAL PATCH IF REQUIRED.
 - PROVIDE DATA CABLE ABOVE CEILING WITH 10' OF SLACK FOR OWNER SECURITY/MONITORING EQUIPMENT.
 - PROVIDE DATA CABLE ABOVE CEILING WITH 10' OF SLACK FOR OWNER CAMERA.
 - PROVIDE DATA CABLE ABOVE CEILING WITH 10' OF SLACK FOR OWNER WIRELESS ACCESS POINT.
 - EXTEND EXISTING CONDUIT AND CONDUCTORS FOR EXISTING PARKING LOT LIGHTS. PROVIDE ALL TRENCHING REQUIRED, JUNCTION BOXES AND FEEDINGS AS REQUIRED.
 - REINSTALL EXISTING INTERCOM CONTROL PANEL AND STATION. PROVIDE INTERCONNECTING RACEWAY AND WIRING, MATCH EXISTING WIRES AND CABLING.



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1 ELECTRICAL POWER PLAN
 1/8" = 1'-0"

SCHOOL DISTRICT OF HOLMEN
VIKING ELEMENTARY SECURE ENTRY
 Project Title:
 HSR Project Number: **19022**
 Project Date: **JANUARY 2020**
 Drawn By: **SMG**
 Key Plan:
 Project Location: **500 EAST WALL STREET**
HOLMEN, WI 54636
 Sheet Title:
ELECTRICAL POWER PLAN

Revisions:		
No.	Description	Date
A1	ADDENDUM 1	1/21/20
A2	ADDENDUM 2	1/23/20
Graphic Scale:		
Last Update: 1/7/2020		

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