



CAMPUS PLANNING, DESIGN & CONSTRUCTION

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ADDENDUM NO. 1 - OUTLINE AND SUMMARY INFORMATION

Project Name: Renne Library Testing Center Renovation PPA No.: 18-2089
Location: Renne Library Date: October 31, 2018
Owner: Montana State University
Bozeman, MT

To: *All Plan Holders of Record*

*The Plans and Specification prepared by **Hip and Humble Architecture** dated **October 15, 2018**, shall be clarified and added as follow. The bidder proposes to perform all the following clarifications or changes. It is understood that the Base Bid shall include any modification of Work or Additional Work that may be required by reason of the following change or clarifications.*

The Bidders are to acknowledge the receipt of this Addendum by inserting its number and date into their Bid Forms. Failure to acknowledge may subject the Bidder to disqualification and rejection of the bid. This Addendum forms part of the Contract Documents as if bound therein and modifies them as follows:

I. AMENDMENTS TO THE PROJECT MANUAL

- A. Bid Form: Contractor is to provide an alternate price (alternate no. 3) for premanufactured carrels, in the design as shown on the drawings, as manufactured by:
- KI Corporation, Green Bay, WI; 800-424-2432, basis of design. A local supplier for KI is 360 Office Solutions, contact Jeremy Turner at jeremyt@360-os.com or 406-600-6238.
 - Worden Company, Holland, MI; 800-748-0561
 - Smith System, Plano, TX; 800-328-1061
- B. Spec Section 08-1416 Flush Wood Doors; subsection 2.08 Hardware – Item E: CHANGE Add Alternate #2 ADA compliant door opener from Dormakaba Model ED900 to Norton/Assa Abloy 5800 series ADAEZ low energy (wireless) operator with ADAEZ PRO installation kit including narrow style push buttons with wireless transmitters and all other components required for a complete and fully functioning system.
- C. Spec Section 23-0000 General Provisions for HVAC Work: Add the sections indicated on the attached Addendum No. 1 from Three Rivers Engineering.
- D. Spec Section 23-0946 Temperature Controls: Add the sections indicated on the attached Addendum No. 1 from Three Rivers Engineering.

II. AMENDMENTS TO THE DRAWINGS

- A. Sheet M2-1 – Mechanical Plan: MODIFY notes on Mechanical Plan as shown in bubbled areas on the attached Addendum No. 1 from Three Rivers Engineering.
- B. Sheet M3-1 – Mechanical Schedules: ADD note to Heat Recovery Unit Schedule as shown in bubbled area on the attached Addendum No. 1 from Three Rivers Engineering.

III. GENERAL INFORMATION – NOT USED

IV. ATTACHMENTS

- A. Addendum No. 1 from Three Rivers Engineering dated 10/30/18.

END OF ADDENDUM NO. 1



THREE RIVERS ENGINEERING, INC.

MECHANICAL, ELECTRICAL, ENERGY

24 S. WILLSON AVE, SUITE A1 BOZEMAN, MT 59715
406-5828288 WWW.TREMT.COM

ADDENDUM NO. 1 TO CONTRACT DOCUMENTS

Project: Renne Library
Testing Center Expansion
#18-2089

Architect: Hip & Humble Architecture
418 South 5th Avenue
Bozeman, MT59715

Pages: 1 + Drawing M2.1 & M3.1

Date: 10/30/2018

- The additions, omissions, corrections and clarifications contained in this addendum shall be included as part of the contract documents as provided under the General Conditions of the Contract.
- This addendum is a contract document and may apply to any or all contracts and sub-contracts. Unless otherwise specified herein, all work required by this addendum shall be in complete accord with the contract documents and subsequent addendum thereto.
- This addendum shall become part of the bid. The bidder shall acknowledge the receipt of this addendum in the proposal form.

Mechanical Changes:

- Modify Sheet M2-1 as shown in the bubbled areas.
- Modify sheet M3-1 as shown in the bubbled areas.

Specification Changes:

Make the following specification changes as noted. (Strikethrough = remove, Underline = add)

Add the following to section 230000 General Provisions for HVAC Work

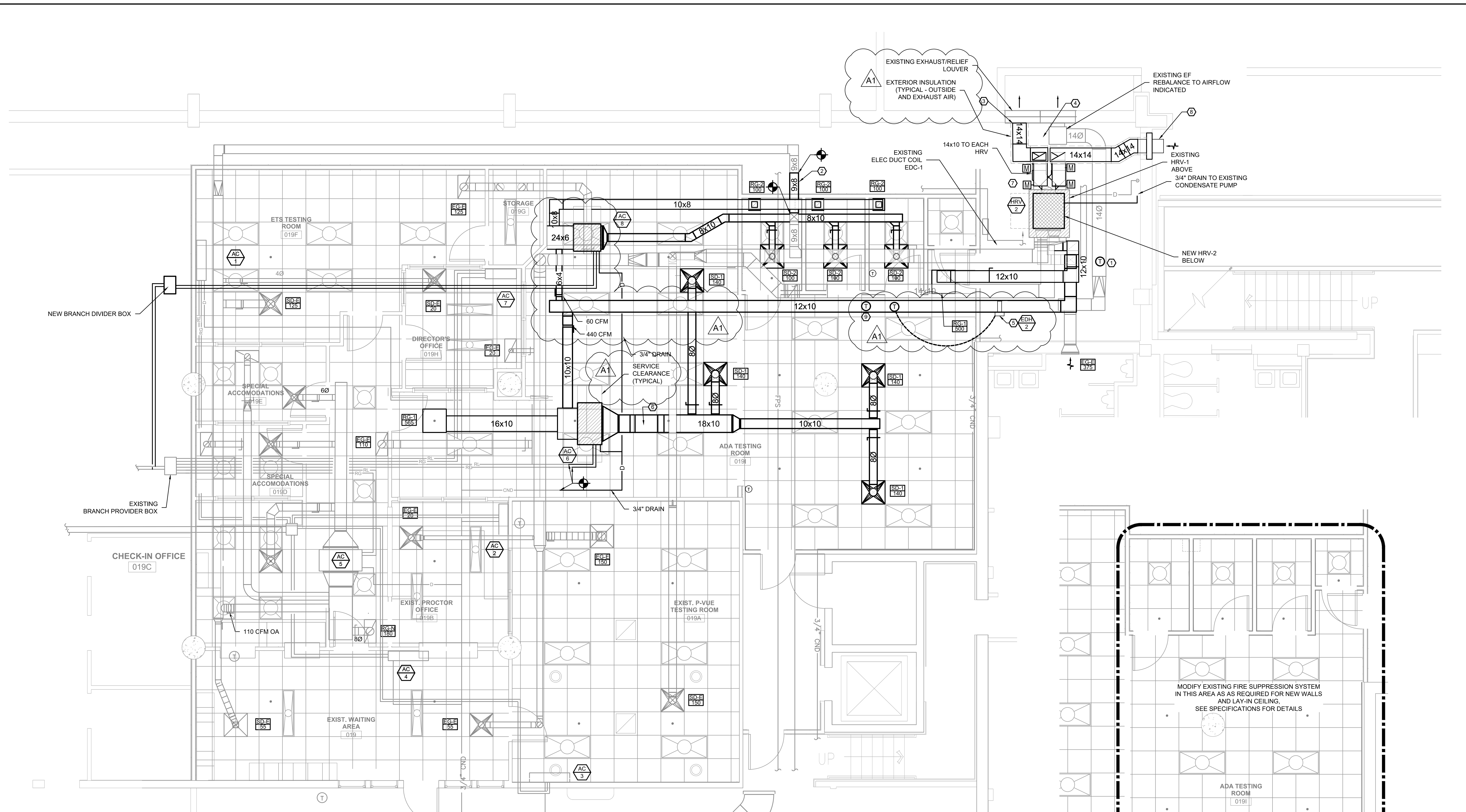
Part 1 General, 1.19 Submittals and Brochures of Equipment (O&M Manuals),
E. 10. See Section 013000 for additional requirements of submittals.
F. 8. See Section 017823 for additional requirements of Operations and Maintenance
Manuals.

Part 3 Execution,
3.3 Demonstration and Training
A. See section 179000 for additional requirements for demonstration and training
of mechanical and electrical systems.

Add the following to section 230946 Temperature Controls

Part 1 General, 1.1 Work Included, A...
4. Install freeze stat for automatic shutdown of HRV-2 if supply temperature drops
below 40F. Include alarm on campus facilities automation system. System to allow
auto restart 3x prior to required manual restart from DDC system.

Part 3 Execution,
3.3 Demonstration and Training
A. See section 179000 for additional requirements for demonstration and training
of mechanical and electrical systems.



1 MECHANICAL
M2-1 1/4" = 1'-0"

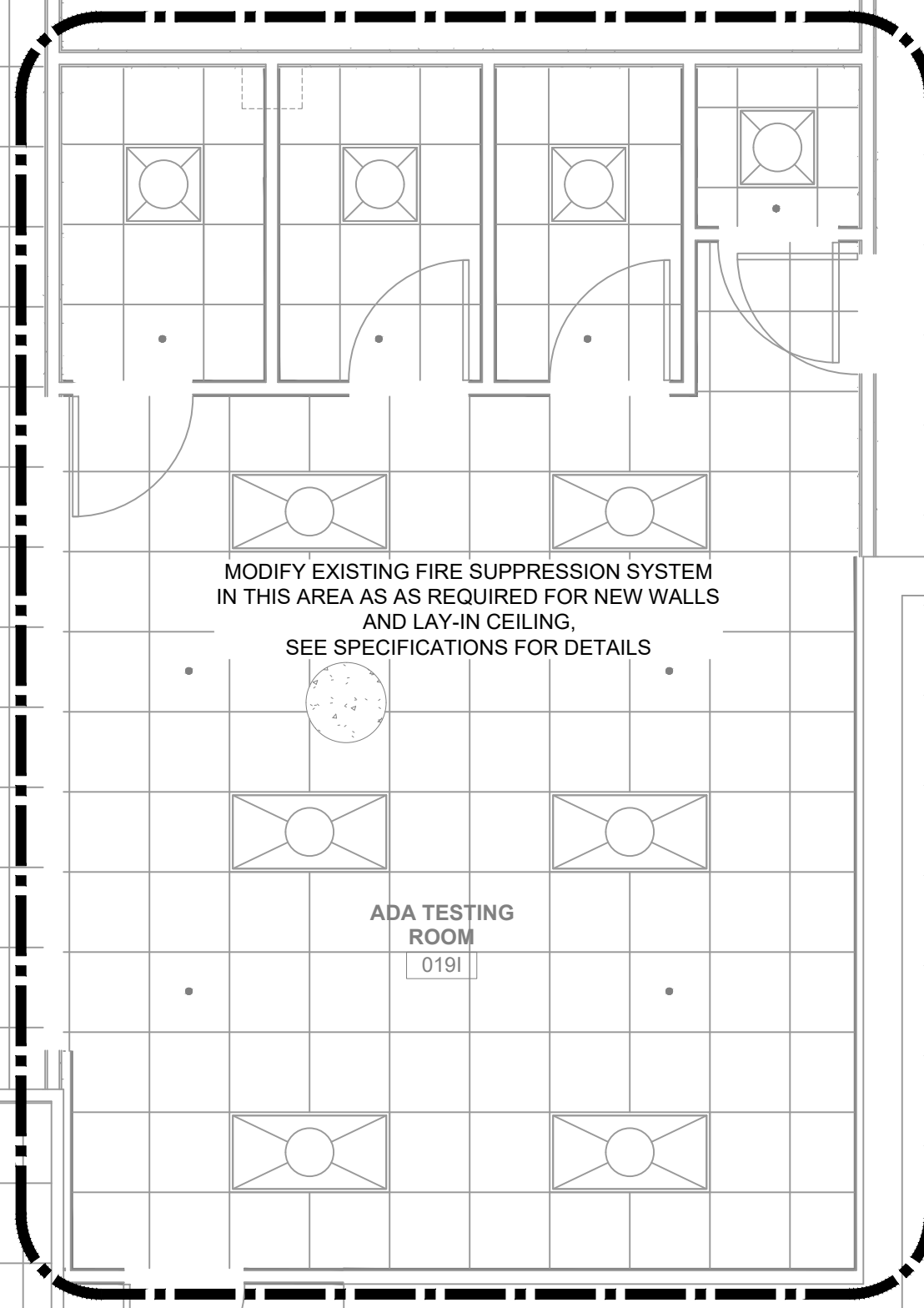
GENERAL NOTES:

1.) BALANCE ALL DEVICES TO AIRFLOW INDICATED.

KEYED NOTES:

- 1) RELOCATED FREEZE PROTECTION TEMPERATURE SENSOR.
- 2) BOTTOM OF DUCT MINIMUM 94" AFF.
- 3) CONNECT NEW DUCT TO EXISTING LOUVER.
- 4) MAINTAIN CLEARANCE FOR EXHAUST FAN MAINTENANCE.
- 5) EXPAND DUCT TO 12X12 AT HEATING COIL.
- 6) OFFSET DUCT BELOW EXISTING PIPE WITH SMOOTH 30DEG RADIUS ELBOWS.
- 7) PROVIDE MOTORIZED DAMPERS WITH DUCT ACCESS DOORS - ON INLET AND EXHAUST OF EACH HRV. CONTRACTOR MAY REUSE EXISTING ACTUATORS FOR HRV-1.
- 8) EXTEND 14X14 DUCT THROUGH EXISTING EXTERIOR WALL OPENING. PROVIDE WALL HOOD.
- 9) DIGITAL DUCT TEMPERATURE SENSOR. INTERLOCK WITH HRV-2 TO SHUTDOWN IF TEMP IS BELOW 40F. SEE SPECIFICATIONS FOR DETAILS.

2 FIRE SUPPRESSION
M2-1 1/4" = 1'-0"



MECHANICAL LEGEND

ABBREVIATIONS

AC	AIR CONDITIONING	MS	MOP SINK
AD	ACCESS DOOR	(N)	NEW
AFF	ABOVE FINISHED FLOOR	NC	NORMALLY CLOSED
AHU	AIR HANDLING UNIT	NO	NORMALLY OPEN
BDD	BACKDRAFT DAMPER	OA	OUTSIDE AIR
CA	COMBUSTION AIR	OC	ON CENTER
CO	CLEAN OUT	PRV	PRESSURE REDUCING VALVE
CONN.	CONNECTION	RA	RETURN AIR
CONT.	CONTINUATION	RDL	ROOF DRAIN LEADER
COTG	CLEAN OUT TO GRADE	RHW	RECIRCULATING HOT WATER
CWS	CHILLED WATER SUPPLY	RM	ROOM
CWR	CHILLED WATER RETURN	SA	SUPPLY AIR
DDC	DIRECT DIGITAL CONTROL	SF	SUPPLY FAN
DF	DRINKING FOUNTAIN	SFD	SMOKE/FIRE DAMPER
ELEC.	ELECTRIC/ELECTRICAL	SH	SHOWER
EXH	EXHAUST	SK	SINK
EA	EXHAUST AIR	SS	SANITARY SEWER
(E)	EXISTING	TBD	TO BE DETERMINED
FC	FANCOIL	TC	TEMPERATURE CONTROL
FCO	FLOOR CLEAN OUT	TYP	TYPICAL
FD	FLOOR DRAIN	UR	URINAL
FSD	FIRE/SMOKE DAMPER	V	SANITARY VENT
HW	DOMESTIC HOT WATER	V OR VOLT	VOLTAGE
HWS	HEATING WATER SUPPLY	VTR	VENT THROUGH ROOF
HWR	HEATING WATER RETURN	VD	VOLUME DAMPER
LAV	LAVATORY	WC	WATER CLOSET
MBH	1000 BTU/HR	WCO	WALL CLEAN OUT
MECH.	MECHANICAL	(X)	EXISTING TO BE REMOVED

PLUMBING & PIPING SYMBOLS

SYMBOL	DESCRIPTION
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	RECIRC. HOT WATER
	BELOW GRADE SANITARY WASTE
	ABOVE GRADE SANITARY WASTE
	SANITARY VENT
	ACID WASTE
	ACID VENT
	BELOW GRADE STORM SEWER
	ABOVE GRADE STORM SEWER
	HEATING WATER SUPPLY
	HEATING WATER RETURN
	CHILLED WATER SUPPLY
	CHILLED WATER RETURN
	NATURAL GAS
	COMPRESSED AIR
	LIQUEFIED PROPANE GAS
	REFRIGERANT SUCTION
	REFRIGERANT LIQUID
	REFRIGERANT HOT GAS BYPASS
	HEAT PUMP SUPPLY
	HEAT PUMP RETURN
	FIRE SPRINKLER
	OXYGEN
	NITROGEN
	NITROUS OXIDE
	VACUUM
	SCAVENGER VACUUM
	DISTILLED WATER
	DEIONIZED WATER
	REVERSE OSMOSIS
	WELL WATER SUPPLY
	WELL WATER RETURN
	GATE VALVE OR BALL VALVE
	GLOBE VALVE
	PLUG VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	BALL VALVE
	RELIEF VALVE
	PRESSURE REGULATING VALVE
	PIPE TURNING DOWN
	PIPE TURNING UP
	PIPE CAP
	UNION
	REDUCER
	WYE STRAINER

MISC. AND HVAC SYMBOLS

SYMBOL	DESCRIPTION
	KEYED NOTE
	EQUIPMENT MARK INDICATES EQUIP#
	DIFFUSER MARK FLOW RATE
	CEILING SUPPLY DIFFUSER
	CEILING RETURN/EXHAUST REGISTER/GRILLE
	SHEET METAL DUCT (FIRST NUMBER INDICATES FACING SIDE)
	ROUND DUCT (18" DIA.)
	ELBOW WITH TURNING VANES
	SQUARE TO ROUND TRANSITION
	FLEXIBLE DUCT CONNECTION
	MISCELLANEOUS EQUIPMENT
	VERTICAL SMOKE/FIRE DAMPER
	VERTICAL FIRE DAMPER
	MOTORIZED DAMPER
	SUPPLY AIR
	RETURN/EXHAUST AIR
	HUMIDISTAT OR HUMIDITY SENSOR
	THERMOSTAT OR TEMPERATURE SENSOR
	REVERSE ACTING THERMOSTAT
	THERMOSTAT OR TEMPERATURE SENSOR WITH TAMPERPROOF ENCLOSURE
	NEGATIVE PRESSURE DUCT SECTION (EXHAUST OR RETURN)
	POSITIVE PRESSURE DUCT SECTION (SUPPLY)
	CONNECT NEW PIPE OR DUCT TO EXISTING AT THIS POINT

MULTI-SPLIT AC UNIT SCHEDULE

MARK	MANUFACTURER	MODEL NUMBER	SERVES	AIRFLOW		SUPPLY FAN		HEATING CAPACITY		COOLING CAPAC		ELECTRICAL		MAX dB (A)
				TOTAL CFM	VENTILATION CFM	HP	EXT STATIC	MBH	EAT	TOTAL MBH	REFIG TYPE	EAT DB / WB	VOLT-PH	
AC-1	(EXISTING) DAIKIN	FTXS24LVJU	ETS TESTING	643	125			25.4		21	R410A			
AC-2	(EXISTING) DAIKIN	CTXS07LVJU	PROCTOR OFFICE	-	20			8.5		7	R410A			
AC-3	(EXISTING) DAIKIN	FTXS24LVJU	P-VUE	-	150			25.4		21	R410A			
AC-4	(EXISTING) DAIKIN	CTXS07LVJU	WAITING	-	55			8.5		7	R410A			
AC-5	(EXISTING) DAIKIN	CDXS15LVJU	CHECK-IN & SPEC. OCC.	4 SPEED 424-297	110			18		15	R410A			
AC-6	(NEW) DAIKIN	CDXS24LVJU	TESTING	565	440		.15"	24	70	21.8	R410A	80/67	SEE NOTE 1	51
AC-7	(EXISTING) DAIKIN	CTXS07LVJU	DIRECTORS OFFICE	-	20			8.5		7	R410A			
AC-8	(NEW) DAIKIN	FDXS09LVJU	PRIVATE RMS	300	60		.15"	9	70	9	R410A	80/67	SEE NOTE 1	37

GENERAL NOTES:
 - HEATING CAPACITY BASED ON 47F OUTSIDE AIR TEMPERATURE.
 - PROVIDE CONDENSATE PUMP WITH ALL UNITS.
 - PROVIDE WITH EXTENDED RANGE (-4 F TO 115F)

KEYED NOTES:
 1.) POWER FED FROM BRANCH PROVIDER #1, (208V/1PH - SEE MANUFACTURERS WIRING DIAGRAM).

HEAT RECOVERY UNIT SCHEDULE

MARK	MANUF.	MODEL NUMBER	EFFECTIVENESS % HEAT/COOL	SUPPLY FAN			EXHAUST FAN			ELEC.					NOTES
				CFM	ESP	HP	CFM	HP	ESP	VOLT/PH	FLA	MCA	MOCP		
HRV 1	(EXISTING)			475	.25"	1/4	475	1/4	.25"	120/1	7.8	9.5	15		REBLANCE TO AIRFLOW INDICATED
HRV 2	(NEW) ALDES	H650-FI	50.6%/42.7%	500	.5"	1/3	500	1/3	.5"	120/1	5.5	7	15		

GENERAL NOTES:
 - PROVIDE WITH EXHAUST ONLY DEFROST
 - MOUNT UNIT ON FLOOR WITH SPRING VIBRATION ISOLATION.
 - PROVIDE WITH CONDENSATE PUMP. EXTEND DRAIN PAN PIPING TO EXISTING CONDENSATE DRAIN AT CEILING OF MECH ROOM.
 - PROVIDE INTEGRATED MICROPROCESSOR CIRCUIT BOARD. WITH 3 SPEED FAN CONTROL.
 - WITH CORD AND PLUG

GRILLES - REGISTERS - DIFFUSERS

MARK	MANUFACTURER	TYPE	MODEL NUMBER	MOUNTING TYPE	DAMPER TYPE	SIZE	COLOR	NOTES
SD-1	KRUEGER	CEILING SUPPLY	1400A	LAY-IN CEILING	DUCT VD	8" NECK 24x24	WHITE	
SD-2	KRUEGER	CEILING SUPPLY	1400A	LAY-IN CEILING	DUCT VD	6" NECK 24x24	WHITE	
RG-1	KRUEGER	CEILING RETURN	EG15	LAY-IN CEILING	DUCT VD	24x24	WHITE	
RG-2	KRUEGER	CEILING RETURN	EG15	LAY-IN CEILING	DUCT VD	12x12	WHITE	

GENERAL NOTES:
 - PROVIDE TRANSITIONS AS NECESSARY.

ELECTRIC DUCT HEATER

MARK	MANUFACTURER	MODEL NUMBER	SERVES	COIL TYPE	CFM	MAX APD IN	CONTROL	ELEC		NOTES
								VOLT/PH	KW	
EDH-1	(EXISTING)		HRV-1	ELEC						
EDH-2	(NEW) MARLEY	FC/FT	FLANGED 12"X12"	HRV-2	ELEC	500	0.05	MODULATING SCR	208/3	5

GENERAL NOTES:
 1.) PROVIDE DUCT TRANSITIONS AS REQUIRED.
 2.) PROVIDE WITH REMOTE DUCT TEMPERATURE SENSOR (SEE DRAWINGS FOR LENGTH REQUIRED)
 3.) MAINTAIN 50F SUPPLY AIR TEMPERATURE (DOWNSTREAM OF HRV-2)