City of Sparks

SPARKS POLICE DEPARTMENT
HVAC UPGRADE

PWP# WA-2020-073
BID #19/20-008

1701 E. PRATER WAY
SPARKS, NEVADA
89434

City of Sparks

SHEET INDEX

DESIGN CONSULTANTS

MECHANICAL
Matthew C. Myres, PE
Mechanical Engineer
MMI Engineering Co.
385 Gentry Way
Reno, Nevada, 89502
(775)-750-0849

ELECTRICAL
Keller Hackbusch, PE
Electrical Engineer
Dinter Engineering Co.
385 Gentry Way
Reno, Nevada, 89502
Office: 775-826-4044
Direct: 775-682-4618

DINTER ENGINEERING CONFIDENCE
Airfield Electrical

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA
MATTHEW C. MYRES
Exp. 12/31/19
MECHANICAL
No. 16816

MATTHEW C. MYRES, P.E.
MMI ENGINEERING

DATE: 11/13/2019

JON R ERICSON, P.E, P.T.O.E.
CITY ENGINEER

DATE: 11/13/2019

BID DOCUMENTS

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19

MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE
TITLE SHEET - GENERAL INFO

REVISIONS
1 PLAN REVIEW COMMENTS (04/09/18)
2 OWNER REVISIONS (10/31/18)
3 OWNER REVISIONS (06/04/19)

DATE :
MARCH 26, 2018

SHEET NUMBER :
T1.0

MECHANICAL SYMBOL LIST

(NOTE: ALL OF THE SYMBOLS INDICATED BELOW MAY NOT APPEAR ON THIS PROJECT)

12" X 12" OR 12" X 12"		DUCT W/ SIZE INDICATED (FIRST FIG. IS SIDE SHOWN)
V.D.	V.D.	MANUAL VOLUME / BALANCING DAMPER
		DUCT WITH ACOUSTIC LINING
F	F.D.R	FIRE DAMPER
SD	S.D.	SMOKE DAMPER
FSD	F.S.D.	COMBINATION FIRE / SMOKE DAMPER
EX.	EX.	EXTRACTOR
12"X 12" OR 12"ø		SQUARE TO ROUND DUCT TRANSITION
	TR	DUCT SIZE TRANSITION
		FLEXIBLE DUCT CONNECTOR
	FLEX	FLEXIBLE DUCT
	SD	SPLITTER DAMPER
TV	T.V.'S	TURNING VANES
	S.A.	SUPPLY AIR DUCT DOWN
	S.A.	SUPPLY AIR DUCT UP
	R.A.	RETURN AIR DUCT DOWN
	R.A.	RETURN AIR DUCT UP
	E.A.	EXHAUST AIR DUCT DOWN
	E.A.	EXHAUST AIR DUCT UP
	S.A.D.	SUPPLY AIR DIFFUSER WITH FLEX CONNECTION
	R.A.G.	RETURN AIR GRILLE OPEN TO CEILING SPACE
	S.A.D.	ROUND SUPPLY AIR DIFFUSER WITH RIGID CONNECTION
	R.A.G.	RETURN AIR GRILLE WITH RIGID DUCT CONNECTION
M	M.D.	MOTORIZED DAMPER
O.B.D.	O.B.D.	OPPOSED BLADE DAMPER
HHWS	HHWS	HEATING HOT WATER SUPPLY PIPING
HHWR	HHWR	HEATING HOT WATER RETURN PIPING
CHWS	CHWS	CHILLED WATER SUPPLY PIPING
CHWR	CHWR	CHILLED WATER RETURN PIPING
HPWS	HPWS	HEAT PUMP WATER SUPPLY PIPING
HPWR	HPWR	HEAT PUMP WATER RETURN PIPING
CWS	CWS	CONDENSER WATER SUPPLY PIPING
CWR	CWR	CONDENSER WATER RETURN PIPING
IWS	IWS	ICE WATER SUPPLY PIPING
IWR	IWR	ICE WATER RETURN PIPING
HPR	HPR	HIGH PRESSURE CONDENSATE RETURN
HPS	HPS	HIGH PRESSURE STEAM SUPPLY
LPR	LPR	LOW PRESSURE CONDENSATE RETURN
LPS	LPS	LOW PRESSURE STEAM SUPPLY
MPR	MPR	MEDIUM PRESSURE CONDENSATE RETURN
MPS	MPS	MEDIUM PRESSURE STEAM SUPPLY
RD	RD	REFRIGERANT DISCHARGE PIPING
RL	RL	REFRIGERANT LIQUID PIPING
RS	RS	REFRIGERANT SUCTION PIPING
RF	RF	REFRIGERANT FILTER
RS	RS	REFRIGERANT STRAINER
RFD	RFD	REFRIGERANT FILTER AND DRIER
RD	RD	REFRIGERANT DRIER
RI	RI	REFRIGERANT VIBRATION ISOLATOR
ROS	ROS	REFRIGERANT OIL SEPARATOR
G.V.	G.V.	GATE VALVE
GLV	GLV	GLOBE VALVE
ANV	ANV	ANGLE VALVE
B.L.V	B.L.V	BALL VALVE
B.F.V.	B.F.V.	BUTTERFLY VALVE
C.H.V.	C.H.V.	CHECK VALVE
TDV	TDV	TRIPLE DUTY VALVE
B.V.	B.V.	BALANCING VALVE
H.V.	H.V.	3/4" HOSE END DRAIN VALVE
S.O.V.	S.O.V.	SHUT-OFF VALVE IN RISER
C.C.	C.C.	CIRCUIT SETTER BALANCE VALVE
B.P.	B.P.	BACKFLOW PREVENTOR
R.P.B.P.	R.P.B.P.	REDUCED PRESSURE BACKFLOW PREVENTOR
S	S.V.	SOLENOID VALVE
FS	F.S.	FLOW SWITCH
P	P.S.	PRESSURE SWITCH
P.R.V.	P.R.V.	PRESSURE REDUCING VALVE
S.T.R.	S.T.R.	STRAINER
S.T.R.	S.T.R.	STRAINER WITH 3/4" HOSE END DRAIN VALVE
P.T.R.	P.T.R.	PRESSURE - TEMPERATURE RELIEF VALVE
RV	RV	PRESSURE RELIEF VALVE
2VAL	2VAL	2-WAY CONTROL VALVE
3VAL	3VAL	3-WAY CONTROL VALVE
U	U	UNION
F	F	FLANGE
FL	FL	FLEXIBLE PIPING CONNECTOR
CR	CR	CONCENTRIC REDUCER
ER	ER	ECCENTRIC REDUCER
P.R.G.	P.R.G.	PRESSURE GAUGE WITH GAUGE COCK
TH.	TH.	THERMOMETER
A.A.V.	A.A.V.	AUTOMATIC AIR VENT
M.A.V.	M.A.V.	MANUAL AIR VENT
V.B.	V.B.	VACUUM BREAKER
P.A.	P.A.	PIPE ANCHOR
P.G.	P.G.	PIPE ALIGNMENT GUIDE
E.J.	E.J.	PIPE EXPANSION JOINT
P.D.	P.D.	PIPING TEE DOWN
P.U.	P.U.	PIPING TEE UP
P.U.	P.U.	PIPING ELBOW UP
P.D.	P.D.	PIPING ELBOW DOWN
		BRANCH - TOP CONNECTION
		BRANCH - BOTTOM CONNECTION
		BRANCH - SIDE CONNECTION
P.T.	P.T.	PLUGGED TEE
T	P.T.T.	PRESSURE & TEMPERATURE TAP
C.O.P.	C.O.P.	CAP ON END OF PIPE
F.L.X.	F.L.X.	FLEXIBLE COUPLING
OR		ARROW INDICATES DIRECTION OF FLOW
L.W.C.O.	L.W.C.O.	LOW WATER CUT-OFF
P.O.C.	P.O.C.	POINT OF CONNECTION - NEW ITEMS TO EXISTING ITEMS
A.P.	A.P.	ACCESS PANEL
R.M.	R.M.	DUCTWORK / PIPING / EQUIPMENT TO BE REMOVED
(E)		EXISTING DUCTWORK / PIPING / EQUIPMENT TO REMAIN
EQ		MECHANICAL EQUIPMENT INDICATED (SEE SCHEDULE)
1		DIFFUSER OR GRILLE INDICATED (SEE SCHEDULE)
T	T.	THERMOSTAT
H	H.	HUMIDISTAT
T2	T.2	THERMOSTAT WITH ZONE INDICATED
P	P.T.M.	PONTENTIOMETER
S	S.E.N.	SENSOR
SD	S.DET.	SMOKE DETECTOR
	T.C.P.	TEMPERATURE CONTROL PANEL
	AFF	ABOVE FINISHED FLOOR
	AFG	ABOVE FINISHED GRADE
	BDD	BACKDRAFT DAMPER
	BHP	BRAKE HORSEPOWER
	B.J.	BETWEEN JOISTS
	B.O.D.	BOTTOM OF DUCT
	B.O.G. (L.)	BOTTOM OF GRILLE (LOUVER)
	B.O.R.	BOTTOM OF REGISTER
	BTUH	BRITISH THERMAL UNITS PER HOUR
	CFH	CUBIC FEET PER HOUR
	CFM	CUBIC FEET PER MINUTE
	CLG	CEILING
	DB	DRY BULB TEMPERATURE
	DL	DOOR LOUVER
	DN	DOWN
	(E)	EXISTING
	EAT	ENTERING AIR TEMPERATURE
	EDB	ENTERING DRY BULB
	ESP	EXTERNAL STATIC PRESSURE
	EWT	ENTERING WATER TEMPERATURE
	°F	DEGREES FARENHEIT
	F.A.	FROM ABOVE
	F.B.	FROM BELOW
	FT.	FEET
	GA	GAUGE
	GAL	GALLON
	GPH	GALLONS PER HOUR
	GPM	GALLONS PER MINUTE
	HD	HEAD
	HP	HORSEPOWER
	HR	HOUR
	KW	KILOWATTS
	LAT	LEAVING AIR TEMPERATURE
	LWT	LEAVING WATER TEMPERATURE
	MAX	MAXIMUM
	MBH	BRITISH THERMAL UNITS PER HOUR (THOUSANDS)
	MIN	MINIMUM
	MUA	MAKE-UP AIR
	(N)	NEW
	NC	NORMALLY CLOSED
	NO	NORMALLY OPEN
	NOM	NOMINAL
	OA	OUTSIDE AIR
	OC	ON CENTER
	OSA	OUTSIDE AIR
	PD	PRESSURE DROP
	RAG	RETURN AIR GRILLE
	RH	RELATIVE HUMIDITY
	RPM	REVOLUTION PER MINUTE
	SAD	SUPPLY AIR DIFFUSER
	S.E.E.R.	SEASONAL ENERGY EFFICIENCY RATIO
	SF	SQUARE FEET
	S.M.	SHEET METAL
	SP	STATIC PRESSURE
	ST	MANUAL TIMER SWITCH
	STD	STANDARD
	T	TEMPERATURE
	T.A.	TO ABOVE
	TAG	TRANSFER AIR GRILLE
	T.B.	TO BELOW
	T.J.	THROUGH JOISTS
	T.O.D.	TOP OF DUCT
	T.O.G.(L.)	TOP OF GRILLE (LOUVER)
	T.O.R.	TOP OF REGISTER
	TYP	TYPICAL
	U.C.	UNDERCUT DOOR
	U.F.	UNDER FLOOR
	WB	WET BULB TEMPERATURE
	WC	WATER COLUMN
	WG	WATER GAUGE
	W.P.D.	WATER PRESSURE DROP

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA No. 16816 MATTHEW C. MYRES Exp. 12/31/19 MECHANICAL

3/26/2018

BID DOCUMENTS

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19
MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE

MECHANICAL SYMBOL LIST

REVISIONS

DATE : MARCH 26, 2018

SHEET NUMBER : M0.1

RECEIVED-CITY OF SPARKS
MAR 26 2018
COMMUNITY SERVICES
BUILDING DIVISION

VAV BOX SCHEDULE

UNIT DESIGNATION	MAKE AND MODEL NUMBER	STANDARD FEATURES AND OPTIONAL ACCESSORIES	UNIT SIZE	CONTROL VALVE TYPE	MAX AIR FLOW (CFM) @ 1.0" W.G.	MIN AIR FLOW (CFM) @ 0.03" W.G.	REHEAT AIR VOLUME (CFM)	REHEAT COIL									CONTROLS	INLET STATIC (In wc)	DISCHARGE SOUND CRITERIA		RADIATED SOUND CRITERIA	
								CAPACITY (MBH)	EAT (°F)	LAT (°F)	WPD. (ft. wg)	COIL APD. (IN W.C.)	FLOW (GPM)	EWT (°F)	LWT (°F)	ROWS			SOUND PWR LVL. (OCTAVES 2-7)	NC	SOUND PWR LVL. (OCTAVES 2-7)	NC
VAV B1	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/I* TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	12	3-WAY	1,875	940	940	29.3	55	88	0.2	0.41	2	150	120	2	DIGITAL ELECTRONIC	1	66,59,56,53,49,46	16	53,48,44,37,33,29	18
VAV B2	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/I* TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	05	2-WAY	350	180	180	5.4	55	87	0.31	0.06	.75	150	135	1	DIGITAL ELECTRONIC	1	71,67,57,53,48,47	26	55,53,49,41,37,33	23
VAV B3	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/I* TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	16	2-WAY	2,640	1320	1320	43.9	55	90	0.33	0.29	2.25	150	110	2	DIGITAL ELECTRONIC	1	65,57,56,51,47,45	15	53,48,43,39,35,31	16
VAV B4	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/I* TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	12	2-WAY	1,800	1,800	950	51.3	55	85	0.72	0.57	2.5	150	108	3	DIGITAL ELECTRONIC	1	66,59,56,53,49,46	16	53,48,44,37,33,29	18
VAV B5	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/I* TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	10	2-WAY	1,440	720	720	23.9	55	90	0.46	0.45	1.5	150	117	2	DIGITAL ELECTRONIC	1	67,61,57,54,50,47	18	57,48,46,39,33,29	20
VAV B6	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/I* TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	10	2-WAY	1,050	530	530	16	55	87	0.08	0.27	1.25	150	124	2	DIGITAL ELECTRONIC	1	63,58,54,51,48,44	N/A	53,44,43,36,30,29	16
VAV B7	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/I* TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	10	2-WAY	1,400	700	700	21.2	55	87	0.06	0.63	1.5	150	121	3	DIGITAL ELECTRONIC	1	67,61,57,54,50,47	18	57,48,46,39,33,29	20
VAV B8	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/I* TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	08	2-WAY	1,000	500	500	15	55	87	0.23	0.46	1	150	119	2	DIGITAL ELECTRONIC	1	70,63,57,54,50,46	21	60,52,48,42,37,30	22
VAV B9	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/I* TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	08	2-WAY	700	350	350	11.3	55	89	0.15	0.26	0.75	150	119	2	DIGITAL ELECTRONIC	1	64,58,54,51,47,43	16	56,45,44,39,34,27	18
VAV G1	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/I* TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	08	2-WAY	780	390	390	11.8	55	87	0.15	0.31	0.75	150	118	2	DIGITAL ELECTRONIC	1	64,58,54,51,47,43	N/A	56,45,44,39,34,27	18
VAV G2	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/I* TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	14	3-WAY	2,560	1,280	1,280	46	55	93	2	0.37	2.5	150	112	2	DIGITAL ELECTRONIC	1	66,59,57,53,49,46	16	53,48,44,38,34,30	18
VAV G3	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/I* TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	14	2-WAY	2,640	1,320	1,320	46.8	55	92	2	0.39	2.5	150	111	2	DIGITAL ELECTRONIC	1	66,59,57,53,49,46	16	53,48,44,38,34,30	18
VAV G4	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/I* TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	14	2-WAY	2,850	1,430	1,430	49.8	55	92	2.38	0.44	2.75	150	113	2	DIGITAL ELECTRONIC	1	68,60,59,54,50,47	19	55,50,46,40,35,31	20
VAV G5	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/I* TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	06	2-WAY	460	230	230	7	55	88	0.08	0.18	0.5	150	121	2	DIGITAL ELECTRONIC	1	65,60,55,51,45,43	18	55,50,46,39,33,29	20

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19

MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE
MECHANICAL SCHEDULES

REVISIONS

DATE : MARCH 26, 2018

SHEET NUMBER : M0.2

RECEIVED-CITY OF SPARKS
MAR 28 2018
COMMUNITY SERVICES
BUILDING DIVISION

REGISTERED PROFESSIONAL ENGINEER - STATE OF NEVADA - No. 17687
MATTHEW C. MYRES
Exp. 12/31/19
MECHANICAL

3/26/2018

BID DOCUMENTS

VAV BOX SCHEDULE

UNIT DESIGNATION	MAKE AND MODEL NUMBER	STANDARD FEATURES AND OPTIONAL ACCESSORIES	UNIT SIZE	CONTROL VALVE TYPE	MAX AIR FLOW (CFM) @ 1.0" W.G.	MIN AIR FLOW (CFM) @ 0.03" W.G.	REHEAT AIR VOLUME (CFM)	REHEAT COIL									CONTROLS	INLET STATIC (in wc)	DISCHARGE SOUND CRITERIA		RADIATED SOUND CRITERIA	
								CAPACITY (MBH)	EAT (°F)	LAT (°F)	WPD. (ft. wg)	COIL APD. (IN W.C.)	FLOW (GPM)	EWT (°F)	LWT (°F)	ROWS			SOUND PWR LVL. (OCTAVES 2-7)	NC	SOUND PWR LVL. (OCTAVES 2-7)	NC
VAV G6	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/1Φ TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	12	2-WAY	2,200	1,100	1,100	40.4	55	88.5	1.51	0.53	2.5	150	117	2	DIGITAL ELECTRONIC	1	68,61,58,54,51,47	19	54,49,46,39,33,29	20
VAV G7	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/1Φ TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	10	2-WAY	1,500	750	750	25.5	55	91	0.61	0.48	1.75	150	120	2	DIGITAL ELECTRONIC	1	67,61,57,54,50,47	18	57,48,46,39,33,29	20
VAV G8	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/1Φ TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	12	2-WAY	1,835	920	920	31.4	55	91	0.78	0.4	1.75	150	113	2	DIGITAL ELECTRONIC	1	66,59,56,53,49,46	16	53,48,44,37,33,29	18
VAV G9	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/1Φ TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	10	2-WAY	1,450	730	730	24	55	90	0.46	0.45	1.5	150	117	2	DIGITAL ELECTRONIC	1	67,61,57,54,50,47	18	57,48,46,39,33,29	20
VAV G10	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/1Φ TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	10	2-WAY	1,165	580	580	20.4	55	92	0.4	0.32	1.25	150	117	2	DIGITAL ELECTRONIC	1	64,58,55,52,48,45	N/A	54,45,44,37,31,29	18
VAV G11	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/1Φ TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	10	2-WAY	1,270	640	640	21.3	55	90	0.4	0.37	1.25	150	115	2	DIGITAL ELECTRONIC	1	65,59,55,53,49,45	15	55,46,45,37,32,29	19
VAV S1	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/1Φ TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	12	3-WAY	1,800	900	900	31.4	55	91	0.78	0.39	1.75	150	113	2	DIGITAL ELECTRONIC	1	66,59,56,53,49,46	16	53,48,44,37,33,29	18
VAV S2	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/1Φ TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	08	2-WAY	700	350	350	11.3	55	89	0.15	0.26	0.75	150	119	2	DIGITAL ELECTRONIC	1	64,58,54,51,47,43	16	56,45,44,39,34,27	18
VAV S3	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/1Φ TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	8	2-WAY	715	375	375	11.7	55	88	0.15	0.3	0.75	150	119	2	DIGITAL ELECTRONIC	1	56,45,44,39,34,27	16	64,58,54,51,47,43	18
VAV S4	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/1Φ TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	14	2-WAY	2,950	1,480	1,480	51.9	55	92	2.8	0.47	3	150	114	2	DIGITAL ELECTRONIC	1	68,60,59,54,50,47	19	55,55,46,40,35,31	20
VAV S5	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/1Φ TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	10	2-WAY	1,550	780	780	24.8	55	88.7	0.46	0.5	1.5	150	116	2	DIGITAL ELECTRONIC	1	67,61,57,54,50,47	18	57,48,46,39,33,29	20
VAV S6	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/1Φ TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	12	2-WAY	2,225	1,110	1,110	35.5	55	89	1	0.54	2	150	114	2	DIGITAL ELECTRONIC	1	68,61,58,54,51,47	19	54,49,46,39,33,29	20
VAV S7	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/1Φ TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	06	2-WAY	500	250	250	8.1	55	89.5	0.1	0.2	0.6	150	122	2	DIGITAL ELECTRONIC	1	66,62,55,52,46,44	20	57,52,48,41,35,29	22
VAV S8	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/1Φ TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	10	2-WAY	1,525	760	760	24.5	55	89.2	0.46	0.49	1.5	150	117	2	DIGITAL ELECTRONIC	1	67,61,57,54,50,47	18	57,48,46,39,33,29	20

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19
MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE
MECHANICAL SCHEDULES (2)

REVISIONS

DATE : MARCH 26, 2018
SHEET NUMBER : M0.3

RECEIVED-CITY OF SPARKS
MAR 28 2018
COMMUNITY SERVICES
BUILDING DIVISION

REGISTERED PROFESSIONAL ENGINEER - STATE OF NEVADA
MATTHEW C. MYRES
Exp. 12/31/19
MECHANICAL
No. 16816

3/26/2018

BID DOCUMENTS

DIFFUSER and REGISTER SCHEDULE

SYM	DESCRIPTION	MANUFACTURER and MODEL NUMBER	NECK SIZE	OBD	FINISH and MATERIAL	REMARKS
ES	EXISTING CEILING MOUNTED SUPPLY DIFFUSER	N/A	VARIES	N/A	VARIES	SEE PLANS FOR REBALANCE CFM
ER	EXISTING CEILING / WALL MOUNTED RETURN GRILLE	N/A	VARIES	N/A	VARIES	N/A
EE	EXISTING CEILING EXHAUST GRILLE	N/A	VARIES	N/A	VARIES	N/A
1	CEILING MOUNTED DIFFUSER, ROUND NECK, HIGH PERFORMANCE, 4 WAY THROW	PRICE ASPD SERIES	SEE PLANS	NO	WHITE ALUMINUM	24"X24" MODULE, COORDINATE FRAME TYPE WITH THE EXISTING CEILING CONDITIONS
2	CEILING SURFACE MOUNTED DIFFUSER, ROUND NECK, HIGH PERFORMANCE, 4 WAY THROW	PRICE SPD-31 SERIES	SEE PLANS	NO	WHITE ALUMINUM	12"X12" MODULE, SURFACE MOUNTED FRAME TYPE
3	WALL MOUNTED SUPPLY GRILLE	PRICE 620DAL SERIES	SEE PLANS	NO	WHITE ALUMINUM	DOUBLE DEFLECTION LOUVER WITH ALUMINUM DAMPER
4	2 REMOVED EXHAUST GRILLE FROM SCHEDULE					
5	DUCT MOUNTED PERFORATED RETURN GRILLE	PRICE 9DGER SERIES	18" X 10"	NO	WHITE ALUMINUM	

GENERAL MECHANICAL NOTES

1. DUE TO THE SMALL SCALE OF THE DRAWINGS, IT IS IMPOSSIBLE TO SHOW ALL REQUIRED OFFSETS, ELEVATIONS, ETC., IT IS THEREFORE THE CONTRACTORS RESPONSIBILITY TO VERIFY THE REQUIRED, ROUTING, ELEVATION, AND PLACEMENT OF EQUIPMENT AND PROVIDE REQUIRED OFFSETS INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS AND THE SPECIFICATIONS TO MEET THE INTENT OF THE DESIGN.

2. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE CUTTING, SAWCUTTING OPENINGS OF WALLS, CEILINGS, SOFFITS AS REQUIRED FOR THE INSTALLATION OF EQUIPMENT AND DUCTWORK AS REQUIRED.

3. ALL DUCTWORK IN CONCEALED AREAS SHALL HAVE 1½" FIBERGLASS BLANKET INSULATION w/ ALL-SERVICE JACKET MANUFACTURED FROM KRAFT PAPER, REINFORCING SCRIM, ALUMINUM FOIL, AND VINYL FILM. INSULATION SHALL HAVE A MOLD, HUMIDITY, AND EROSION RESISTANT SURFACE THAT COMPLIES w/ THE CURRENT MECHANICAL CODE AND ASTM C553, TYPE II. INSULATION APPLIED TO THE EXTERIOR OF ANY DUCTS SHALL HAVE A FLAME SPREAD RATING THAT IS IN ACCORDANCE WITH NFPA 255, ASTM E84 OR UL 723, THE MATERIALS USED SHALL HAVE A FLAME-SPREAD RATING OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED RATING OF NOT MORE THAN 50.

4. ALL FACTORY PRODUCED AIR DUCT SHALL BE RATED FOR THE LISTED PRESSURES AND IN ACCORDANCE WITH THE ADOPTED MECHANICAL CODE. ALL DUCTWORK CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS AND REQUIREMENTS OF THE DUCT MANUAL AND SHEET METAL CONSTRUCTION FOR VENTILATING-AIR CONDITIONING SYSTEMS, LATEST EDITION, AS ISSUED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION, INC. (SMACNA). LOW PRESSURE ROUND DUCTS SHALL BE UNITED SHEET METAL SPIRAL UNIRIB DUCT WITH UNITED UNILWELD FITTINGS. MATERIALS SHALL BE GALVANIZED STEEL OF GAUGES SHOWN IN THE LOW PRESSURE MANUAL UNLESS SPECIFICALLY NOTED OTHERWISE ON PLANS.

5. THE CONTRACTOR SHALL KEEP INSTALLATION INSTRUCTIONS FOR ALL LISTED EQUIPMENT ON THIS PROJECT AT THE JOBSITE AND SHALL HAVE THEM ACCESSIBLE FOR THE FIELD INSPECTOR UPON REQUEST.

6. INTERIOR CONDENSER WATER PIPING SHALL BE INSULATED WITH FIBERGLASS PIPE INSULATION WITH ALL SERVICE JACKET. 1" THICK ON PIPES SIZES UP TO AND INCLUDING 1¼". 1½" THICK ON PIPE SIZES OVER 1½". JACKET SHALL HAVE A SELF SEALING LAP AND A FLAME SPREAD RATING OF 25 OR LESS AND A SMOKE DEVELOPED RATING OF 50 OR LESS. INSULATE FITTINGS WITH PVC PRE-MOLDED INSULATED COVERS USING VAPOR BARRIER MASTIC AND TAPE. INSULATE ENTIRE SYSTEM INCLUDING VALVES, FLANGES, UNIONS, STRAINERS, FLEXIBLE CONNECTIONS, AND EXPANSION JOINTS.

7. INTERIOR HOT WATER PIPING SHALL BE INSULATED WITH FIBERGLASS PIPE INSULATION WITH ALL SERVICE JACKET. 1½" THICK ON PIPES SIZES UP TO AND INCLUDING 1¼". 2" THICK ON PIPE SIZES OVER 1¼". JACKET SHALL HAVE A SELF SEALING LAP AND A FLAME SPREAD RATING OF 25 OR LESS AND A SMOKE DEVELOPED RATING OF 50 OR LESS. INSULATE FITTINGS WITH PVC PRE-MOLDED INSULATED COVERS USING VAPOR BARRIER MASTIC AND TAPE. INSULATE FLANGES AND UNIONS.

8. EXTERIOR HYDRONIC PIPING SHALL BE INSULATED WITH 1½" THICK POLYISOCYANURATE FOAM PIPE INSULATION WITH ALUMINUM JACKET. 1

9. CONTRACTOR TO REMOVE AND REPLACE SHEETROCK IN DESIGNATED LOCATIONS WHERE NECESSARY FOR VAV UNIT REPLACEMENTS PER CODE. 3

VAV BOX SCHEDULE

UNIT DESIGNATION	MAKE AND MODEL NUMBER	STANDARD FEATURES AND OPTIONAL ACCESSORIES	UNIT SIZE	CONTROL VALVE TYPE	MAX AIR FLOW (CFM) @ 1.0" W.G.	MIN AIR FLOW (CFM) @ 0.03" W.G.	REHEAT AIR VOLUME (CFM)	REHEAT COIL									CONTROLS	INLET STATIC (in wc)	DISCHARGE SOUND CRITERIA		RADIATED SOUND CRITERIA	
								CAPACITY (MBH)	EAT (°F)	LAT (°F)	WPD. (ft. wg)	COIL APD. (IN W.C.)	FLOW (GPM)	EWT (°F)	LWT (°F)	ROWS			SOUND PWR LVL. (OCTAVES 2-7)	NC	SOUND PWR LVL. (OCTAVES 2-7)	NC
VAV 99	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/1Φ TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	08	2-WAY	1,000	500	500	15	55	87	0.23	0.46	1	150	119	2	DIGITAL ELECTRONIC	1	70,63,57,54,50,46	21	60,52,48,42,37,30	22
VAV 510	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/1Φ TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	10	2-WAY	1,410	710	710	23.8	55	90	0.46	0.43	1.5	150	117	2	DIGITAL ELECTRONIC	1	67,61,57,54,50,47	18	57,48,46,39,33,29	20
VAV 511	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/1Φ TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	12	2-WAY	2,125	1,050	1,050	30.7	55	86	0.2	0.5	2	150	119	2	DIGITAL ELECTRONIC	1	66,59,57,53,49,46	16	53,48,44,38,34,30	18
VAV 512	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/1Φ TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	10	2-WAY	1,180	590	590	20.6	55	92	0.4	0.33	1.25	150	116	2	DIGITAL ELECTRONIC	1	64,58,55,52,48,45	N/A	54,45,44,37,31,29	18
VAV 513	ENVIRO-TEC SDR	MULTI-POINT AVERAGING VELOCITY SENSOR, 1/2" THICK FIBERGLASS INSULATION, 22 GAUGE UNIT CASING, NEMA 1 WIRING ENCLOSURE, UL 2TTV/1Φ TRANSFORMER, HOT WATER REHEAT COIL, MODULATING CONTROL VALVE PACKAGE INCLUDING ISOLATION BALL VALVES, UNIONS, AND P/T PORTS	08	2-WAY	625	300	300	9.5	55	89	0.04	0.21	1	150	131	2	DIGITAL ELECTRONIC	1	54,44,43,38,33,26	15	62,57,52,50,46,42	16

2 REMOVED EXHAUST FAN SCHEDULE

FLUID COOLER SCHEDULE 2

SYM	DESCRIPTION	MAKE & MODEL NO.	CAPACITY	FLOW (GPM)	HP / KW	ELEC.	DRY WT.
FC 12	AIR COOLED, DIRECT DRIVE DRYCOOLER, 30% PROPYLENE GLYCOL SOLUTION	LIEBERT MODEL® DD00139	VERIFIED BY MANUFACTURER TO BE COMPATIBLE WITH (E) LIEBERT (AC-1) AND (E) LIEBERT (AC-2) SERVER ROOM UNITS	(E) AC-1: 9.9 (E) AC-2: 20.8	(2) ¾ HP PUMPS	460V/3Φ, 1.6 FLA	500 LBS
FC 3	AIR COOLED, DIRECT DRIVE DRYCOOLER, 30% PROPYLENE GLYCOL SOLUTION	LIEBERT MODEL® DD00114	VERIFIED BY MANUFACTURER TO BE COMPATIBLE WITH LIEBERT (AC-3) SERVER ROOM UNITS	AC-3: 13.0	(2) ¾ HP PUMPS	460V/3Φ, 1.6 FLA	540 LBS

SERVER ROOM UNIT 2

SYM	DESCRIPTION	MAKE & MODEL NO.	CAPACITY	FLOW (GPM)	EWT (°F)	FLUID	ELEC.	WT.	OPTIONS	NOTES
AC 3	WATER COOLED COMPUTER ROOM COOLING SYSTEM	LIEBERT MODEL® CRD20RJW1ATV824	TOTAL: 65,200 BTUH SENSIBLE: 64,900 BTUH	13.0 @ 24.0 W.P.D.	104.4	30% PROPYLENE-GLYCOL	460V/3Φ, 32.2 FLA	772 LBS	DUAL-FLOAT CONDENSATE PUMP, HUMIDIFIER, ELECTRIC REHEAT	DRAIN CONDENSATE TO (E) FLOOR DRAIN LOCATED BELOW RAISED FLOOR IN COMPUTER EQUIPMENT-124

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19

MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE
MECHANICAL SCHEDULES (3

REVISIONS
1 PLAN REVIEW COMMENTS (04/09/18)
2 OWNER REVISIONS (10/31/18)
3 OWNER REVISIONS (06/04/19)

DATE : MARCH 26, 2018
CITY OF SPARKS COMMUNITY SERVICES-BLDG. DIV.
JUN 07 2019
SHEET NUMBER : M0.4
REVISED

BID DOCUMENTS

PROFESSIONAL ENGINEER STATE OF NEVADA
MATTHEW C. MYRES
Exp: 12/31/19
MECHANICAL
No. 16818

COMcheck Software Version 4.0.8.1
Mechanical Compliance Certificate

Project Information

Energy Code:	2012 IECC
Project Title:	Spark Police Department HVAC Upgrade - Phase 1
Location:	Sparks, Nevada
Climate Zone:	5b
Project Type:	Alteration

Construction Site:	Owner/Agent:	Designer/Contractor:
1701 East Prater Way Sparks, NV 89434	Jon A. Ericson, P.E., P.T.O.E. Cit of Sparks 431 Prater Way Sparks, NV 89431	Matt Myres, P.E. MMI Engineering 385 Gentry Way Reno, NV 89502 (775) 499-5784 matt@mmie-designer.com

Mechanical Systems List

Quantity	System Type & Description
1	VAV-B1 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 29 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-B2 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 5 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-B3 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 43 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-B4 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 51 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-B5 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 23 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-B6 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 16 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-B7 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 21 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-B8 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 15 kBtu/h

Quantity	System Type & Description
	No minimum efficiency requirement applies Fan System: None
1	VAV-B9 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 11 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-G1 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 11 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-G2 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 46 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-G3 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 46 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-G4 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 49 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-G5 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 7 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-G6 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 40 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-G7 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 25 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-G8 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 31 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-G9 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 24 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-G10 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 20 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-G11 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 21 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-S1 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 31 kBtu/h No minimum efficiency requirement applies

Quantity	System Type & Description
	Fan System: None
1	VAV-S2 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 11 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-S3 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 11 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-S4 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 51 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-S5 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 24 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-S6 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 35 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-S7 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 8 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-S8 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 24 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-S9 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 15 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-S10 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 23 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-S11 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 30 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-S12 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 20 kBtu/h No minimum efficiency requirement applies Fan System: None
1	VAV-S13 (Single Zone): Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 9 kBtu/h No minimum efficiency requirement applies Fan System: None
1	FC-1 (Single Zone): Cooling: 1 each - Other, Capacity = 260 kBtu/h, Air-Cooled Condenser, Air Economizer No minimum efficiency requirement applies Fan System: None

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2012 IECC requirements in COMcheck Version 4.0.8.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

MATTHEW C. MYRES P.E. (signature) 3/27/18

Name - Title Signature Date

COMcheck Software Version 4.0.8.1
Inspection Checklist

Energy Code: 2012 IECC

Requirements: 0.0% were addressed directly in the COM*check* software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR2][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C403.2.4.5 [FO9][3]	Freeze protection and snow/ice melting system sensors for future connection to controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.2.3 [ME55][2]	HVAC equipment efficiency verified.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Mechanical Systems list for values.*
C403.2.5.1 [ME59][1]	Demand control ventilation provided for spaces >500 sq.ft. and >25 people/1000 sq.ft. occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7 [ME60][2]	HVAC ducts and plenums insulated. Where ducts or plenums are installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA
MATTHEW C. MYRES
Exp. 12/31/19
MECHANICAL
No. 16816

3/26/2018

BID DOCUMENTS

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19

MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE

MECHANICAL COMPLIANCE CERTIFICATE

REVISIONS

DATE : MARCH 26, 2018

SHEET NUMBER : M0.5

Section # & Req.ID	Mechanical Rough-in Inspection	Complies?	Comments/Assumptions
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME61][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8.1 [ME7][3]	Piping Insulation exposed to weather is protected from damage (due to sun, moisture, wind, etc.).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME41][3]	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) | 2 Medium Impact (Tier 2) | 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-in Inspection	Complies?	Comments/Assumptions
C403.2.7 [ME10][2]	Ducts and plenums sealed based on static pressure and location.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) | 2 Medium Impact (Tier 2) | 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-in Inspection	Complies?	Comments/Assumptions
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) | 2 Medium Impact (Tier 2) | 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-in Inspection	Complies?	Comments/Assumptions
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.3.1, C403.3.1.1 [ME62][3]	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) | 2 Medium Impact (Tier 2) | 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-in Inspection	Complies?	Comments/Assumptions
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) | 2 Medium Impact (Tier 2) | 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-in Inspection	Complies?	Comments/Assumptions
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) | 2 Medium Impact (Tier 2) | 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-in Inspection	Complies?	Comments/Assumptions
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.3.1 [ME50][2]	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.2.1 [ME53][3]	Air outlets and zone terminal devices have means for air balancing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.2.2 [ME54][3]	HVAC hydronic heating and cooling coils have means to balance and have pressure test connections.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.2.2 [ME54][3]	HVAC hydronic heating and cooling coils have means to balance and have pressure test connections.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.2.2 [ME54][3]	HVAC hydronic heating and cooling coils have means to balance and have pressure test connections.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.2.2 [ME54][3]	HVAC hydronic heating and cooling coils have means to balance and have pressure test connections.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.2.2 [ME54][3]	HVAC hydronic heating and cooling coils have means to balance and have pressure test connections.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.2.2 [ME54][3]	HVAC hydronic heating and cooling coils have means to balance and have pressure test connections.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.2.2 [ME54][3]	HVAC hydronic heating and cooling coils have means to balance and have pressure test connections.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) | 2 Medium Impact (Tier 2) | 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-in Inspection	Complies?	Comments/Assumptions
C408.2.2.2 [ME54][3]	HVAC hydronic heating and cooling coils have means to balance and have pressure test connections.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.2.2 [ME54][3]	HVAC hydronic heating and cooling coils have means to balance and have pressure test connections.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.2.2 [ME54][3]	HVAC hydronic heating and cooling coils have means to balance and have pressure test connections.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.2.2 [ME54][3]	HVAC hydronic heating and cooling coils have means to balance and have pressure test connections.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.2.2 [ME54][3]	HVAC hydronic heating and cooling coils have means to balance and have pressure test connections.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.2.2 [ME54][3]	HVAC hydronic heating and cooling coils have means to balance and have pressure test connections.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.2.2 [ME54][3]	HVAC hydronic heating and cooling coils have means to balance and have pressure test connections.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
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385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19

MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE
MECHANICAL COMPLIANCE CERTIFICATE (2)

REVISIONS

MATTHEW C. MYRES
Exp. 12/31/19
MECHANICAL
No. 16816
REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA

3/26/2018

BID DOCUMENTS

DATE : MARCH 26, 2018

RECEIVED-CITY OF SPARKS
MAR 28 2018
COMMUNITY SERVICES BUILDING DIVISION

SHEET NUMBER : M0.6

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
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C403.4.2 [ME66][2]	VAV fan motors >=7.5 hp to be driven by variable speed drive, have a vane-axial fan with variable pitch blades, or have controls to limit fan motor demand.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
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C403.4.3.5 [ME26][3]	Reduce flow in pumping systems >10 hp to multiple chillers or boilers when others are shut down.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
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C403.2.6 [ME57][1]	Exhaust air energy recovery on systems meeting Table C403.2.6	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.6 [ME31][3]	Condenser heat recovery system that can heat water to 85 ºF or provide 60% of peak heat rejection is installed for preheating of service hot water.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.6 [ME31][3]	Condenser heat recovery system that can heat water to 85 ºF or provide 60% of peak heat rejection is installed for preheating of service hot water.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
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SHEET TITLE

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3/26/2018

DATE : MARCH 26, 2018

SHEET NUMBER : M0.7

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.4.6 [ME31][3]	Condenser heat recovery system that can heat water to 85 ºF or provide 60% of peak heat rejection is installed for preheating of service hot water.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.6 [ME31][3]	Condenser heat recovery system that can heat water to 85 ºF or provide 60% of peak heat rejection is installed for preheating of service hot water.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.6 [ME31][3]	Condenser heat recovery system that can heat water to 85 ºF or provide 60% of peak heat rejection is installed for preheating of service hot water.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.6 [ME31][3]	Condenser heat recovery system that can heat water to 85 ºF or provide 60% of peak heat rejection is installed for preheating of service hot water.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.6 [ME31][3]	Condenser heat recovery system that can heat water to 85 ºF or provide 60% of peak heat rejection is installed for preheating of service hot water.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.6 [ME31][3]	Condenser heat recovery system that can heat water to 85 ºF or provide 60% of peak heat rejection is installed for preheating of service hot water.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.6 [ME31][3]	Condenser heat recovery system that can heat water to 85 ºF or provide 60% of peak heat rejection is installed for preheating of service hot water.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.6 [ME31][3]	Condenser heat recovery system that can heat water to 85 ºF or provide 60% of peak heat rejection is installed for preheating of service hot water.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.6 [ME31][3]	Condenser heat recovery system that can heat water to 85 ºF or provide 60% of peak heat rejection is installed for preheating of service hot water.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.6 [ME31][3]	Condenser heat recovery system that can heat water to 85 ºF or provide 60% of peak heat rejection is installed for preheating of service hot water.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.6 [ME31][3]	Condenser heat recovery system that can heat water to 85 ºF or provide 60% of peak heat rejection is installed for preheating of service hot water.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.6 [ME31][3]	Condenser heat recovery system that can heat water to 85 ºF or provide 60% of peak heat rejection is installed for preheating of service hot water.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.6 [ME31][3]	Condenser heat recovery system that can heat water to 85 ºF or provide 60% of peak heat rejection is installed for preheating of service hot water.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) | 2 Medium Impact (Tier 2) | 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.2.11 [ME71][3]	Unenclosed spaces that are heated use only radiant heat.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) | 2 Medium Impact (Tier 2) | 3 Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) | 2 Medium Impact (Tier 2) | 3 Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
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1 High Impact (Tier 1) | 2 Medium Impact (Tier 2) | 3 Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
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C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
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1 High Impact (Tier 1) | 2 Medium Impact (Tier 2) | 3 Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.2 [FI38][3]	Thermostatic controls have a 5 °F deadband.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.2 [FI20][3]	Temperature controls have setpoint overlap restrictions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.3 [FI39][3]	Each zone equipped with setback controls using automatic time clock or programmable control system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.4.3 [FI40][3]	Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.5.1 [FI7][3]	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.3, C408.2.5.3 [FI8][3]	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.5.3 [FI43][1]	An air and/or hydronic system balancing report is provided for HVAC systems.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.3.2 [FI10][1]	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) | 2 Medium Impact (Tier 2) | 3 Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C403.2.2 [FI27][3]	HVAC systems and equipment capacity does not exceed calculated loads.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.1 [FI28][1]	Commissioning plan developed by registered design professional or approved agency.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.4 [FI29][1]	Preliminary commissioning report completed and certified by registered design professional or approved agency.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.5.4 [FI30][1]	Final commissioning report due to building owner within 90 days of receipt of certificate of occupancy.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.3.1 [FI31][1]	HVAC equipment has been tested to ensure proper operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.3.3 [FI32][1]	Economizers have been tested to ensure proper operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) | 2 Medium Impact (Tier 2) | 3 Low Impact (Tier 3)

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19

MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE

MECHANICAL COMPLIANCE CERTIFICATE (4)

REVISIONS

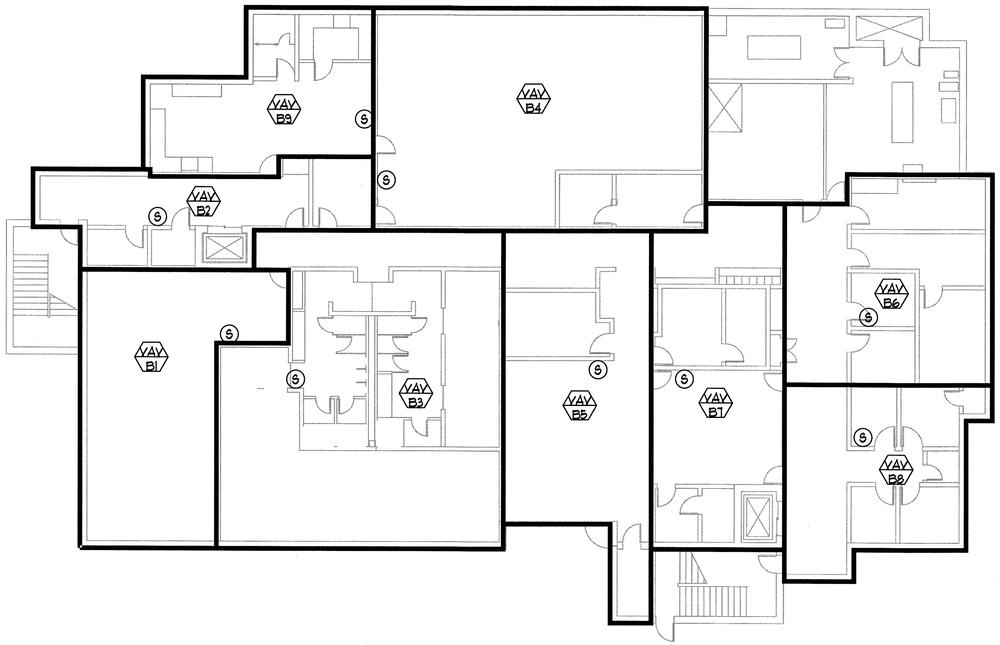
BID DOCUMENTS

MATTHEW C. MYRES
Exp. 12/31/19
MECHANICAL
No. 16816
REGISTERED PROFESSIONAL ENGINEER - STATE OF NEVADA

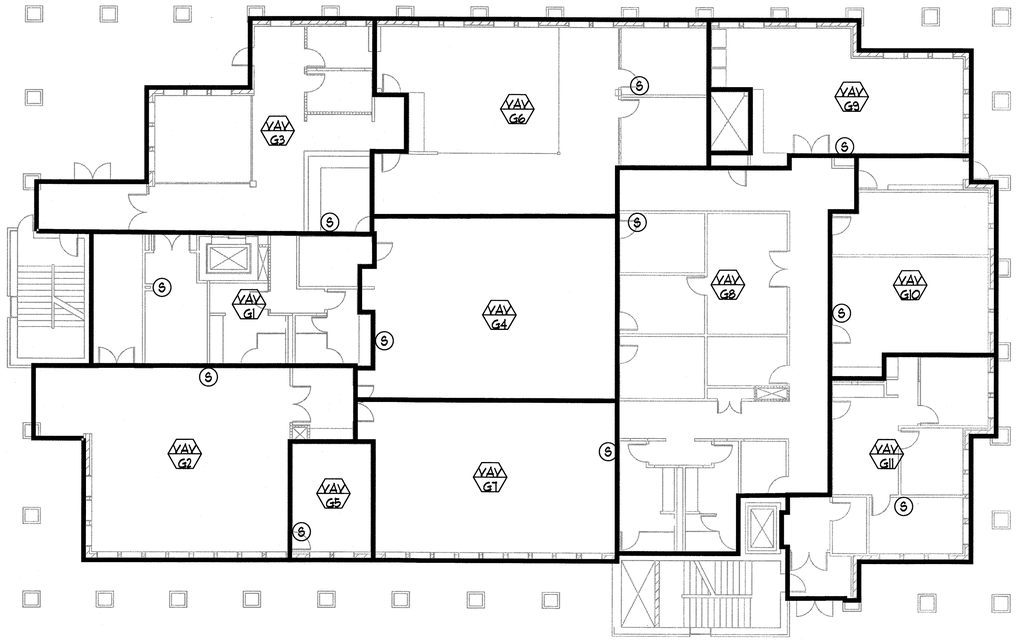
3/26/2018

DATE : MARCH 26, 2018

SHEET NUMBER : M0.8



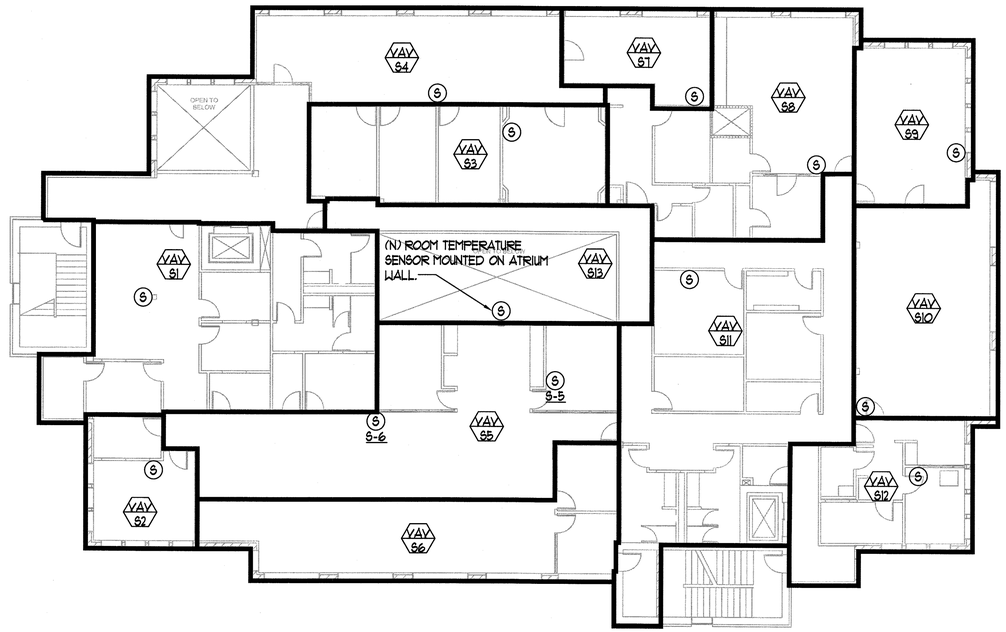
1 / M0.9 MECHANICAL ZONE PLAN - BASEMENT
SCALE: NONE



2 / M0.9 MECHANICAL ZONE PLAN - FIRST FLOOR
SCALE: NONE

GENERAL NOTE:

1. ALL (E) ROOM TEMPERATURE SENSORS ARE TO REMAIN AND ARE TO BE CONNECTED TO (N) VAV'S. SEE CONTROL DRAWINGS FOR MORE INFORMATION.



3 / M0.9 MECHANICAL ZONE PLAN - SECOND FLOOR
SCALE: NONE

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MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
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SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
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MECHANICAL ZONE PLAN

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DATE : MARCH 26, 2018

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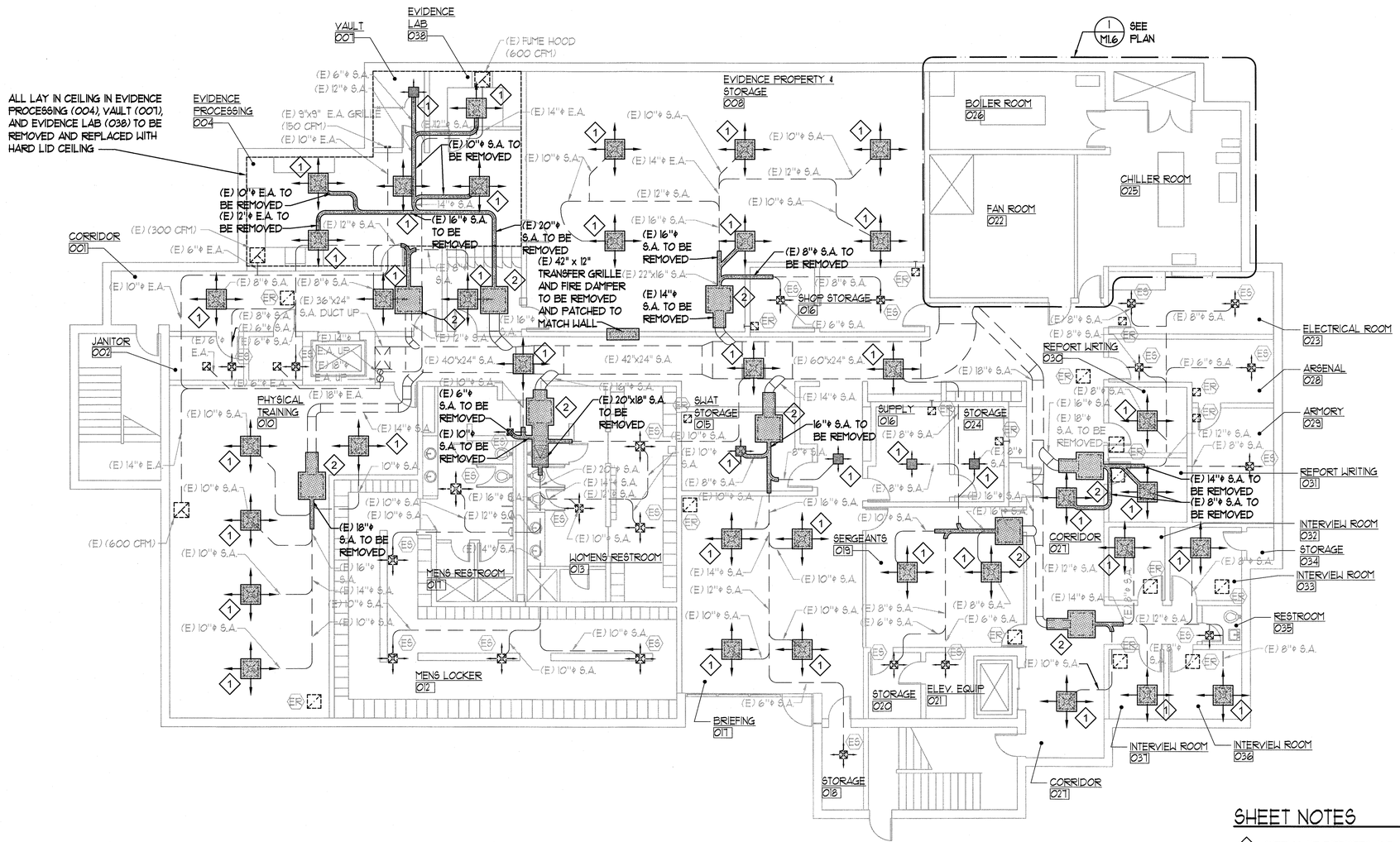
BUILDING DIVISION

SHEET NUMBER :
M0.9



1 M1.0 MECHANICAL DEMOLITION FLOOR PLAN - BASEMENT

SCALE: 1/8" = 1'-0"

SHEET NOTES

1. SUPPLY AIR DIFFUSERS AND ASSOCIATED FLEX DUCTWORK TO BE REMOVED
2. FAN POWER TERMINAL UNIT AND ASSOCIATED 3-WAY CONTROL VALVE PIPING PACKAGE TO BE REMOVED. ALERTON CONTROLLER TO BE REMOVED AND SAVED FOR REINSTALLATION ON NEW EQUIPMENT. PREP DUCTWORK FOR CONNECTION TO NEW EQUIPMENT.

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385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
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MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE

MECHANICAL DEMOLITION FLOOR PLAN - BASEMENT

REVISIONS

DATE : MARCH 26, 2018

SHEET NUMBER : M1.0

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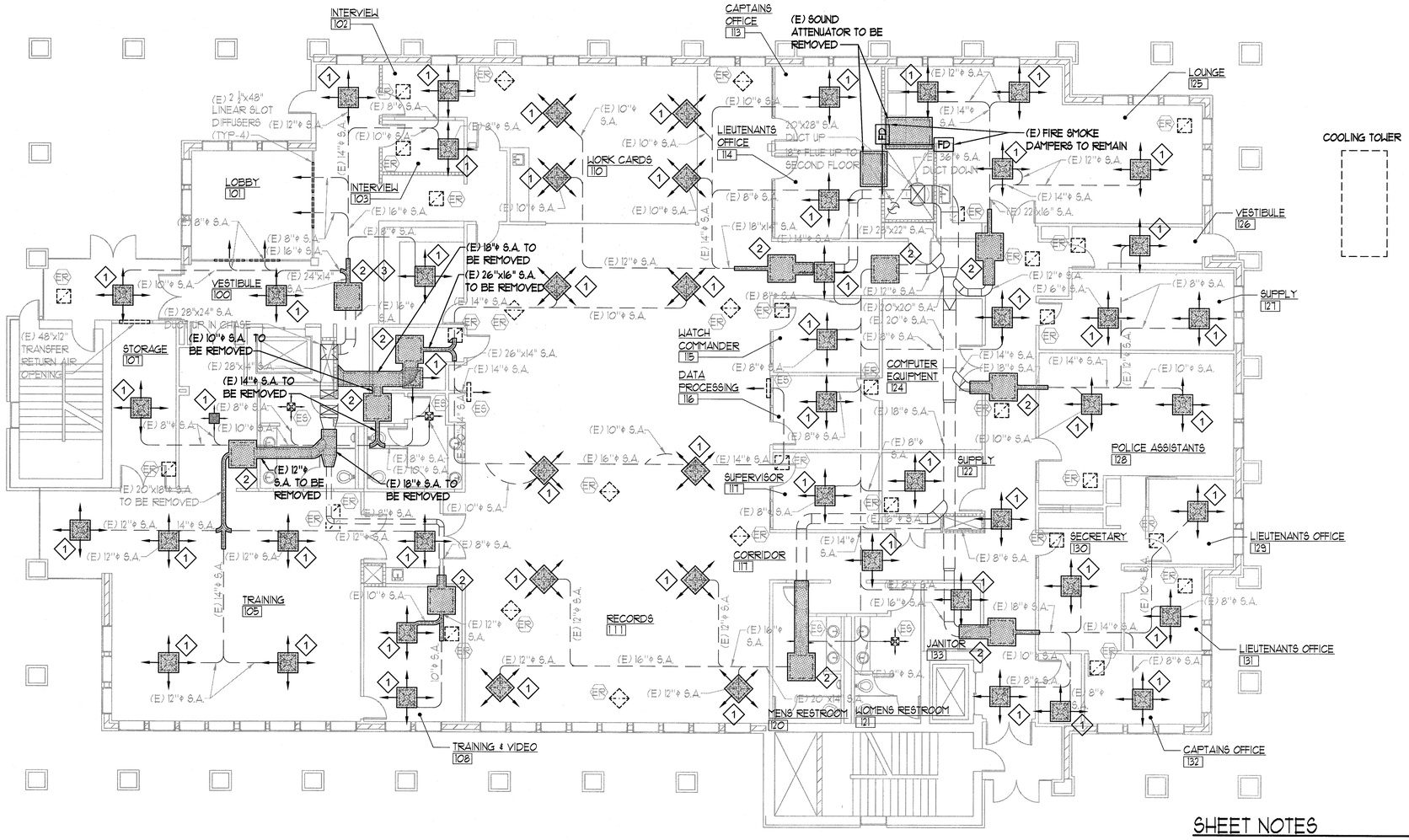
MAR 28 2018
COMMUNITY SERVICES BUILDING DIVISION

REGISTERED PROFESSIONAL ENGINEER - STATE OF NEVADA
MATTHEW C. MYRES
No. 16816
Exp. 12/31/19
MECHANICAL



SHEET NOTES

1. SUPPLY AIR DIFFUSERS AND ASSOCIATED FLEX DUCTWORK TO BE REMOVED
2. FAN POWER TERMINAL UNIT AND ASSOCIATED 3-WAY CONTROL VALVE PIPING PACKAGE TO BE REMOVED. ALERTON CONTROLLER TO BE REMOVED AND SAVED FOR REINSTALLATION ON NEW EQUIPMENT. PREP DUCTWORK FOR CONNECTION TO NEW EQUIPMENT.
3. UNABLE TO VERIFY EXACT LOCATION OF THIS FAN POWER TERMINAL UNIT. CONTRACTOR TO VERIFY LOCATION AND COORDINATION REMOVAL WITH THE ENGINEER.

1 / M1.1 MECHANICAL DEMOLITION FLOOR PLAN - GROUND FLOOR

SCALE: 1/8" = 1'-0"

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19

MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

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MECHANICAL DEMOLITION FLOOR PLAN - GROUND FLOOR

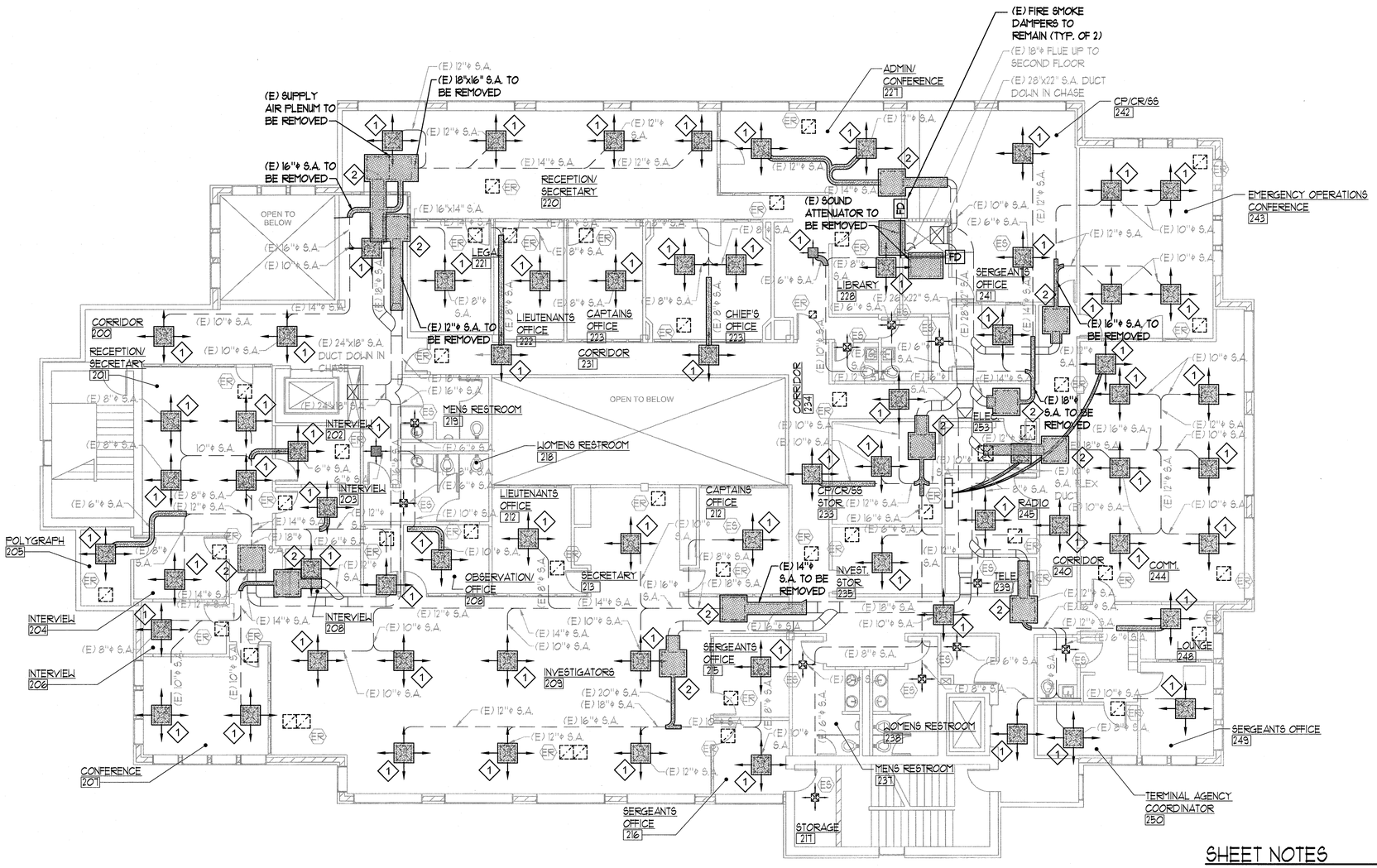
REVISIONS

DATE :
MARCH 26, 2018

SHEET NUMBER :
M1.1

BID DOCUMENTS

3/26/2018



SHEET NOTES

1. SUPPLY AIR DIFFUSERS AND ASSOCIATED FLEX DUCTWORK TO BE REMOVED
2. FAN POWER TERMINAL UNIT AND ASSOCIATED 3-WAY CONTROL VALVE PIPING PACKAGE TO BE REMOVED. ALERTON CONTROLLER TO BE REMOVED AND SAVED FOR REINSTALLATION ON NEW EQUIPMENT. PREP DUCTWORK FOR CONNECTION TO NEW EQUIPMENT.

1 / M1.2 MECHANICAL DEMOLITION FLOOR PLAN - SECOND FLOOR

SCALE: 1/8" = 1'-0"

BID DOCUMENTS

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3/26/2018

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19
MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

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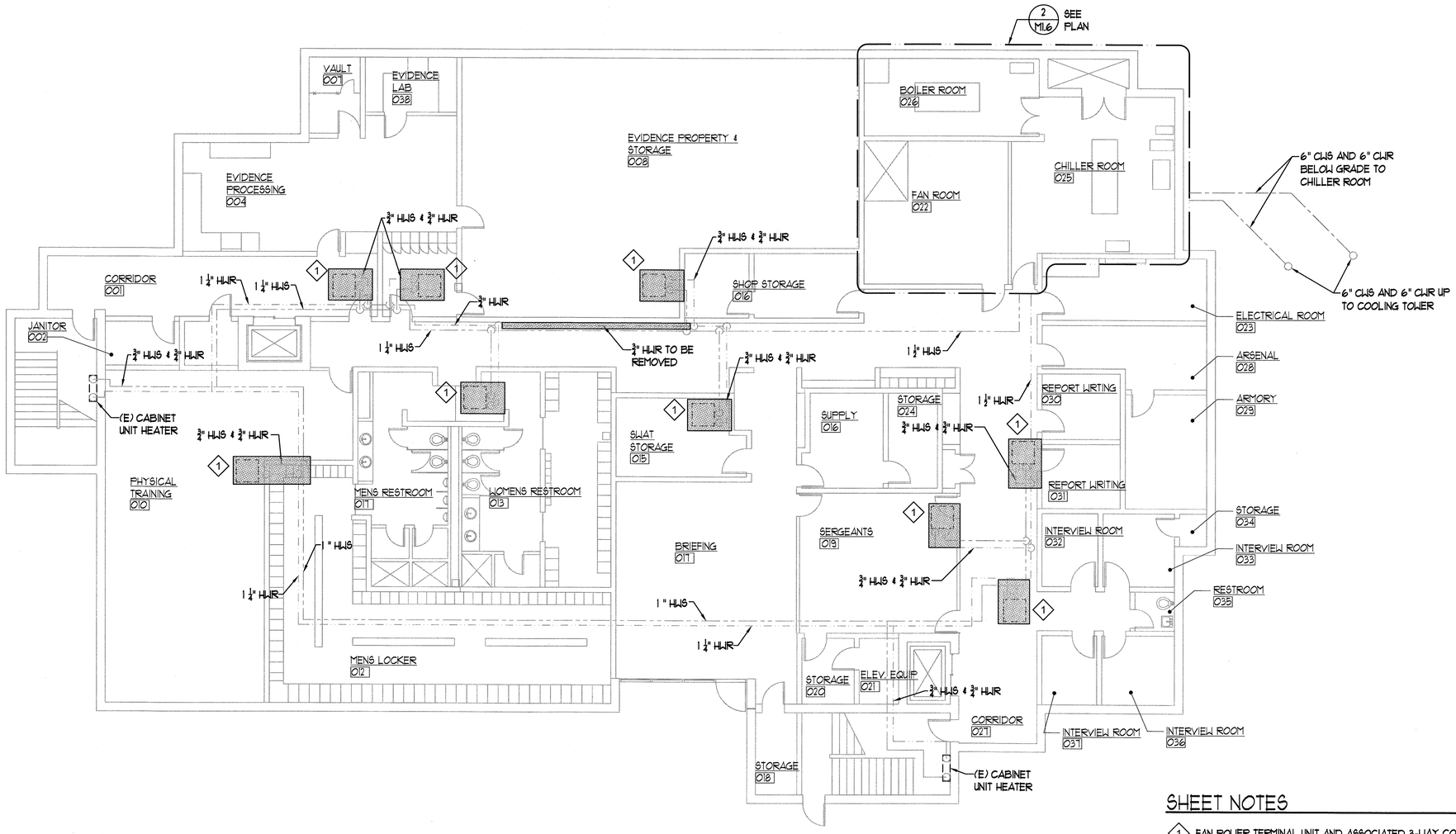
MECHANICAL DEMOLITION FLOOR PLAN - SECOND FLOOR

REVISIONS

DATE : MARCH 26, 2018

SHEET NUMBER : M1.2



SHEET NOTES

1. FAN POWER TERMINAL UNIT AND ASSOCIATED 3-WAY CONTROL VALVE PIPING PACKAGE TO BE REMOVED. ALERTON CONTROLLER TO BE REMOVED AND SAVED FOR REINSTALLATION ON NEW EQUIPMENT. PREP PIPING FOR CONNECTION TO NEW EQUIPMENT.

1 / M1.3 MECHANICAL PIPING DEMOLITION FLOOR PLAN - BASEMENT

SCALE: 1/8" = 1'-0"

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19

MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

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MECHANICAL PIPING DEMOLITION FLOOR PLAN - BASEMENT

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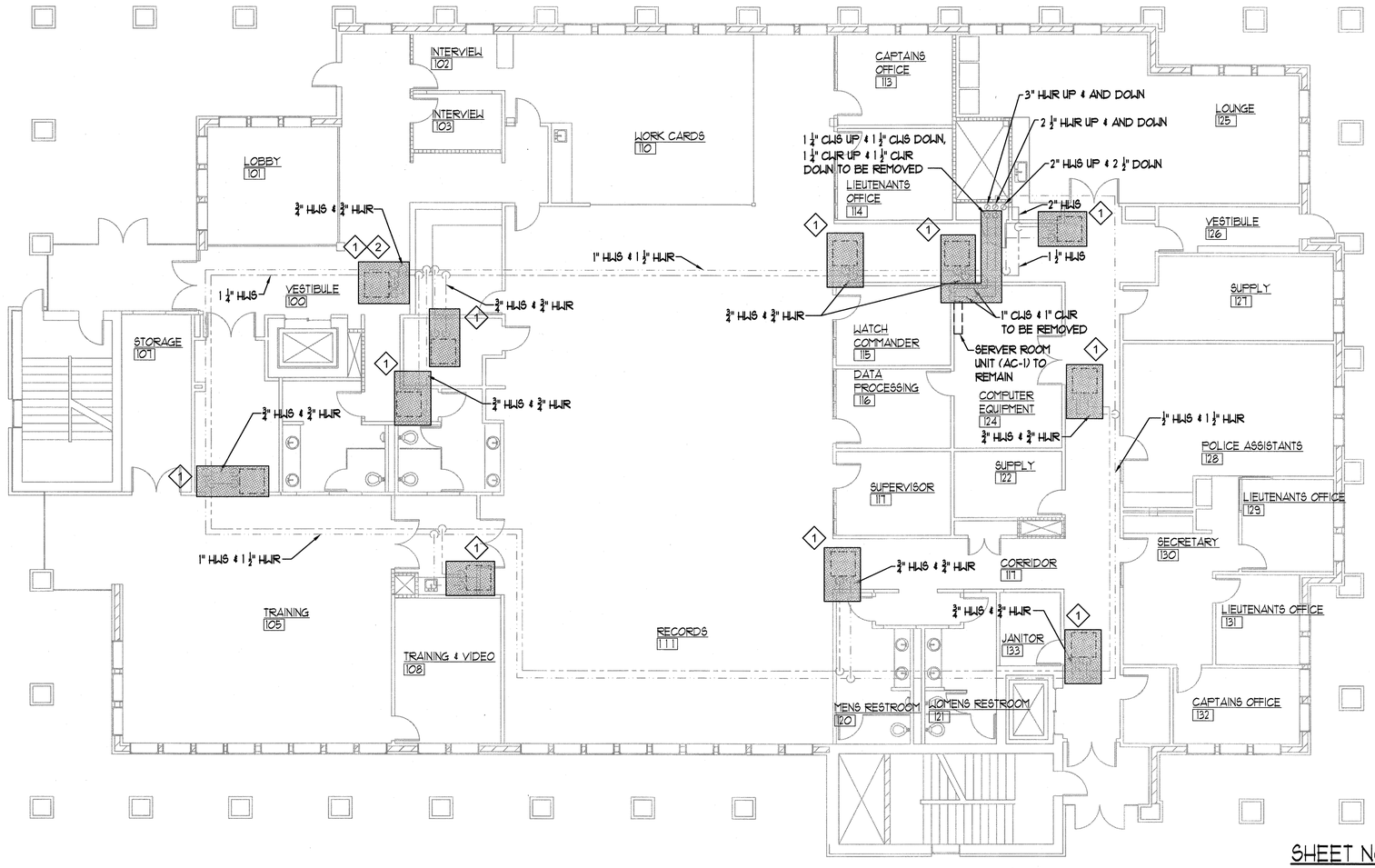
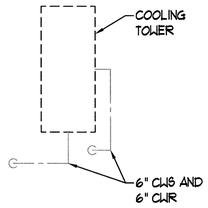
MECHANICAL

3/26/2018

BID DOCUMENTS





SHEET NOTES

1. FAN POWER TERMINAL UNIT AND ASSOCIATED 3-WAY CONTROL VALVE PIPING PACKAGE TO BE REMOVED. ALERTON CONTROLLER TO BE REMOVED AND SAVED FOR REINSTALLATION ON NEW EQUIPMENT. PREP PIPING FOR CONNECTION TO NEW EQUIPMENT.
2. UNABLE TO VERIFY EXACT LOCATION OF THIS FAN POWER TERMINAL UNIT. CONTRACTOR TO VERIFY LOCATION AND COORDINATION REMOVAL WITH THE ENGINEER.

1 / M1.4 MECHANICAL PIPING DEMOLITION FLOOR PLAN - GROUND FLOOR

SCALE: 1/8" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER - STATE OF NEVADA No. 16816 MATTHEW C. MYRES Exp. 12/31/19 MECHANICAL

3/26/2018

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MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19

MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
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MECHANICAL PIPING DEMOLITION FLOOR PLAN - GROUND FLOOR

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SHEET NUMBER : M1.4

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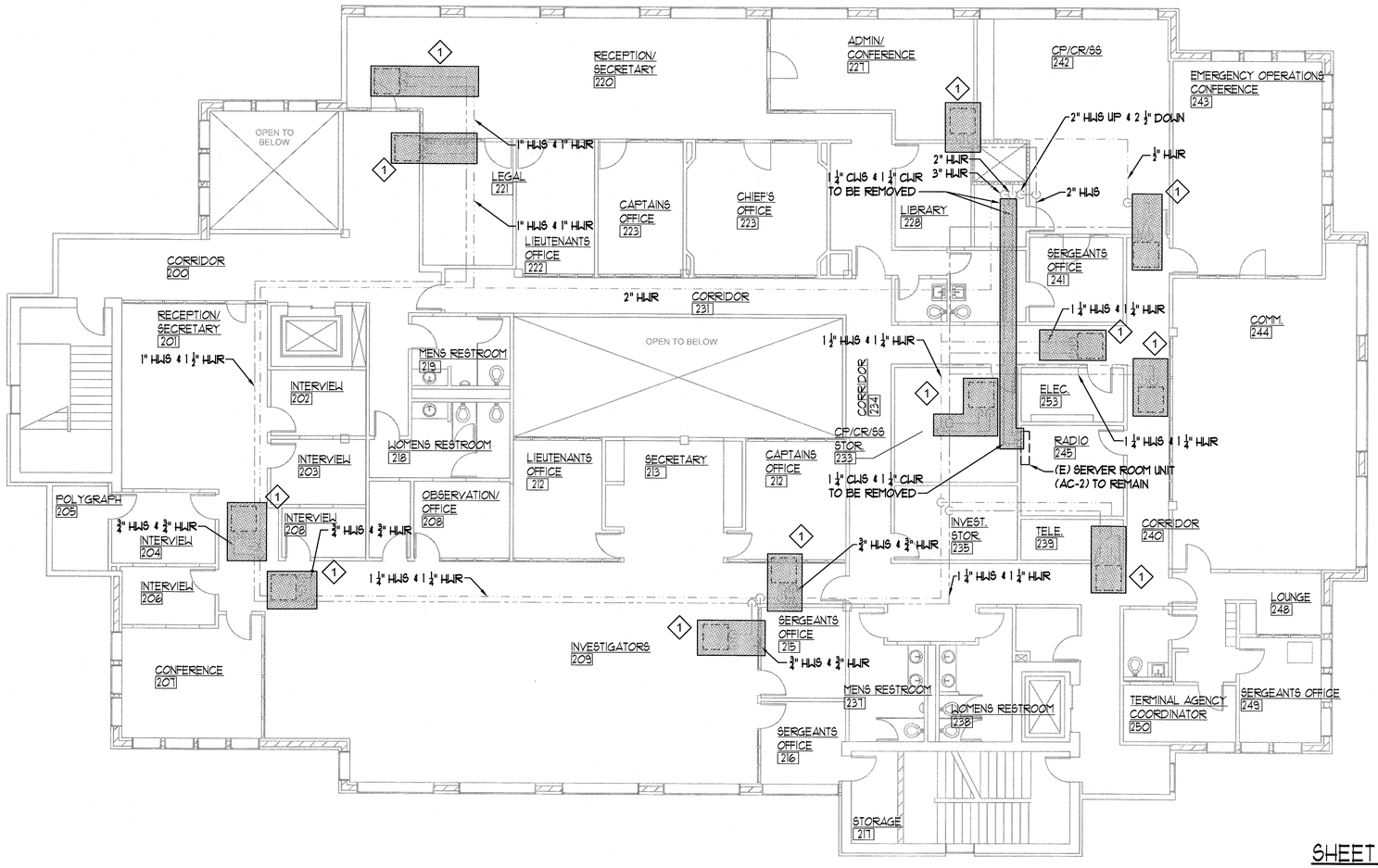

SHEET NOTES

1. FAN POWER TERMINAL UNIT AND ASSOCIATED 3-WAY CONTROL VALVE PIPING PACKAGE TO BE REMOVED. ALERTON CONTROLLER TO BE REMOVED AND SAVED FOR REINSTALLATION ON NEW EQUIPMENT. PREP PIPING FOR CONNECTION TO NEW EQUIPMENT.

1 / M1.5 MECHANICAL PIPING DEMOLITION FLOOR PLAN - SECOND FLOOR

SCALE: 1/8" = 1'-0"

BID DOCUMENTS

MATTHEW C. MYRES
No. 16816
STATE OF NEVADA
REGISTERED PROFESSIONAL ENGINEER
Exp. 12/31/19
MECHANICAL

3/26/2018

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19

MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE

MECHANICAL PIPING DEMOLITION FLOOR PLAN - SECOND FLOOR

REVISIONS

DATE :
MARCH 26, 2018

SHEET NUMBER :
M1.5

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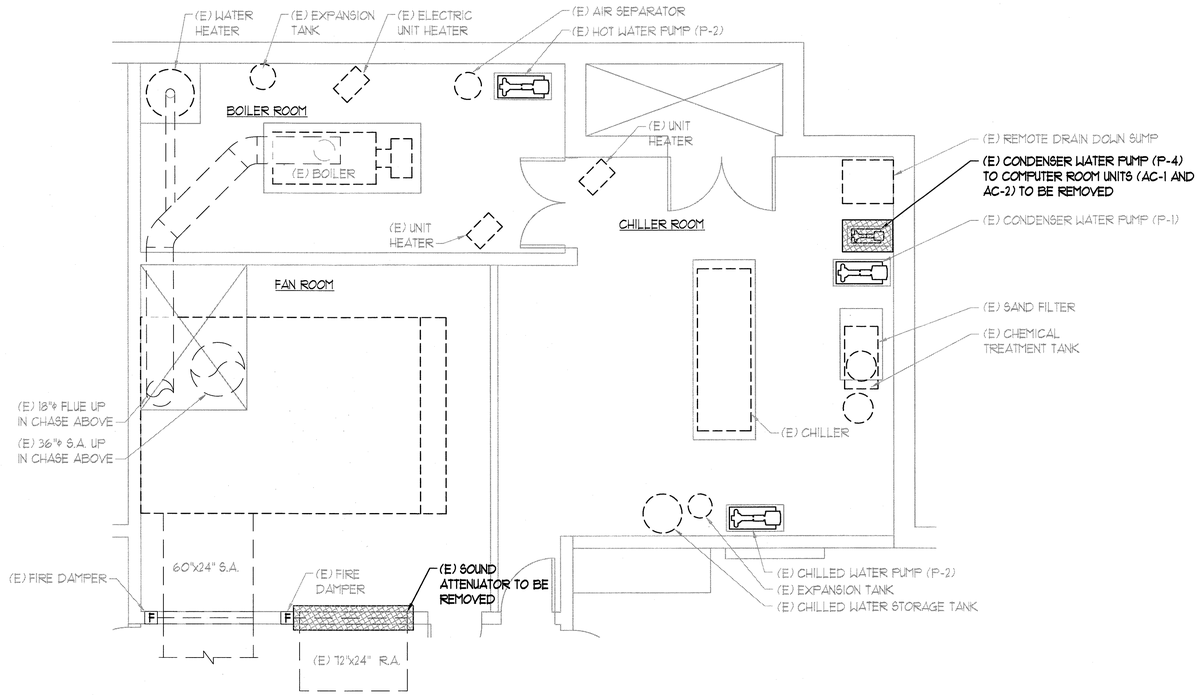
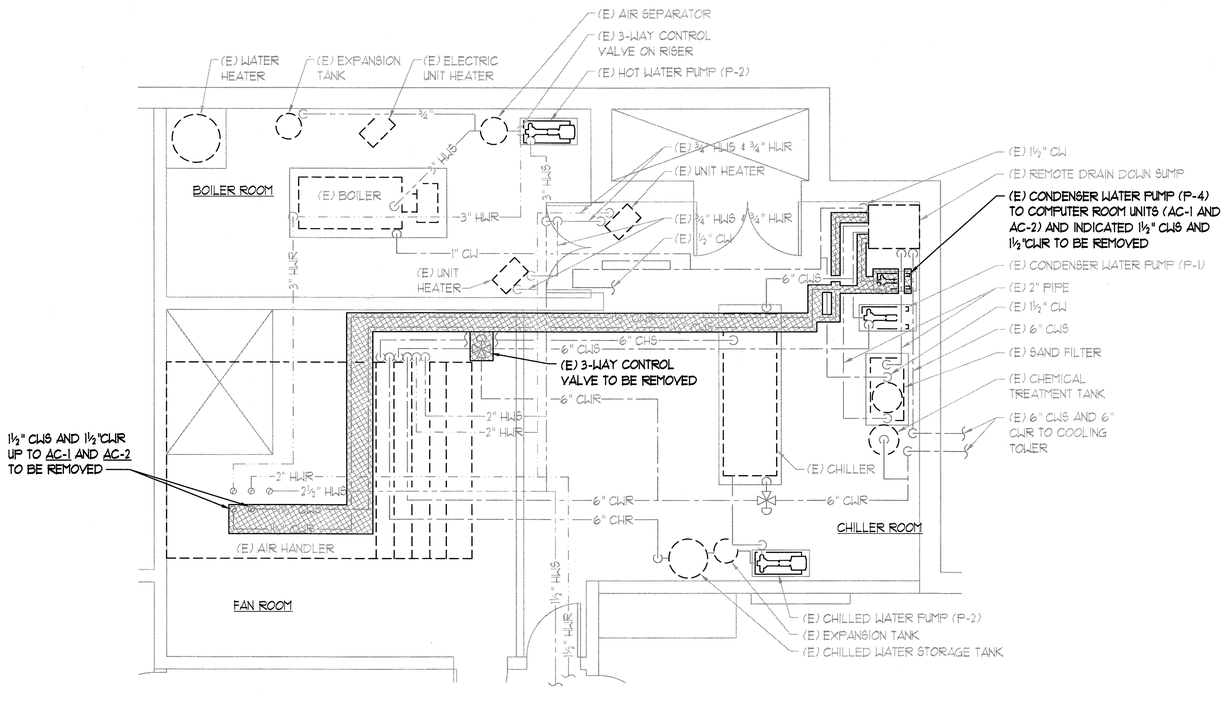
MAR 28 2018
COMMUNITY SERVICES
BUILDING DIVISION



1 / M1.6 MECHANICAL DEMOLITION ENLARGED PLAN

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



2 / M1.6 MECHANICAL PIPING DEMOLITION ENLARGED PLAN

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

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385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19

MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE

MECHANICAL DEMOLITION ENLARGED PLANS

REVISIONS

DATE : MARCH 26, 2018

SHEET NUMBER : M1.6

RECEIVED-CITY OF SPARKS
MAR 28 2018
COMMUNITY SERVICES BUILDING DIVISION

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MATTHEW C. MYRES
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No. 16816

3/26/2018

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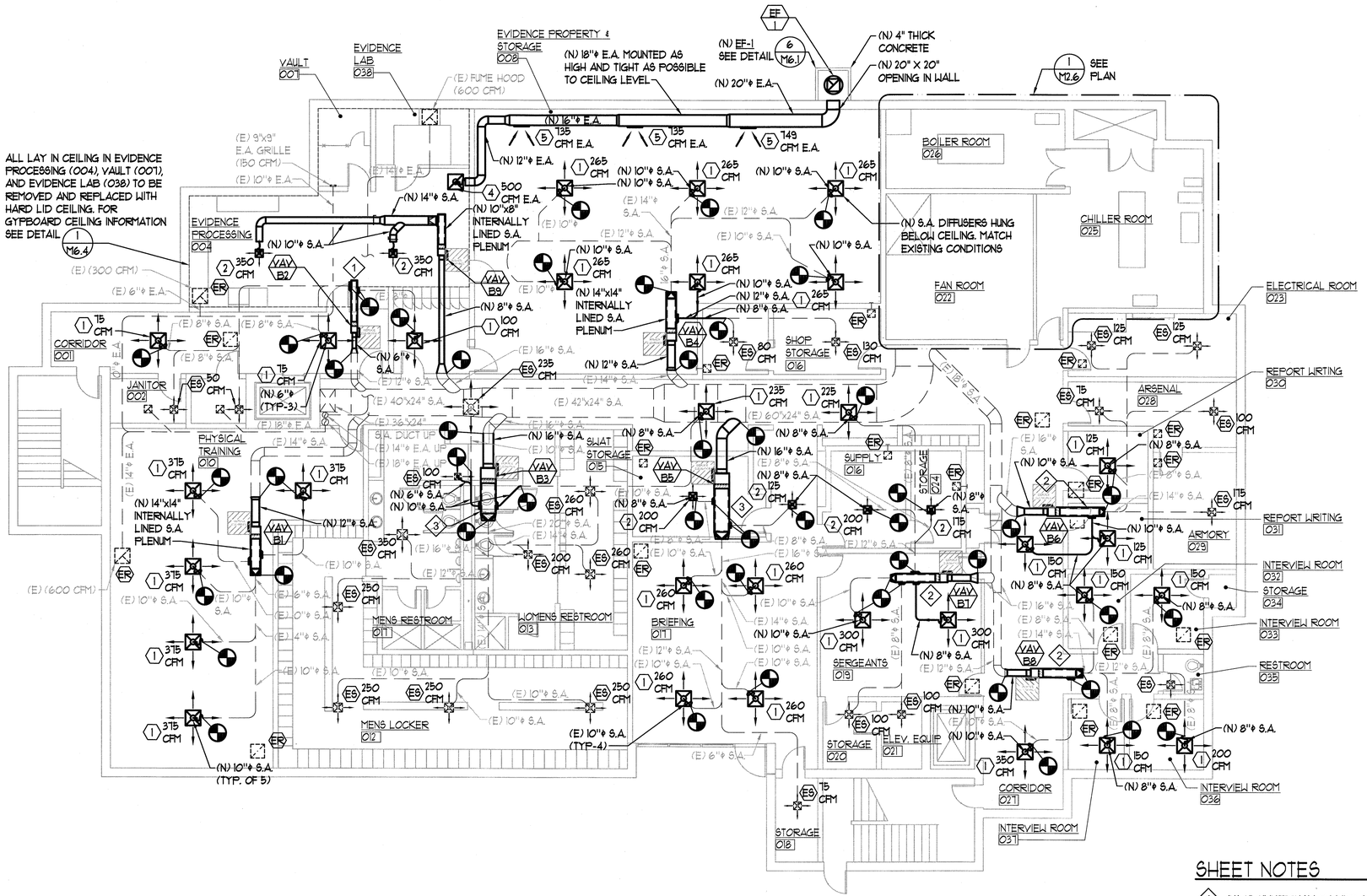

SHEET NOTES

1. (N) 8"x8" INTERNALLY LINED S.A. PLENUM
2. (N) 12"X12" INTERNALLY LINED S.A. PLENUM
3. (N) 22"X16" INTERNALLY LINED S.A. PLENUM

GENERAL NOTE:

1. CONTRACTOR IS TO BALANCE ALL NEW AND EXISTING SUPPLY DIFFUSERS TO CFMS INDICATED ON ALL PLANS

1/M2.0 MECHANICAL FLOOR PLAN - BASEMENT

SCALE: 1/8" = 1'-0"

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385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
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MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE

MECHANICAL FLOOR PLAN - BASEMENT

REVISIONS

MATTHEW C. MYRES
Exp. 12/31/19
MECHANICAL
REGISTERED PROFESSIONAL ENGINEER-STATE OF NEVADA No. 16816

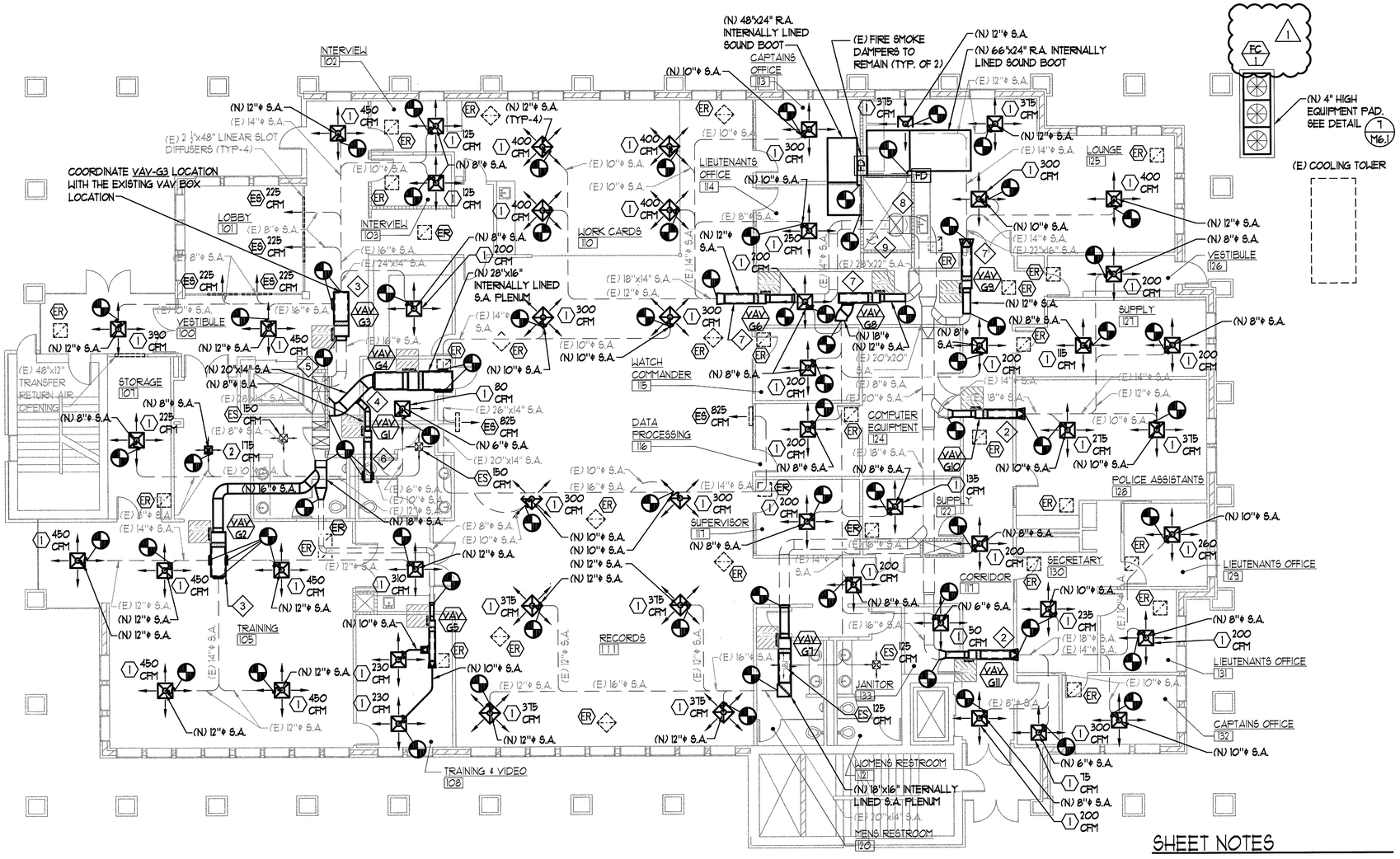
3/26/2018

BID DOCUMENTS

RECEIVED-CITY OF SPARKS
MAR 28 2018
COMMUNITY SERVICES
BUILDING DIVISION

DATE : MARCH 26, 2018

SHEET NUMBER : M2.0



SHEET NOTES

1. (N) 8"x8" INTERNALLY LINED S.A. PLENUM
2. (N) 12"X12" INTERNALLY LINED S.A. PLENUM
3. (N) 22"X16" INTERNALLY LINED S.A. PLENUM
4. (N) 28"x14" INTERNALLY LINED S.A. PLENUM
5. (E) 28"X24" S.A. DUCT UP IN CHASE
6. (N) 10"X8" INTERNALLY LINED S.A. PLENUM
7. (N) 14"X14" INTERNALLY LINED S.A. PLENUM
8. (E) 36"ϕ S.A. DUCT DOWN TO BASEMENT AND (E) 20"X28" S.A. DUCT UP TO SECOND FLOOR
9. (E) 18"ϕ FLUE UP TO SECOND FLOOR

1 / M2.1 MECHANICAL FLOOR PLAN - GROUND FLOOR
SCALE: 1/8" = 1'-0"

CITY OF SPARKS
COMMUNITY SERVICES-BLDG. DIV.
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PROFESSIONAL ENGINEER - STATE OF NEVADA
MATTHEW C. MYRES
Exp. 12/31/19
MECHANICAL
No. 16816
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385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19

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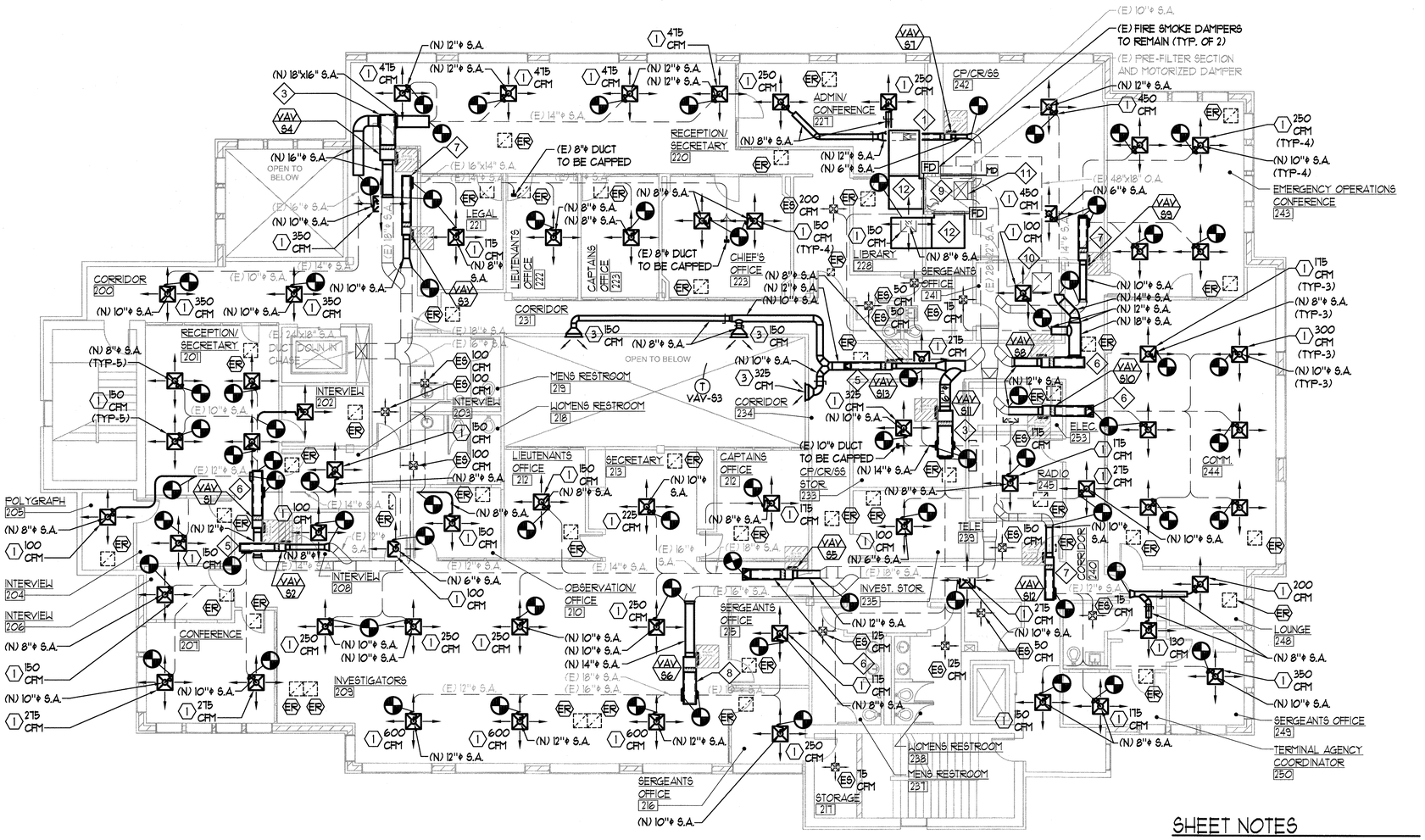
SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE
MECHANICAL FLOOR PLAN - GROUND FLOOR

REVISIONS
1 PLAN REVIEW COMMENTS (04/09/18)

DATE :
MARCH 26, 2018

SHEET NUMBER :
M2.1



1 / M2.2 MECHANICAL FLOOR PLAN - SECOND FLOOR

SCALE: 1/8" = 1'-0"

SHEET NOTES

1. (N) 8"X8" INTERNALLY LINED S.A. PLENUM
2. (N) 12"X12" INTERNALLY LINED S.A. PLENUM
3. (N) 22"X16" INTERNALLY LINED S.A. PLENUM
4. (N) 28"X14" INTERNALLY LINED S.A. PLENUM
5. (N) 10"X8" INTERNALLY LINED S.A. PLENUM
6. (N) 14"X14" INTERNALLY LINED S.A. PLENUM
7. (N) 12"X12" INTERNALLY LINED S.A. PLENUM
8. (N) 18"X16" INTERNALLY LINED S.A. PLENUM
9. (E) 28"X22" S.A. DUCT DOWN IN CHASE
10. (E) 30"X30" O.A. UP TO OUTSIDE AIR INTAKE
11. (E) 18"ø FLUE UP TO SECOND FLOOR
12. (N) 48"X24" R.A. INTERNALLY LINED SOUND BOOT

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA No. 16816 MATTHEW C MYRES Exp. 12/31/19 MECHANICAL

3/26/2018

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385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
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HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
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SHEET TITLE

MECHANICAL FLOOR PLAN - SECOND FLOOR

REVISIONS

DATE : MARCH 26, 2018

SHEET NUMBER : M2.2

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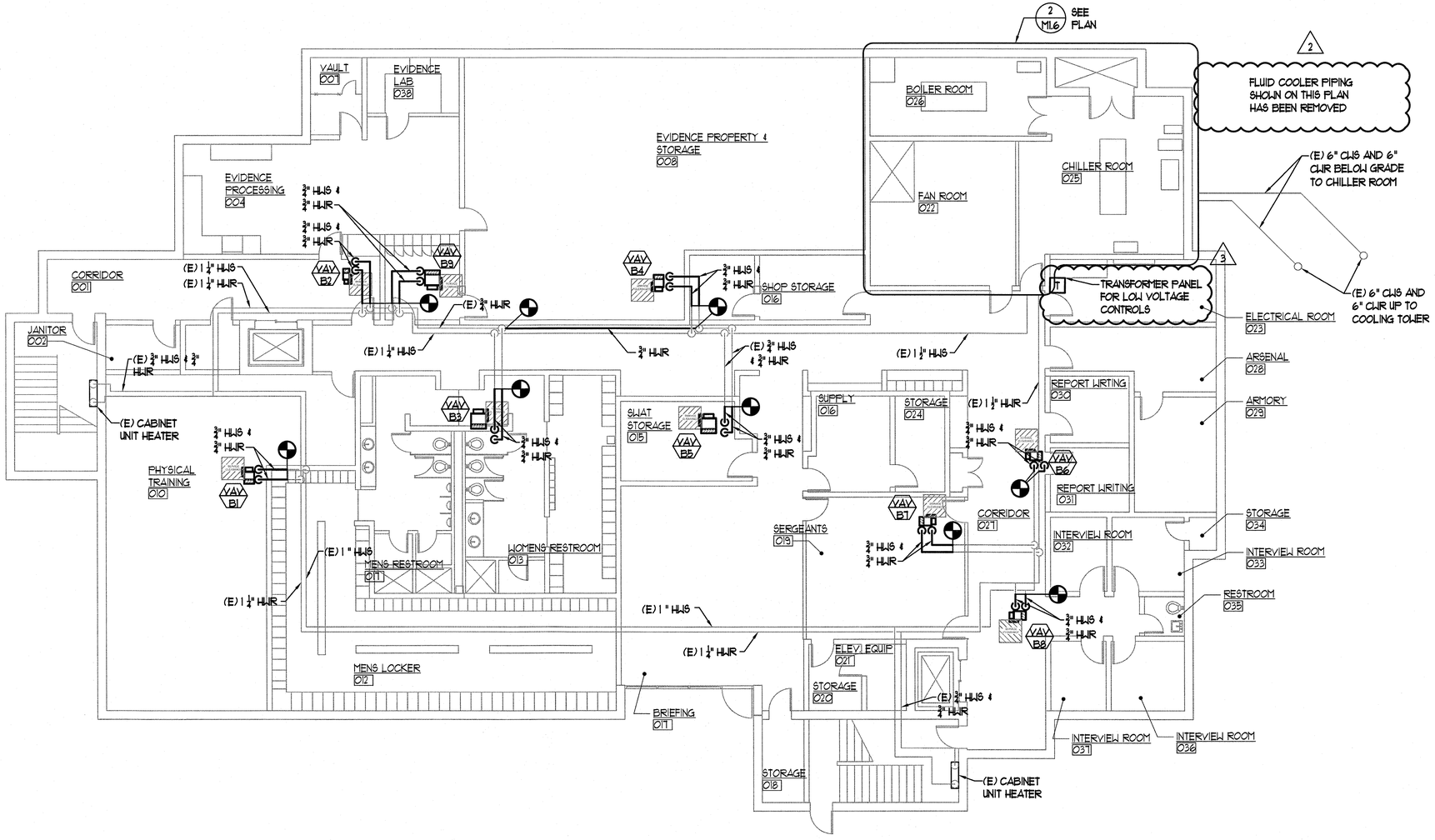
MAR 28 2018
COMMUNITY SERVICES BUILDING DIVISION



1 M2.3 MECHANICAL PIPING FLOOR PLAN - BASEMENT

SCALE: 1/8" = 1'-0"

BID DOCUMENTS

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HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE

MECHANICAL PIPING
FLOOR PLAN
- BASEMENT

REVISIONS

1	PLAN REVIEW COMMENTS (04/09/18)
2	OWNER REVISIONS (10/31/18)
3	OWNER REVISIONS (06/04/19)

DATE : MARCH 26, 2018

SHEET NUMBER : M2.3

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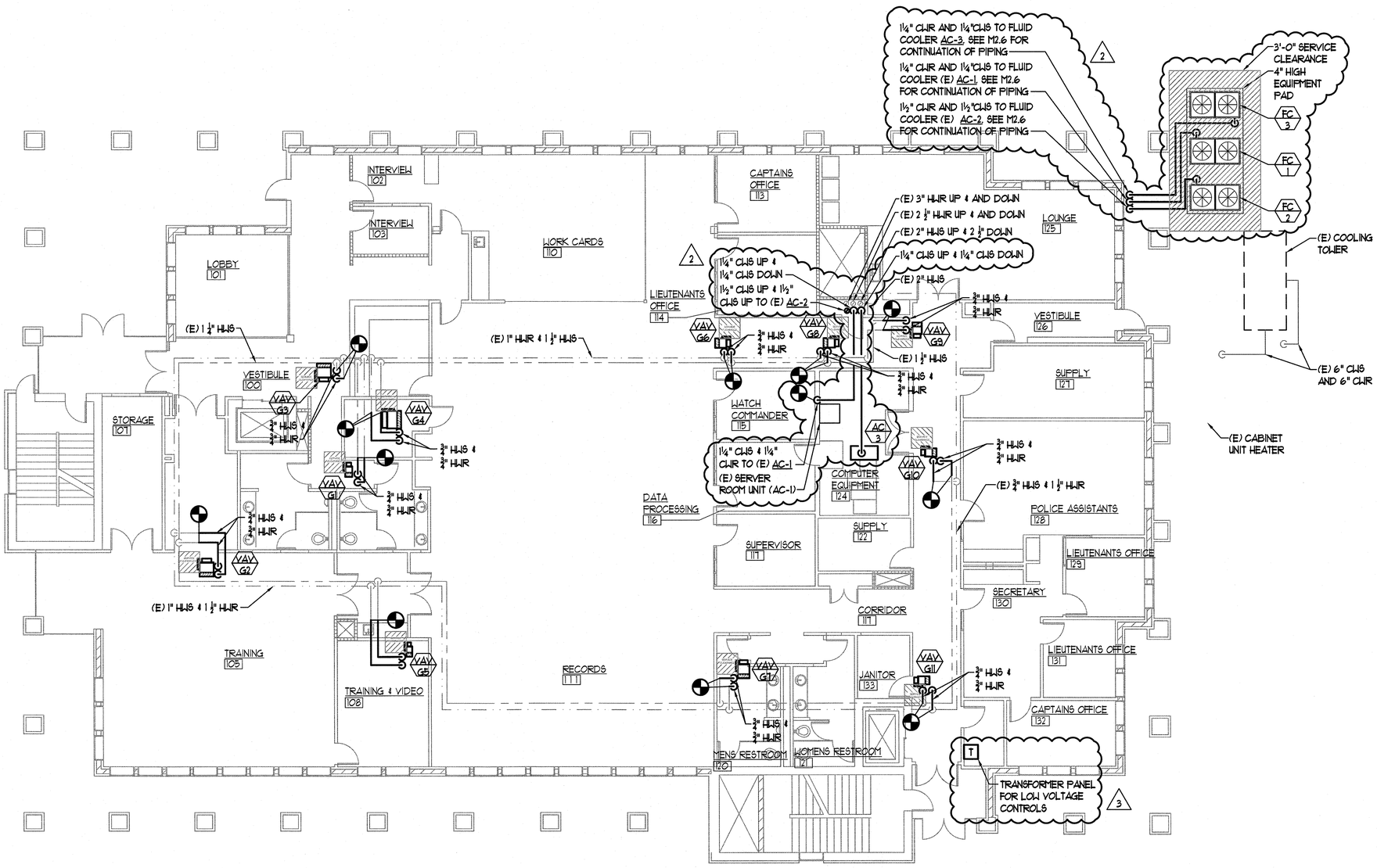
CITY OF SPARKS COMMUNITY SERVICES-BLDG. DIV. JUN 07 2019 REVIEWED



1 / M2.4 MECHANICAL PIPING FLOOR PLAN - GROUND FLOOR

SCALE: 1/8" = 1'-0"

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1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE

MECHANICAL PIPING
FLOOR PLAN
- GROUND FLOOR

REVISIONS

1	PLAN REVIEW COMMENTS (04/09/18)
2	OWNER REVISIONS (10/31/18)
3	OWNER REVISIONS (06/04/19)

DATE :
MARCH 26, 2018

CITY OF SPARKS
COMMUNITY SERVICES-BLDG. DIV.
JUN 07 2019
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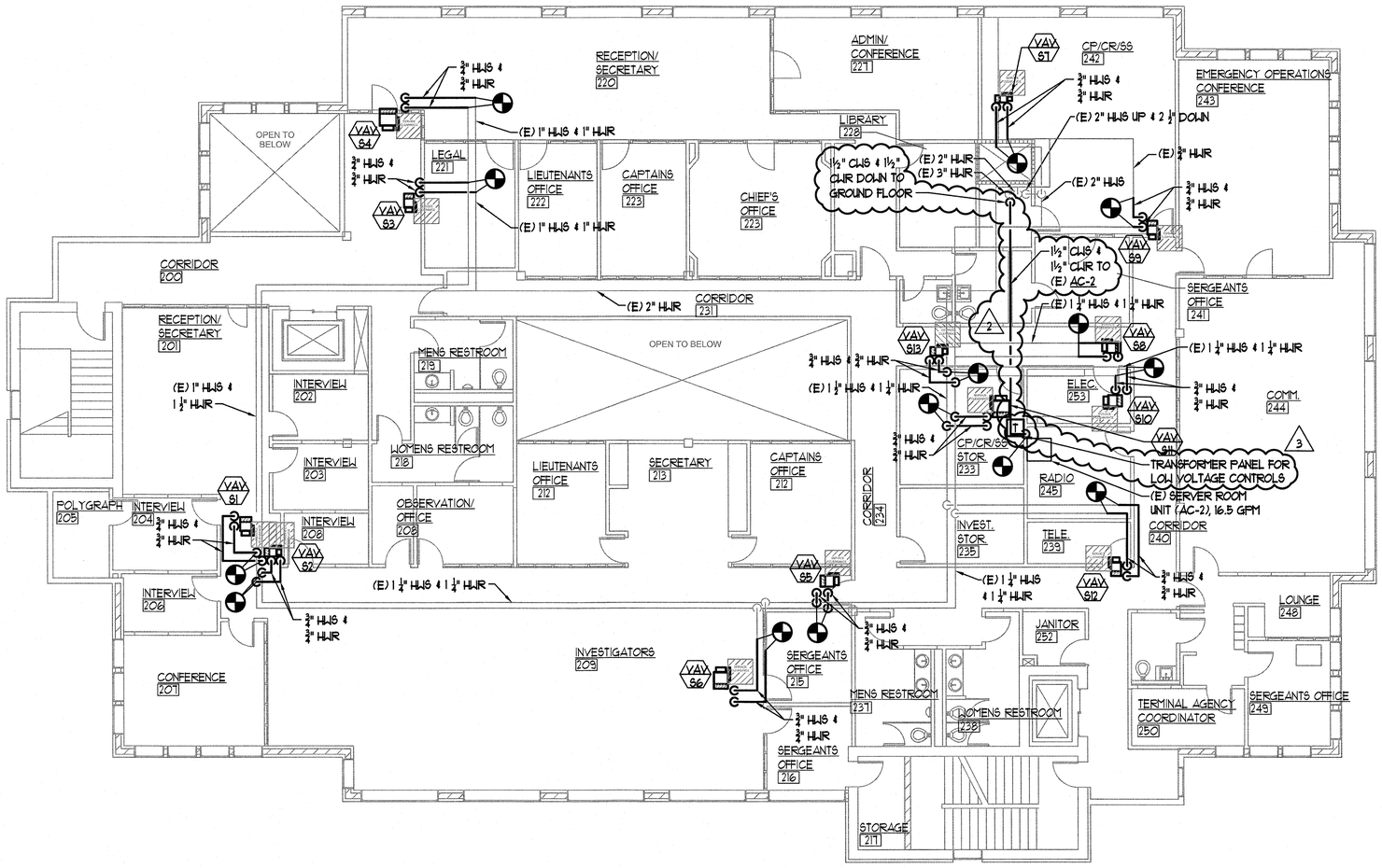
PROFESSIONAL ENGINEER-STATE OF NEVADA
MATTHEW C MYRES
Exp: 12/31/19
MECHANICAL
No. 16916

M2.4



1 / M2.5 MECHANICAL PIPING FLOOR PLAN - SECOND FLOOR

SCALE: 1/8" = 1'-0"

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SPARKS, NEVADA 89434

SHEET TITLE

MECHANICAL PIPING
FLOOR PLAN
- SECOND FLOOR

REVISIONS

1 PLAN REVIEW COMMENTS (04/09/18)
2 OWNER REVISIONS (10/31/18)
3 OWNER REVISIONS (06/04/19)

PROFESSIONAL ENGINEER-STATE OF NEVADA
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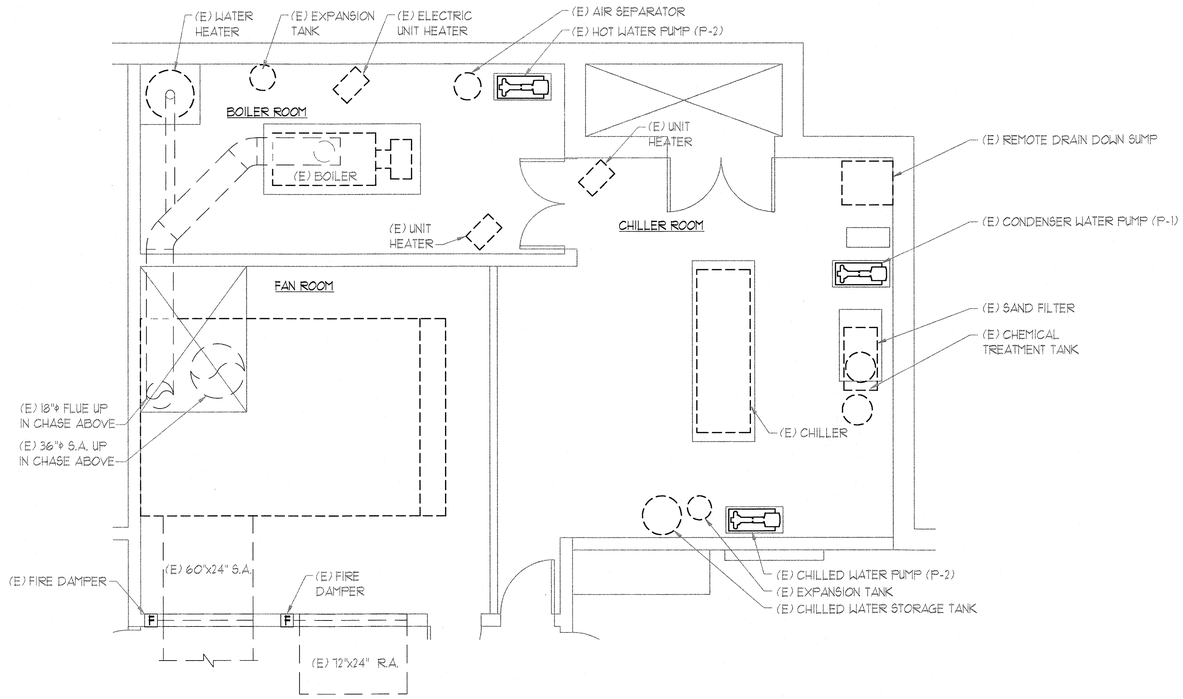
Expd 12/31/19
MECHANICAL
No. 16818

DATE: MARCH 26, 2018

CITY OF SPARKS
COMMUNITY SERVICES BLDG. DIV.
JUN 07 2019

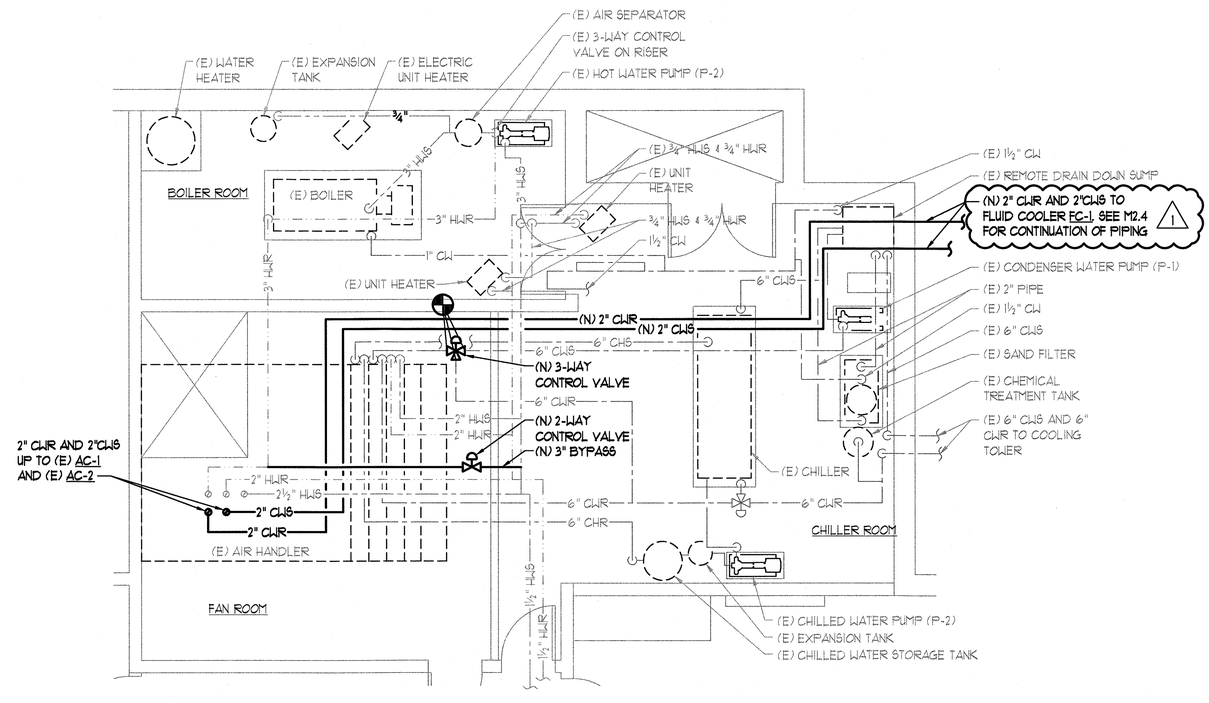
SHEET NUMBER M2.5

REVISED



1 / M2.6 MECHANICAL ENLARGED PLAN

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



2 / M2.6 MECHANICAL PIPING ENLARGED PLAN

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

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HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE

MECHANICAL ENLARGED PLANS

REVISIONS

1 PLAN REVIEW COMMENTS (04/09/18)

CITY OF SPARKS
COMMUNITY SERVICES-BLDG. DIV.
AUG 20 2018
REVISED

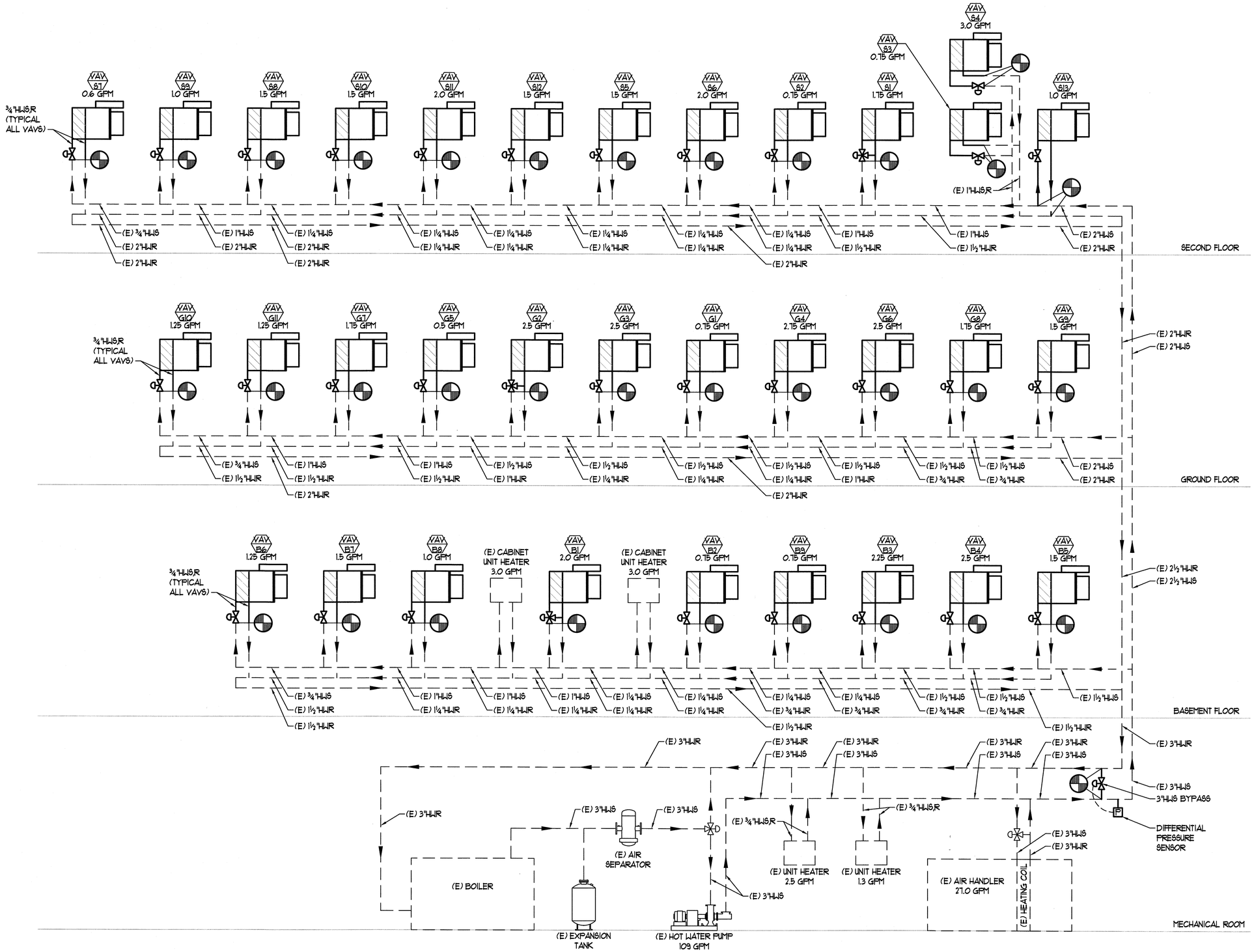
REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA No. 16814
MATTHEW C. MYRES
Exp. 12/31/19
MECHANICAL

3/26/2018

BID DOCUMENTS

DATE :
MARCH 26, 2018

SHEET NUMBER :
M2.6



1 / M4.1 HEATING HOT WATER PIPING DIAGRAM

SCALE: NONE

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HVAC UPGRADE PHASE 1
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SHEET TITLE

MECHANICAL PIPING DIAGRAM

REVISIONS

DATE : MARCH 26, 2018

SHEET NUMBER : M4.1

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COMMUNITY SERVICES
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MECHANICAL

3/26/2018

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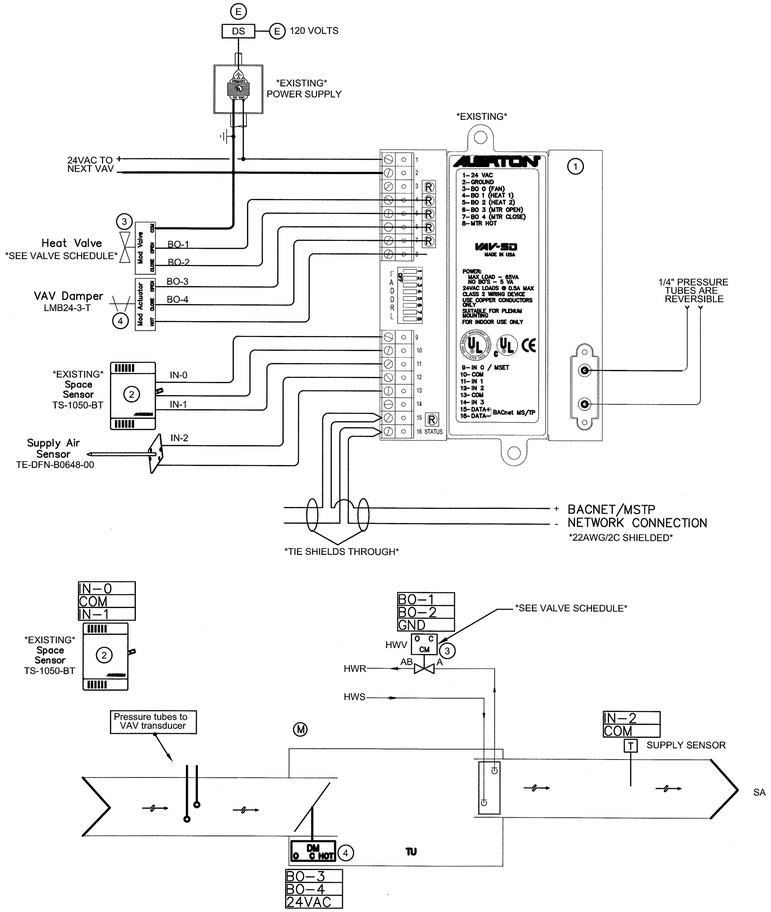


TYPICAL TERMINAL UNIT CONTROL

OCCUPIED CYCLE:

1. AHU SUPPLY FAN STARTS AND MAINTAINS DUCT STATIC PRESSURE SETPOINT.
2. ROOM TEMPERATURE SENSOR MODULATES TERMINAL UNIT DAMPER AND HEATING WATER VALVE IN SEQUENCE TO MAINTAIN RESPECTIVE HEATING/COOLING SET POINTS. A DEADBAND BETWEEN HEATING AND COOLING IS FIELD PROGRAMMABLE WITH A 2 DEGREE F MINIMUM.
3. AHU VFD TO INCREASE FAN SPEED TO MEET REQUIREMENTS FOR AIR FLOW FOR EACH ZONE.

UNOCCUPIED CYCLE:

1. TERMINAL UNIT FAN STOPS AT PROGRAMMED TIME.
2. TERMINAL UNIT DAMPER CLOSES AND ZONE HEATING WATER VALVE CLOSES.
3. ROOM TEMPERATURE SENSOR REVERTS TO "SET-BACK/SET-UP" TEMPERATURE SET POINT.
4. MOMENTARY CONTACT PUSH-BUTTON IN ROOM TEMPERATURE SENSORS OVERRIDES "UNOCCUPIED CYCLE" AND PLACES SYSTEM IN "OCCUPIED CYCLE" FOR A PROGRAMMED LENGTH OF TIME.

SETPOINTS:

1. OCCUPIED MODE:
   COOLING: 74°F, HEATING: 70°F
2. UNOCCUPIED MODE:
   COOLING: 80°F, HEATING: 65°F

SAFETY CONTROL:

1. IF COMMUNICATION FAILS BETWEEN TERMINAL UNIT CONTROLLER AND GLOBAL CONTROLLER, THE TERMINAL UNIT CONTROL SHALL AUTOMATICALLY MAINTAIN THE LATEST SET OF OCCUPIED TEMPERATURES OR 74°F COOLING AND 70°F HEATING AS SELECTED BY THE OPERATOR.

*NOTES:
1. EXISTING VAV-SD DDC CONTROLLER TO BE REMOVED AND RE-INSTALLED ON NEW VAV TERMINAL UNIT.

2. EXISTING ROOM SENSOR TO BE RE-USED.

3. NEW HEATING WATER VALVE TO BE PROVIDED MY CONTROL CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR.

4. NEW DAMPER ACTUATOR TO BE PROVIDED AND INSTALLED BY CONTROL CONTRACTOR

CONTROLS SHALL BE ALERTON
TO MATCH EXISTING CITY WIDE
HVAC CONTROL SYSTEM.
BY BUILDING CONTROL SERVICES, INC.
8521 WHITE FIR ST., SUITE C1A
RENO, NV 89523
PH#:(775)826-9998
FAX#:(775)826-3524
NO EXCEPTIONS

1 / M5.1 MECHANICAL CONTROLS
SCALE: NONE

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19
MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE
MECHANICAL CONTROLS

REVISIONS

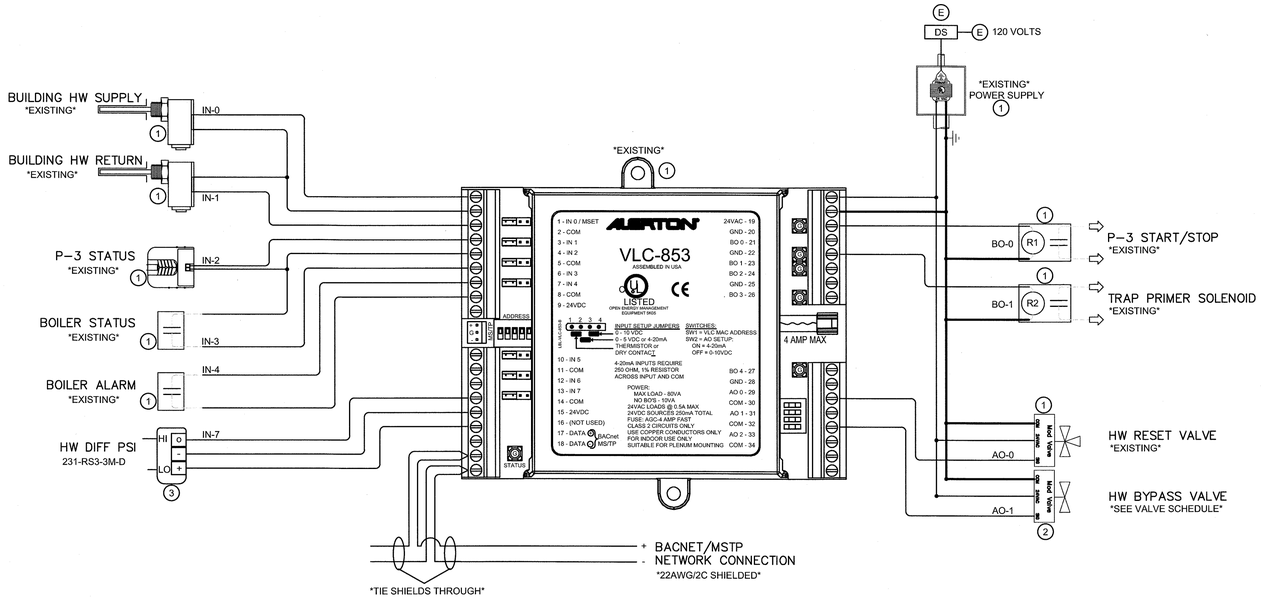
DATE :
MARCH 26, 2018

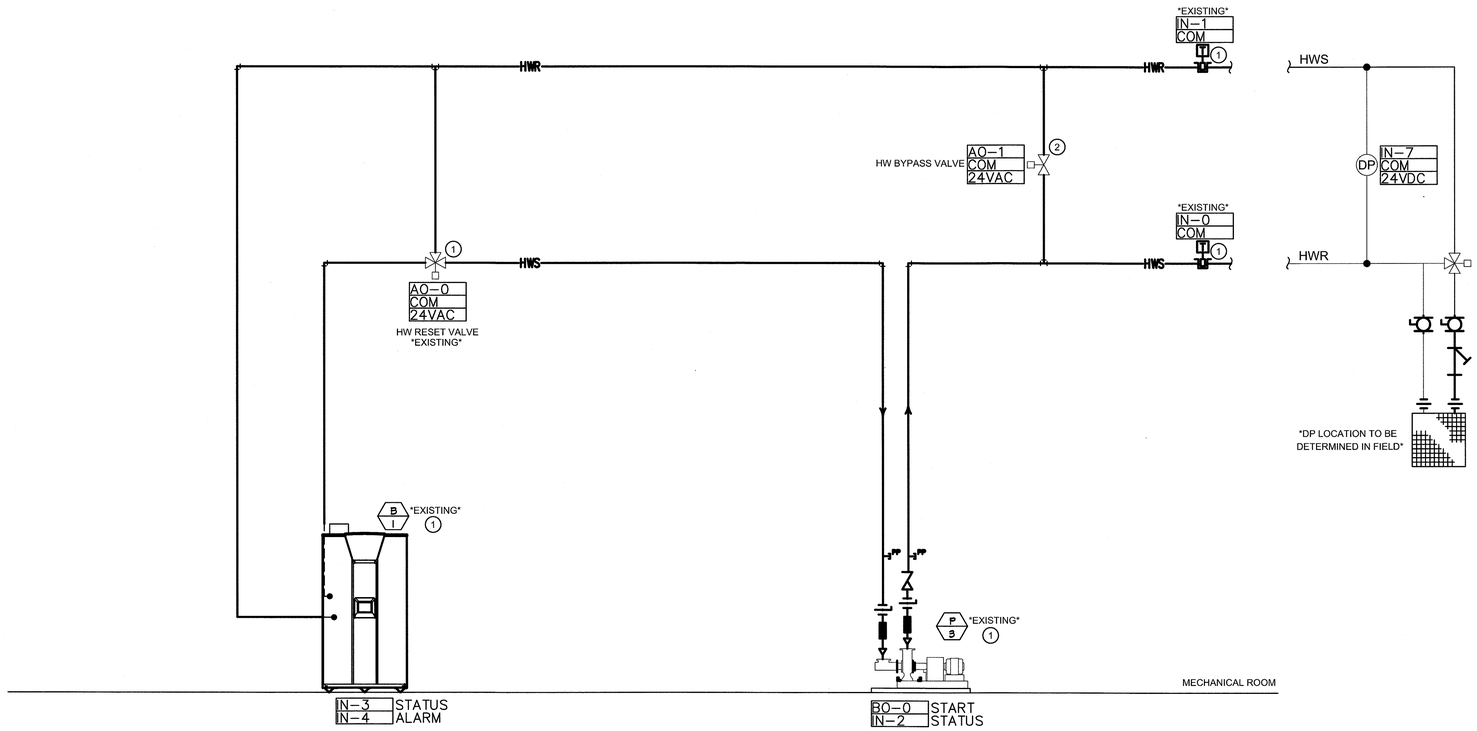
SHEET NUMBER :
M5.1

REGISTERED PROFESSIONAL ENGINEER-STATE OF NEVADA
MATTHEW C. MYRES
No. 16816
Exp. 12/31/19
MECHANICAL
3/26/2018

CITY OF SPARKS
MAR 28 2018
COMMUNITY SERVICES
PLANNING DIVISION

BID DOCUMENTS





1 / M5.2 MECHANICAL CONTROLS (2)
SCALE: NONE

HW PLANT CONTROL

HEATING CYCLE:

1. WHENEVER THE OUTSIDE AIR TEMPERATURE IN LESS THAN 68°F(ADJ.), THE HEATING WATER SYSTEM SHALL BE ENABLED.

2. THE HEATING WATER PUMP SHALL START AND THE HW BYPASS VALVE SHALL MODULATE TO MAINTAIN THE HW SYSTEM DIFFERENTIAL PRESSURE SETPOINT OF 10PSI(ADJ.). IF THE HEATING WATER PUMP IS COMMANDED ON AND FAILS TO PROVE STATUS, AN ALARM SHALL BE GENERATED AT THE OPERATOR WORKSTATION.

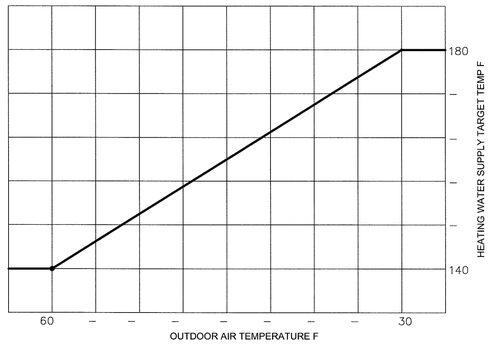
3. ONCE FLOW HAS BEEN PROVEN VIA BOILER'S INTEGRAL FLOW SWITCH, THE BOILER SHALL BE ENABLED AND SHALL MODULATE THE BURNER VIA BOILER'S INTERNAL CONTROLS TO MAINTAIN THE LEAVING HEATING WATER SETPOINT OF 180°F(ADJ.).

4. THE BUILDING HEATING WATER SUPPLY SETPOINT SHALL BE RESET FROM 180°F(ADJ.) TO 140°F(ADJ.) AS THE OUTSIDE AIR TEMPERATURE INCREASES FROM 30°(ADJ.) TO 60°F(ADJ.). THE 3-WAY MIXING VALVE SHALL MODULATE TO MAINTAIN THE CURRENT BUILDING HEATING WATER SUPPLY SETPOINT.

SAFETY:

1. THE BOILER'S INTERNAL SAFETIES SHALL DIASABLE THE BURNER AND SEND AN ALARM TO THE OPERATOR WORKSTATION.

HEATING WATER SUPPLY RESET CURVE



*NOTES:
1. EXISTING VAV-SD DDC CONTROLLER TO BE REMOVED AND RE-INSTALLED ON NEW VAV TERMINAL UNIT.

2. EXISTING ROOM SENSOR TO BE RE-USED.

3. NEW HEATING WATER VALVE TO BE PROVIDED MY CONTROL CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR.

4. NEW DAMPER ACTUATOR TO BE PROVIDED AND INSTALLED BY CONTROL CONTRACTOR

CONTROLS SHALL BE ALERTON
TO MATCH EXISTING CITY WIDE
HVAC CONTROL SYSTEM.
BY BUILDING CONTROL SERVICES, INC.
8521 WHITE FIR ST., SUITE C1A
RENO, NV 89523
PH#:(775)826-8998
FAX#:(775)826-3524
NO EXCEPTIONS

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1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE
MECHANICAL CONTROLS (2)

REVISIONS

DATE :
MARCH 26, 2018

SHEET NUMBER :
M5.2

RECEIVED CITY OF SPARKS
MAR 28 2018
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BUILDING DIVISION

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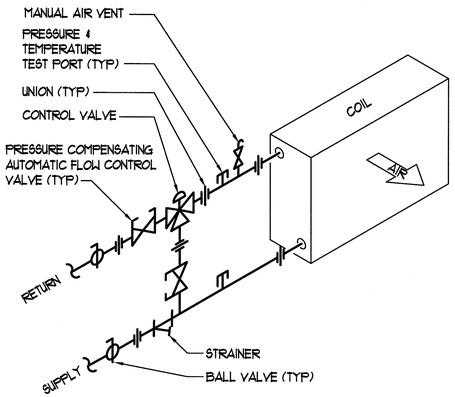
REGISTERED PROFESSIONAL ENGINEER - STATE OF NEVADA
JOHN MATTHEW C. MYRES
Exp. 12/31/19
MECHANICAL
No. 16816

3/26/2018



NOTE:
VERIFY PIPING ARRANGEMENT OF CONTROL VALVE W/ MANUFACTURER PRIOR TO INSTALLATION AND MODIFY PIPING ACCORDINGLY

1 / M6.1 3 WAY HOT WATER COIL PIPING
SCALE:NONE

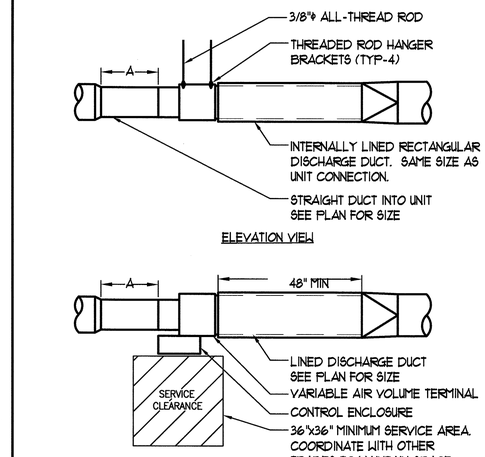
APPROVED		UNACCEPTABLE	
ROUND Y-FITTING	RECTANGULAR Y-FITTING	BULLHEAD TEE	CUSHION HEAD
ROUND LATERAL TAP	ROUND W/ CONICAL TAP	ROUND TAP W/O FITTING	
RECT. TAP W/ HEEL FITTING	ROUND TAP W/ HEEL FITTING	RECT. TAP W/O FITTING	ROUND TAP W/O FITTING
LONG RADIUS 90° ELBOW	LONG RADIUS 45° ELBOW	SQUARE TO ROUND W/O TRANSITION	RECT. MITERED ELBOW W/O TURNING VANES
SQUARE TO ROUND TRANSITION	RECT. MITERED ELBOW W/ TURNING VANES	NOTE: APPROVED FITTINGS ARE NOT INTERCHANGEABLE. SEE PLANS FOR DUCT LAYOUT AND PREFERRED FITTING.	
SHORT RADIUS 90° ELBOW	SHORT RADIUS 45° ELBOW		

2 / M6.1 LOW PRESSURE DUCT FITTINGS DETAIL
SCALE: NONE

APPROVED		UNACCEPTABLE	
ROUND Y-FITTING	RECTANGULAR Y-FITTING	BULLHEAD TEE	CUSHION HEAD
ROUND LATERAL TAP	ROUND W/ CONICAL TAP	ROUND TAP W/O FITTING	
RECT. TAP W/ HEEL FITTING	ROUND TAP W/ HEEL FITTING	RECT. TAP W/O FITTING	ROUND TAP W/O FITTING
LONG RADIUS 90° ELBOW	LONG RADIUS 45° ELBOW	SHORT RADIUS 90° ELBOW	SHORT RADIUS 45° ELBOW
SQUARE TO ROUND TRANSITION	RECT. MITERED ELBOW W/ TURNING VANES	SQUARE TO ROUND W/O TRANSITION	RECT. MITERED ELBOW W/O TURNING VANES

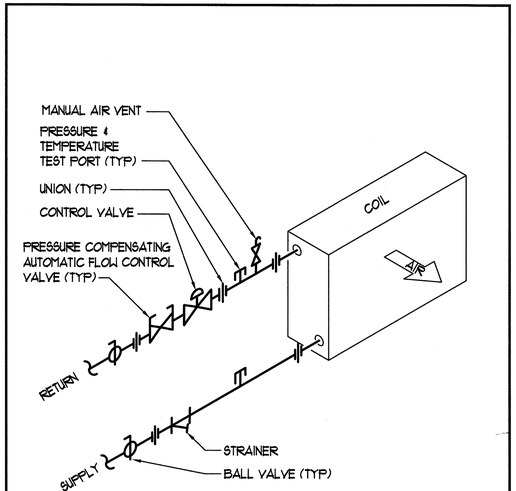
NOTE:
APPROVED FITTINGS ARE NOT INTERCHANGEABLE. SEE PLANS FOR DUCT LAYOUT AND PREFERRED FITTING.

3 / M6.1 MEDIUM PRESSURE DUCT FITTINGS DETAIL
SCALE: NONE



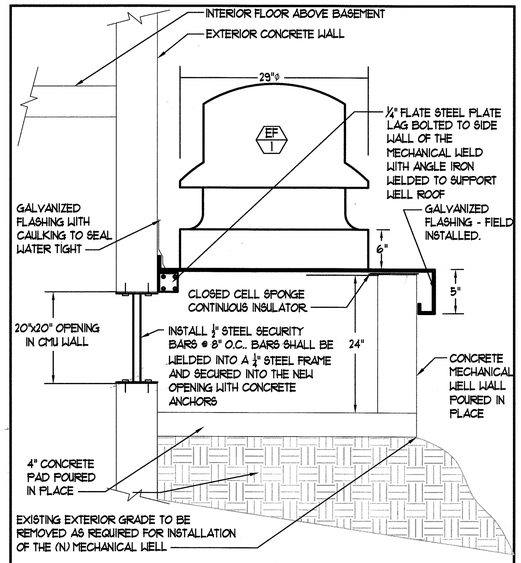
VAV CONNECTION SIZE	MINIMUM 'A' DIMENSION
6"ø	18"
8"ø	24"
10"ø	30"
12"ø	36"
14"ø	42"
16"ø	48"

4 / M6.1 VAV TERMINAL DETAIL
SCALE: NONE

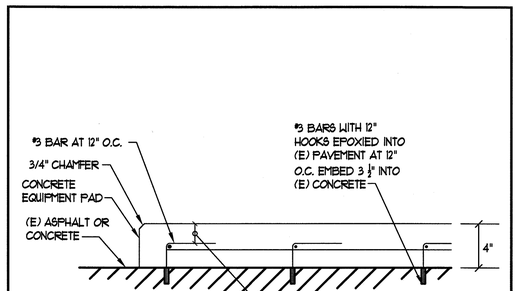


NOTE:
VERIFY PIPING ARRANGEMENT OF CONTROL VALVE W/ MANUFACTURER PRIOR TO INSTALLATION AND MODIFY PIPING ACCORDINGLY

5 / M6.1 2 WAY HOT WATER COIL PIPING
SCALE:NONE

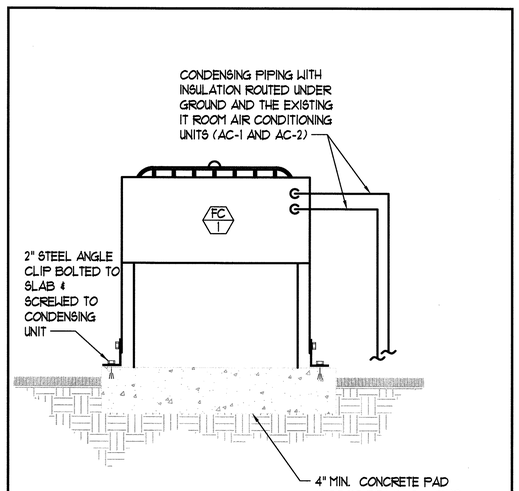


6 / M6.1 EVIDENCE ROOM EXHAUST FAN
SCALE:NONE



NOTES:
1. USE SIMPSON SET EPOXY
2. USE 4,000 PSI CONCRETE WITH 6% AIR ENTRAINMENT AND FIBER REINFORCEMENT
3. NO SPECIAL INSPECTION REQUIRED

7 / M6.1 CONCRETE EQUIPMENT PAD DETAIL
SCALE: NONE



8 / M6.1 IT ROOM FLUID COOLER DETAIL
SCALE:NONE

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385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
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MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

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DATE :
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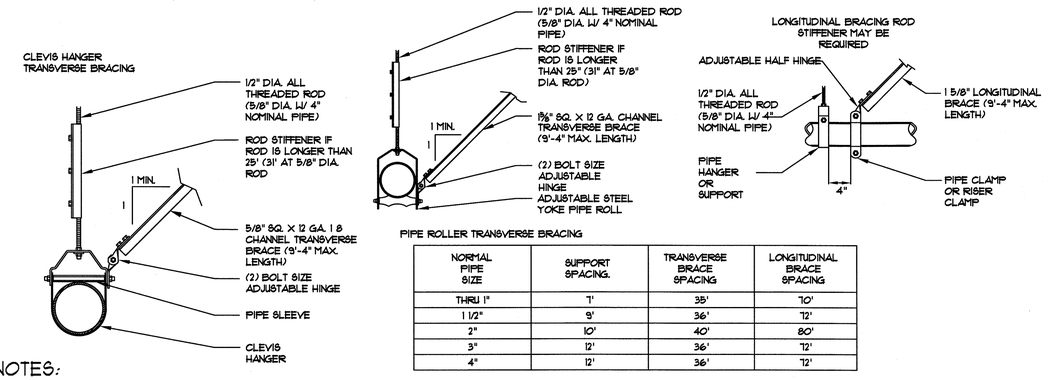


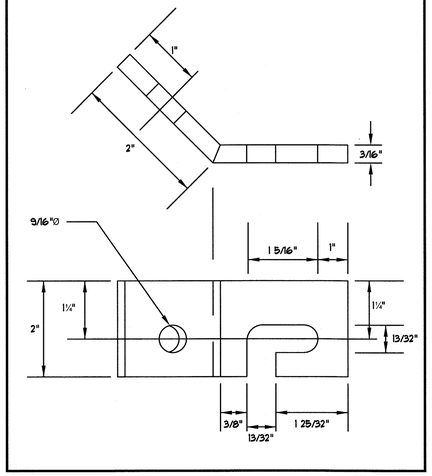
PIPE ROLLER TRANSVERSE BRACING

NORMAL PIPE SIZE	SUPPORT SPACING.	TRANSVERSE BRACE SPACING	LONGITUDINAL BRACE SPACING
THRU 1"	7'	35'	70'
1 1/2"	9'	36'	72'
2"	10'	40'	80'
3"	12'	36'	72'
4"	12'	36'	72'

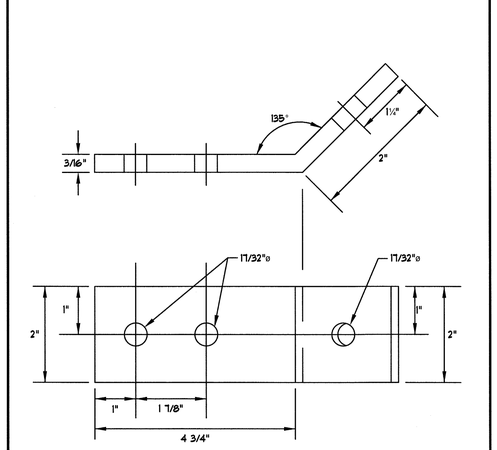
NOTES:

1. PIPE SLEEVE REQUIRED OVER CROSS BOLT OF CLEVIS HANGER WHEN USING THE BRACE CONNECTION SHOWN ABOVE.
2. PROVIDE TRANSVERSE BRACE AT EACH END OF STRAIGHT RUN AND AT MAX. SPACING INDICATED.
3. PROVIDE 1 LOGITUDINAL BRACE FOR EACH STRAIGHT RUN AND AT MAX. SPACING INDICATED.
4. REFER TO MANUFACTURER'S SEISMIC RESTRAINT CATALOG FOR EXPLANATION OF STRAIGHT RUN.

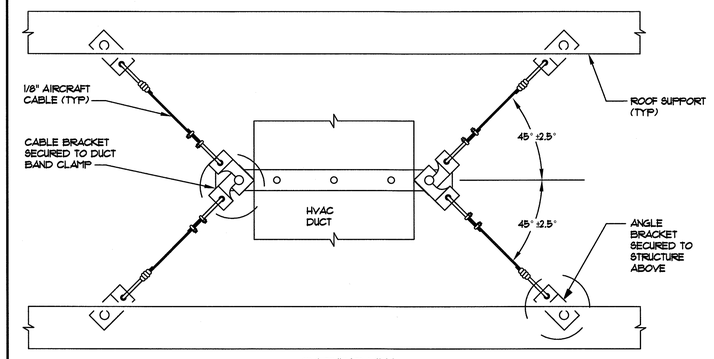
1 / M6.2 SEISMIC BRACING DETAIL
SCALE: NONE



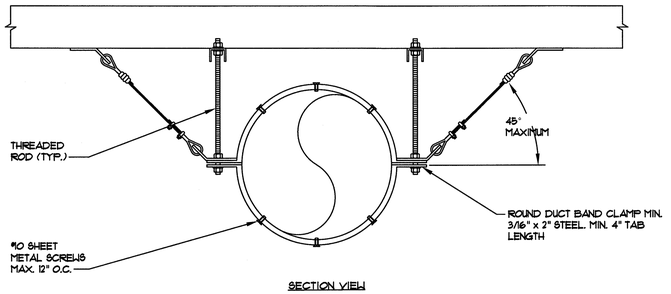
2 / M6.2 CABLE BRACKET DETAIL
SCALE: NONE



3 / M6.2 ANGLE BRACKET DETAIL
SCALE: NONE

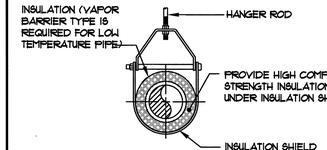


OVERHEAD VIEW

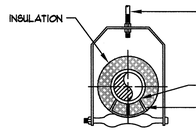


SECTION VIEW

4 / M6.2 4-WAY SPLAYED CABLE DUCT BRACING DETAIL
SCALE: NONE

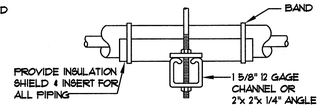


ADJUSTABLE CLEVIS HANGER



ADJUSTABLE ROLLER HANGER

HANGER RODS	
NOMINAL PIPE OR TUBE SIZE (INCHES)	MINIMUM ROD DIAMETER (INCHES)
1/2 - 4	3/8
5 - 8	1/2
10 - 12	5/8



SIDE VIEW

TRAPEZE HANGER FOR UP TO 1000 LB. UNIFORM LOAD

MAXIMUM PIPE/TUBING SUPPORT SPACING				
PIPE MATERIAL	HORIZONTAL		VERTICAL	
	SIZE (INCHES)	SPACING (FEET)	SIZE (INCHES)	SPACING (FEET)
COPPER PIPE OR TUBING	1-1/2 AND SMALLER	6	ALL	EACH FLOOR, NOT TO EXCEED 10 FEET
	2 AND LARGER	10		
BLACK STEEL	1/2	6	1/2	6
	3/4 - 1	8	3/4 - 1	8
	1-1/4 AND LARGER	10	1-1/4 AND LARGER	EVERY FLOOR LEVEL
ABS	ALL	4*	ALL	BASE AND EACH FLOOR. PROVIDE MID-STORY GUIDES*
CPVC	1 AND SMALLER	3	ALL	BASE AND EACH FLOOR.
	1¼ AND LARGER	4		

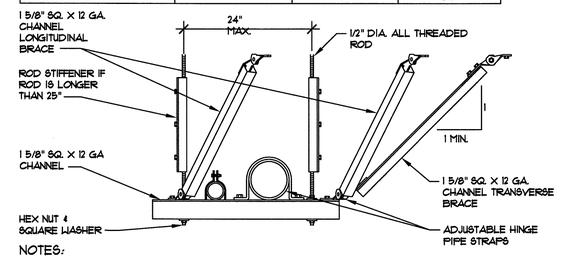
* PROVIDE FOR EXPANSION EVERY 30 FEET
** PROVIDE SUPPORT AT EVERY CHANGE IN DIRECTION

NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.

5 / M6.2 TYPICAL PIPE HANGERS DETAIL
SCALE: NONE

TRAPEZE TRANSVERSE AND LONGITUDINAL BRACING

SMALLEST NOMINAL PIPE SIZE ON TRAPEZE	TRAPEZE SPACING.	TRANSVERSE BRACE SPACING	LONGITUDINAL BRACE SPACING
THRU 1"	6'	12'	24'
2"	10'	10'	20'
3"	12'	12'	24'



NOTES:

1. ADJUSTABLE HINGES FOR LONGITUDINAL BRACES MAY BE ATTACHED ON EITHER SIDE ADJACENT TO THE ALL THREAD ROD ITSELF.
2. ADJUSTABLE HINGES FOR TRANSVERSE BRACES MAY BE ATTACHED TO THE ALL THREAD ROD.
3. TWO ADJUSTABLE HINGES MAY BE ATTACHED TO THE STRUT TRAPEZE USING THE SAME BOLT OR ALL THREAD ROD.
4. IT IS NOT NECESSARY TO INSTALL BOTH TRANSVERSE BRACES AND LONGITUDINAL BRACES ON THE SAME TRAPEZE SUPPORT. EITHER SET OF BRACES MAY BE REMOVED TO FORM A LONGITUDINAL BRACE ONLY OR A TRANSVERSE BRACE ONLY IF DESIRED.
5. LONGITUDINAL BRACES, WHEN NEEDED, MUST BE INSTALLED AT BOTH ENDS OF TRAPEZE.
6. THE EQUIPMENT SHOWN ON THIS TRAPEZE SUPPORT IS GENERIC IN NATURE. ANY NUMBER OF PIPES, CONDUITS, DUCTWORK OR CABLE TRAY MAY BE SUPPORTED.
7. PROVIDE TRANSVERSE BRACE AT EACH END OF STRAIGHT RUN AND AT MAX. SPACING INDICATED.
8. PROVIDE 1 LOGITUDINAL BRACE FOR EACH STRAIGHT RUN AND AT MAX. SPACING INDICATED.
9. REFER TO MANUFACTURER'S SEISMIC RESTRAINT CATALOG FOR EXPLANATION OF STRAIGHT RUN.

6 / M6.2 SEISMIC BRACING DETAIL
SCALE: NONE

REGISTERED PROFESSIONAL ENGINEER - STATE OF NEVADA
MATTHEW C. MYRES
Exp. 12/31/19
MECHANICAL
No. 16816

3/26/2018

BID DOCUMENTS

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19
MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

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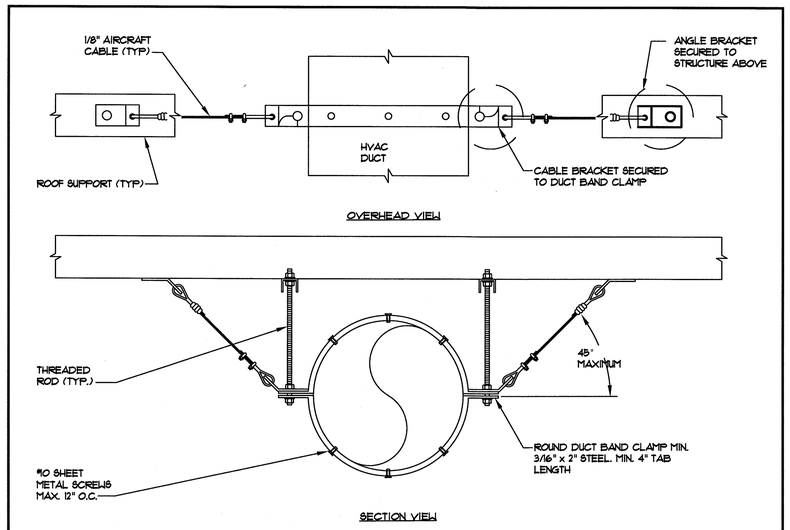
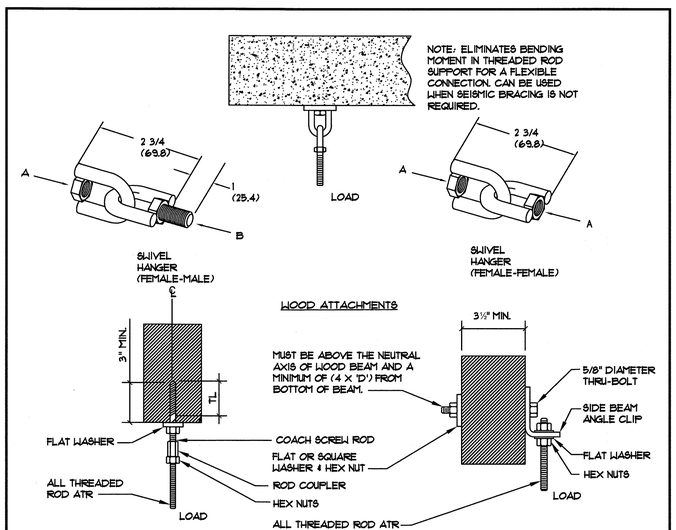


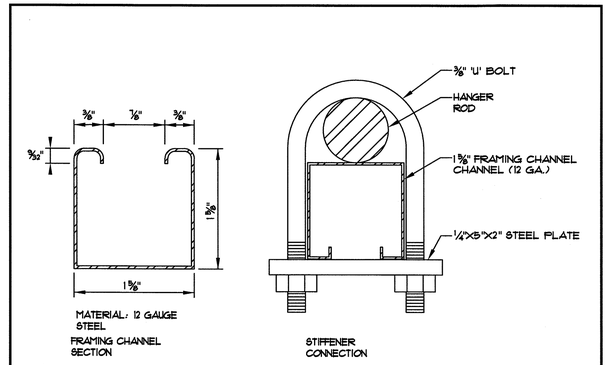
1 / M6.3 2-WAY TRANSFER CABLE DUCT BRACING DETAIL

SCALE: NONE



2 / M6.3 SEISMIC BRACING DETAIL

SCALE: NONE



TORQUE VALUES FOR FRAMING CHANNEL BOLTS				
BOLT SIZE:	¼"	⅜"	⅜"	½"
FOOT POUNDS:	6	11	19	50

3 / M6.3 ROD STIFFENER DETAIL

SCALE: NONE

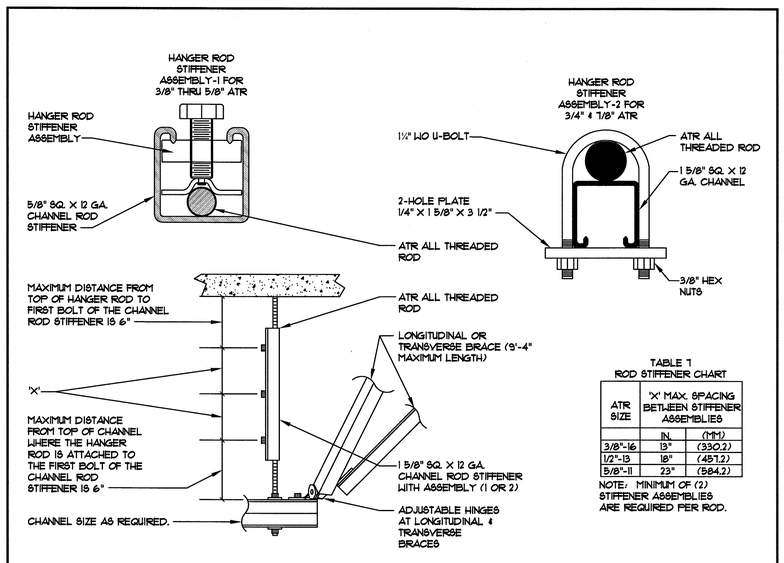


TABLE 1
ROD STIFFENER CHART

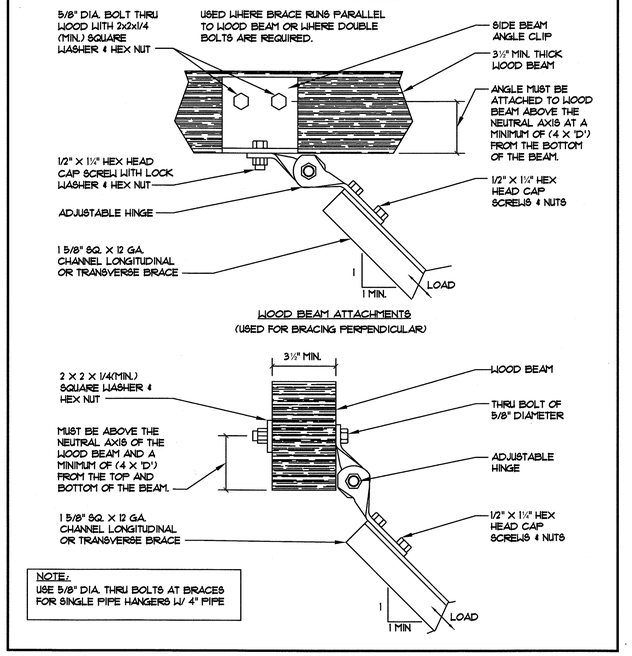
ATR SIZE	'X' MAX. SPACING BETWEEN STIFFENER ASSEMBLIES	
	IN.	(MM)
3/8"-16	13"	(330.2)
1/2"-13	18"	(457.2)
5/8"-11	23"	(584.2)

NOTE: MINIMUM OF (2) STIFFENER ASSEMBLIES ARE REQUIRED PER ROD.

ROD STIFFENERS REQUIRED ONLY ON HANGER RODS THAT HAVE SEISMIC BRACING ATTACHED TO THE HANGER OR TRAPEZE.

4 / M6.3 SEISMIC BRACING DETAIL

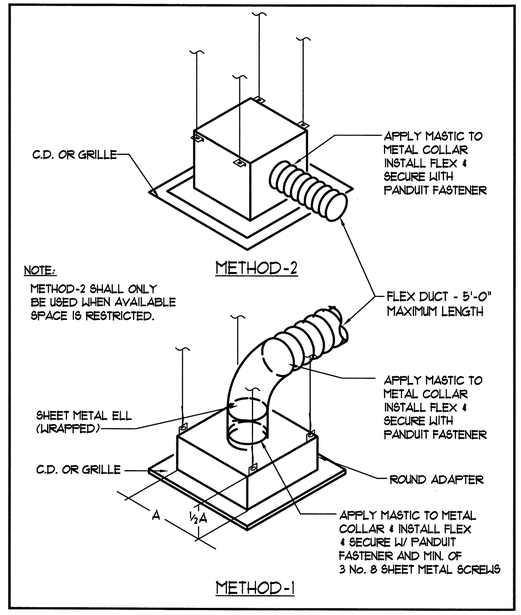
SCALE: NONE



NOTE:
USE 5/8" DIA. THRU BOLTS AT BRACES FOR SINGLE PIPE HANGERS W/ 4" PIPE

5 / M6.3 SEISMIC BRACING DETAIL

SCALE: NONE



6 / M6.3 LAY IN CEILING DIFFUSER DETAIL

SCALE: NONE

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19
MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

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1 / M6.4 GYPSUM BOARD CEILING DETAIL

SCALE: NONE

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385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
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SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE

MECHANICAL DETAILS (4)

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SHEET NUMBER : M6.4

ELECTRICAL SYMBOL LIST

- CONDUIT RUN IN OR ON CEILING OR WALL
- CONDUIT RUN IN OR UNDER FLOOR OR UNDERGROUND
- HASH MARKS INDICATE NUMBER OF #12 AWG CONDUCTORS IN CONDUIT. NO MARKS INDICATE 2 #12'S. DOES NOT INCLUDE GROUND WIRE. IF NON-METALLIC CONDUIT ADD GROUND PER NEC.
- LONG SLASH WITH HASH MARKS AS SHOWN INDICATES GROUND WIRE FOR ISOLATED GROUNDING SYSTEM. SIZE PER N.E.C.
- LA-1 — HOMERUN TO PANEL WITH PANEL AND CIRCUIT INDICATED
- LA-(1, 3, 5) — HOMERUN TO PANEL WITH CIRCUIT NUMBER IN BRACKETS INDICATING MULTI-POLE BREAKER.
- RACEWAY UP
- RACEWAY DOWN
- FLEX CONDUIT TO LAY-IN FIXTURE IN CEILING
- ON HA-6 — "ON" INDICATES CIRCUITING IS SPLIT AT DIFFERENT LOCATIONS
- FLUORESCENT FIXTURE SURFACE OR SUSPENDED – SEE FIXTURE SCHEDULE FOR MOUNTING
- FLUORESCENT FIXTURE – LAY-IN
- $ — SINGLE POLE SWITCH +48" AFF
- $W — AUTOMATIC WALL SWITCHES, WATT STOPPER CAT. PW-100 120/277. +48" AFF
- $W2 — DUAL LEVEL AUTOMATIC WALL SWITCHES, WATT STOPPER CAT NO. PW-200 120/277. +48"AFF
- MOTOR SYMBOL – HORSEPOWER AS INDICATED
- DISCONNECT SWITCH (30A/3P UNLESS INDICATED ON DWGS) "F" INDICATES FUSES PER MANUFACTURERS NAMEPLATE RATING
- MAGNETIC MOTOR STARTER (SIZE AS INDICATED ON DRAWINGS)
- COMBINATION STARTER / FUSED DISCONNECT SWITCH (SIZE AS INDICATED ON DRAWINGS – FUSES SIZED PER MANUFACTURER'S NAMEPLATE RATING)
- 120V DUPLEX CONVENIENCE RECEPTACLE +18" AFF
- 120V DOUBLE DUPLEX CONVENIENCE RECEPTACLE +18" AFF
- JUNCTION BOX AS REQUIRED BY NATIONAL ELECTRIC CODE
- ELECTRICAL PANELBOARD – SURFACE MOUNTED
- TRANSFORMER
- AUXILIARY SYSTEM TERMINAL CABINET
- —X— EXISTING WIRE AND/OR CONDUIT TO BE REMOVED OR ABANDONED
- —E— EXISTING WIRE AND/OR CONDUIT TO REMAIN
- DASHED DEVICES, LIGHT FIXTURES, ETC. EXISTING TO BE REMOVED
- "E" ADJACENT TO DEVICES, LIGHT FIXTURES, ETC. INDICATES EXISTING TO REMAIN
- 1 — SHEET NOTE
- A / 90 — LIGHT FIXTURE DESIGNATION & WATTAGE. SEE FIXTURE SCHEDULE
- AC / 1 — MECHANICAL EQUIPMENT DESIGNATION. SEE MECHANICAL & PLUMBING PLANS
- 2 — FEEDER – SIZE AS INDICATED ON SINGLE LINE DIAGRAM
- B / E3.1 — DETAIL DESIGNATION – "B" INDICATES DETAIL # ON SHEET E3.1
- A100 — ROOM NUMBER

✳ NOTE: ALL MOUNTING HEIGHTS AS INDICATED UNLESS NOTED OTHERWISE. ALL SYMBOLS MAY NOT BE USED ON PROJECTS.

ELECTRICAL ABBREVIATIONS

AC	ABOVE COUNTER. INSTALL 4" ABOVE SPLASH OR COUNTER OR AT HEIGHT AS INDICATED ON DRAWINGS
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AL	ALUMINUM
CU	COPPER
EC	EMPTY CONDUIT WITH PULL WIRE
FBO	FURNISHED BY OTHER SECTION
GFI	GROUND FAULT INTERRUPTING
NEC	NATIONAL ELECTRICAL CODE
NIC	NOT IN CONTRACT
NVE	NV ENERGY
PNL	PANEL
TTB	TELEPHONE TERMINAL BOARD
UNO	UNLESS NOTED OTHERWISE
W/	WITH
WP	WEATHERPROOF (NEMA 3R)
XFMR	TRANSFORMER

GENERAL DEMOLITION NOTES

1. ELECTRICAL LIGHTS, DEVICES AND ETC. THAT ARE INDICATED BY DASHED LINES SHALL BE REMOVED ENTIRELY, INCLUDING JUNCTION BOXES AND CIRCUITING ASSOCIATED WITH SAID ITEM.
2. THESE PLANS DO NOT PURPORT TO SHOW ALL EXISTING CONDITIONS. ANY OUTLETS, CIRCUITING AND/OR DEVICES THAT CONFLICT WITH ALL WORK BEING PERFORMED DURING THE COURSE OF THIS PROJECT SHALL BE RELOCATED/REROUTED OR REMOVED ENTIRELY AS DICTATED BY OWNER.
3. IT IS RECOMMENDED THAT THE CONTRACTOR VISIT SITE AND VERIFY EXISTING CONDITIONS THAT MIGHT AFFECT HIS OR HER WORK. ALL DISCREPANCIES SHALL BE REPORTED TO ENGINEER PRIOR TO BID.
4. DEMOLITION AND MODIFICATION OF EXISTING DISTRIBUTION SYSTEMS SHALL BE PERFORMED AS FOLLOWS:
   A. EXISTING WIRING TO BE REMOVED SHALL BE REMOVED BACK TO ITS SOURCE. CONDUITS MAY BE ABANDONED IN PLACE IF THEY ARE IN CONCEALED LOCATION AND DO NOT CONFLICT WITH ANY NEW WORK. THIS CONDUITS SHALL BE LABELED AS ABANDONED. REMOVE ALL WIRING FROM ABANDONED RACEWAYS.
   B. CONTINUATION OF SERVICE: MAINTAIN CONTINUITY OF EXISTING CIRCUITS. TEST LIGHTING, RECEPTACLES AND ALL ELECTRICALLY POWERED EQUIPMENT IN SURROUNDING AREAS TO DETERMINE IF ANY EQUIPMENT TO REMAIN HAS BEEN DE-ENERGIZED. CONTRACTOR SHALL RECONNECT ALL EQUIPMENT AND EXTEND CIRCUITING IN ORDER TO RE-ACTIVATE ANY SUCH EQUIPMENT.

ELECTRICAL GENERAL NOTES

1. UTILITIES SHOWN TO BE DEMOLISHED SHALL NOT BE REMOVED FROM SERVICE UNTIL EITHER OF THE FOLLOWING EVENTS OCCUR: A) THE FACILITY SERVED BY THE UTILITY IS NO LONGER OCCUPIED AND IS READY FOR DEMOLITION. OR B) EQUIVALENT SERVICE BY NEW UTILITY CONSTRUCTION HAS BEEN PROVIDED TO THE FACILITY CURRENTLY SERVICED. UNLESS OTHERWISE NOTED.
2. VERIFY EXACT LOCATION OF ALL RECEPTACLES ABOVE OR ADJACENT TO COUNTERS FIXTURES MIRRORS OUTDOOR FIXTURES AND MOUNTING HEIGHTS & LOCATIONS OF ALL FIXTURES & BOXES PRIOR TO ROUGH-IN. NO EXTRA COSTS WILL BE ALLOWED FOR FAILURE TO COMPLY.
3. ANY POWER OUTAGE OF ANY CIRCUIT SHALL BE APPROVED BY THE OWNER IN WRITING A MINIMUM OF TWO WEEKS PRIOR TO OUTAGE. ALL OUTAGES SHALL BE DONE EXACTLY WHEN DETERMINED BY THE OWNER AND DONE BEFORE OR AFTER WORKING HOURS AND ON WEEKENDS. NO SINGLE OUTAGE SHALL REQUIRE MORE THAN 4 HOURS. PROVIDE TEMPORARY POWER, HEAT & COOLING IF REQUIRED DURING OUTAGE.
4. PRIOR TO PURCHASE OF ANY PANEL, PROTECTIVE DEVICES, SWITCH, STARTER, CONDUIT, WIRE, ETC., TO FEED ANY PIECE OF MECHANICAL EQUIPMENT VERIFY THE VOLTAGE, PHASE, & LOAD OF THAT ITEM IN THE FIELD AND/OR WITH THE PARTICULAR ENTITY INVOLVED IN FURNISHING THE ITEM SUCH THAT THE PROPER SIZE & RATING OF THE MATERIALS ARE PURCHASED. NO EXTRAS WILL BE ALLOWED FOR FAILURE TO COMPLY. THIS APPLIES TO ALL EQUIPMENT UNDER OTHER SECTIONS & BY THE OWNER.
5. ALL RECEPTACLES SHALL MATCH THE MALE PLUG CONNECTOR OF ALL EQUIPMENT PROVIDED VERIFY PRIOR TO PURCHASE. SEE GENERAL NOTE 4.
6. PULL ROPES: PROVIDE 12 GA PULL WIRE OR NYLON EQUIVALENT IN ALL INTERIOR EMPTY CONDUIT RUNS. PROVIDE 1/4" DIA NYLON PULL ROPE IN EACH EMPTY EXTERIOR CONDUIT OR DUCT.
7. COORDINATE WITH MECHANICAL CONTRACTORS TO AVOID CONFLICTS BETWEEN DUCT WORK, SUPPLY & EXHAUST DIFFUSERS AND LIGHTING, SOUND SYSTEM & FIRE ALARM SYSTEM FIXTURES.
8. VERIFY THE EXACT LOCATION AND ELEVATION OF ALL ELECTRICAL EQUIPMENT PRIOR TO ROUGH-IN. FINAL CONNECTIONS OF EQUIPMENT SHALL BE PER MANUFACTURERS APPROVED WIRING DIAGRAMS, DETAILS AND INSTRUCTIONS. THE ELECTRICAL CONTRACTOR SHALL PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.
9. ORDER AND/ OR RELEASE ORDERED MATERIALS PROMPTLY AFTER SUBMITTAL APPROVAL. NO SUBSTITUTIONS OR ALTERNATE METHODS OF INSTALLATION WILL BE ACCEPTED FOR FAILURE TO ORDER MATERIALS IN A TIMELY FASHION.
10. CONDUIT/ CONDUCTOR RUNS SHOWN ARE DIAGRAMMATICAL ONLY. THE BEST FINAL CONDUIT ROUTING SHALL BE AS DETERMINED BY THE ELECTRICAL CONTRACTOR AT TIME OF CONSTRUCTION.
11. SERIES RATING OF UPSTREAM OR DOWNSTREAM CIRCUIT BREAKERS OR FUSES IS PROHIBITED. ONLY FULLY RATED SYSTEM COMPONENTS WILL BE ACCEPTED.
12. PROVIDE ALL TRENCHING, EXCAVATION, BACK FILLING, SHORING, PUMPING, COMP ACTION TESTS, ETC. THAT ARE REQUIRED FOR THE SCOPE OF ELECTRICAL WORK.

385 Gentry Way
Reno, NV 89502
Ph: 775.826.4044
Fax: 775.826.4190
Web: dinter.com
J-4538

DINTER ENGINEERING CONFIDENCE

KELLER C. HABKBUSCH
Exp. 06/30/19
ELECTRICAL
No. 018326
STATE OF NEVADA
REGISTERED PROFESSIONAL ENGINEER
3/23/2018

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19
MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE
ELECTRICAL SYMBOL LIST

REVISIONS

BID DOCUMENTS

RECEIVED CITY OF SPARKS
MAR 28 2018
COMMUNITY SERVICES
BUILDING DIVISION

DATE :
MARCH 26, 2018

SHEET NUMBER :
E0.1

ELECTRICAL SHEET NOTES:

1. ELECTRICAL LOAD REMOVED DURING MECHANICAL EQUIPMENT REPLACEMENT.
2. NEW ELECTRICAL LOAD ADDED FOR NEW MECHANICAL EQUIPMENT.
3. NEW 20AMP/3POLE BREAKER TO BE FURNISHED AND INSTALL BY ELECTRICAL CONTRACTOR.

PANEL BOARD	1HM					EXISTING			
DIRECTORY	LOAD	BKR	CIR			CIR	BKR	LOAD	DIRECTORY
(N) FC-1	998	20	1	A		2	20/1	3324	(N) Basement Mech Xfmr
	998		3	B		4	20/1	3324	(N) Ground Flr Mech Xfmr
	998	3	5	C		6	20/1	3324	(N) 2nd Flr Mech Xfmr
(N) Spare		20/1	7	A		8	20/1		(N) Spare
(N)Spare		20/1	9	B		10	30/1		(N) Spare
Existing Load	3500	20/1	11	C		12	20/1	3500	Existing Load
Existing Load	3500	20/1	13	A		14	20/1	3500	Existing Load
Existing Load	3500	20/1	15	B		16	20/1	3500	Existing Load
Existing Load	3500	20/1	17	C		18	50	8924	(N) AC-3
Existing Load	3500	20/1	19	A		20		8924	
Existing Load	3500	20/1	21	B		22	3	8924	
(N) Spare		20/1	23	C		24	20/1		(N) Spare
(N) Spare		20/1	25	A		26	20/1		(N) Spare
(N) FC-2	998	20	27	B		28	20	998	(N) FC-3
	998		29	C		30		998	
	998	3	31	A		32	3	998	
Space			33	B		34			Space
			35	C		36			
			37	A		38			
			39	B		40			
			41	C		42			
CONNECTED LOAD	77226 VA		(93 A)						OTHER NOTES:
	A= 25742 VA		93 A						277/480V., 3PH, 4W
	B= 25742 VA		93 A						200 AMP MLO
	C= 25742 VA		93 A						200 AMP BUS

PANEL BOARD	BLB					EXISTING			
DIRECTORY	LOAD	BKR	CIR			CIR	BKR	LOAD	DIRECTORY
Spare		20/1	1	A		2	20/1	800	WH-1 Control
Spare		20/1	3	B		4	20/1	1200	CP-1
Spare		20/1	5	C		6	20/1	800	Chiller Control
Spare		20/1	7	A		8	20/1		Spare
Spare		20/1	9	B		10	20/1		Spare
Spare		20/1	11	C		12	20/1		Spare
Spare		20/1	13	A		14	20/1		Spare
Spare		20/1	15	B		16	20/1		Spare
Spare		20/1	17	C		18	20/1	1656	(N) EF-1
Aux HTR CHLR	4680	50	19	A		20	50	4680	Aux HTRS BLR
	4680	2	21	B		22	2	4680	
Space			23	C		24			Space
			25	A		26			
			27	B		28			
			29	C		30			
			31	A		32			
			33	B		34			
			35	C		36			
			37	A		38			
			39	B		40			
			41	C		42			
CONNECTED LOAD	23176 VA		(64 A)						OTHER NOTES:
	A= 10160 VA		85 A						120/208V., 3PH, 4W
	B= 10560 VA		88 A						200 AMP MLO
	C= 2456 VA		20 A						200 AMP BUS

385 Gentry Way
Reno, NV 89502
Ph: 775.826.4044
Fax: 775.826.4190
Web: dinter.com
J-4538

DINTER ENGINEERING CONFIDENCE

KELLER C. HACKBUSCH
Exp. 06/30/19
ELECTRICAL
No. 018326
STATE OF NEVADA
REGISTERED PROFESSIONAL ENGINEER
06/04/2019

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19
MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE

ELECTRICAL NOTES
AND CALCULATION

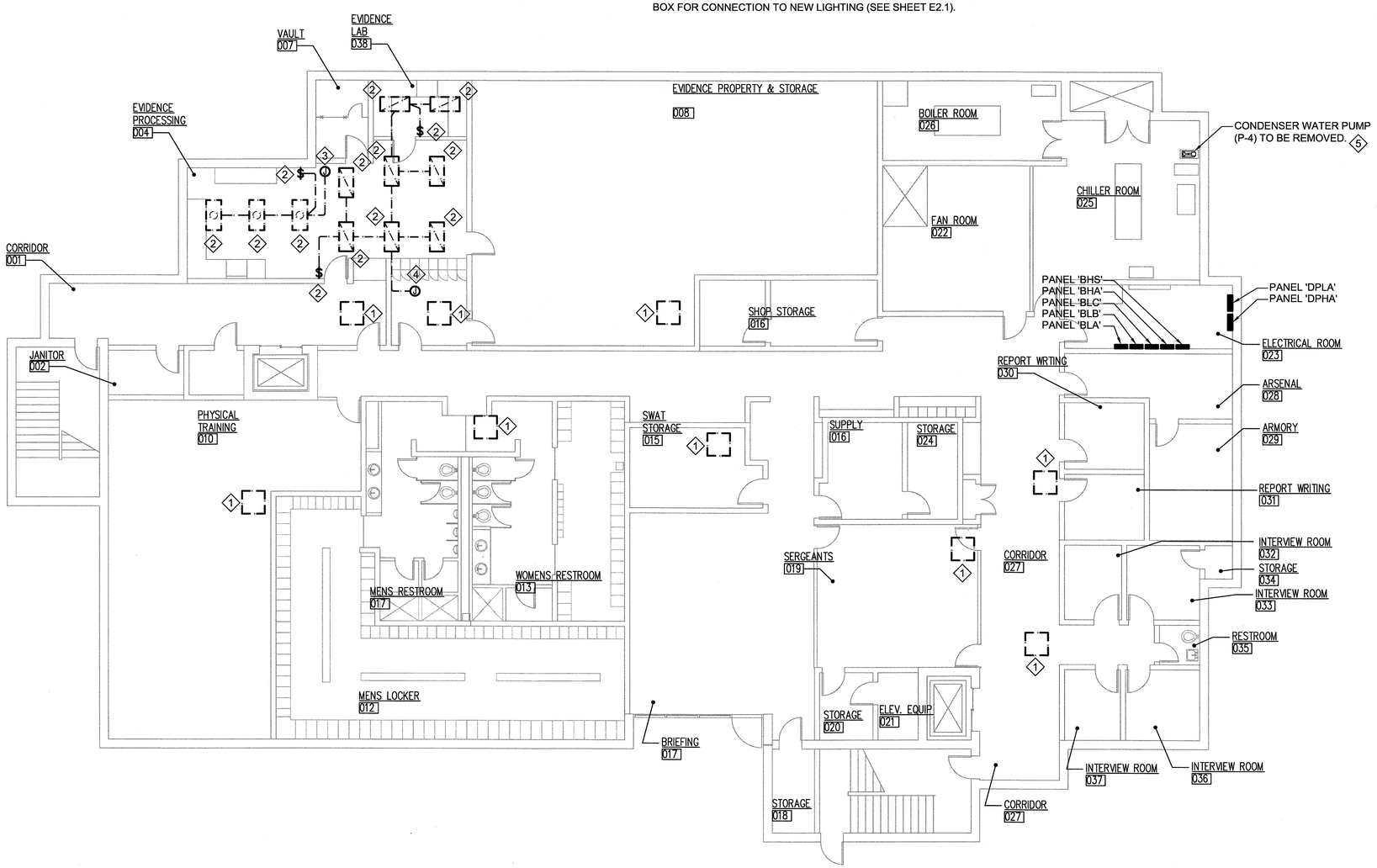
REVISIONS
2 OWNER REVISIONS (10/31/18)
3 OWNER REVISIONS (06/04/19)

CITY OF SPARKS
COMMUNITY SERVICES-BLDG. DIV.
DATE JUNE 4, 2019
JUN 07 2019
SHEET NO. REVISED
E0.2

BID DOCUMENTS

ELECTRICAL SHEET NOTES:

1. ELECTRICAL CONTRACTOR SHALL REMOVE ELECTRICAL CONNECTIONS TO MECHANICAL FAN AND VAV. THE FAN AND VAV SHALL BE REMOVED BY MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL REMOVE ALL WIRING AND CONDUIT FOR FAN AND VAV CIRCUITS 1, 3, 5, 2, AND 4 BACK TO PANEL BOARD '1HM' ON THE GROUND FLOOR.
2. ELECTRICAL CONTRACTOR SHALL REMOVE ELECTRICAL CONNECTIONS TO LIGHT FIXTURES AND ROOM LIGHT SWITCH, AND REMOVE EXISTING LIGHT FIXTURES AND WALL SWITCH. EXISTING CEILING GRID SHALL BE REMOVED BY GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR TO LEAVE CONDUIT FROM WALL SWITCH UP TO CEILING SPACE AND REUSE FOR NEW LIGHTING.
3. ELECTRICAL CONTRACTOR SHALL INTERCEPT CONDUIT AND WIRING FROM VAULT LIGHT. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL JUNCTION BOX FOR CONNECTION TO NEW LIGHTING (SEE SHEET E2.1)
4. ELECTRICAL CONTRACTOR SHALL INTERCEPT CONDUIT AND WIRING FROM ROOM 041. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL JUNCTION BOX FOR CONNECTION TO NEW LIGHTING (SEE SHEET E2.1).
5. ELECTRICAL CONTRACTOR SHALL REMOVE ELECTRICAL CONNECTIONS TO CONDENSER WATER PUMP "P-4" AND PUMP "P-4""S COMBINATION CIRCUIT BREAKER-MOTOR STARTER. ELECTRICAL CONTRACTOR SHALL REMOVE COMBINATION CIRCUIT BREAKER-MOTOR STARTER, REMOVE WIRING AND CONDUIT FROM PUMP "P-4" TO COMBINATION CIRCUIT BREAKER-MOTOR STARTER, AND REMOVE WIRING AND CONDUIT FROM MOTOR STARTER BACK TO PANEL BOARD.



1 / E1.1 ELECTRICAL DEMOLITION FLOOR PLAN – BASEMENT
SCALE: 1/8" = 1'-0"

BID DOCUMENTS

385 Gentry Way
Reno, NV 89502
Ph: 775.826.4044
Fax: 775.826.4190
Web: dinter.com
J-4538

DINTER ENGINEERING CONFIDENCE

REGISTERED PROFESSIONAL ENGINEER
STATE OF NEVADA
No. 018326
MILLER C. HACKBUSCH
Exp. 06/30/19
ELECTRICAL
3/23/2018

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19

MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE
ELECTRICAL DEMOLITION FLOOR PLAN - BASEMENT

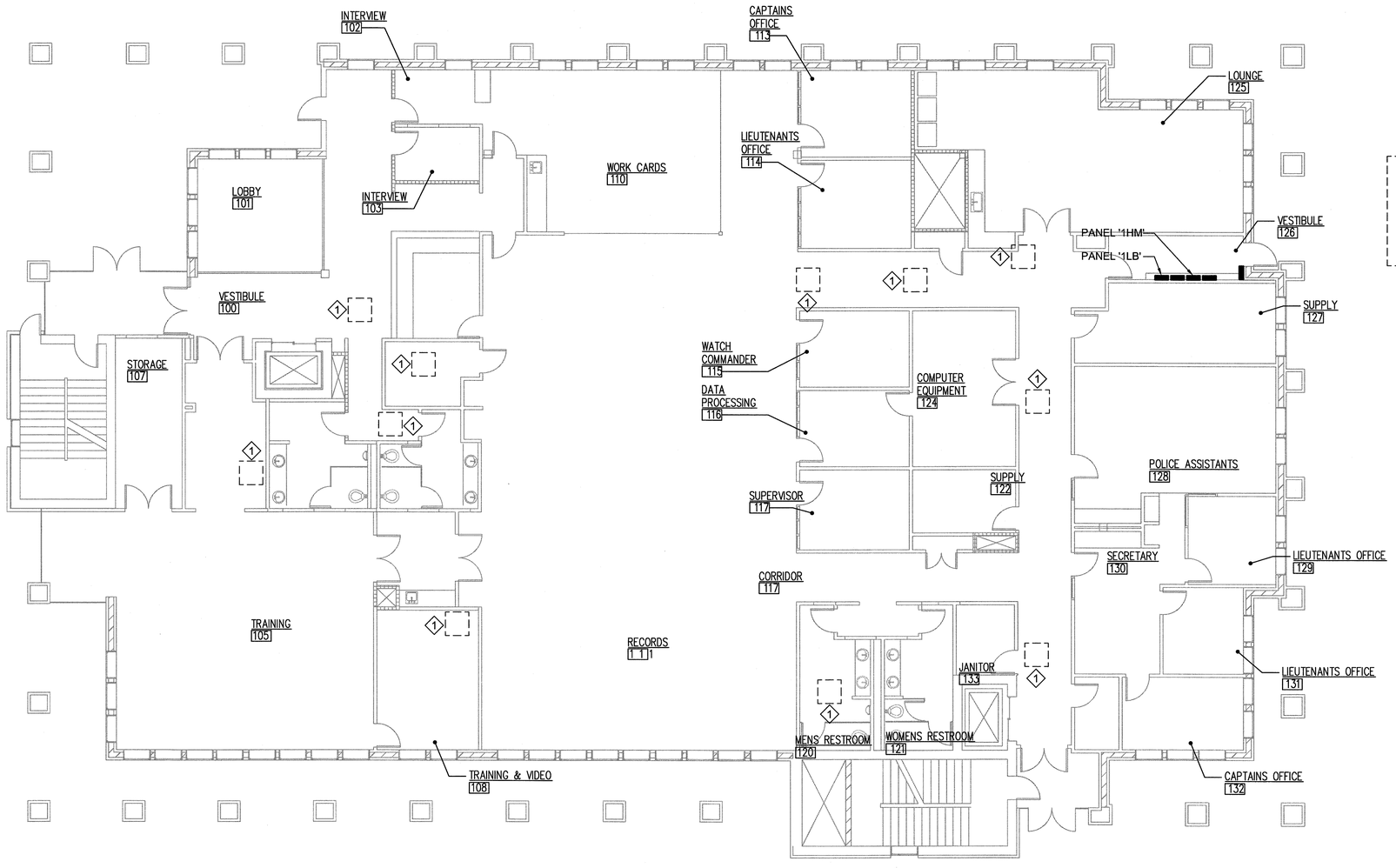
REVISIONS

DATE :
MARCH 26, 2018

SHEET NUMBER :
E1.1

ELECTRICAL SHEET NOTES:

1. ELECTRICAL CONTRACTOR SHALL REMOVE ELECTRICAL CONNECTIONS TO MECHANICAL FAN AND VAV. THE FAN AND VAV SHALL BE REMOVED BY MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL REMOVE ALL WIRING AND CONDUIT FOR FAN AND VAV CIRCUITS 6, 8, 10, 7, AND 9 BACK TO PANEL BOARD '1HM' ON THE GROUND FLOOR.



EXISTING COOLING TOWER TO REMAIN

1 / E1.2 ELECTRICAL DEMOLITION FLOOR PLAN – GROUND FLOOR
SCALE: 1/8" = 1'-0"

385 Gentry Way
Reno, NV 89502
Ph: 775.826.4044
Fax: 775.826.4190
Web: dinter.com
J-4538

DINTER ENGINEERING CONFIDENCE

REGISTERED PROFESSIONAL ENGINEER
KELLER C. HACKBUSCH
Exp. 06/30/19
ELECTRICAL
CERTIFICATE No. 018326
STATE OF NEVADA
3/23/2018

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19

MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE

ELEDTRICAL DEMOLITION FLOOR PLAN - GROUND FLOOR

REVISIONS

DATE :
MARCH 26, 2018

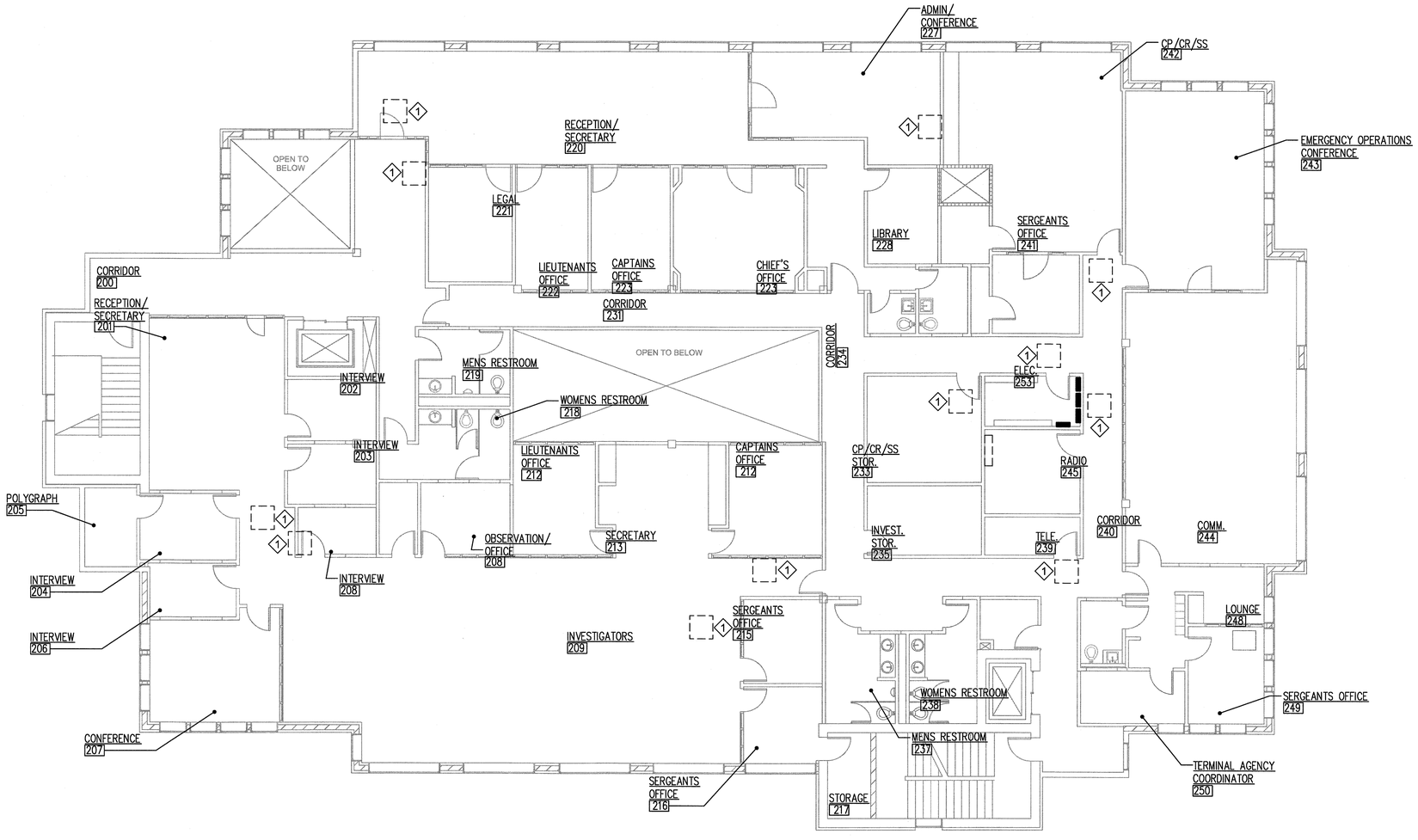
SHEET NUMBER :
E1.2

RECEIVED-CITY OF SPARKS
MAR 28 2018
COMMUNITY SERVICES
BUILDING DIVISION

BID DOCUMENTS

ELECTRICAL SHEET NOTES:

1. ELECTRICAL CONTRACTOR SHALL REMOVE ELECTRICAL CONNECTIONS TO MECHANICAL FAN AND VAV. THE FAN AND VAV SHALL BE REMOVED BY MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL REMOVE ALL WIRING AND CONDUIT FOR FAN AND VAV CIRCUITS 18, 20, 22, 24, 23 , AND 25 BACK TO PANEL BOARD '1HM' ON THE GROUND FLOOR.



1 / E1.3 ELECTRICAL DEMOLITION FLOOR PLAN – SECOND FLOOR

SCALE: 1/8" = 1'-0"

BID DOCUMENTS

385 Gentry Way
Reno, NV 89502
Ph: 775.826.4044
Fax: 775.826.4190
Web: dinter.com
J-4538

DINTER ENGINEERING CONFIDENCE

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA
KELLER C. HACKBUSCH
Exp. 06/30/19
ELECTRICAL
No. 018326

3/23/2018

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19

MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE

ELECTRICAL DEMOLITION FLOOR PLAN - SECOND FLOOR

REVISIONS

DATE : MARCH 26, 2018

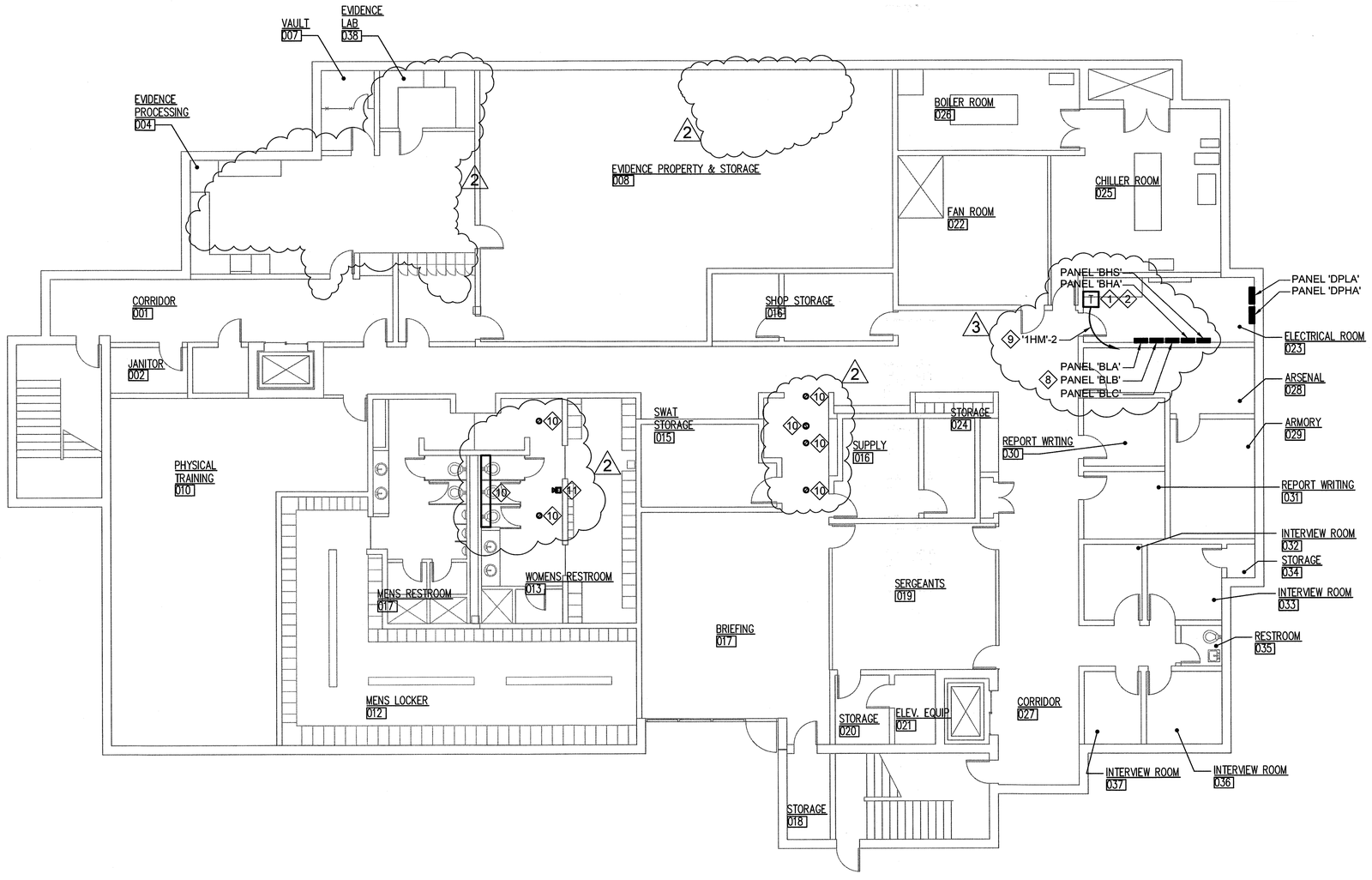
RECEIVED-CITY OF SPARKS
MAR 29 2018
COMMUNITY SERVICES
BUILDING DIVISION

SHEET NUMBER :

E1.3

ELECTRICAL SHEET NOTES:

1. COORDINATE AND VERIFY EXACT SIZE AND LOCATION OF 277-24V TRANSFORMER WITH MECHANICAL DRAWINGS AND MECHANICAL CONTROLS CONTRACTOR.
2. VAV POWER CONNECTION TO NEW 277V FLOOR TRANSFORMER. TRANSFORMER SHALL BE FURNISHED AND INSTALLED BY MECHANICAL CONTROLS CONTRACTOR.
3. NEW CEILING MOUNTING LED LIGHT FIXTURE SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
4. ELECTRICAL CONTRACTOR SHALL CONNECT NEW LIGHTING TO EXISTING CIRCUIT OUTSIDE OF VAULT.
5. ELECTRICAL CONTRACTOR SHALL CONNECT NEW LIGHTING TO EXISTING CIRCUIT IN ROOM 041.
6. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL NEW THREE BUTTON LIGHT LEVEL SETTING LIGHT SWITCH WITH MOTION SENSOR LIGHT SWITCH.
7. LIGHTING SENSORS TO TURN OFF LIGHTING AFTER 45 MINUTES OF NO DETECTION;
   - M1: WSX PDT - ROOM MOTION SENSOR.
   - M2: CMR 10 - CEILING AREA MOTION SENSOR.
8. ELECTRICAL CONTRACTOR SHALL USE EXISTING SPARE BREAKER FROM PANEL BOARD 'BLB" AT CIRCUIT 18.
9. ELECTRICAL CONTRACTOR SHALL USE EXISTING BREAKER FROM PANEL BOARD '1HM' AT CIRCUIT 2. CIRCUIT WAS PART OF DEMO WORK. CONTRACTOR CAN REUSE EXISTING CONDUIT WHERE POSSIBLE.
10. ELECTRICAL CONTRACTOR SHALL RE-INSTALL LIGHT FIXTURE, SPEAKER, ETC. IN THE NEW HARD LID CEILING. ELECTRICAL CONTRACTOR SHALL TEST EACH DEVICE AFTER INSTALLATION TO MAKE SURE THE DEVICE IS FULLY OPERATIONAL AND FUNCTIONING CORRECTLY. THE ELECTRICAL CONTRACTOR SHALL ALSO VERIFY ELECTRICAL SYSTEM IS THAT THE DEVICE IS CONNECTED TO IS FULLY OPERATIONAL AND FUNCTIONING CORRECTLY.
11. ELECTRICAL CONTRACTOR SHALL UNCOVER OR RE-INSTALL HORN/STROBE, ETC. IN THE NEW HARD LID CEILING. ELECTRICAL CONTRACTOR SHALL TEST EACH DEVICE AFTER INSTALLATION TO MAKE SURE THE DEVICE IS FULLY OPERATIONAL AND FUNCTIONING CORRECTLY. THE ELECTRICAL CONTRACTOR SHALL ALSO VERIFY THE FIRE ALARM SYSTEM IS FULLY OPERATIONAL AND FUNCTIONING CORRECTLY.



1 / E2.1 ELEDTRICAL FLOOR PLAN – BASEMENT
SCALE: 1/8" = 1'-0"

DINTER ENGINEERING CONFIDENCE
385 Gentry Way
Reno, NV 89502
Ph: 775.826.4044
Fax: 775.826.4190
Web: dinter.com
J-4538

STATE OF NEVADA – REGISTERED PROFESSIONAL ENGINEER – KELLER C. HACKBUSCH – Exp. 06/30/19 – ELECTRICAL – No. 018326

06/04/2019

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19
MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE
ELECTRICAL FLOOR PLAN – BASEMENT

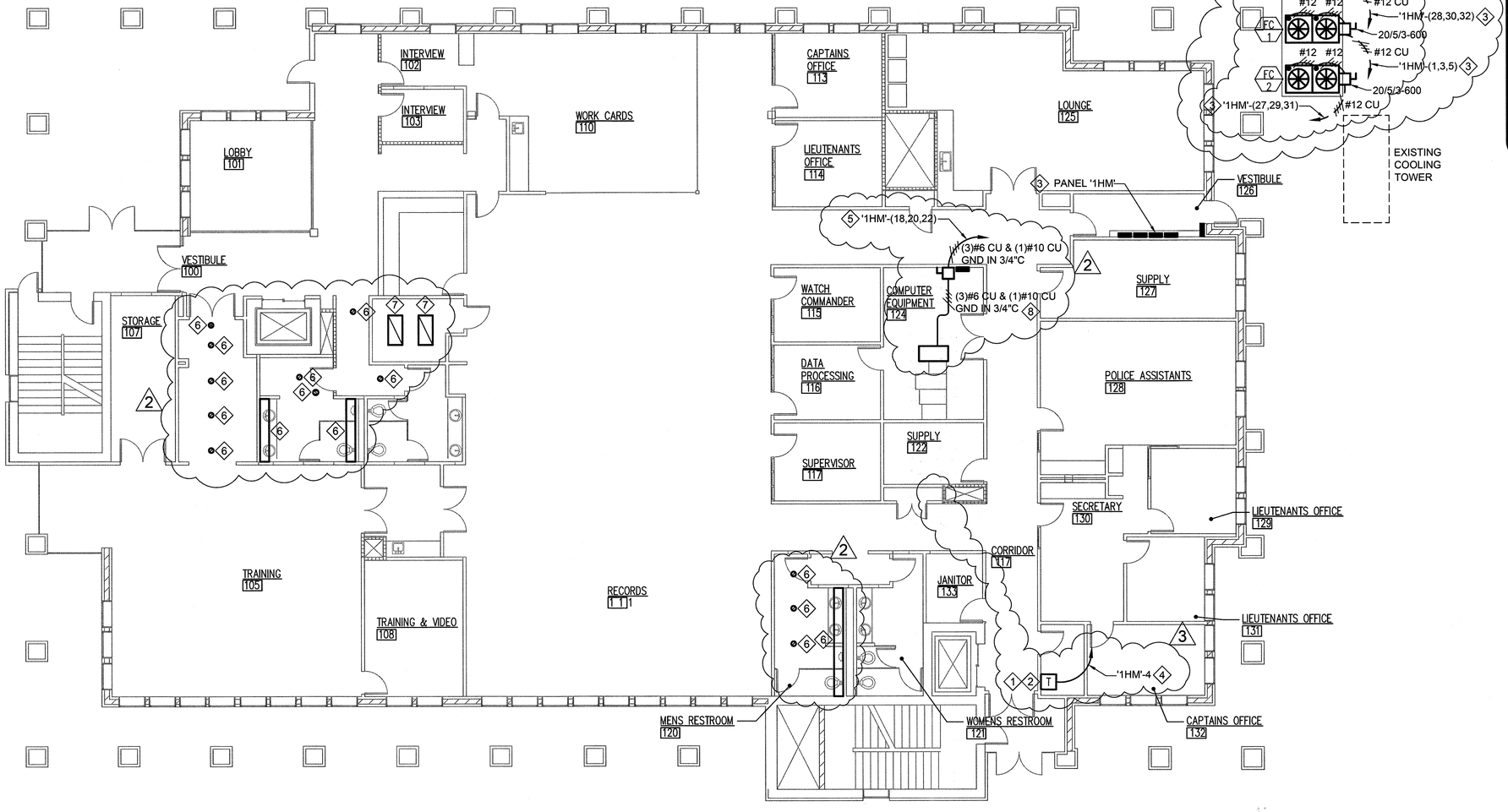
REVISIONS
2 OWNER REVISIONS (10/31/18)
3 OWNER REVISIONS (06/04/19)

DATE CITY OF SPARKS COMMUNITY SERVICES-BLDG. DIV. JUNE 4, 2019 JUN 07 2019
SHEET NUMBER REVISED E2.1

BID DOCUMENTS

ELECTRICAL SHEET NOTES:

1. COORDINATE AND VERIFY EXACT SIZE AND LOCATION OF 277-24V TRANSFORMER WITH MECHANICAL DRAWINGS AND MECHANICAL CONTROLS CONTRACTOR.
2. VAV POWER CONNECTION TO NEW 277V FLOOR TRANSFORMER. TRANSFORMER SHALL BE FURNISHED AND INSTALLED BY MECHANICAL CONTROLS CONTRACTOR.
3. ELECTRICAL CONTRACTOR SHALL REMOVE 20A/1P SPARE BREAKERS FROM PANEL '1HM' AT CIRCUITS 1, 3, AND 5. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A NEW 20A/3P BREAKER AT CIRCUITS 1, 3, AND 5. BREAKER SHALL MATCH PANEL BOARD MANUFACTURER AND MEET MANUFACTURER'S REQUIREMENT FOR EXITING PANEL BOARD.
4. ELECTRICAL CONTRACTOR SHALL USE EXISTING BREAKER FROM PANEL BOARD '1HM' AT CIRCUIT 4. CIRCUIT WAS PART OF DEMO WORK. CONTRACTOR CAN REUSE EXISTING CONDUIT WHERE POSSIBLE.
5. ELECTRICAL CONTRACTOR SHALL REMOVE 20A/1P SPARE BREAKERS FROM PANEL '1HM' AT CIRCUITS 18, 20, AND 22. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A NEW 50A/3P BREAKER AT CIRCUITS 18, 20, AND 22. BREAKER SHALL MATCH PANEL BOARD MANUFACTURER AND MEET MANUFACTURER'S REQUIREMENT FOR EXITING PANEL BOARD
6. ELECTRICAL CONTRACTOR SHALL RE-INSTALL LIGHT FIXTURE, SPEAKER, ETC. IN THE NEW HARD LID CEILING. ELECTRICAL CONTRACTOR SHALL TEST EACH DEVICE AFTER INSTALLATION TO MAKE SURE THE DEVICE IS FULLY OPERATIONAL AND FUNCTIONING CORRECTLY. THE ELECTRICAL CONTRACTOR SHALL ALSO VERIFY ELECTRICAL SYSTEM IS THAT THE DEVICE IS CONNECTED TO IS FULLY OPERATIONAL AND FUNCTIONING CORRECTLY.
7. ELECTRICAL CONTRACTOR SHALL RE-INSTALL LIGHT FIXTURE, ETC. IN THE NEW GRID CEILING. ELECTRICAL CONTRACTOR SHALL TEST EACH DEVICE AFTER INSTALLATION TO MAKE SURE THE DEVICE IS FULLY OPERATIONAL AND FUNCTIONING CORRECTLY. THE ELECTRICAL CONTRACTOR SHALL ALSO VERIFY ELECTRICAL SYSTEM IS THAT THE DEVICE IS CONNECTED TO IS FULLY OPERATIONAL AND FUNCTIONING CORRECTLY.
8. ELECTRICAL CONTRACTOR TO COORDINATE WITH ON SITE IT MANAGER FOR CONDUIT RUN IN RAISED FLOOR CABLE RUN SPACE.



1 / E2.2 ELECTRICAL FLOOR PLAN – GROUND FLOOR

SCALE: 1/8" = 1'-0"

385 Gentry Way
Reno, NV 89502
Ph: 775.826.4044
Fax: 775.826.4190
Web: dinter.com
J-4538

DINTER ENGINEERING CONFIDENCE

KELLER C. HACKBUSCH Exp. 06/30/19 ELECTRICAL — REGISTERED PROFESSIONAL ENGINEER — STATE OF NEVADA

06/04/2019

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
MMI PROJECT #2016-19

MMI ENGINEERING

SPARKS POLICE DEPARTMENT
HVAC UPGRADE PHASE 1
1701 EAST PRATER WAY
SPARKS, NEVADA 89434

SHEET TITLE

ELECTRICAL FLOOR PLAN – GROUND FLOOR

REVISIONS

2 OWNER REVISIONS (10/31/18)
3 OWNER REVISIONS (06/04/19)

CITY OF SPARKS
COMMUNITY SERVICES-BLDG. DIV.
JUN 07 2019
REVISED

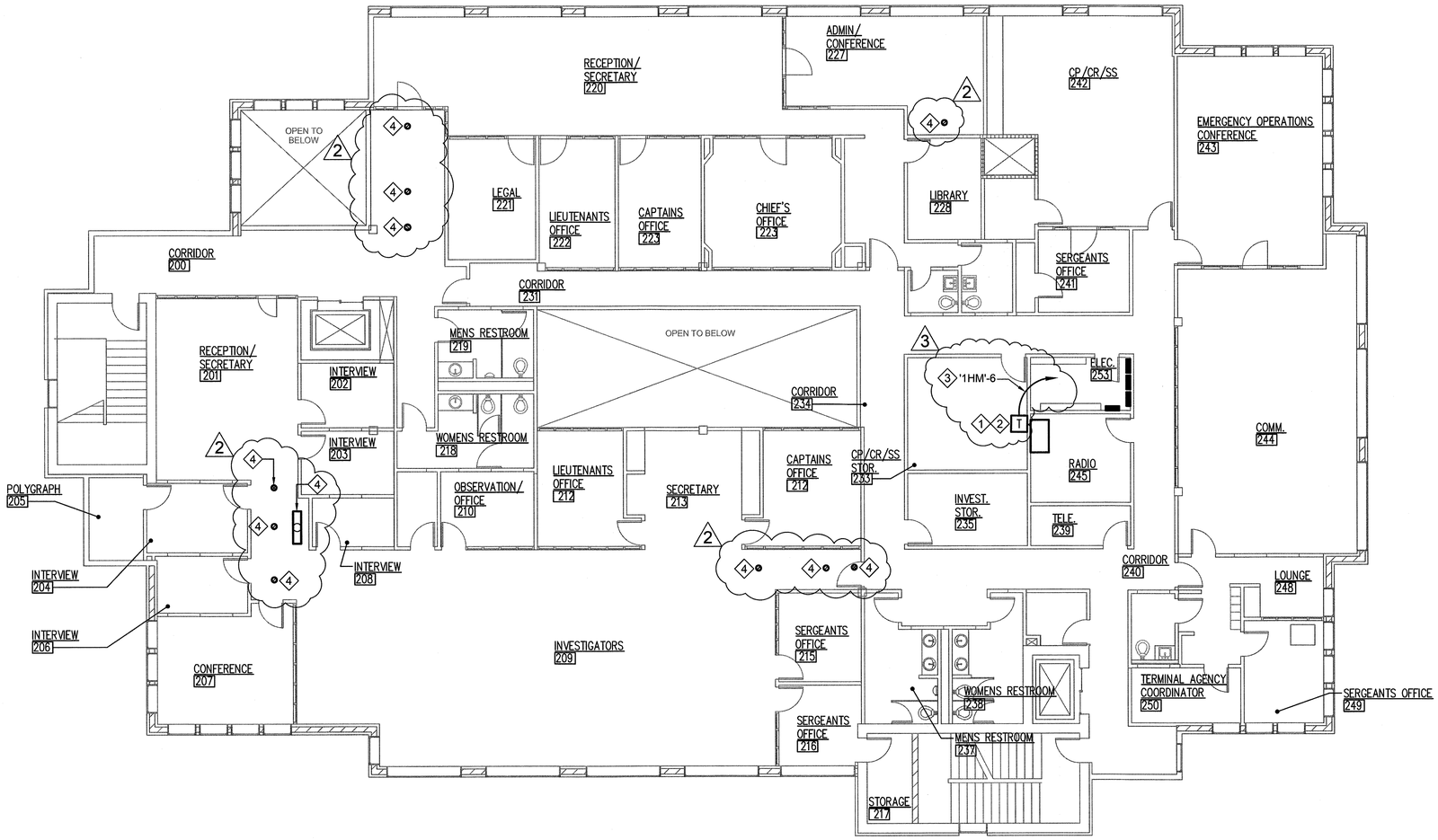
DATE: JUNE 4, 2019

SHEET NUMBER: E2.2

BID DOCUMENTS

ELECTRICAL SHEET NOTES:

1. COORDINATE AND VERIFY EXACT SIZE AND LOCATION OF 277-24V TRANSFORMER WITH MECHANICAL DRAWINGS AND MECHANICAL CONTROLS CONTRACTOR.
2. VAV POWER CONNECTION TO NEW 277V FLOOR TRANSFORMER. TRANSFORMER SHALL BE FURNISHED AND INSTALLED BY MECHANICAL CONTROLS CONTRACTOR.
3. ELECTRICAL CONTRACTOR SHALL USE EXISTING BREAKER FROM PANEL BOARD '1HM' AT CIRCUIT 6. CIRCUIT WAS PART OF DEMO WORK. CONTRACTOR CAN REUSE EXISTING CONDUIT WHERE POSSIBLE.
4. ELECTRICAL CONTRACTOR SHALL RE-INSTALL LIGHT FIXTURE, SPEAKER, ETC. IN THE NEW HARD LID CEILING. ELECTRICAL CONTRACTOR SHALL TEST EACH DEVICE AFTER INSTALLATION TO MAKE SURE THE DEVICE IS FULLY OPERATIONAL AND FUNCTIONING CORRECTLY. THE ELECTRICAL CONTRACTOR SHALL ALSO VERIFY ELECTRICAL SYSTEM IS THAT THE DEVICE IS CONNECTED TO IS FULLY OPERATIONAL AND FUNCTIONING CORRECTLY.



1 / E2.3 ELECTRICAL FLOOR PLAN – SECOND FLOOR

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385 Gentry Way
Reno, NV 89502
Ph: 775.826.4044
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J-4538

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REGISTERED PROFESSIONAL ENGINEER
KELLER C. MACKBUSCH
Exp. 06/30/19
ELECTRICAL
No. 018326 NEVADA, U.S.A.

06/04/2019

MMI ENGINEERING
385 GENTRY WAY
RENO, NV. 89502
(775) 499-5784
WWW.MMIE-DESIGNER.COM
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SHEET TITLE

ELECTRICAL FLOOR PLAN – SECOND FLOOR

REVISIONS
2 OWNER REVISIONS (10/31/18)
3 OWNER REVISIONS (06/04/19)

CITY OF SPARKS
COMMUNITY SERVICES-BLDG. DIV.
DATE: JUNE 4, 2019
JUN 07 2019
REVISED
E2.3

BID DOCUMENTS