

ABBREVIATIONS AND TAGS	
SYMBOL	DESCRIPTION
MBH	THOUSAND BTU/HOUR
CFM	CUBIC FEET PER MINUTE
FPM	FEET PER MINUTE
AD	ACCESS DOOR
(E)	EXISTING
AFF	ABOVE FINISHED FLOOR
NTS	NOT TO SCALE
GC	GENERAL CONTRACTOR
PC	PLUMBING CONTRACTOR
EC	ELECTRICAL CONTRACTOR
EST	ENTERING SOURCE TEMP.
LST	LEAVING SOURCE TEMP.
ELT	ENTERING LOAD TEMP.
LLT	LEAVING LOAD TEMP.
ELWT	ENTERING LOOP WATER TEMP.
LLWT	LEAVING LOOP WATER TEMP.
NO	NORMALLY OPEN
NC	NORMALLY CLOSED
(K)	INSTALLATION KEYNOTE

PIPING ABBREVIATIONS	
SYMBOL	DESCRIPTION
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
CDWS	CONDENSER WATER SUPPLY
CDWR	CONDENSER WATER RETURN
CWS	CHILLED WATER SUPPLY
CWR	CHILLED WATER RETURN
D	DRAIN
HPS	HEAT PUMP SUPPLY
HPR	HEAT PUMP RETURN
HPRR	HEAT PUMP REVERSE RETURN
GWS	GLYCOL WATER SUPPLY
GWR	GLYCOL WATER RETURN
CWM	COLD WATER MAKE-UP

CONTROL/SYMBOLS LEGEND	
SYMBOL	DESCRIPTION
(C)	CARBON DIOXIDE SENSOR
(T)	TEMPERATURE SENSOR
(SD)	DUCT SMOKE DETECTOR
(D)	THERMOSTAT
(SP)	STATIC PRESSURE SENSOR

DUCTWORK LEGEND	
SYMBOL	DESCRIPTION
(S)	DUCT SECTION - SUPPLY
(R)	DUCT SECTION - RETURN
A x B	WIDTH A x DEPTH B
(EF)	EXHAUST FAN - PLAN
A" Ø	ROUND DUCT IN INCHES
(S)	TRANS: SQUARE TO ROUND
(L)	ACOUSTIC THERMAL LINING
(F)	FLEXIBLE DUCTWORK
(C)	FLEXIBLE CONNECTION

12x6	8x4	CHANGE IN WIDTH HOLD ONE SIDE FLAT (NOZ)	12x8	8x4
12x12	12x8	CHANGE IN DEPTH FOR = FLAT ON BOTTOM FOT = FLAT ON TOP	12x8	12x8
12x12	R	RISE IN DUCT AS NOTES	12x12	12x12
12x12	D	DROP IN DUCT AS NOTES	12x12	12x12

24x10	12x8	SUPPLY/RETURN/ EXHAUST AIR TAKE-OFFS	24x10	12x8	1 TIMES BRANCH SIZE
24x10	10"	SUPPLY/RETURN/ EXHAUST AIR TAKE-OFFS	24x10	10"	1 TIMES BRANCH SIZE
18"	10"	SUPPLY AIR TAKE-OFFS	18"	10"	LATERAL

LONG RADIUS 90° ELBOW R=W	LONG RADIUS 45° ELBOW R=W
90° ELBOW WITH TURNING VANES	

DUCT UP THROUGH PLAN	20x12
DUCT DN THROUGH PLAN	20x12
SUPPLY DIFFUSER, REGISTER OR GRILLE	
RETURN OR EXHAUST REGISTER OR GRILLE	
SUPPLY DIFFUSER, REGSETER GRILL VERTIUCAL	
SUPPLY DIFFUSER, REGSETER GRILL VERTIUCAL	

- ☒ SUPPLY AIR DIFFUSER (3-WAY) - SEE MECHANICAL
- ☒ SUPPLY AIR DIFFUSER (2-WAY CORNER) - SEE MECHANICAL
- ☒ SUPPLY AIR DIFFUSER (2-WAY OPPOSITE) - SEE MECH
- ☒ SUPPLY AIR DIFFUSER (1-WAY) - SEE MECHANICAL

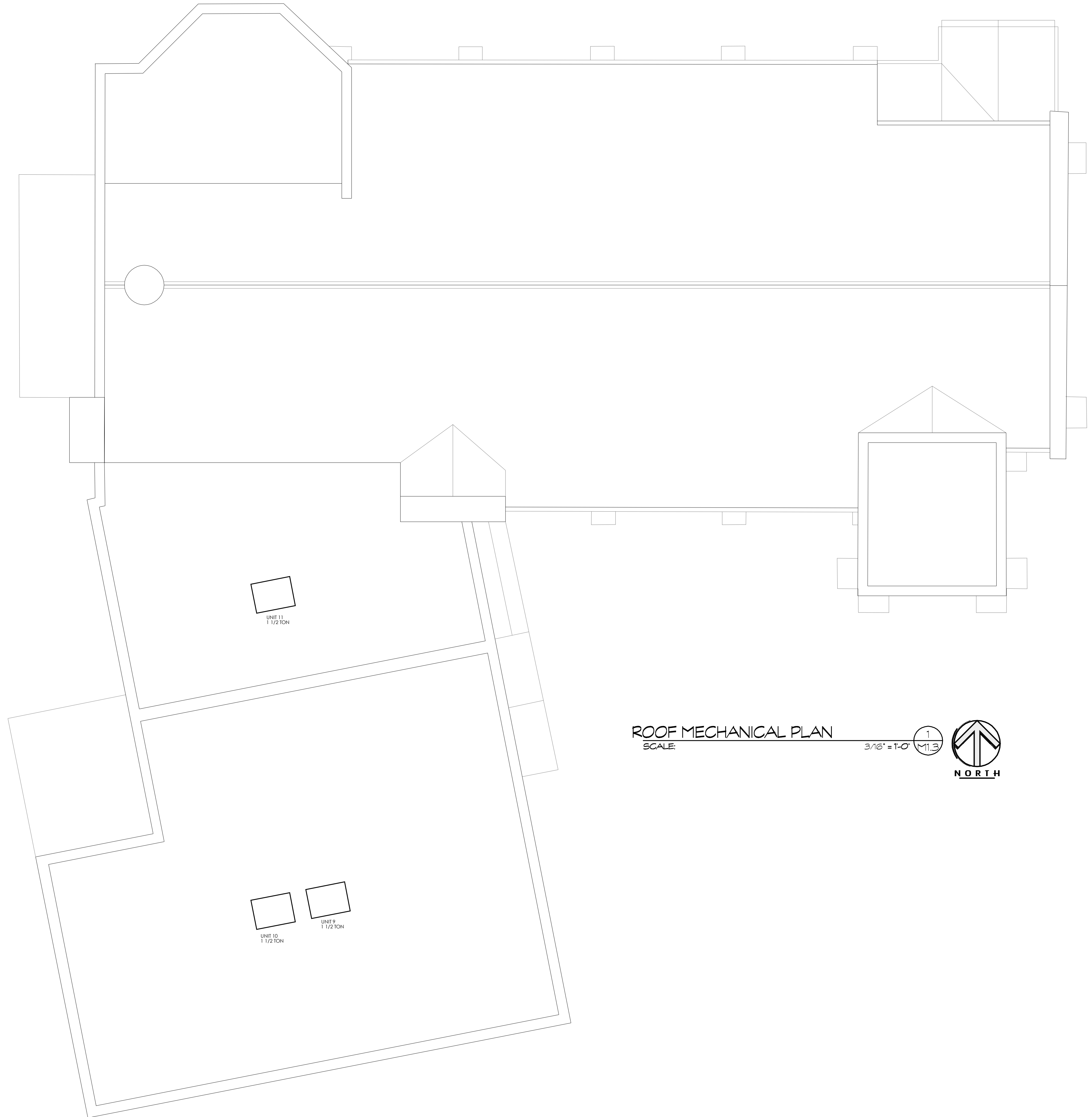
**SAD** TYPE OF AIR DEVICE  
**100** AIR QUANTITY (CFM)  
**4x 12" DIA. N** NECK SIZE, ROUND OR RECTANGULAR  
 DIRECTION OF AIR FLOW

- ☒ SMOKE DETECTOR  
SUPPLY - PHOTOELECTRIC
- ☒ SMOKE DETECTOR  
RETURN - IONIZATION
- ☒ FIELD CONNECTION

PIPING LEGEND	
SYMBOL	DESCRIPTION
(TS)	TEMPERATURE SWITCH
(AV)	AUTOMATIC AIR VENT
(MV)	MANUAL AIR VENT
(FS)	FLOW SWITCH
(PS)	PRESSURE SWITCH
(T)	THERMOMETER
(TW)	THERMOMETER/SENSOR PORT
(G)	PRESSURE GAUGE
(C)	PIPE CAP OR PLUG
(B)	TEE - BOTTOM CONNECTION
(T)	TEE - TOP CONNECTION
(U)	ELBOW - UP, DOWN
(U)	UNION
(R)	REDUCER
(G)	GATE VALVE
(B)	BALL VALVE
(B)	BUTTERFLY VALVE
(A)	ANGLE VALVE
(B)	BALANCE VALVE
(C)	CHECK VALVE
(G)	GLOBE VALVE
(T)	TRIPLE DUTY VALVE
(R)	PRESSURE RELIEF VALVE
(R)	PRESSURE REDUCING VALVE
(C)	2-WAY CONTROL VALVE
(C)	3-WAY CONTROL VALVE
(S)	STRAINER WITH BLOWDOWN
(G)	PIPE GUIDE
(A)	PIPE ANCHOR - INTER.
(A)	PIPE ANCHOR - MAIN
(FC)	FLEXIBLE CONNECTION
(P)	INLINE PUMP WITH TAG

DUCTWORK SYMBOLS AND TAGS	
SYMBOL	DESCRIPTION
(V)	VOLUME DAMPER
(S)	SMOKE DAMPER
(F)	FIRE DAMPER
(A)	AUTOMATIC AIR DAMPER
(B)	BACKDRAFT DAMPER
(A)	AIRFLOW DIRECTION
(R)	REGISTER, GRILLE, DIFFUSER
T	T = TYPE
N	NECK = NECK SIZE
(M)	MOTORIZED DAMPER
(U)	DOOR UNDER CUT

UNIT SYMBOLS AND TAGS	
SYMBOL	DESCRIPTION
(RTU)	RTU - ROOF TOP UNIT
(UAH)	UAH - UNIT AREA HEATER
(VAV)	VARIABLE AIR VOLUME BOX
(CU)	CONDENSER UNIT



**ROOF MECHANICAL PLAN**  
 SCALE: 3/16" = 1'-0" 1/1.3 NORTH

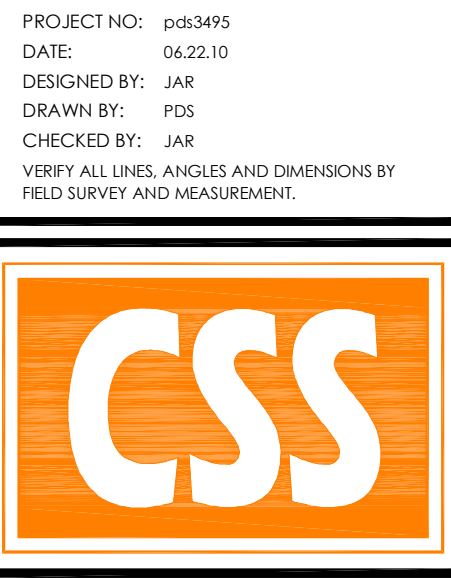
REVISIONS	
NO.	DATE
1	8/03/10

DESCRIPTION: PERMIT DOCUMENTS

**ARCHITECT**  
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**SEAL**  
**James A. Rumsey**  
 ARCHITECT

PROJECT NO: p03495  
 DATE: 06/22/10  
 DESIGNED BY: JAR  
 DRAWN BY: PDS  
 CHECKED BY: JAR  
 VERIFY ALL LINES, ANGLES AND DIMENSIONS BY  
 FIELD SURVEY AND MEASUREMENT.



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**3495**

**ROOF MECHANICAL PLAN**  
**PARKSIDE APARTMENTS**  
 700 Parkside Avenue  
 Buffalo, New York

DATE: 6/22/10

DRAWING NO.  
**M1.3**