



CITY STAMP

6-1-21



EXPIRES: 31DEC21

# TERRACE GLEN APARTMENTS

OWNER:  
**RELATED NW**

ADDRESS:  
**9640 SW GREENBURG  
TIGARD, OR 97223**

PROJECT NO.: 19134  
DRAWN: Author  
DATE: JUNE 08, 2021  
PERMIT SET  
REVISION: DESCRIPTION:

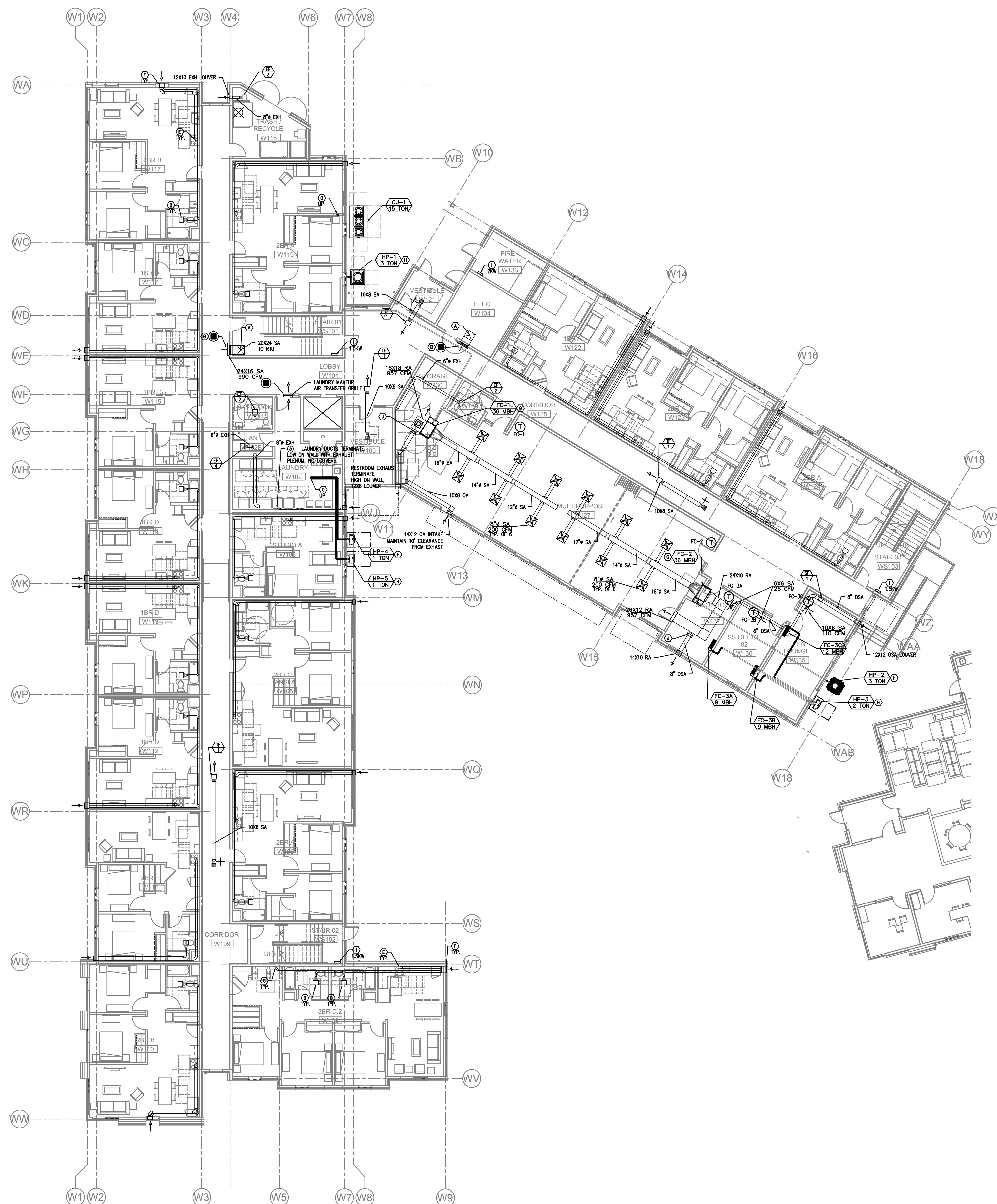
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FOR PLAN REVIEW ONLY

SHEET TITLE:  
**LEVEL 1 MECH PLAN - WEST**

SHEET NO.:

# M201



### KEY NOTES:

- (A) - SUPPLY DUCT FROM MAU, SEE BELOW
- (B) - SUPPLY AIR OR RETURN GRILLE, SIZED FOR BOTH FREE AREA AND FOR ACTUATOR ACCESS, SEE (5) FOR GRILLE INSTALLATION, AND SEE (4) FOR TYPICAL F/S INSTALLATION. SEE (6) AND CONTROLS.
- (C) - 4" DRYER EXHAUST TO EXTERIOR-ROOF TERMINATION VIA SOFFIT(S) PROVIDED. DRYER DUCT MATERIAL SHALL HAVE A SMOOTH INTERIOR FINISH, BE CONSTRUCTED OF 26 GA SHEET METAL, SUPPORTED AT 4 FOOT INTERVALS, RIVET OR SCREW PENETRATIONS THROUGH THE DUCT WALL ARE NOT ACCEPTABLE. IDENTIFY TOTAL EQUIVALENT LENGTH OF DRYER VENT WITH PERMANENT LABEL WITHIN 5 FT OF DRYER CONNECTION. CLEAN-OUT TO BE PROVIDED FOR ALL VERTICAL RISERS. SEE (6) M601
- (D) - PANASONIC WHISPERGREEN CEILING FAN WITH 4" DUCT TO ROOF OR EXTERIOR WALL TERMINATION VIA SOFFIT(S) PROVIDED. BACK DRAFT DAMPER INTEGRAL TO FAN, FAN TO OPERATE AT LOW SPEED CONTINUOUS (30CFM) AND INCREASE TO 80CFM WHEN BUILT-IN MOTION SENSOR IS ACTIVATED. INSULATED FINAL 5' OF DUCTWORK. NO DUCTWORK SHALL PENETRATE RATED ASSEMBLY. SEE (2) M601 AND (1) EF 1
- (E) - 6" HOOD DUCT TO ROOF/EXTERIOR WALL TERMINATION VIA SOFFIT(S) PROVIDED. BACK DRAFT DAMPER INTEGRAL TO HOOD. INSULATED FINAL 5' OF DUCTWORK. NO DUCTWORK SHALL PENETRATE RATED ASSEMBLY. HOOD FAN TO OPERATE INTERMITTENTLY.
- (F) - EXTERIOR EXHAUST PLENUM - SEE (1) M601 MAINTAIN 36" CLEAR TO OPERABLE WINDOWS AND DOORS.
- (G) - FOR DUCTED FAN COIL INSTALLATION, SEE (3) M601
- (H) - FOR HEAT PUMP CONDENSER MOUNTING DETAILS, SEE (7) M601
- (I) - XXKW (SEE PLANS) WALL HEATER QMARK AWH4404F OR EQUAL. EQUIPMENT BY ELECTRICAL CONTRACTOR, SHOWN FOR REFERENCE ONLY.
- (J) - OUTSIDE AIR TO FAN COIL, PROVIDE WITH 2-POSITION DAMPER TO OPEN WHENEVER FAN COIL OPERATES (SEE PLANS FOR SIZE).
- (K) - FOR 4" & 6" FIRE PENETRATION DETAILS, SEE (1) M602 AND (2) M602
- (L) - TRANSFER GRILLS FOR RETURN AIR PRESSURIZATION.
- (M) - (SEE PLANS FOR SIZES) ACCESS WALK WAY ON ACCESS SIDE OF UNIT FOR SERVICE. PROVIDE WALKWAY FROM CEILING ACCESS HATCH TO MAINTENANCE SIDE OF UNIT.
- (N) - 6" EXHAUST FLUE AND 6" COMBUSTION AIR INTAKE UP THROUGH ROOF WITH 8" CONCENTRIC FITTING. FLUE TO BE 36" ABOVE ROOF LINE WITHIN 10'.
- (O) - REFRIGERANT LINESETS FROM SPLIT SYSTEM CONDENSERS ON GROUND LEVEL, TO FAN COILS ON FLOORS ABOVE.

### SHAFT DUCT SIZES

FLOOR	SUPPLY AIR	CFM	RETURN AIR	CFM	UNIT
ATTIC	24 X 20	4100	NA	0	MAU-2
4TH	24 X 20	4090	NA	0	MAU-2
3RD	20 X 20	3185	NA	0	MAU-2
2ND	18 X 14	2280	NA	0	MAU-2
1ST	14 X 14	1375	NA	0	MAU-2
BASEMENT	10 X 10	475	NA	0	MAU-2

### SHAFT DUCT SIZES

FLOOR	SUPPLY AIR	CFM	RETURN AIR	CFM	UNIT
ATTIC	24 X 20	5243	NA	0	MAU-1
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3RD	24 X 18	3937	NA	0	MAU-1
2ND	24 X 16	2627	NA	0	MAU-1
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### VENTILATION CALCULATIONS:

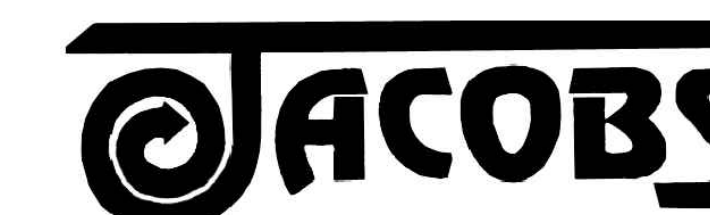
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COMMON SPACES AND HALLWAYS ARE VENTILATED BY RTU'S SIZED TO EXCEED THE MINIMUM 0.06 CFM/SQ FT REQUIREMENT

SEE VENTILATION SCHEDULES FOR OTHER UNITS

1 LEVEL 1 MECH PLAN - WEST  
SCALE: 3/32" = 1' - 0"

M Consulting Engineers  
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PH: (503) 234-0548  
FAX: (503) 234-0577  
INC. WWW.MPEA-ENG.COM  
CONTACT: MATT AUTREY



PERMIT SET





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**SHAFT DUCT SIZES**

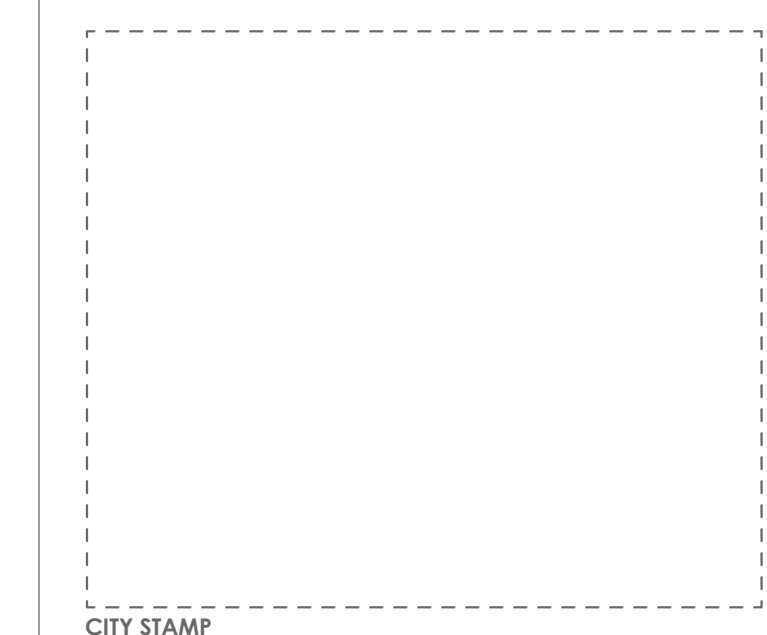
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 DATE: JUNE 08, 2021  
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**FOR PLAN REVIEW ONLY**

**1 LEVEL 2 MECH PLAN - WEST**  
 SCALE: 3/32" = 1' = 0"

**M** Consulting Engineers  
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 Portland, OR 97214  
 PHN: (503) 234-0548  
 FAX: (503) 234-0577  
 INC. WWW.MEPLA-ENG.COM  
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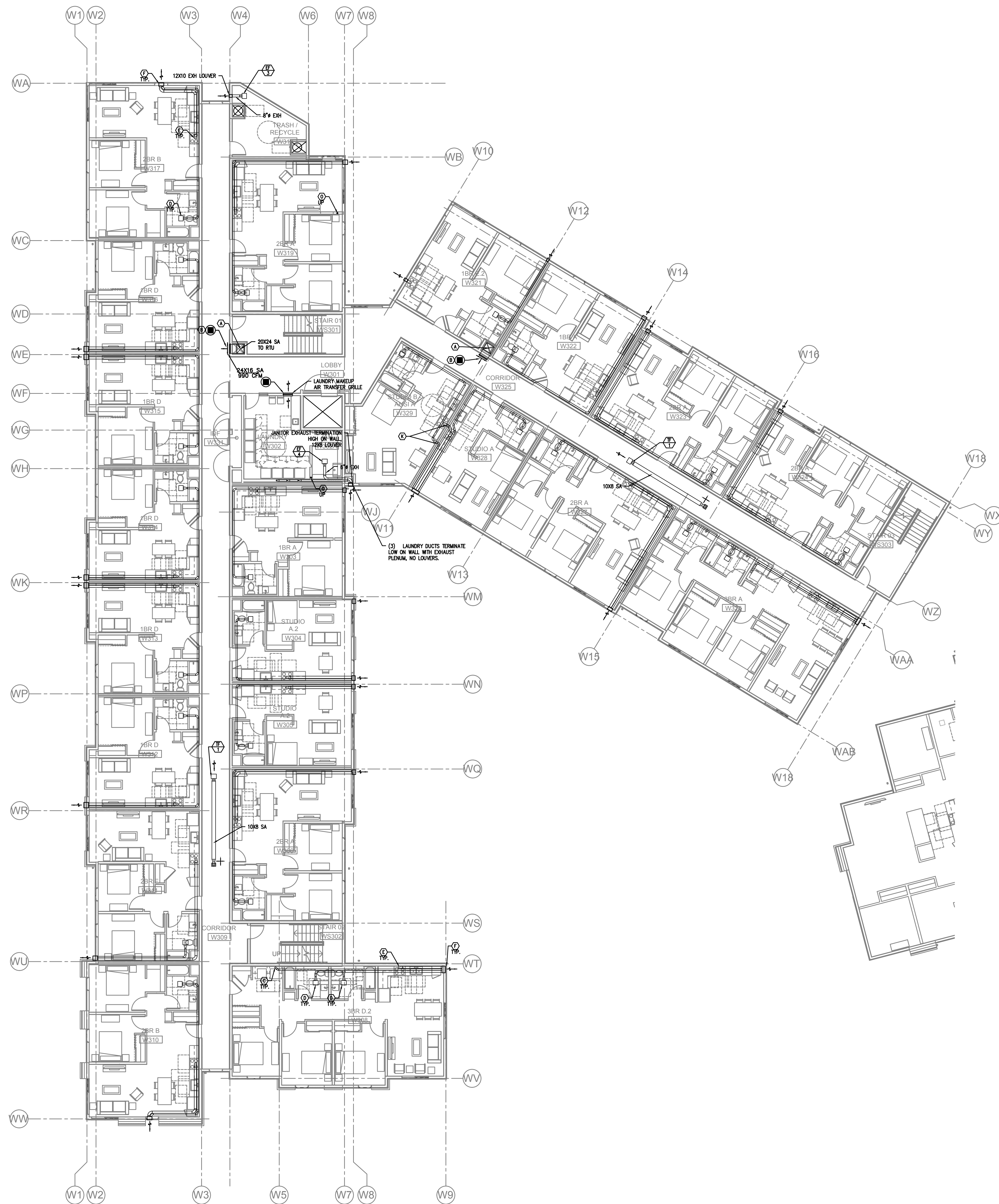
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SHEET TITLE:  
**LEVEL 2 MECH PLAN - WEST**

SHEET NO.:

**M202**





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6-1-21



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TIGARD, OR 97223

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FOR PLAN REVIEW ONLY

SHEET TITLE:  
LEVEL 3 MECH PLAN - WEST

SHEET NO.:

# M203

1 LEVEL 3 MECH PLAN - WEST  
SCALE: 3/32" = 1' - 0"

M Consulting Engineers  
2007 S.E. Ash St.  
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PHN: (503) 234-0548  
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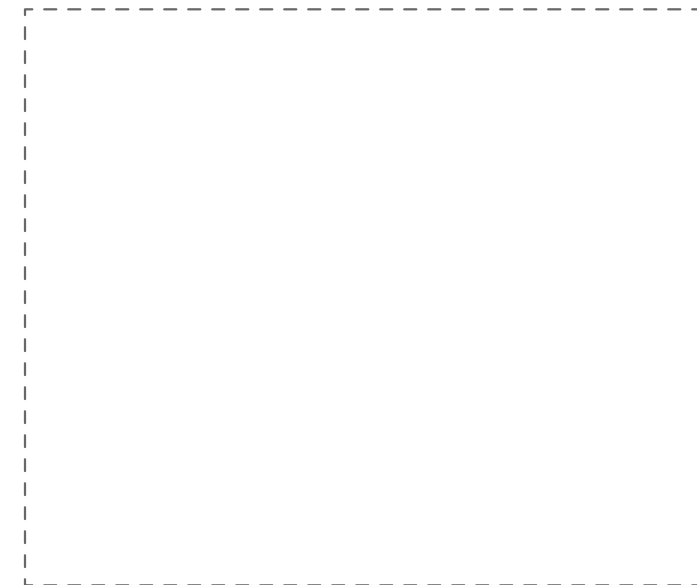
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SHEET TITLE:  
LEVEL 4 MECH PLAN - WEST

SHEET NO.:

M204





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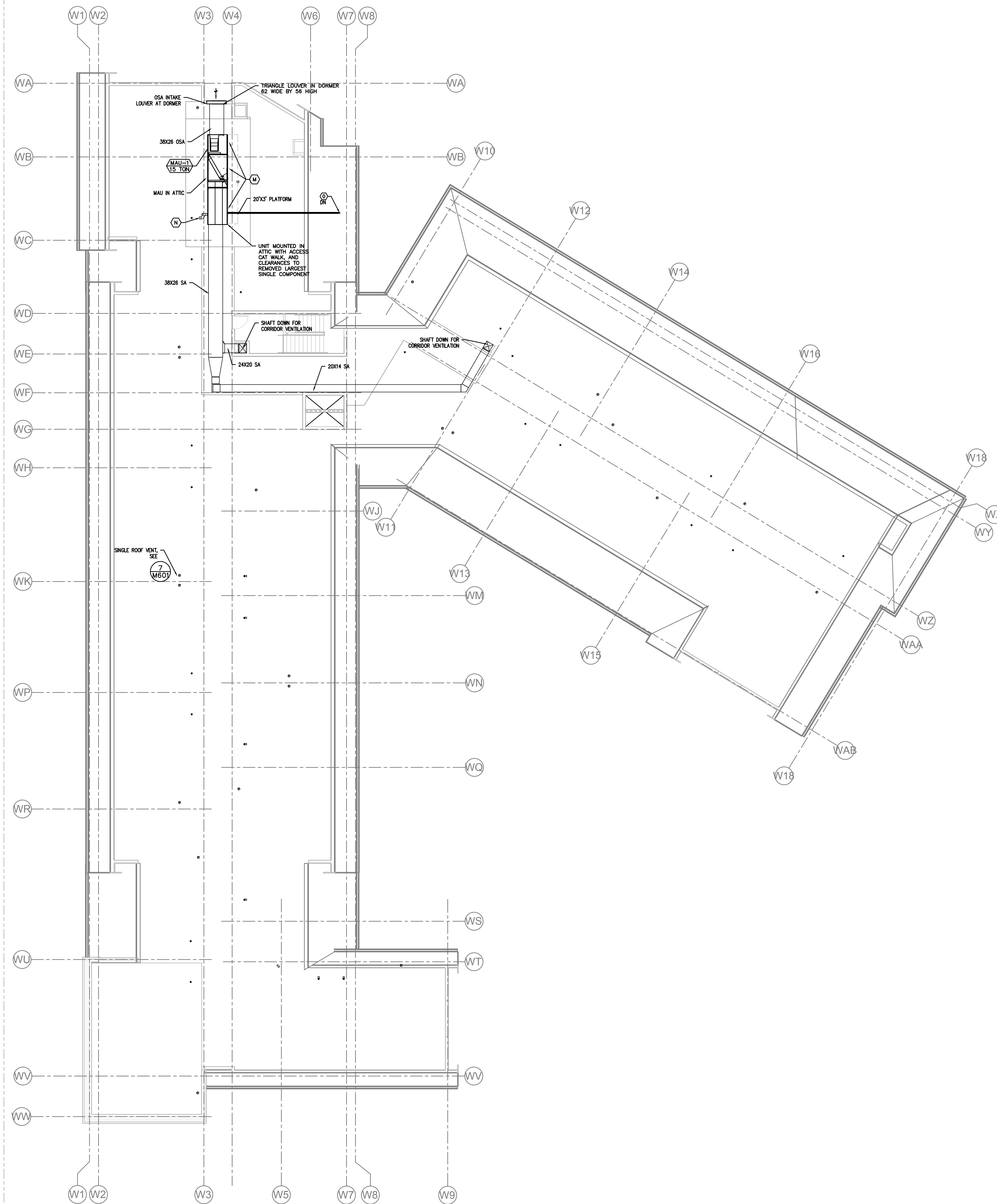
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- (F) - EXTERIOR EXHAUST PLENUM - SEE (1) MAINTAIN 36" CLEAR TO OPERABLE WINDOWS AND DOORS.
- (G) - FOR DUCTED FAN COIL INSTALLATION, SEE (3)
- (H) - FOR HEAT PUMP CONDENSER MOUNTING DETAILS, SEE (7)
- (I) - XXKW (SEE PLANS) WALL HEATER QMARK AWH4404F OR EQUAL. EQUIPMENT BY ELECTRICAL CONTRACTOR, SHOWN FOR REFERENCE ONLY.
- (J) - OUTSIDE AIR TO FAN COIL, PROVIDE WITH 2-POSITION DAMPER TO OPEN WHENEVER FAN COIL OPERATES (SEE PLANS FOR SIZE).
- (K) - FOR 4" & 6" FIRE PENETRATION DETAILS, SEE (1) AND (2)
- (L) - TRANSFER GRILLS FOR RETURN AIR PRESSURIZATION.
- (M) - (SEE PLANS FOR SIZES) ACCESS WALK WAY ON ACCESS SIDE OF UNIT FOR SERVICE. PROVIDE WALKWAY FROM CEILING ACCESS HATCH TO MAINTENANCE SIDE OF UNIT.
- (N) - 6" EXHAUST FLUE AND 6" COMBUSTION AIR INTAKE UP THROUGH ROOF WITH 8" CONCENTRIC FITTING. FLUE TO BE 36" ABOVE ROOF LINE WITHIN 10'.
- (O) - REFRIGERANT LINESETS FROM SPLIT SYSTEM CONDENSERS ON GROUND LEVEL, TO FAN COILS ON FLOORS ABOVE.

#### SHAFT DUCT SIZES

FLOOR	SUPPLY AIR	CFM	RETURN AIR	CFM	UNIT
ATTIC	24 X 20	4100	NA	0	MAU-2
4TH	24 X 20	4090	NA	0	MAU-2
3RD	20 X 20	3185	NA	0	MAU-2
2ND	18 X 14	2280	NA	0	MAU-2
1ST	14 X 14	1375	NA	0	MAU-2
BASEMENT	10 X 10	475	NA	0	MAU-2

#### SHAFT DUCT SIZES

FLOOR	SUPPLY AIR	CFM	RETURN AIR	CFM	UNIT
ATTIC	24 X 20	5243	NA	0	MAU-1
4TH	24 X 20	5243	NA	0	MAU-1
3RD	24 X 18	3937	NA	0	MAU-1
2ND	24 X 16	2627	NA	0	MAU-1
1ST	24 X 16	1310	NA	0	MAU-1

#### VENTILATION CALCULATIONS:

ALL DWELLING UNITS ARE VENTILATED BY NATURAL VENTILATION WITH OPERABLE WINDOWS (NO LIMITERS), BATHROOM EXHAUST FANS RUN CONTINUOUSLY (SIZED PER ASHRAE 62.2).

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SEE VENTILATION SCHEDULES FOR OTHER UNITS

1 ATTIC MECH PLAN - WEST  
SCALE: 3/32" = 1' - 0"

M Consulting Engineers  
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CONTACT: MATT AUTREY



PERMIT SET



CITY STAMP

6-1-21



### TERRACE GLEN APARTMENTS

OWNER:  
**RELATED NW**

ADDRESS:  
**9640 SW GREENBURG  
TIGARD, OR 97223**

PROJECT NO.: 19134  
DRAWN: Author  
DATE: JUNE 08, 2021  
PERMIT SET

REVISION: DESCRIPTION:

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FOR PLAN REVIEW ONLY

SHEET TITLE:  
**LEVEL 1 & BASEMENT MECH  
PLAN - EAST**

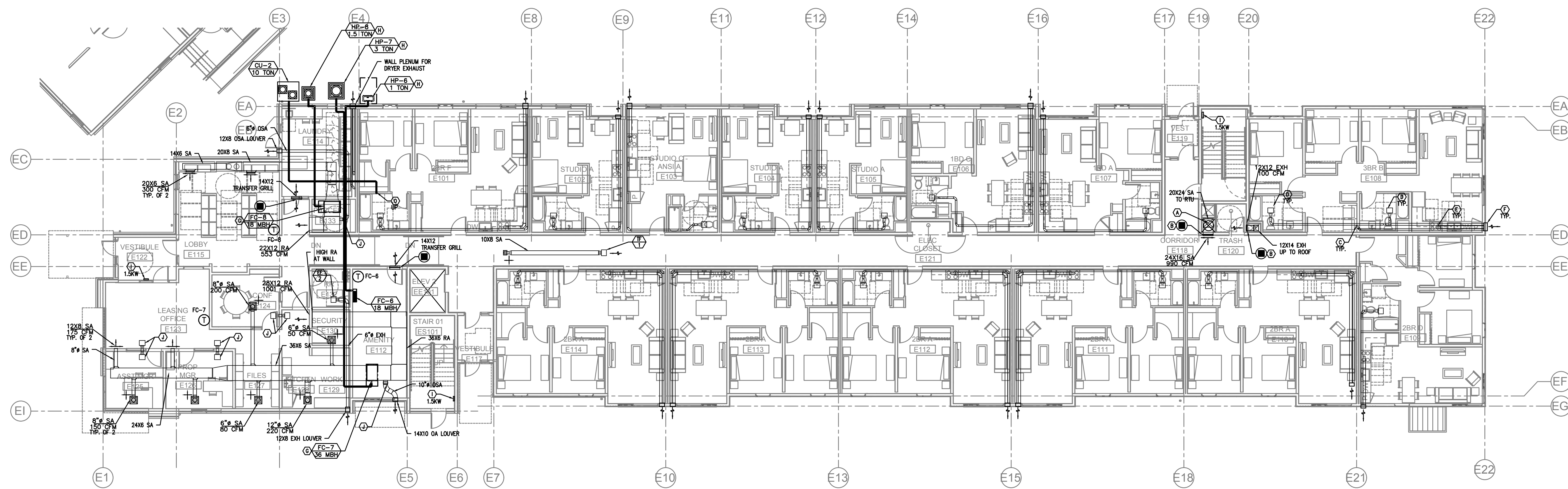
SHEET NO.:

# M211

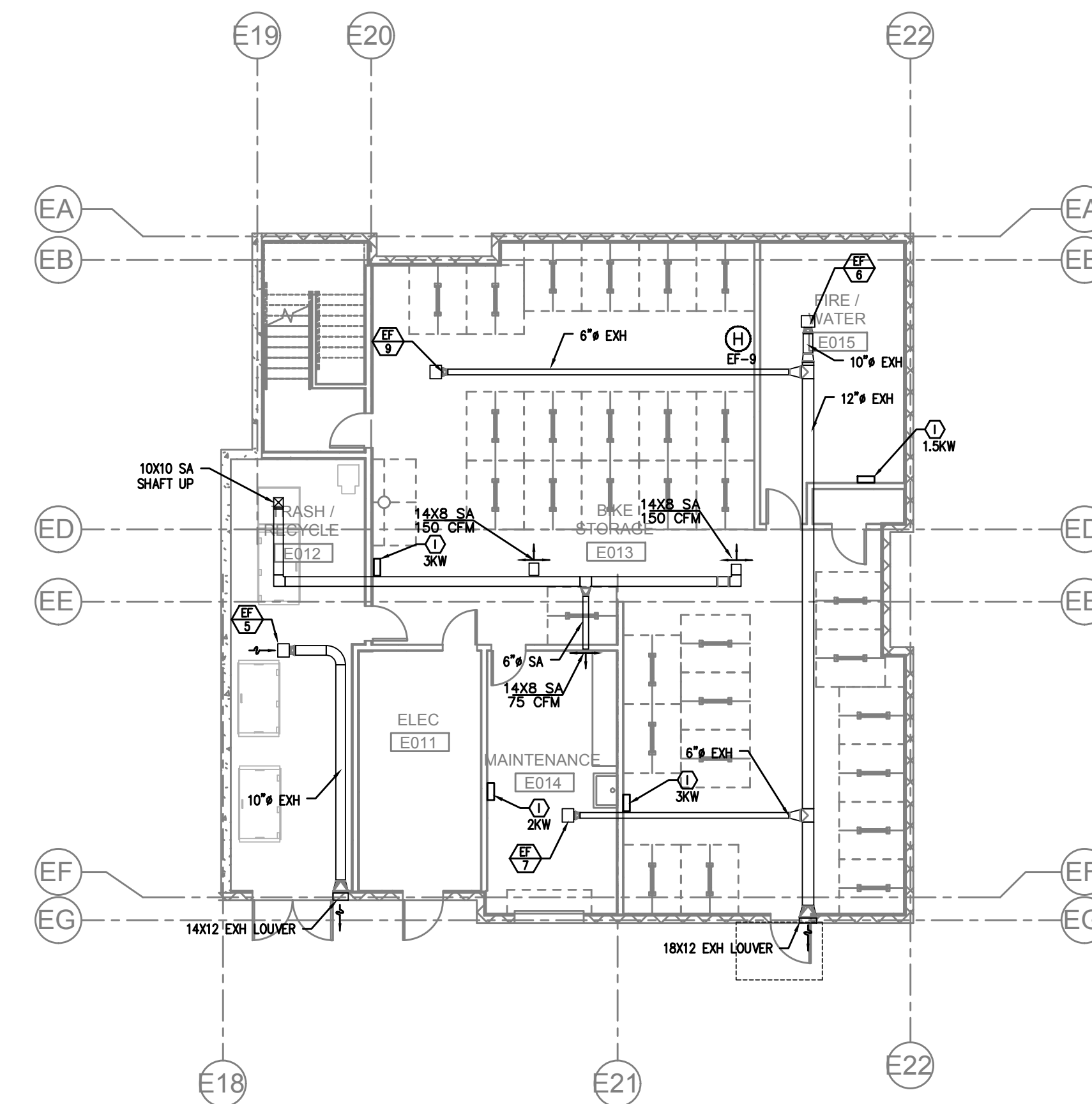
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PERMIT SET



**1** LEVEL 1 MECH PLAN - EAST  
SCALE: 3/32" = 1' - 0"



**2** BASEMENT MECH PLAN - EAST  
SCALE: 3/32" = 1' - 0"

#### KEY NOTES:

- (A) - SUPPLY DUCT FROM MAU, SEE BELOW
- (B) - SUPPLY AIR OR RETURN GRILLE, SIZED FOR BOTH FREE AREA AND FOR ACTUATOR ACCESS, SEE **5** FOR GRILLE INSTALLATION, AND SEE **4** FOR TYPICAL F/S INSTALLATION, **5** AND **6** FOR CONTROLS.
- (C) - 4" DRYER EXHAUST TO EXTERIOR-ROOF TERMINATION VIA SOFFIT(S) PROVIDED. DRYER DUCT MATERIAL SHALL HAVE A SMOOTH INTERIOR FINISH, BE CONSTRUCTED OF 26 GA SHEET METAL, SUPPORTED AT 4 FOOT INTERVALS, RIVET OR SCREW PENETRATIONS THROUGH THE DUCT WALL ARE NOT ACCEPTABLE. IDENTIFY TOTAL EQUIVALENT LENGTH OF DRYER VENT WITH PERMANENT LABEL WITHIN 6FT OF DRYER CONNECTION. CLEAN-OUT TO BE PROVIDED FOR ALL VERTICAL RISERS. **6**
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1ST	14 X 14	1375	NA	0 MAU-2
BASEMENT	10 X 10	475	NA	0 MAU-2

SHAFT DUCT SIZES				
FLOOR	SUPPLY AIR	CFM	RETURN AIR	UNIT
ATTIC	24 X 20	5243	NA	0 MAU-1
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3RD	24 X 18	3937	NA	0 MAU-1
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SEE VENTILATION SCHEDULES FOR OTHER UNITS



CITY STAMP

6-1-21



### TERRACE GLEN APARTMENTS

OWNER:  
RELATED NW

ADDRESS:  
9640 SW GREENBURG  
TIGARD, OR 97223

PROJECT NO.: 19134  
DRAWN: Author  
DATE: JUNE 08, 2021  
PERMIT SET

REVISION: DESCRIPTION:

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FOR PLAN REVIEW ONLY

SHEET TITLE:  
LEVEL 2 MECH PLAN - EAST

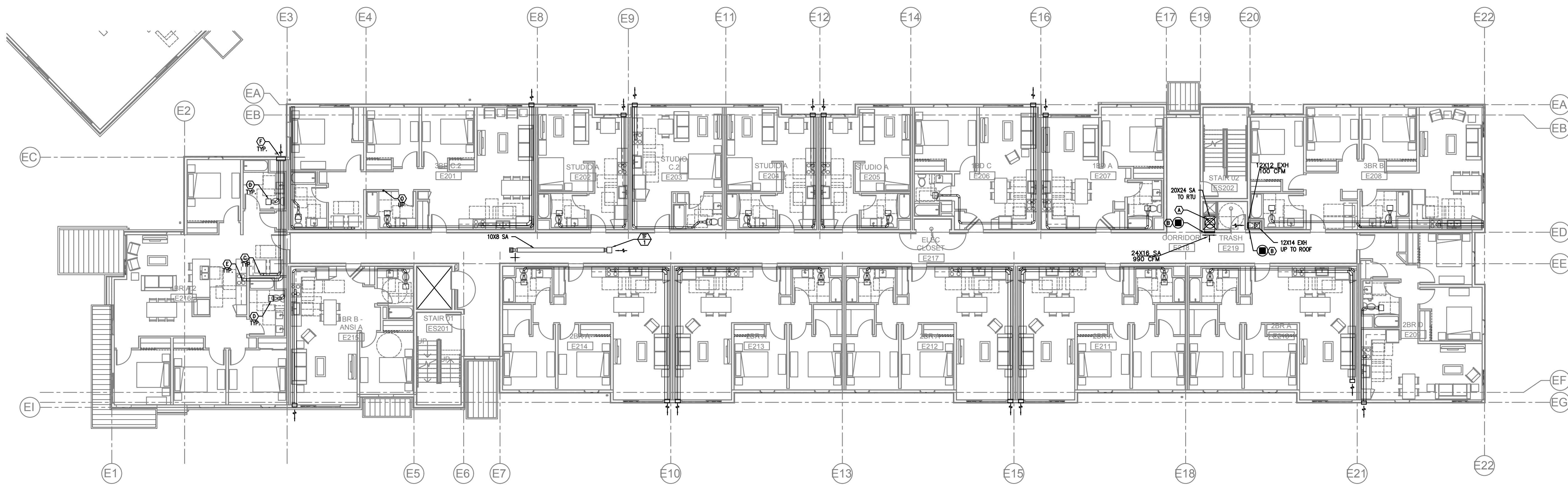
SHEET NO.:

# M212

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CONTACT: MATT AUTREY



PERMIT SET



**1** LEVEL 2 MECH PLAN - EAST  
SCALE: 3/32" = 1' - 0"

#### KEY NOTES:

- (A) — SUPPLY DUCT FROM MAU, SEE BELOW
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SEE VENTILATION SCHEDULES FOR OTHER UNITS



CITY STAMP



### TERRACE GLEN APARTMENTS

OWNER:  
**RELATED NW**

ADDRESS:  
**9640 SW GREENBURG  
TIGARD, OR 97223**

PROJECT NO.: 19134  
DRAWN: Author  
DATE: JUNE 08, 2021  
PERMIT SET

REVISION: DESCRIPTION:

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FOR PLAN REVIEW ONLY

SHEET TITLE:  
**LEVEL 3 MECH PLAN - EAST**

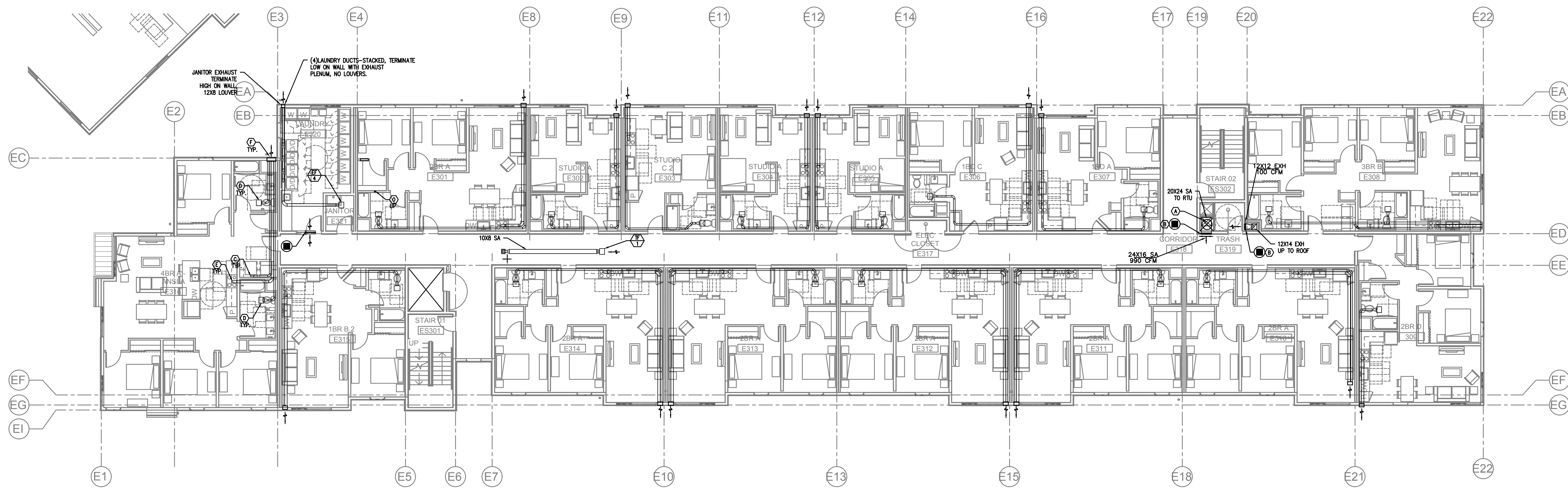
SHEET NO.:

# M213

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CONTACT: MATT AUTREY



PERMIT SET



#### KEY NOTES:

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- (B) — SUPPLY AIR OR RETURN GRILLE, SIZED FOR BOTH FREE AREA AND FOR ACTUATOR ACCESS, SEE **5** FOR GRILLE INSTALLATION, AND SEE **4** FOR TYPICAL F/S INSTALLATION, **M601** AND CONTROLS.
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SCALE: 3/32" = 1' - 0"

FLOOR	SUPPLY AIR	CFM	RETURN AIR	CFM	UNIT
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4TH	24 X 20	4090	NA	0	MAU-2
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CITY STAMP



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**LEVEL 4 MECH PLAN - EAST**

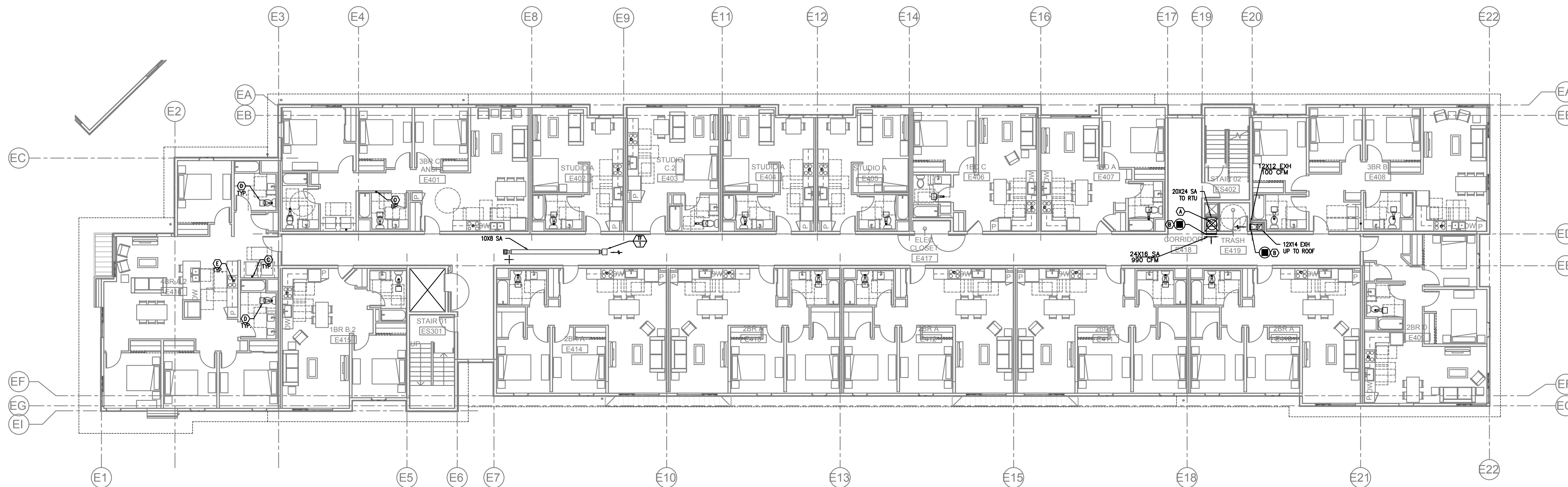
SHEET NO.:

**M214**

**M** Consulting Engineers  
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PERMIT SET



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- B** - SUPPLY AIR OR RETURN GRILLE, SIZED FOR BOTH FREE AREA AND FOR ACTUATOR ACCESS, SEE **S** FOR GRILLE INSTALLATION, AND SEE **4** FOR TYPICAL F/S INSTALLATION, **M601** AND CONTROLS.
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3RD	20 X 20	3185	NA	0	MAU-2
2ND	18 X 14	2280	NA	0	MAU-2
1ST	14 X 14	1375	NA	0	MAU-2
BASEMENT	10 X 10	475	NA	0	MAU-2

FLOOR	SUPPLY AIR	CFM	RETURN AIR	CFM	UNIT
ATTIC	24 X 20	5243	NA	0	MAU-1
4TH	24 X 20	5243	NA	0	MAU-1
3RD	24 X 18	3937	NA	0	MAU-1
2ND	24 X 16	2627	NA	0	MAU-1
1ST	24 X 16	1310	NA	0	MAU-1

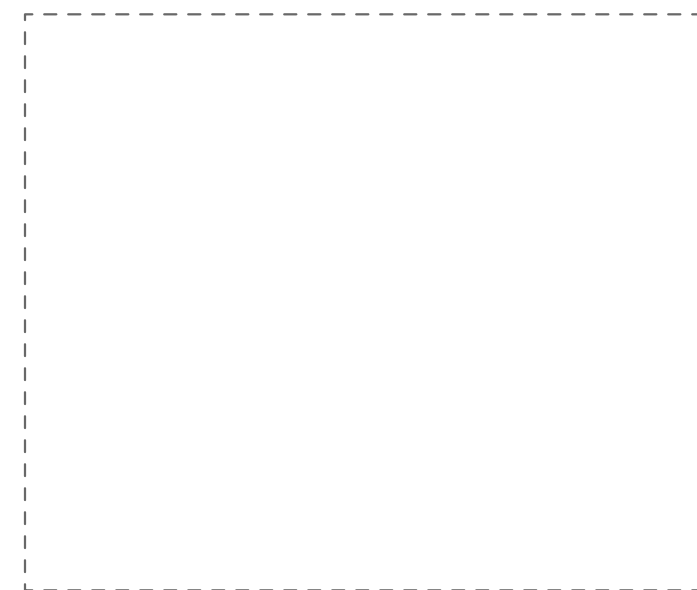
**VENTILATION CALCULATIONS:**

ALL DWELLING UNITS ARE VENTILATED BY NATURAL VENTILATION WITH OPERABLE WINDOWS (NO LIMITERS). BATHROOM EXHAUST FANS RUN CONTINUOUSLY (SIZED PER ASHRAE 62.2).

COMMON SPACES AND HALLWAYS ARE VENTILATED BY RTU'S SIZED TO EXCEED THE MINIMUM 0.06 CFM/SQ FT REQUIREMENT

SEE VENTILATION SCHEDULES FOR OTHER UNITS





CITY STAMP

6-1-21



EXPIRES: 31DEC21

### TERRACE GLEN APARTMENTS

OWNER:  
RELATED NW

ADDRESS:  
9640 SW GREENBURG  
TIGARD, OR 97223

PROJECT NO.: 19134  
DRAWN: Author  
DATE: JUNE 08, 2021  
PERMIT SET

REVISION: DESCRIPTION:

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FOR PLAN REVIEW ONLY

SHEET TITLE:  
ATTIC MECH PLAN - EAST

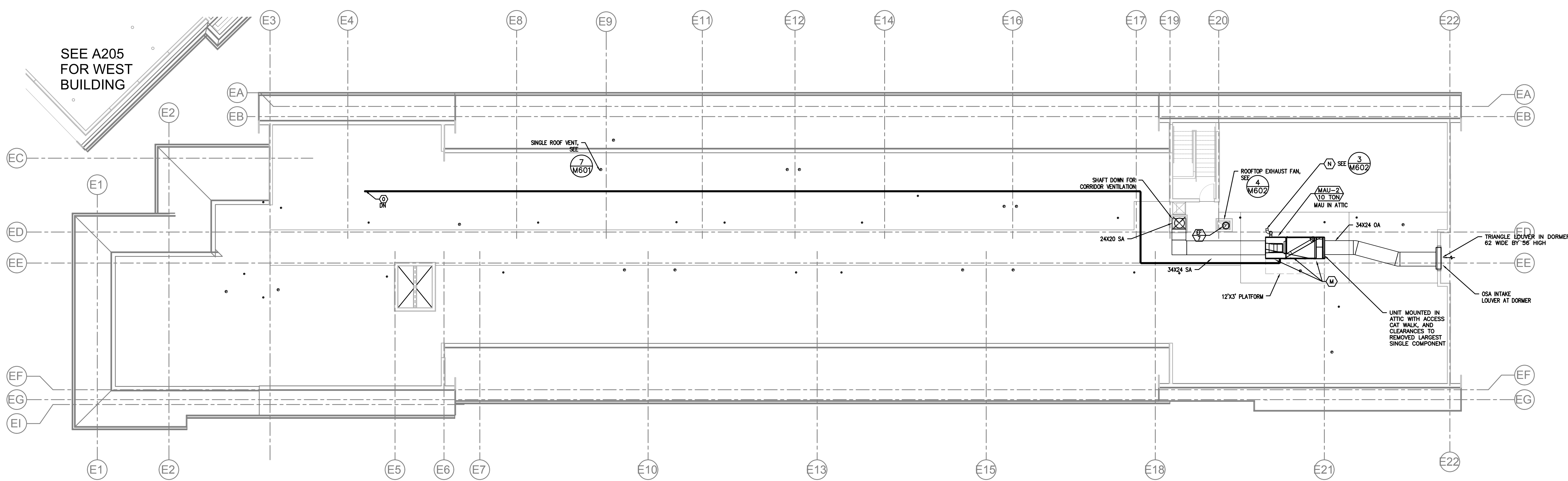
SHEET NO.:

# M215

**M** Consulting Engineers  
2007 S.E. Ash St.  
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FAX: (503) 234-0577  
INC. WWW.MEPLA-ENG.COM  
CONTACT: MATT AUTREY



PERMIT SET



#### KEY NOTES:

- (A) — SUPPLY DUCT FROM MAU, SEE BELOW
- (B) — SUPPLY AIR OR RETURN GRILLE, SIZED FOR BOTH FREE AREA AND FOR ACTUATOR ACCESS, SEE (5) FOR GRILLE INSTALLATION, AND SEE (4) FOR TYPICAL F/S INSTALLATION, (5) M601 AND CONTROLS. (4) M601
- (C) — 4" DRYER EXHAUST TO EXTERIOR—ROOF TERMINATION VIA SOFFIT(S) PROVIDED. DRYER DUCT MATERIAL SHALL HAVE A SMOOTH INTERIOR FINISH, BE CONSTRUCTED OF 26 GA SHEET METAL, SUPPORTED AT 4 FOOT INTERVALS. RIVET OR SCREW PENETRATIONS THROUGH THE DUCT WALL ARE NOT ACCEPTABLE. IDENTIFY TOTAL EQUIVALENT LENGTH OF DRYER VENT WITH PERMANENT LABEL WITHIN 6FT OF DRYER CONNECTION. CLEAN-OUT TO BE PROVIDED FOR ALL VERTICAL RISERS. (6) M601
- (D) — PANASONIC WHISPERGREEN CEILING FAN WITH 4" DUCT TO ROOF OR EXTERIOR WALL TERMINATION VIA SOFFIT(S) PROVIDED. BACK DRAFT DAMPER INTEGRAL TO FAN, FAN TO OPERATE AT LOW SPEED CONTINUOUS (30CFM) AND INCREASE TO 80CFM WHEN BUILT-IN MOTION SENSOR IS ACTIVATED. INSULATED FINAL 5' OF DUCTWORK. NO DUCTWORK SHALL PENETRATE RATED ASSEMBLY. SEE (2) M601 (EF) (1)
- (E) — 6" HOOD DUCT TO ROOF/EXTERIOR WALL TERMINATION VIA SOFFIT(S) PROVIDED. BACK DRAFT DAMPER INTEGRAL TO HOOD. INSULATED FINAL 5' OF DUCTWORK. NO DUCTWORK SHALL PENETRATE RATED ASSEMBLY. HOOD FAN TO OPERATE INTERMITTENTLY.
- (F) — EXTERIOR EXHAUST PLENUM — SEE (1) M601 MAINTAIN 36" CLEAR TO OPERABLE WINDOWS AND DOORS.
- (G) — FOR DUCTED FAN COIL INSTALLATION, SEE (3) M601
- (H) — FOR HEAT PUMP CONDENSER MOUNTING DETAILS, SEE (7) M601
- (I) — XXXX (SEE PLANS) WALL HEATER QMARK AWH4404F OR EQUAL EQUIPMENT BY ELECTRICAL CONTRACTOR. SHOWN FOR REFERENCE ONLY.
- (J) — OUTSIDE AIR TO FAN COIL, PROVIDE WITH 2-POSITION DAMPER TO OPEN WHENEVER FAN COIL OPERATES (SEE PLANS FOR SIZE).
- (K) — FOR 4" & 6" FIRE PENETRATION DETAILS, SEE (1) M602 (2) M601
- (L) — TRANSFER GRILLS FOR RETURN AIR PRESSURIZATION.
- (M) — (SEE PLANS FOR SIZES) ACCESS WALK WAY ON ACCESS SIDE OF UNIT FOR SERVICE. PROVIDE WALKWAY FROM CEILING ACCESS HATCH TO MAINTENANCE SIDE OF UNIT.
- (N) — 6" EXHAUST FLUE AND 6" COMBUSTION AIR INTAKE UP THROUGH ROOF WITH 8" CONCENTRIC FITTING. FLUE TO BE 36" ABOVE ROOF LINE WITHIN 10'.
- (O) — REFRIGERANT LINESETS FROM SPLIT SYSTEM CONDENSERS ON GROUND LEVEL, TO FAN COILS ON FLOORS ABOVE.

1 ATTIC MECH PLAN - EAST  
SCALE: 3/32" = 1' - 0"

FLOOR	SUPPLY AIR	CFM	RETURN AIR	CFM	UNIT
ATTIC	24 X 20	4100	NA	0	MAU-2
4TH	24 X 20	4090	NA	0	MAU-2
3RD	20 X 20	3185	NA	0	MAU-2
2ND	18 X 14	2280	NA	0	MAU-2
1ST	14 X 14	1375	NA	0	MAU-2
BASEMENT	10 X 10	475	NA	0	MAU-2

FLOOR	SUPPLY AIR	CFM	RETURN AIR	CFM	UNIT
ATTIC	24 X 20	5243	NA	0	MAU-1
4TH	24 X 20	5243	NA	0	MAU-1
3RD	24 X 18	3937	NA	0	MAU-1
2ND	24 X 16	2627	NA	0	MAU-1
1ST	24 X 16	1310	NA	0	MAU-1

**VENTILATION CALCULATIONS:**  
ALL DWELLING UNITS ARE VENTILATED BY NATURAL VENTILATION WITH OPERABLE WINDOWS (NO LIMITERS), BATHROOM EXHAUST FANS RUN CONTINUOUSLY (SIZED PER ASHRAE 62.2).  
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SEE VENTILATION SCHEDULES FOR OTHER UNITS



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SHEET TITLE:  
MECHANICAL SCHEDULES

SHEET NO.:

# M600

**MET** Consulting Engineers  
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PERMIT SET

### INDOOR UNITS - \*

MARK NUMBER	FC-1 36 MBH **	FC-2 XX MBH **	FC-3A 9 MBH	FC-3B 9 MBH	FC-3C 12 MBH	FC-4 12 MBH	FC-5 12 MBH	FC-6 18 MBH	FC-7 36 MBH **	FC-8 18 MBH ***
SYSTEM	MULTIPURPOSE W127	MULTIPURPOSE W127	OFFICE 1	OFFICE 2	TEEN LOUNGE	AMENITY W202	AMENITY W402	AMENITY E112	LEASING OFFICE/MGR/FILES	LOBBY E115
TYPE	DUCTED	DUCTED	WALL HUNG	WALL HUNG	WALL MOUNTED	WALL MOUNTED	WALL MOUNTED	WALL MOUNTED	DUCTED	DUCTED
EFFICIENCY	SEE OUTDOOR UNIT	SEE OUTDOOR UNIT	SEE OUTDOOR UNIT	SEE OUTDOOR UNIT	SEE OUTDOOR UNIT	SEE OUTDOOR UNIT	SEE OUTDOOR UNIT	SEE OUTDOOR UNIT	SEE OUTDOOR UNIT	SEE OUTDOOR UNIT
NOMINAL COOLING CAPACITY	36,000 BTUH	36,000 BTUH	9,000 BTUH	9,000 BTUH	12,000 BTUH	12,000 BTUH	12,000 BTUH	18,000 BTUH	36,000 BTUH	18,000 BTUH
HEATING CAPACITY	34,000 BTUH/10 KW ELECT	34,000 BTUH/10 KW ELECT	9,000 BTUH	9,000 BTUH	12,000 BTUH	12,000 BTUH	12,000 BTUH	18,000 BTUH	34,000 BTUH/10 KW ELECT	18,000 BTUH/5 KW ELECT
TOTAL SUPPLY CFM	1100	1100	380	380	380	380	380	635	1100	600
OSA CFM	XXX	XXX	---	---	---	---	---	---	XXX	XXX
EXTERNAL SP. (H2O)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
VOLTS/PHASE	208/1	208/1	---	---	208/1	---	---	---	208/1	208/1
MCA/MOP	45.5/60	45.5/60	---	---	SEE OUTDOOR UNIT	SEE OUTDOOR UNIT	SEE OUTDOOR UNIT	SEE OUTDOOR UNIT	45.5/60	23.9/30
WEIGHT	135	135	20	20	20	25	25	25	135	120
BASIS OF DESIGN	CARRIER FMC4Z3600AL	CARRIER FMC4Z3600AL	CARRIER 40MAQB09B--3	CARRIER 40MAQB09B--3	CARRIER 40MAQB12B--3	CARRIER 40MAHBQ12XA3	CARRIER 40MAHBQ12XA3	CARRIER 40MAHBQ12XA3	CARRIER FMC4Z3600AL	CARRIER FMC4Z1800AL
OUTDOOR UNIT	HP-1 3 TON	HP-2 3 TON	HP-3 2.5 TON	HP-4 1 TON	HP-5 2 TON	HP-6 1 TON	HP-7 1 TON	HP-8 1.5 TON	HP-9 3 TON	HP-10 1.5 TON

\* - PROVIDE ALL UNITS THAT CANNOT BE DRAINED BY GRAVITY WITH CONDENSATE PUMP, ROUTE ALL CONDENSATE LINES HIDDEN WITHIN STRUCTURE TO AN APPROVED LOCATION PROVIDED BY THE PLUMBER.  
\*\* - ELECTRIC HEAT MODEL NUMBER EHK3-10B, 10KW 240V ELECTRIC HEAT WITH CIRCUIT BREAKER. ACCESS PANEL FOR INDOOR UNIT, MODEL # KFAQ0201COV.  
\*\*\* - ELECTRIC HEAT MODEL NUMBER EHK3-05B, 5KW 240V ELECTRIC HEAT WITH CIRCUIT BREAKER. ACCESS PANEL FOR INDOOR UNIT, MODEL # KFAQ0101COV.

### OUTDOOR UNITS - SPLIT SYSTEM HEAT PUMP

MARK NUMBER	HP-1 3 TON	HP-2 3 TON	HP-3 2 TON	HP-4 1 TON	HP-5 2 TON	HP-6 1.5 TON	HP-7 3 TON	HP-8 1.5 TON
SYSTEM	MULTIPURPOSE W127	MULTIPURPOSE W127	LEVEL 1 OFFICES	AMENITY W202	AMENITY W402	AMENITY E112	LEASING OFFICE/MGR/FILES	LOBBY E115
TYPE	1-PORT HEAT PUMP	1-PORT HEAT PUMP	1-PORT HEAT PUMP	1-PORT HEAT PUMP	1-PORT HEAT PUMP	1-PORT HEAT PUMP	1-PORT HEAT PUMP	1-PORT HEAT PUMP
NORMAL HEATING CAPACITY	36,000 BTUH	36,000 BTUH	24,000 BTUH	12,000 BTUH	12,000 BTUH	18,000 BTUH	36,000 BTUH	18,000 BTUH
NORMAL COOLING CAPACITY	36,000 BTUH	36,000 BTUH	24,000 BTUH	12,000 BTUH	12,000 BTUH	18,000 BTUH	36,000 BTUH	18,400 BTUH
EFFICIENCY SEER/EER	14.0/11.0	14.0/11.0	20/12.5	25.5/14	25.5/14	19/12.5	14.0/11.0	14.0/11.5
EFFICIENCY HSPF/COP	8.5/3.85	8.5/3.85	10/3.22	13/3.81	13/3.81	13/3.81	8.5/3.85	8.2/3.94
REFRIGERANT	410 A	410 A	410 A	410 A	410 A	410 A	410 A	410 A
REFRIGERANT CHARGE	X LBS	X LBS	---	X LBS	X LBS	X LBS	X LBS	X LBS
MAX OPERATING TEMPS	115/5	115/5	122/-4	115/5	115/5	115/5	115/5	115/5
MAX PIPING LENGTH	200 FT	200 FT	98 FT	82 FT	82 FT	82 FT	200 FT	98 FT
MAX PIPING HEIGHT	80 FT	80 FT	65 FT	32 FT	32 FT	32 FT	80 FT	65 FT
VOLTS-PHASE - **	208/230-3 PHASE	208/230-3 PHASE	208/230-1 PHASE	208/230-1 PHASE	208/230-1 PHASE	208/230-1 PHASE	208/230-3 PHASE	208/230-1 PHASE
MCA/MOP - **	11.7/20.0 AMPS	11.7/20.0 AMPS	15/25 AMPS	15/15 AMPS	15/15 AMPS	16/25 AMPS	11.7/20.0 AMPS	11.8/20
COMPRESSOR	CONSTANT SPEED	CONSTANT SPEED	VARIABLE SPEED	VARIABLE SPEED	VARIABLE SPEED	VARIABLE SPEED	CONSTANT SPEED	CONSTANT SPEED
WEIGHT	227 LBS	227 LBS	150 LBS	100 LBS	100 LBS	100 LBS	227 LBS	185
BASIS OF DESIGN	CARRIER 25HCE436AP05	CARRIER 25HCE436AP05	CARRIER 38MARQ24--3	CARRIER 38MARQ12A3	CARRIER 38MARQ12A3	CARRIER 38MARQ18A3	CARRIER 25HCE436AP05	CARRIER 25HCE418AP03

\*\*\* - ELECTRICAL DATA LISTED FOR REFERENCE ONLY. COORDINATE WITH ELECTRICAL DESIGN BUILD CONTRACTOR FOR VOLTAGE AND PHASE REQUIREMENTS

### CONDENSER FOR MUA

MARK NUMBER	CU-1 15 TON	CU-2 10 TON
SYSTEM	WEST CORRIDORS	EAST CORRIDORS
TYPE	DUAL STAGE	DUAL STAGE
TOTAL CLG. (TONS)	15	10
ENT. EVAP AIR TEMP (DB/WB.)	90/67	90/67
SATURATED SUCTION TEMP. (°F)	45.0	45.0
AMBIENT AIR (°F)	95	95
EER	12.5	13.4
REFRIGERANT	410A	410A
SUCTION LINE LOSS	1.4	1.4
SOUND POWER LEVEL	82 dB	83.2
DESIGN WEIGHT (LBS.)	731	490
VOLTAGE/PHASE - ***	208/3	208/3
MCA/MOCP - ***	60.8/80	41/60
BASIS OF DESIGN - CARRIER	38AUZA16A0A5	38AUZA12A0A5
MAKEUP AIR UNIT	MAU-1 15 TON	MAU-2 10 TON

\*\*\* - ELECTRICAL DATA LISTED FOR REFERENCE ONLY. COORDINATE WITH ELECTRICAL DESIGN BUILD CONTRACTOR FOR VOLTAGE AND PHASE REQUIREMENTS

### MAU HVAC UNITS

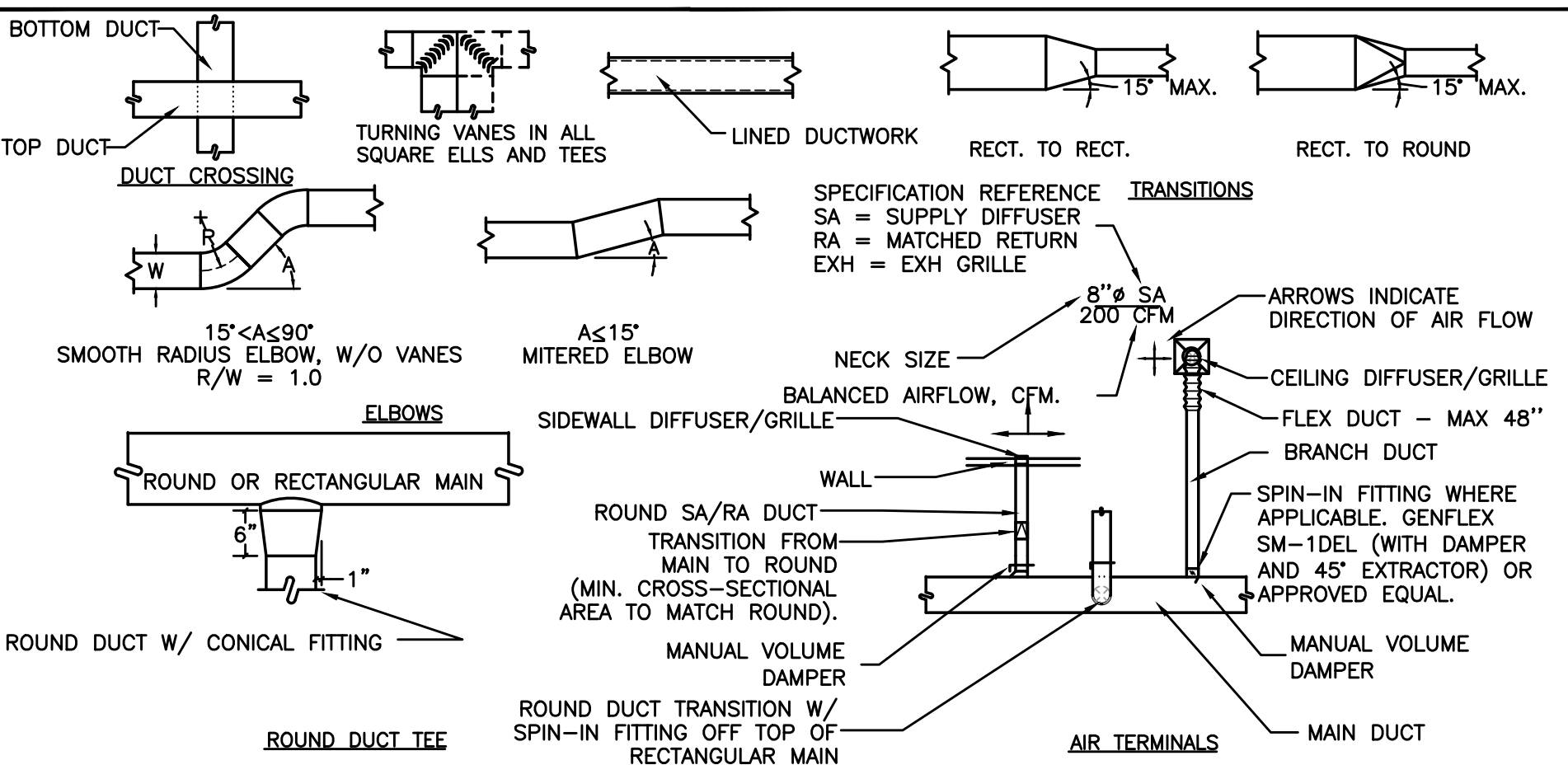
MARK NUMBER	MAU-1 15 TON	MAU-2 10 TON
SYSTEM	WEST CORRIDORS	EAST CORRIDORS
TYPE	INDIRECT GAS MUA	INDIRECT GAS MUA
DISCHARGE	HORIZONTAL	HORIZONTAL
TOTAL CFM	5235	4100
ECONOMIZER	NONE-100% OSA	NONE-100% OSA
MIN. OSA	5235	4100
MAX OSA (FULL OCCUPANCY)	NA	NA
CO2 CONTROL	NA	NA
EXTERNAL SP. (H2O)	1.0	1.0
TOTAL SP. (H2O)	---	---
RPM	1725	1725
WHEEL TYPE/ SIZE	F.C. --- (BELT)	F.C. --- (BELT)
MOTOR HP.	5	5
POWER EXH FAN/ACCESSORY	NONE	NONE
MIN FILTER SIZE	(6)-20X20X2	(6)-20X20X2
FILTER TYPE	2" - MERV 13	2" - MERV 13
GAS INPUT/OUTPUT (MBH)	250 / 200	200 / 160
EFF. (AFUE)	80.0%	80.0%
STAGES/TYP	4:1 HIGH HEAT	4:1 HIGH HEAT
DESIGN WEIGHT (LBS.)	1800	1500
SMOKE DETECTOR (SUPPLY DUCT)	YES	YES
SPRING ISOLATION	YES	YES
CONVENIENCE OUTLET - ALWAYS POWERED	NO	NO
VOLTAGE/PHASE - ***	208/3	208/3
MCA/MOCP - ***	22.8/35 AMPS	22.8/35 AMPS
BASIS OF DESIGN - GREENHECK	IGX-112-H22-1	IGX-112-H22-G

\* - UNIT TO RUN CONTINUOUSLY  
\*\*\* - ELECTRICAL DATA LISTED FOR REFERENCE ONLY. COORDINATE WITH ELECTRICAL DESIGN BUILD CONTRACTOR FOR VOLTAGE AND PHASE REQUIREMENTS

### MECHANICAL LEGEND

	SUPPLY AIR DIFFUSER		ABOVE FINISH FLOOR AIR HANDLING UNIT
	RETURN AIR GRILLE		BOTTOM OF DUCT BRAKE HORSEPOWER
	EXHAUST AIR GRILLE		BRITISH THERMAL UNITS PER CUBIC FOOT PER MINUTE CONNECTION
	PERFORATED RETURN AIR PANEL		CONTINUATION OF DOMESTIC COLD WATER DUCT
	DIRECTIONAL AIR FLOW		MANUAL VOLUME DAMPER
	SUPPLY OR OUTSIDE AIR DUCT UP & DOWN		EXHAUST AIR DUCT UP & DOWN
	VAV TERMINAL UNIT		WT TERMINAL UNIT
	EXISTING		CONNECT TO EXISTING
	THERMOSTAT OR TEMP. SENSOR		NOTE
	EQUIPMENT DESIGNATOR		BALL VALVE
	GATE VALVE		CHECK VALVE
	BALANCING VALVE		THERMOMETER
	DIRECTION OF FLOW		PUMP
	STRAINER		PRESSURE GAUGE
	PETE'S PLUG		DOUBLE CHECK ASSEMBLY
	PRESSURE REDUCING VALVE		UNION
	2-WAY CONTROL VALVE		3-WAY CONTROL VALVE
	CAP		SMOKE DETECTOR
	MOTORIZED DAMPER		
			FIRE DAMPER
			FIRE / SMOKE DAMPER
			SMOKE DAMPER
			SEISMIC BRACING
			LATERAL BRACING
			LONGITUDINAL BRACING
			LONGITUDINAL & LATERAL BRACING

### AIR DISTRIBUTION DETAILS

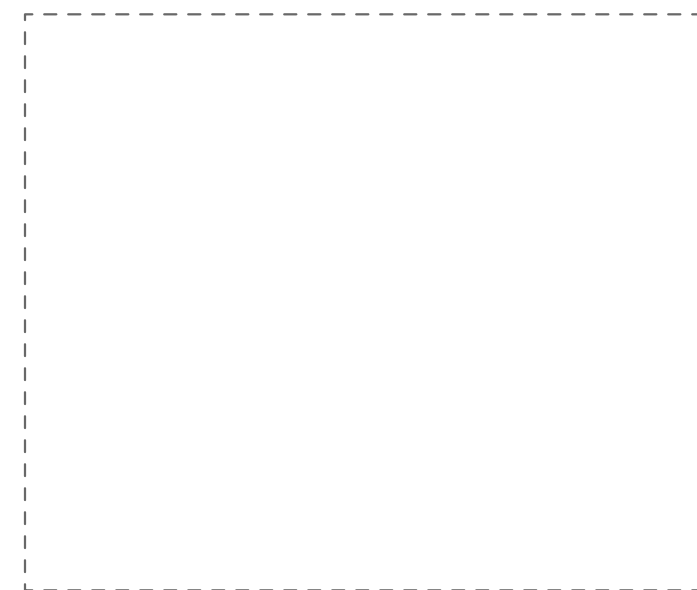


### EXHAUST FANS

MARK NUMBER	EF 1	EF 2	EF 3	EF 4	TF 1	EF 5	EF 6	EF 7	EF 8	EF 9
TYPE	CEILING CABINET	CEILING DIRECT DRIVE	CEILING CABINET	CEILING CABINET	CEILING DIRECT DRIVE	CEILING DIRECT DRIVE	CEILING DIRECT DRIVE	CEILING DIRECT DRIVE	CEILING DIRECT DRIVE	ROOF DIRECT DRIVE
SYSTEM	BATHROOM	RESTROOM	TRASH/RECYCLE WX18	JANITOR	CORRIDOR TRANSFER	TRASH/RECYCLE E012	FIRE/WATER E015	MAINTENANCE E014	BIKE STORAGE E013	TRASH CHUTE
CFM	30/80	110	100	100	300	300	100	200	300	400
TOTAL SP. (IN H2O)	0.20	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.5
RPM	1062/1146	1190	640	640	1070	1070	640	740	1070	1334
TIP SPEED (FPM)	NA	---	---	---	---	---	---	---	---	---
MOTOR WATTS OR HP	5/11.7 W	47.3 W	87 W	87 W	135 W	135 W	87 W	127 W	135 W	1/8 HP
CONTROLLED BY	*	LIGHTS	CONTINUOUS	CONTINUOUS	CONTINUOUS	CONTINUOUS	CONTINUOUS	T-STAT	CONTINUOUS	CONTINUOUS
INTERLOCK WITH	MOTION SENSOR	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
FAN SPEED CONTROLLER	YES	NO	YES	YES	NO	NO	YES	YES	NO	YES
WHEEL TYPE	BI	FC	BI	BI	BI	BI	BI	BI	BI	FC
BACK DRAFT DAMPER	YES	GRAVITY	GRAVITY	GRAVITY	GRAVITY	GRAVITY	GRAVITY	GRAVITY	GRAVITY	NONE
ISOLATION	RUBBER	RUBBER	RUBBER	RUBBER	RUBBER	RUBBER	RUBBER	RUBBER	RUBBER	RUBBER
DESIGN WEIGHT (LBS)	25	25	23	23	25	25	23	23	23	50
MAX. SONES	0.3/0.6	3.0	0.9	0.9	2.5	2.5	0.9	1.7	2.5	7.1
MAX AMPS - ***	0.27	0.40	1.1	1.1	1.34	1.34	1.1	1.8	1.34	---
POWER (VOLTS/PHASE/HZ) - ***	120/1/60	120/60/1	120/60/1	120/60/1	120/60/1	120/60/1	120/60/1	120/60/1	120/60/1	120/60/1
BASIS OF DESIGN:	PANASONIC FV-05-11VKS2	BROAN A110	BROAN L100	BROAN L100	GREENHECK SP-A390	GREENHECK SP-A390	BROAN L100	BROAN L200	GREENHECK SP-A390	GREENHECK G-095-D

\* - FAN TO RUN AT LOW SPEED CONTINUOUSLY, AND INCREASE TO HIGH SPEED UPON ACTIVATION OF THE MOTION SENSOR.  
\*\*\* - ELECTRICAL DATA LISTED FOR REFERENCE ONLY. COORDINATE WITH ELECTRICAL DESIGN BUILD CONTRACTOR FOR VOLTAGE AND PHASE REQUIREMENTS





CITY STAMP

6-1-21



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**RELATED NW**

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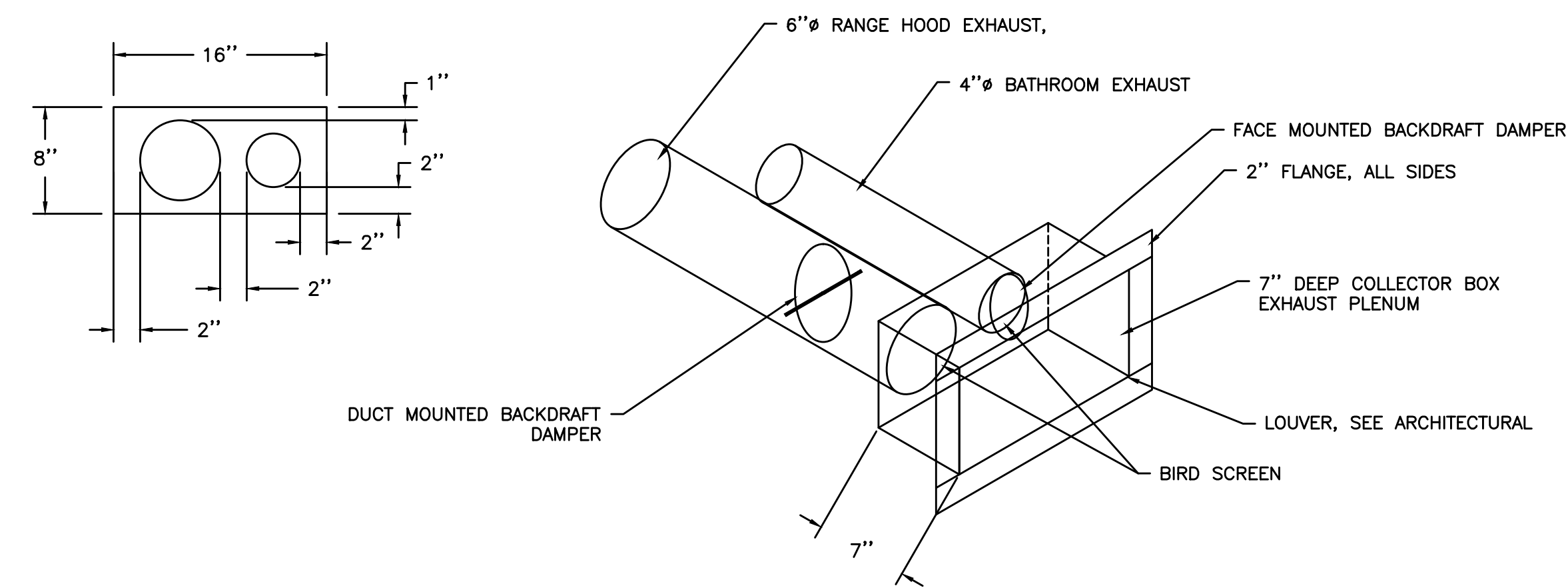
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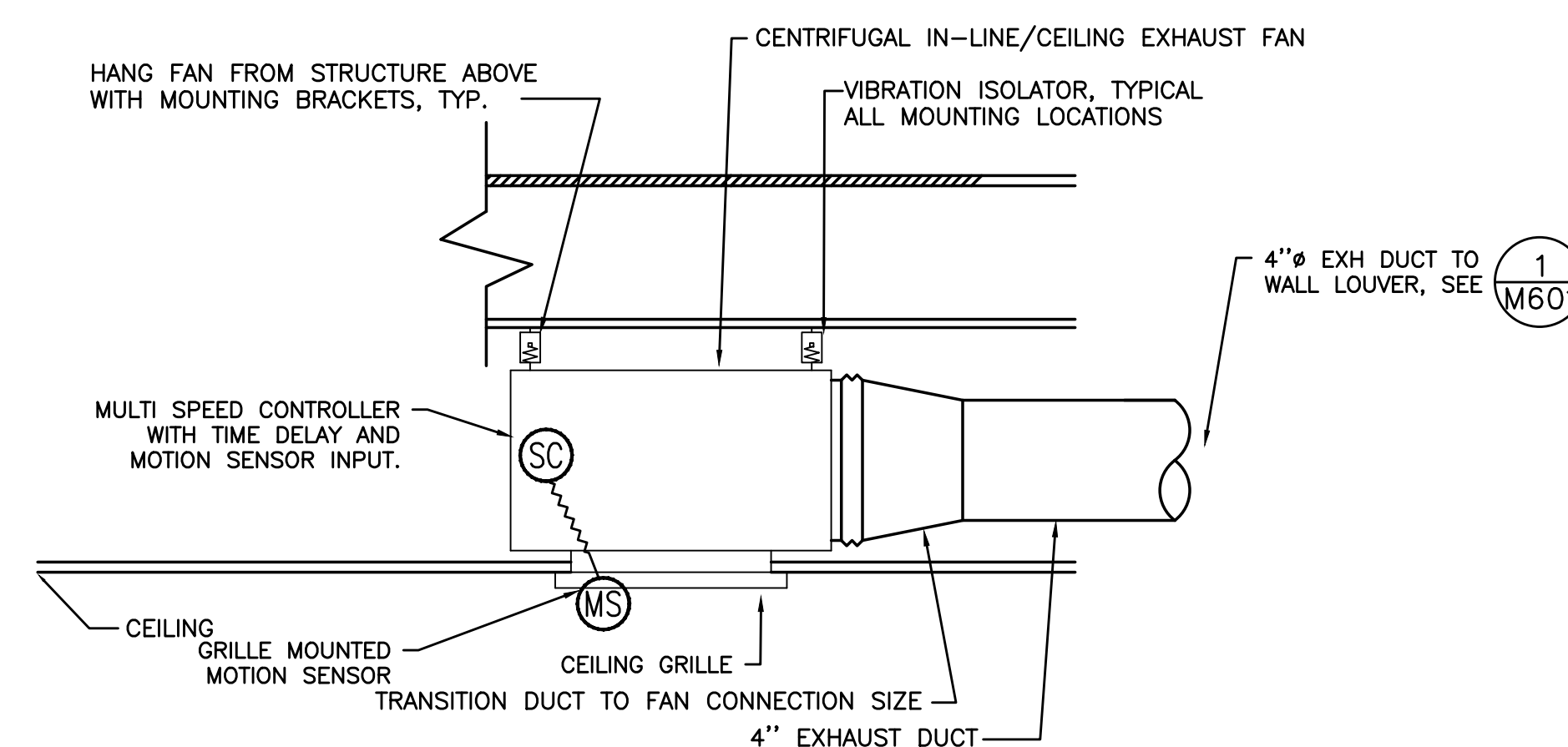
SHEET TITLE:  
**MECHANICAL DETAILS**

SHEET NO.:

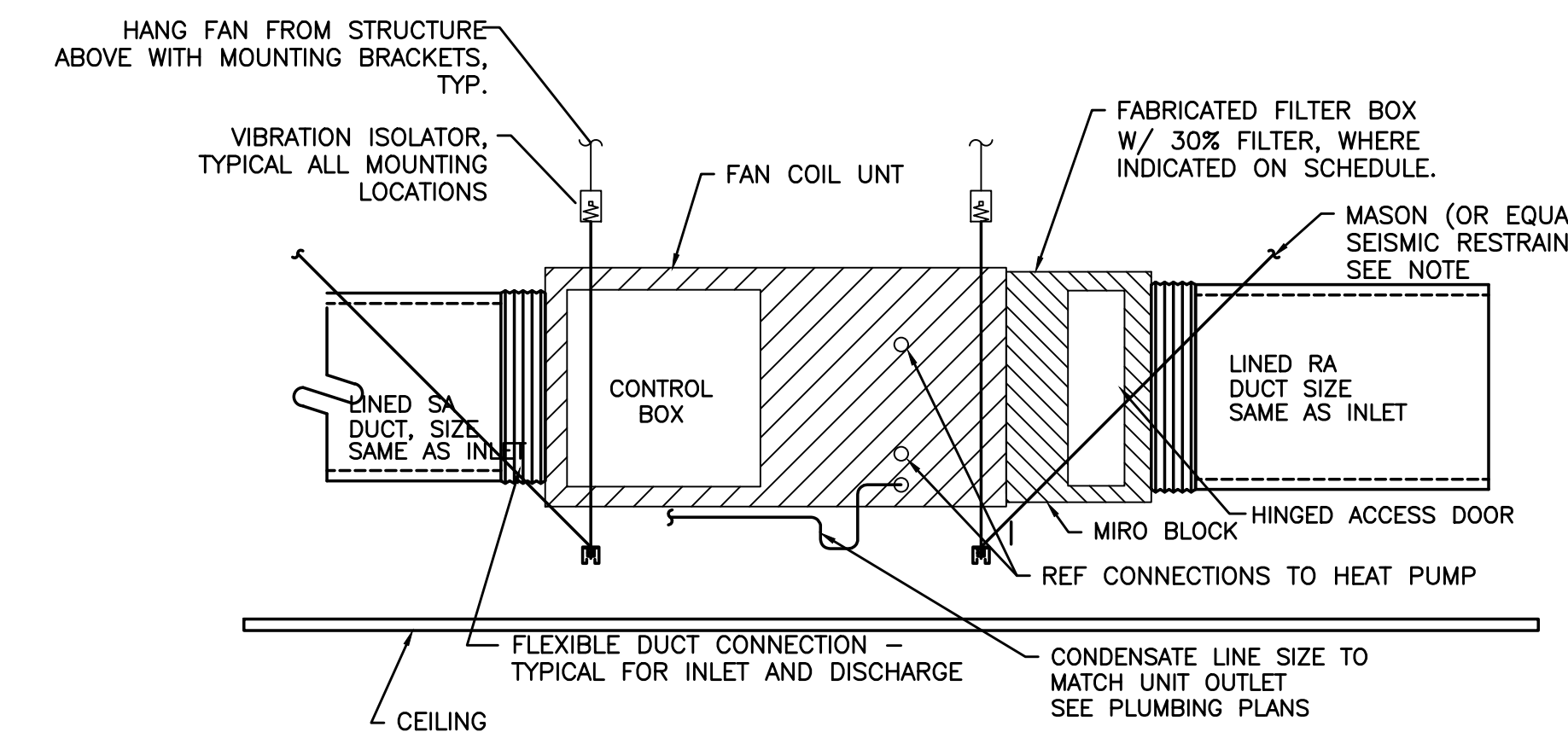
**M601**



**1 SIDE WALL DWELLING UNIT VENTING**  
M601 NOT TO SCALE

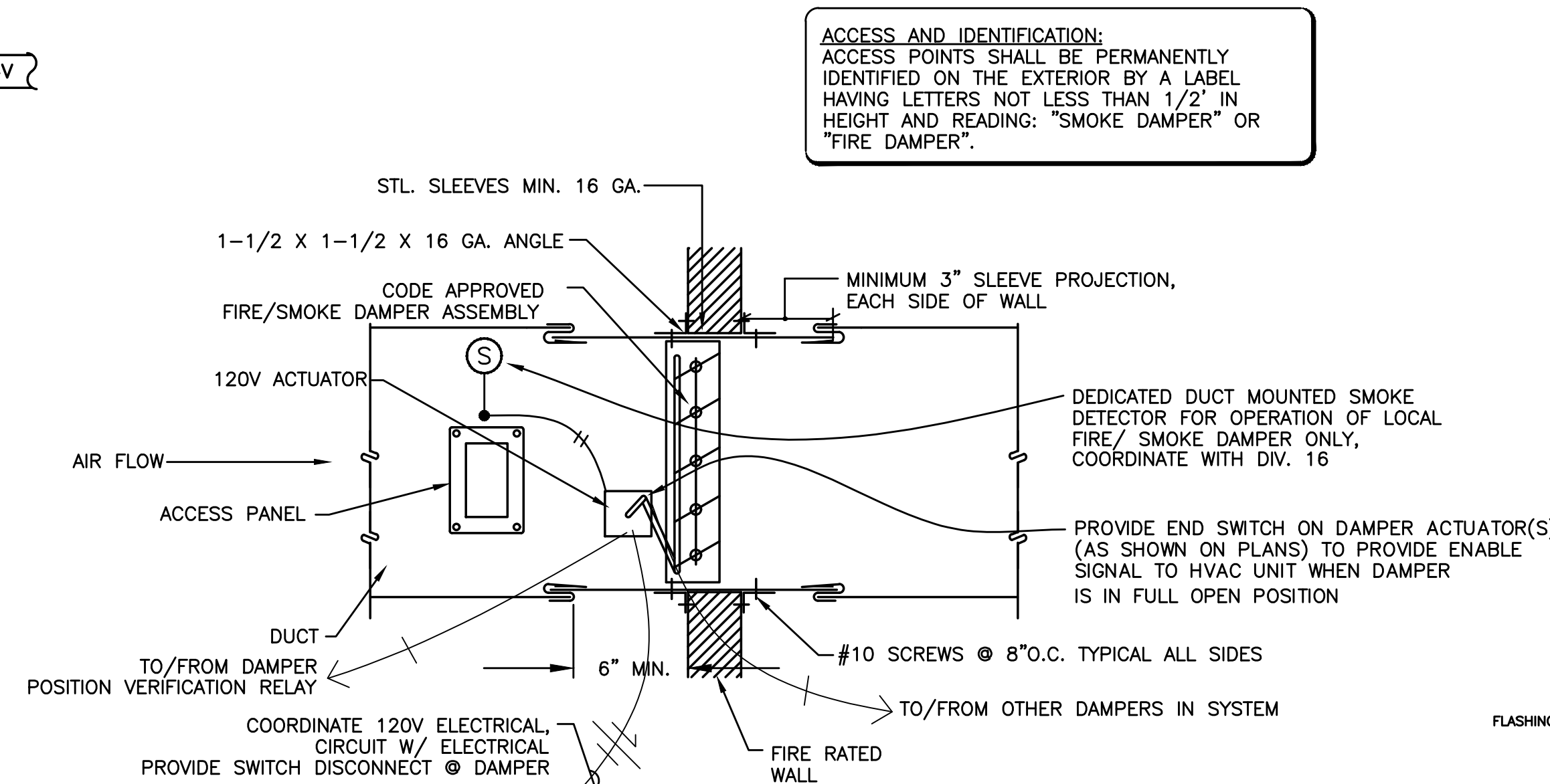
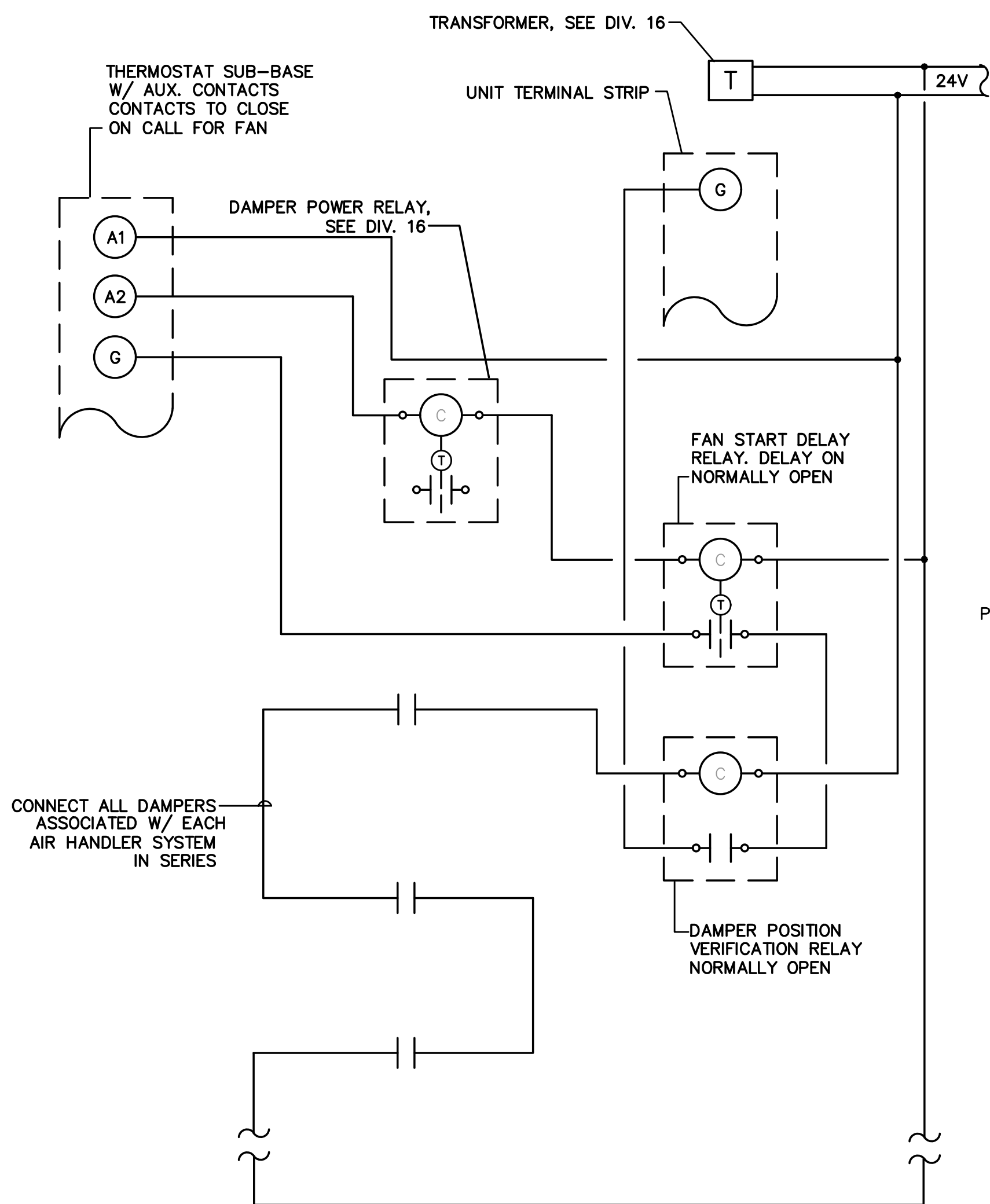


**2 RESTROOM EXHAUST FAN**  
M601 SCALE: DETAIL



NOTE: LOCATE SUPPORT & SEISMIC TO MAINTAIN UNHINDERED ACCESS FOR MAINTENANCE OF UNIT.

**3 DUCTED FAN COIL**  
M601 SCALE: DETAIL



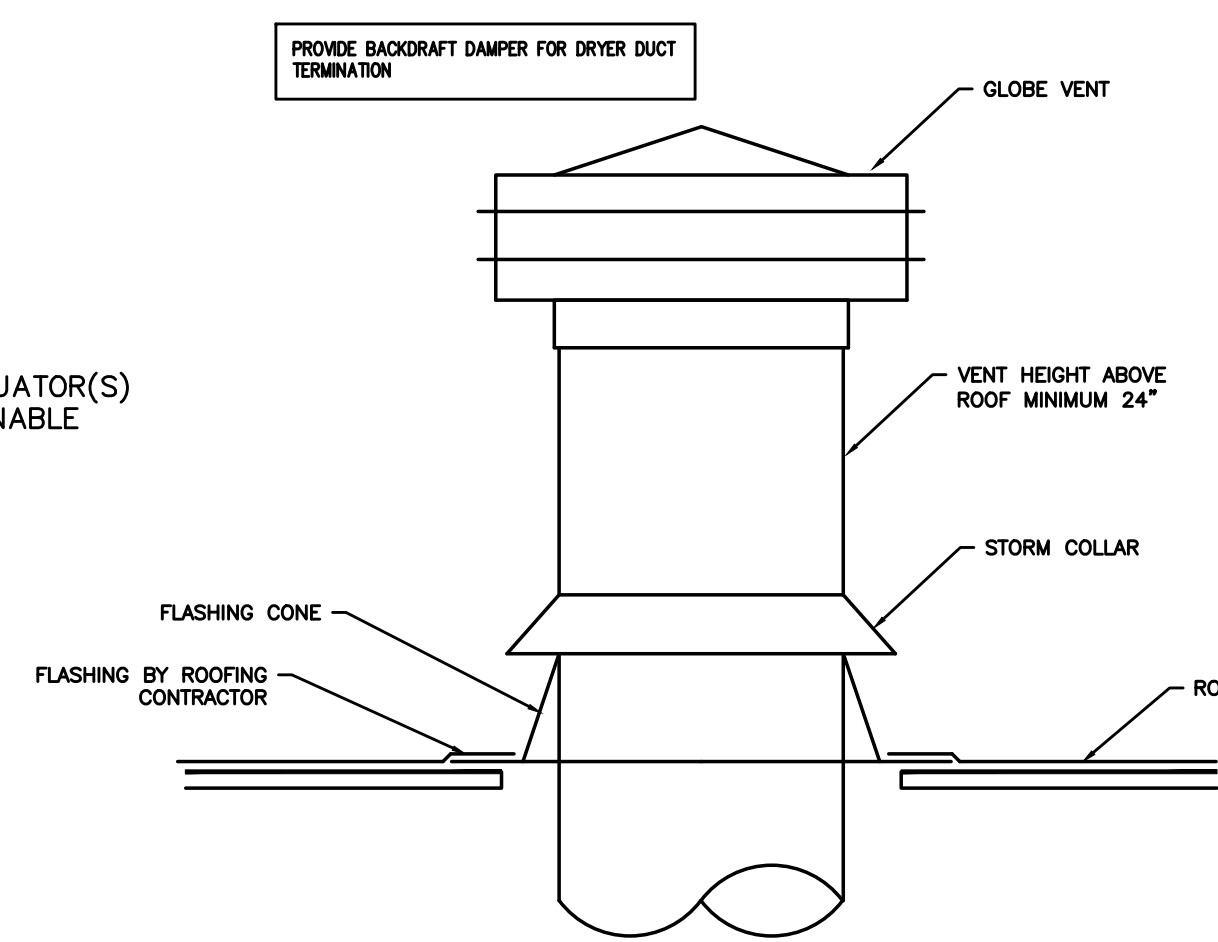
**4 FIRE/SMOKE DAMPER W/SMOKE DETECTOR**  
M601 NOT TO SCALE

**NOTE:**

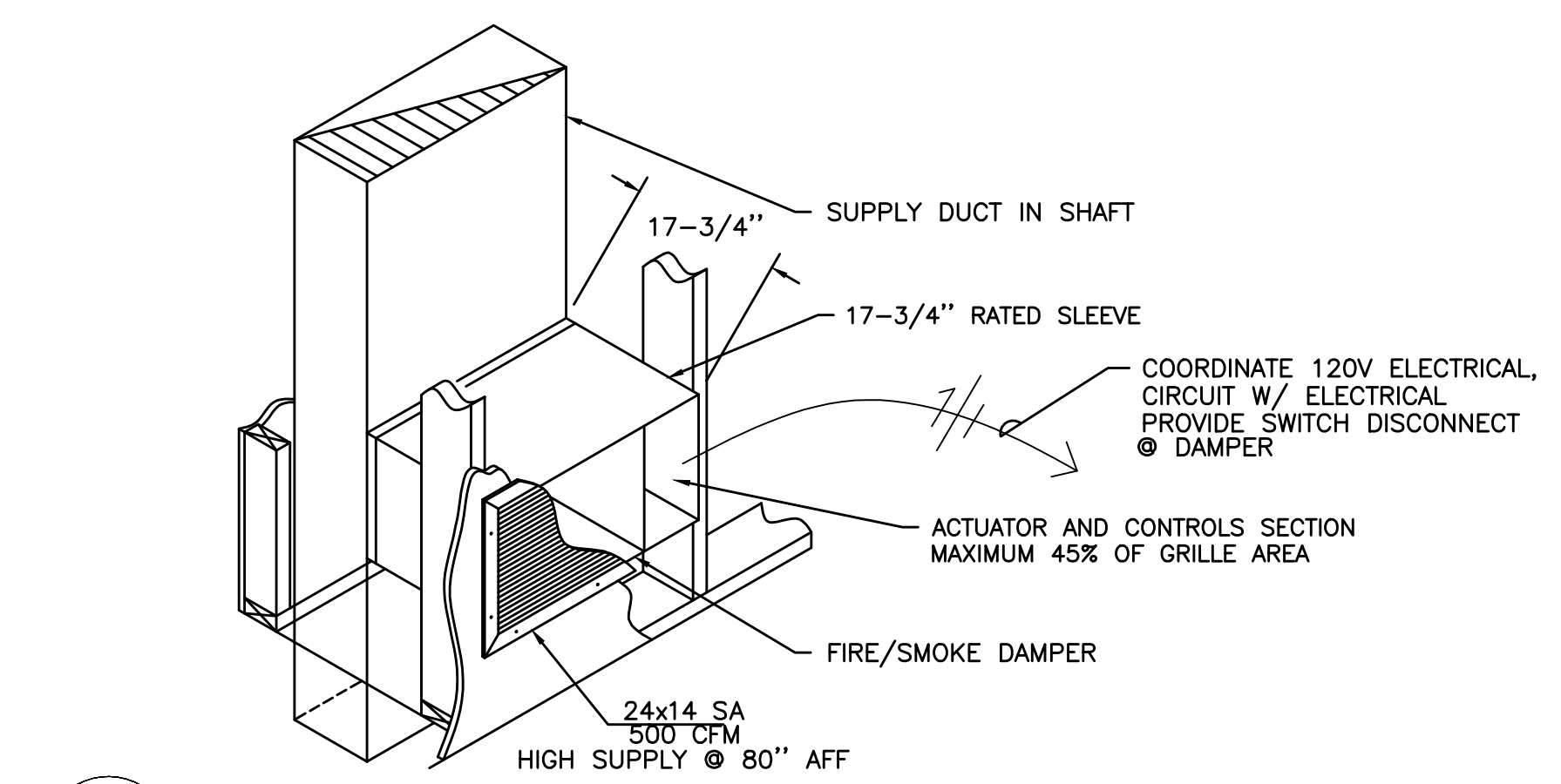
PROVIDE ALL REQUIRED CONTROL WIRING TO ACCOMPLISH:  
**FIRE/SMOKE DAMPER** - FIRE/SMOKE DAMPER TO CLOSE UPON ACTIVATION OF LOCAL SMOKE DETECTOR  
**EXHAUST DUCTS/FANS** - FIRE/SMOKE DAMPER TO CLOSE UPON SHUTDOWN OF ASSOCIATED EXHAUST FAN.  
**SUPPLY OR RETURN DUCTS/FANS** - FIRE/SMOKE DAMPER TO CLOSE UPON SHUTDOWN OF ASSOCIATED AIR HANDLING UNIT.

**GENERAL NOTES:**

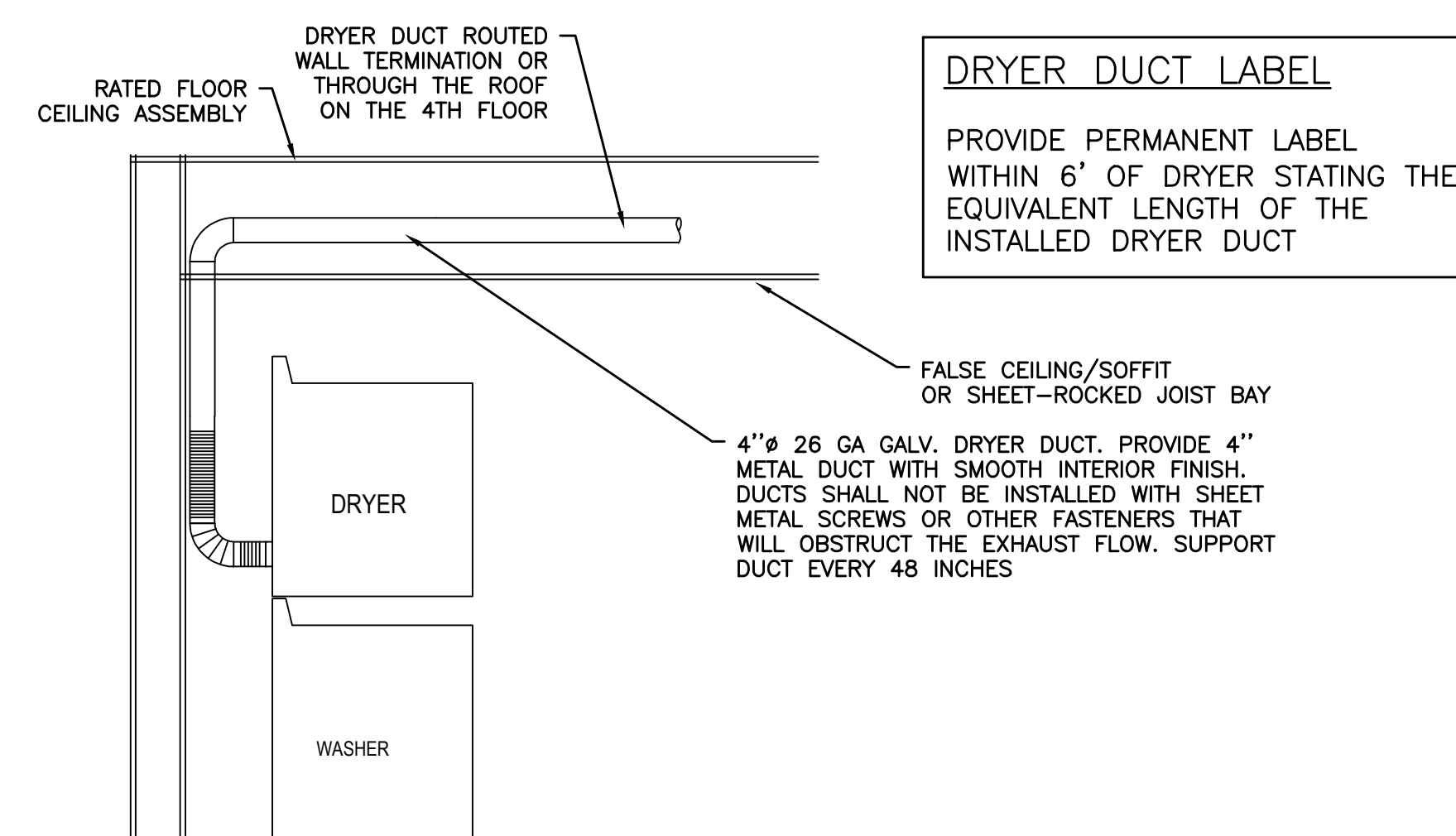
PROVIDE ACCESS IN CEILING OR WALL FOR DAMPER AND SMOKE DETECTOR  
SEE ELECTRICAL DRAWINGS FOR WIRING INSTALLATION



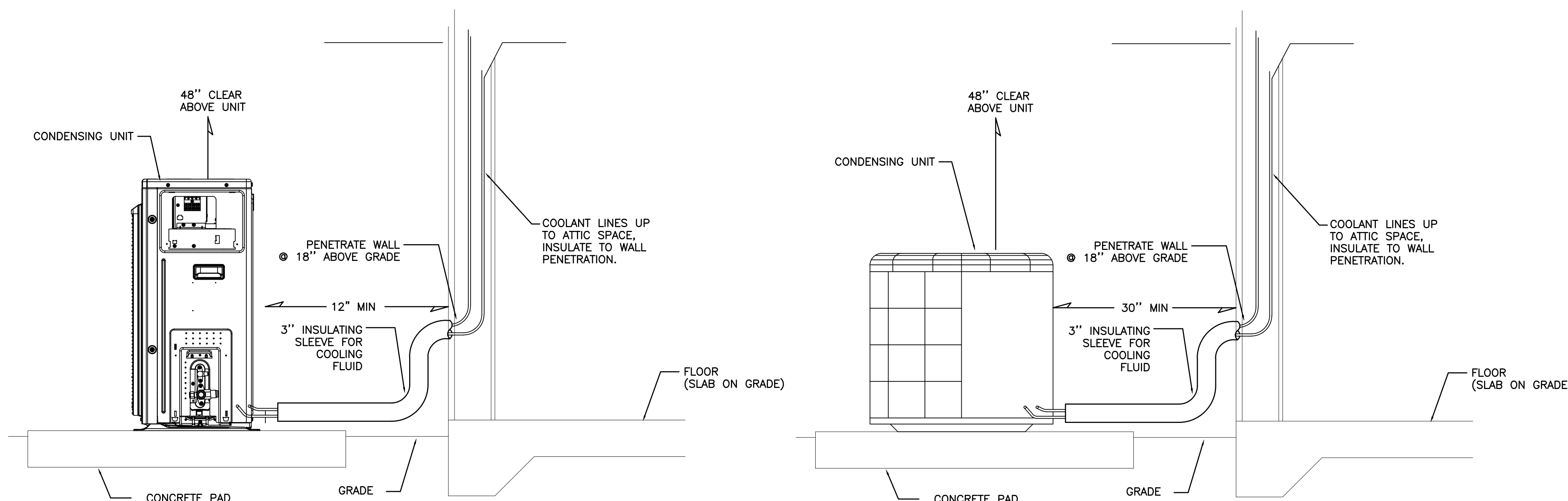
**7 GLOBE STYLE ROOF VENT**  
M602 NOT TO SCALE



**5 HIGH SUPPLY W/ FIRE/SMOKE DAMPER**  
M601 SCALE: DETAIL



**6 TYPICAL DRYER INSTALLATION**  
M601 NOT TO SCALE



**7 TYP. CONDENSER INSTALLATION ON GRADE**  
M601 DETAIL

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CONTACT: MATT AUTREY



PERMIT SET



**System No. W-L-7018**

ANSI/UL1479 (ASTM E814)	CANULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 1/2 Hr	FT Rating — 1-1/2 Hr
	FH Rating — 2 Hr
	FTH Rating — 1-1/2 Hr

**SECTION A-A**

1. Wall Assembly — The 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, U400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:  
 A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC.  
 B. Gypsum Board\* — Two layers of nom 5/8 in. (16 mm) thick gypsum wallboard as specified in the individual Wall and Partition Design No. Max diam of opening is 9 in. (229 mm).

2. Metallic Sleeve — Cylindrical sleeve fabricated from min 0.016 in. (0.41 mm) thick (No. 28 gauge) galv steel sheet steel and having a min 2 in. (51 mm) lap along the longitudinal seam. Length of sleeve to be 18 in. (3 mm) less than thickness of wall. Sleeve to be installed by ciling the sheet metal to a diam smaller than the through opening, inserting the coil through the openings and releasing the coil to let it uncoil against the circular cutouts in the gypsum wallboard layers.

**Hilti Firestop Systems**  
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**System No. W-L-7018**

3. Steel Duct — Nom 6 in. (152 mm) diam (or smaller) No. 28 gauge (or heavier) galv steel duct to be installed concentrically within the firestop system. Duct to be rigidly supported on both sides of the wall assembly.

4. Pipe Covering — Nom 1 in. (25 mm) thick hollow cylindrical heavy density (3.5 pcf or 56 kg/m<sup>3</sup>) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory applied self-sealing tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. The annular space between the insulated pipe and the steel sleeve shall be min 0 in. (point contact) to max 1 in. (25 mm).

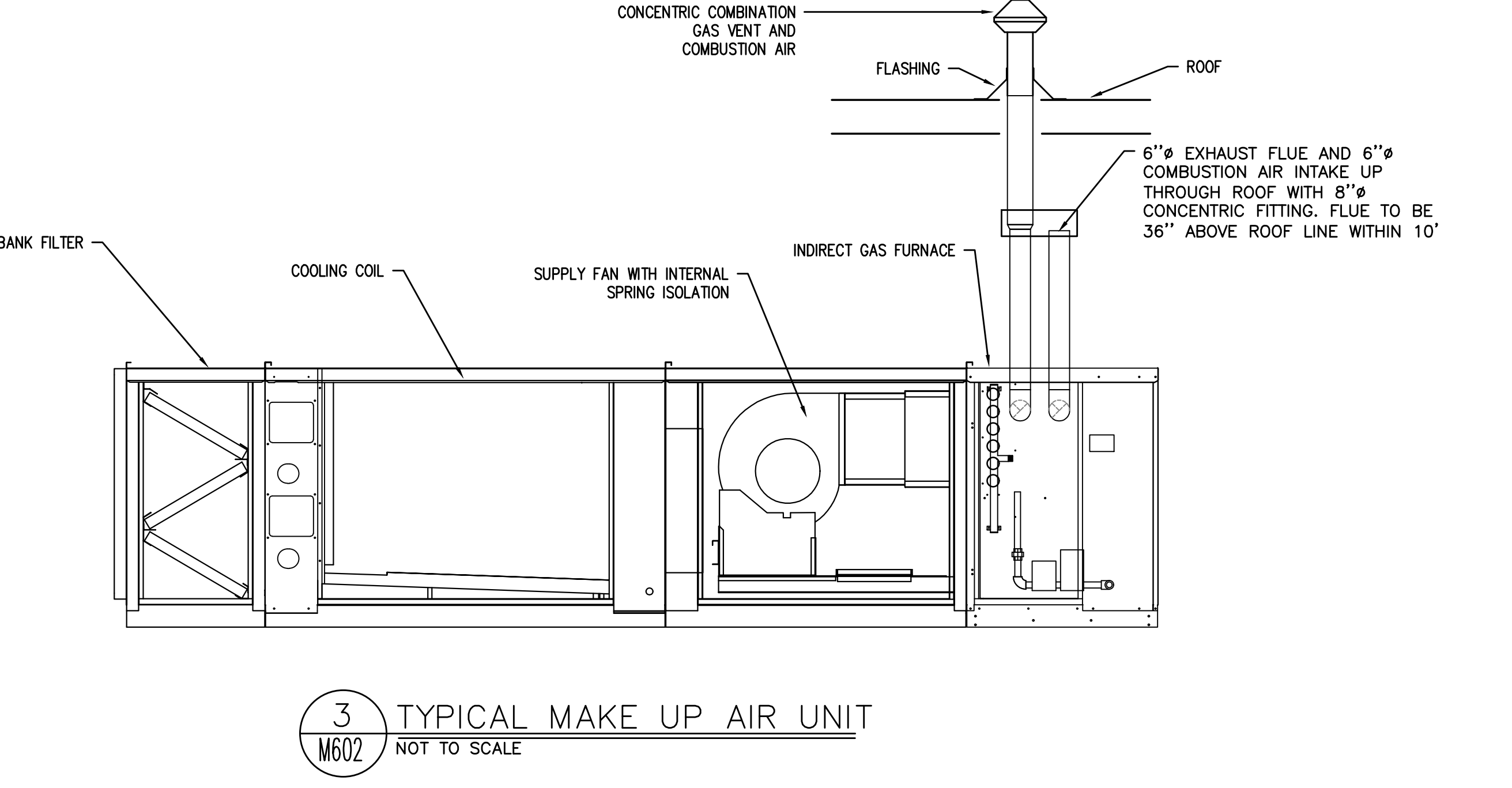
5. Fill, Void or Cavity Material\* — Sealant — Min 1-1/4 in. (32 mm) depth of sealant applied within the annulus, flush with each surface of the wall assembly. At the point contact location between insulated pipe and wall, a min 1/2 in. (13 mm) diam bead of sealant shall be applied on both surfaces of wall, lapping 1/4 in. (6 mm) beyond the periphery of the opening.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

\* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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**VENTILATION AIR SCHEDULE - MAU-2**

ROOM NUMBER AND NAME	AREA (SQ. FT.)	OCCUPANT LOAD (#/1000 SQ. FT.)	NUMBER OF OCCUPANTS	OUTSIDE AIR REQUIREMENT (CFM/P)	OUTSIDE AIR REQUIREMENT (CFM/SQ. FT.)	OUTSIDE AIR REQUIRED (CFM)	ZONE OSA AIR (CFM)	SUPPLY AIR (CFM)	PRIMARY OSA FRACTION	RETURN AIR (CFM)	EXHAUST AIR (CFM)	Zone Ventilation Efficiency	Corrected OSA CFM	AIR SYSTEMS			
	Az		Pz	Rp	Ra	Vbz	Ez	Voz	Vpz	Zp		Evz					
BIKE STORAGE E013	1854	0	0	0	0.12	222	1.0	222	0.99	0	0	1.00	222.48	MAU-2			
<b>TOTAL</b>	<b>1854</b>		<b>0</b>			<b>222</b>	<b>222</b>	<b>225</b>	<b>0.99</b>	<b>0</b>	<b>0</b>	<b>1.00</b>	<b>222</b>				
<b>CORRECTED TOTAL OUTDOOR AIR FLOW RATE</b>													<b>225</b>	<b>CFM</b>	<b>Corrected OSA Fraction</b>	<b>Zs =</b>	<b>0.99</b>

**1 FIRE PENETRATION DETAIL — 6" DUCTS**  
 M602 DETAIL

**System No. W-L-7016**  
 September 07, 2004  
 F Rating — 2 Hr  
 T Rating — 0 Hr

**SECTION A-A**

1. Wall Assembly — The 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:  
 A. Studs — Wall framing shall consist of either wood or steel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced max 16 in. OC. Steel studs to be min 3-1/2 in. wide and spaced max 24 in. OC.  
 B. Gypsum Board\* — Thickness, type, number of layers and fasteners as required in the individual Wall and Partition Design. Max diam of opening is 5 in.

2. Steel Vent Duct — Nom 4 in. diam (or smaller) No. 28 gauge (or heavier) galv steel duct to be installed either concentrically or eccentrically within the firestop system. An annular space of min 0 in. (point contact) to max 1 in. is required within the firestop system. Duct to be rigidly supported on both sides of wall assembly.

3. Firestop System — The details of the firestop system shall be as follows:  
 A. Packing Material (Optional) — Polyethylene backer rod, mineral wool batt insulation or fiberglass batt insulation friction-fit into annular space and recessed from both surfaces of wall to accommodate the required thickness of fill material (Item 3B).  
 B. Fill, Void or Cavity Material\* — Caulk or Sealant — Min 1/2 in. thickness of fill material applied within annulus, flush with both surfaces of wall assembly. At the point contact location between duct and wallboard, a min 1/2 in. diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

**3M COMPANY** — CP-25WB\* caulk or FB-3000 WT sealant  
 \*Bearing the UL Classification Marking

This material was extracted and drawn by 3M Fire Protection Products from the 2007 edition of the UL Fire Resistance Directory. © 2004 3M  
**3M Fire Protection Products**  
 www.3m.com/firestop W-L-7016 • 1 of 1 Product Support Line: 1-800-528-1687 Show options 4 for UL (M 200404) 5/1

**VENTILATION AIR SCHEDULE - FC - 1 & 2**

ROOM NUMBER AND NAME	AREA (SQ. FT.)	OCCUPANT LOAD (#/1000 SQ. FT.)	NUMBER OF OCCUPANTS	OUTSIDE AIR REQUIREMENT (CFM/P)	OUTSIDE AIR REQUIREMENT (CFM/SQ. FT.)	OUTSIDE AIR REQUIRED (CFM)	ZONE OSA AIR (CFM)	SUPPLY AIR (CFM)	PRIMARY OSA FRACTION	RETURN AIR (CFM)	EXHAUST AIR (CFM)	Zone Ventilation Efficiency	Corrected OSA CFM	AIR SYSTEMS			
	Az		Pz	Rp	Ra	Vbz	Ez	Voz	Vpz	Zp		Evz					
MULTI-PURPOSE W127	907	30	28	5	0.06	194	0.8	243	1200	0.20	957	0	1.00	243.03	FC-1		
MULTI-PURPOSE W127	907	30	28	5	0.06	194	0.8	243	1200	0.20	957	0	1.00	243.03	FC-2		
<b>TOTAL</b>	<b>1814</b>		<b>56</b>			<b>388</b>	<b>486</b>	<b>2400</b>	<b>1914</b>	<b>0</b>	<b>1.00</b>	<b>486</b>					
<b>CORRECTED TOTAL OUTDOOR AIR FLOW RATE</b>													<b>486</b>	<b>CFM</b>	<b>Corrected OSA Fraction</b>	<b>Zs =</b>	<b>0.20</b>

**VENTILATION AIR SCHEDULE - FC-3A, 3B, 3C**

ROOM NUMBER AND NAME	AREA (SQ. FT.)	OCCUPANT LOAD (#/1000 SQ. FT.)	NUMBER OF OCCUPANTS	OUTSIDE AIR REQUIREMENT (CFM/P)	OUTSIDE AIR REQUIREMENT (CFM/SQ. FT.)	OUTSIDE AIR REQUIRED (CFM)	ZONE OSA AIR (CFM)	SUPPLY AIR (CFM)	PRIMARY OSA FRACTION	RETURN AIR (CFM)	EXHAUST AIR (CFM)	Zone Ventilation Efficiency	Corrected OSA CFM	AIR SYSTEMS			
	Az		Pz	Rp	Ra	Vbz	Ez	Voz	Vpz	Zp		Evz					
SS OFFICE 01 W137	166	5	1	5	0.06	15	1.0	15	25	0.60	0	0.97	15.39	FC-3A			
TEEN LOUNGE W135	334	30	11	7.5	0.06	103	1.0	103	110	0.93	0	0.96	62.63	FC-3C			
SS OFFICE 02 W136	181	5	1	5	0.06	16	1.0	16	25	0.63	0	0.96	10.57	FC-3B			
<b>TOTAL</b>	<b>681</b>		<b>13</b>			<b>133</b>	<b>133</b>	<b>160</b>	<b>194</b>	<b>0.97</b>	<b>0</b>	<b>0.97</b>	<b>199</b>				
<b>CORRECTED TOTAL OUTDOOR AIR FLOW RATE</b>													<b>199</b>	<b>CFM</b>	<b>Corrected OSA Fraction</b>	<b>Zs =</b>	<b>0.17</b>

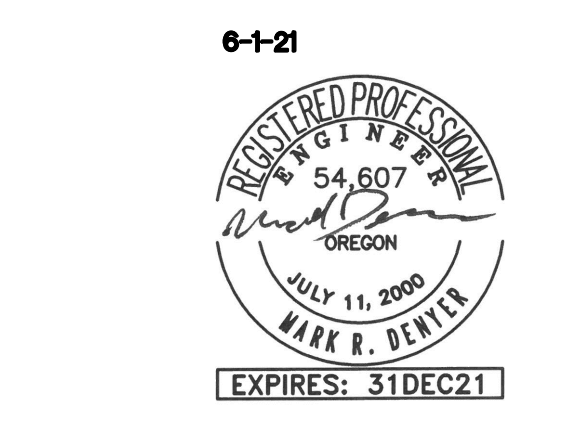
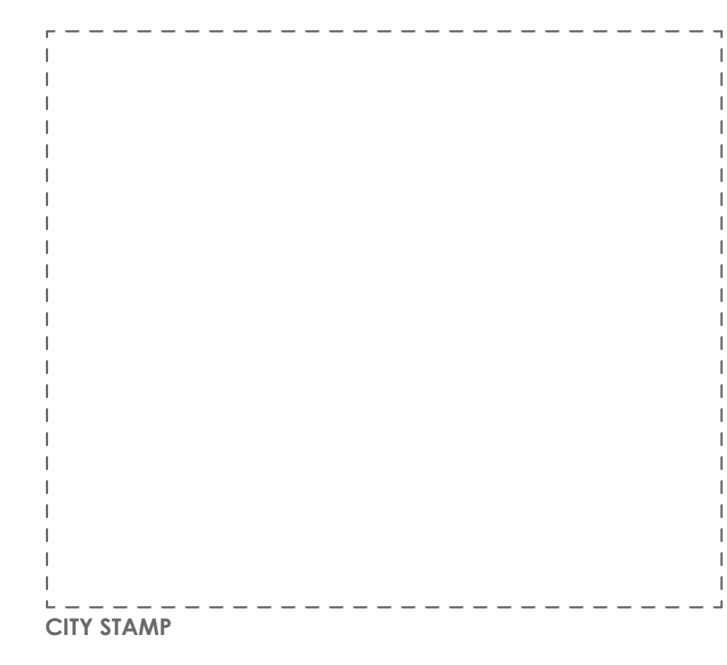
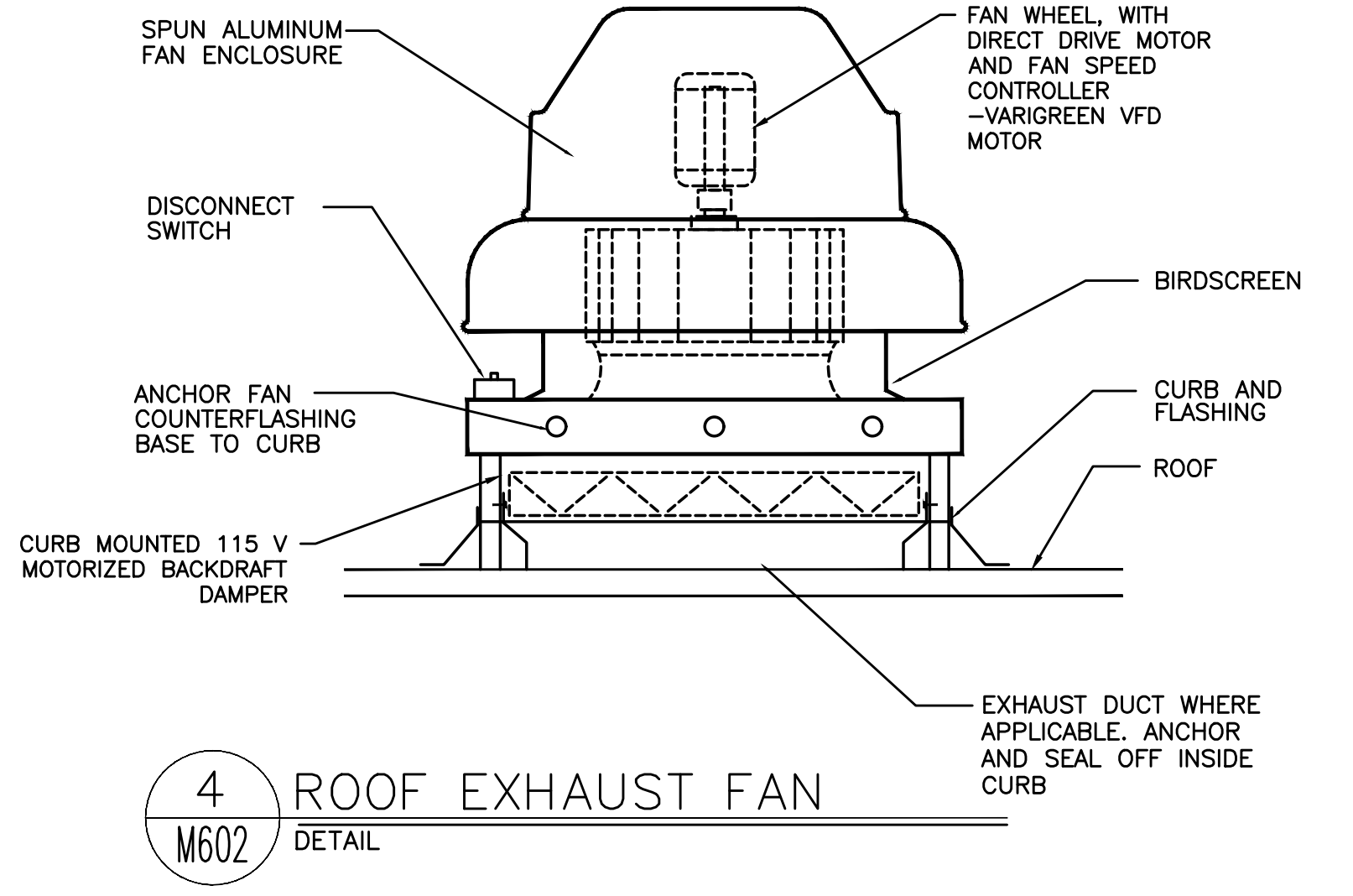
**VENTILATION AIR SCHEDULE - FC-7**

ROOM NUMBER AND NAME	AREA (SQ. FT.)	OCCUPANT LOAD (#/1000 SQ. FT.)	NUMBER OF OCCUPANTS	OUTSIDE AIR REQUIREMENT (CFM/P)	OUTSIDE AIR REQUIREMENT (CFM/SQ. FT.)	OUTSIDE AIR REQUIRED (CFM)	ZONE OSA AIR (CFM)	SUPPLY AIR (CFM)	PRIMARY OSA FRACTION	RETURN AIR (CFM)	EXHAUST AIR (CFM)	Zone Ventilation Efficiency	Corrected OSA CFM	AIR SYSTEMS			
	Az		Pz	Rp	Ra	Vbz	Ez	Voz	Vpz	Zp		Evz					
FILES E127	100	0	0	0	0.12	12	0.8	15	80	0.19	0	0.97	15.39	FC-7			
LEASING OFFICE E123	287	5	2	5	0.06	27	0.8	34	350	0.10	1001	0	1.06	34.92	FC-7		
PROP MGR E125	144	5	1	5	0.06	14	0.8	17	150	0.11	0	0	1.05	17.50	FC-7		
ASST MGR E126	100	5	1	5	0.06	11	0.8	14	150	0.09	0	0	1.07	14.11	FC-7		
KITCHEN WORK E128 E129	158	30	5	5	0.06	34	0.8	43	220	0.20	0	0	0.97	44.23	FC-7		
CONFERENCE E124	147	50	8	5	0.06	49	0.8	61	200	0.31	0	0	0.96	62.63	FC-7		
SECURITY E130	94	5	1	5	0.06	8	0.8	10	50	0.21	0	0	0.96	10.57	FC-7		
<b>TOTAL</b>	<b>990</b>		<b>18</b>			<b>155</b>	<b>194</b>	<b>1200</b>	<b>1001</b>	<b>0</b>	<b>0</b>	<b>0.97</b>	<b>199</b>				
<b>CORRECTED TOTAL OUTDOOR AIR FLOW RATE</b>													<b>199</b>	<b>CFM</b>	<b>Corrected OSA Fraction</b>	<b>Zs =</b>	<b>0.17</b>

**VENTILATION AIR SCHEDULE - FC-8**

ROOM NUMBER AND NAME	AREA (SQ. FT.)	OCCUPANT LOAD (#/1000 SQ. FT.)	NUMBER OF OCCUPANTS	OUTSIDE AIR REQUIREMENT (CFM/P)	OUTSIDE AIR REQUIREMENT (CFM/SQ. FT.)	OUTSIDE AIR REQUIRED (CFM)	ZONE OSA AIR (CFM)	SUPPLY AIR (CFM)	PRIMARY OSA FRACTION	RETURN AIR (CFM)	EXHAUST AIR (CFM)	Zone Ventilation Efficiency	Corrected OSA CFM	AIR SYSTEMS			
	Az		Pz	Rp	Ra	Vbz	Ez	Voz	Vpz	Zp		Evz					
LOBBY E115	577	0	0	0	0.06	35	0.8	43	600	0.07	557	0	1.00	43.28	FC-8		
<b>TOTAL</b>	<b>577</b>		<b>0</b>			<b>35</b>	<b>43</b>	<b>600</b>	<b>557</b>	<b>0</b>	<b>1.00</b>	<b>43</b>					
<b>CORRECTED TOTAL OUTDOOR AIR FLOW RATE</b>													<b>43</b>	<b>CFM</b>	<b>Corrected OSA Fraction</b>	<b>Zs =</b>	<b>0.07</b>

**2 FIRE PENETRATION DETAIL — 4" DUCTS**  
 M602 DETAIL



**TERRACE GLEN APARTMENTS**

OWNER:  
**RELATED NW**

ADDRESS:  
**9640 SW GREENBURG TIGARD, OR 97223**

PROJECT NO.: 19134  
 DRAWN: Author  
 DATE: JUNE 08, 2021  
 PERMIT SET

REVISION: DESCRIPTION:

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**PERMIT SET**

SHEET TITLE:  
**MECHANICAL DETAILS**

SHEET NO.:

**M602**