

3-11-22

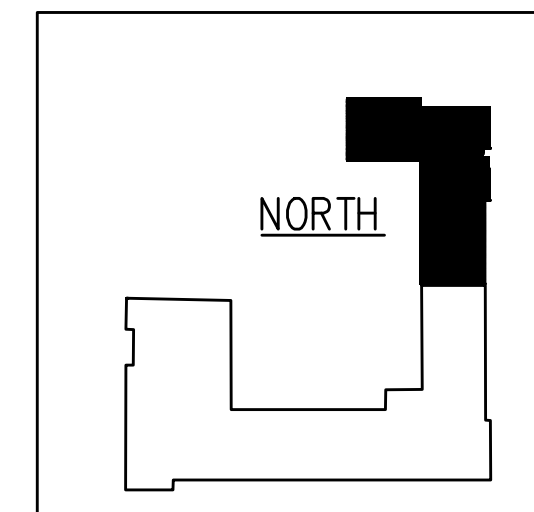


09.20.2021 PERMIT SET

SET ISSUE

- △ PLAN REVIEW #1 02.11.2022
- △ PERMIT CHECKSHEET RESPONSE 05.20.2022
- △ PERMIT CHECKSHEET RESPONSE 08.10.2022

KEY PLAN

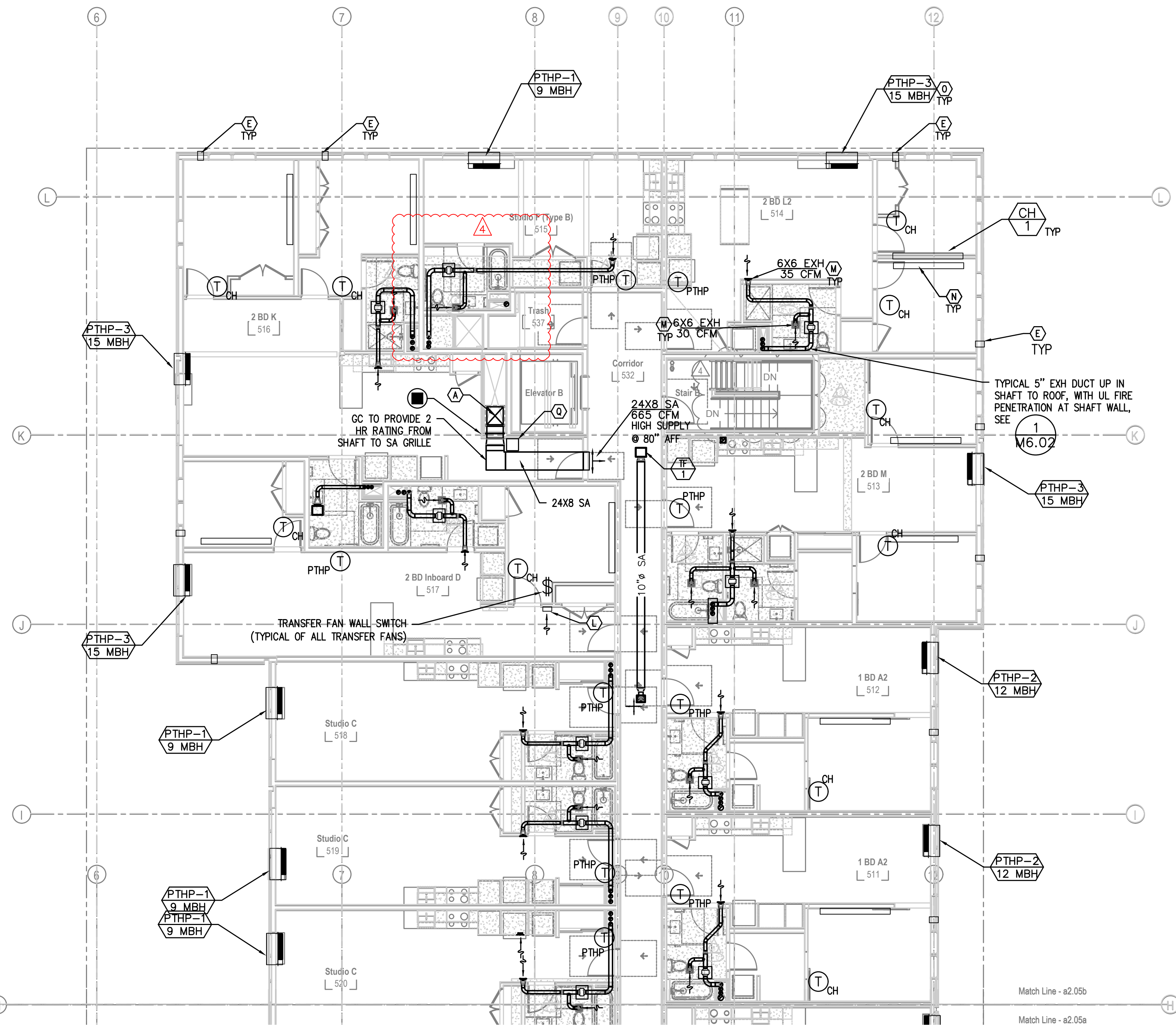


M Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.WPA-ENG.COM
CONTACT: MARK DENYER



LEVEL 5 MECHANICAL PLAN - NORTH M1.05A

1 LEVEL 5 MECHANICAL PLAN - NORTH
M1.05A SCALE: 1/8" = 1'-0"



Approval Stamp:

TYPICAL 5" EXH DUCT UP IN SHAFT TO ROOF, WITH UL FIRE PENETRATION AT SHAFT WALL, SEE M6.02

KEY NOTES:

- (A) SUPPLY DUCT FROM ROOF TO 2ND FLOOR CEILING - TRANSITION TO SMALLER DUCT SIZES AFTER SUPPLY BRANCH TAKE OFF, SEE CHART.
- (B) PANASONIC WHISPERGREEN CEILING FAN WITH 4" DUCT TO ROOFTOP DOGHOUSE/SIDEWALL 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 M6.02
- (C) 7" HOOD DUCT TO SIDEWALL 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.
- (D) EXTERIOR EXHAUST PLENUM - SEE M6.02 MAINTAIN 36" CLEAR TO OPERABLE WINDOWS AND DOORS.
- (E) AC PORT IN BEDROOMS DETAIL, SEE M6.02 FOR
- (F) IN-LINE CEILING FAN FOR 1-BEDROOM DWELLING UNITS, SEE M6.01 FOR FAN LOCATED ABOVE FALSE CEILING AND BELOW FIRE RATED FLOOR/CEILING ASSEMBLY. W/ TYPICAL 18X18 ACCESS PANEL.
- (G) X" OUTSIDE AIR TO FAN COIL, PROVIDE WITH 2-POSITION DAMPER TO OPEN WHENEVER FAN COIL OPERATES. DAMPER TO BE A LOW LEAK CLASS 1 DAMPER.
- (H) REFRIGERANT LINESETS Routed FROM CONDENSING UNITS ON ROOF TO FAN COILS ON ALL FLOORS.
- (I) FOR DUCTED FAN COIL DETAIL, SEE M6.03
- (J) X KW WALL HEATER QMARK AWH4404F OR EQUAL. EQUIPMENT BY ELECTRICAL CONTRACTOR. SHOWN FOR REFERENCE ONLY.
- (K) SUPPLY AIR OR RETURN GRILLE, SIZED FOR BOTH FREE AREA AND FOR ACTUATOR ACCESS, SEE M6.03 FOR GRILLE INSTALLATION, AND SEE M6.03 FOR TYPICAL F/S INSTALLATION AND CONTROLS.
- (L) ROOM TO ROOM TRANSFER FAN FOR DARK BEDROOMS. TJERNLUND AS-1 WITH WALL MOUNTED SWITCH. BLOWER FAN MOUNTED LOW IN LIVING ROOM, WITH HIGH DISCHARGE IN BEDROOM. SET APPROXIMATELY 8" AFF, AND 8" BELOW CEILING. SET BOTH INTAKE AND SUPPLY ABOVE DOOR ON UNITS LOCATED ABOVE ENTRY DOOR.
- (M) 6x6 SA CEILING SUPPLY GRILLE, SEE M6.01 TYPICAL CEILING GRILLE IN KITCHEN TO BE LOCATED BETWEEN 3' & 10' OF COOKING SURFACE.
- (N) TYPICAL COVE HEATER FOR EACH BEDROOM. TYPICAL WALL T-STAT FOR COVE HEATERS - COORDINATE EXACT LOCATION WITH ARCHITECT.
- (O) AMANA PTHP (PACKAGED TERMINAL HEAT PUMP) WITH FACTORY WALL SLEEVE, CONDENSATE DRAIN KIT, AND 42X16 ALUMINUM ARCHITECTURAL GRILLE AT EXTERIOR. INSTALL GRAVITY CONDENSATE DRAIN KIT, PLUMBING CONTRACTOR TO MAKE CONNECTION AT DRAIN KIT AND CONTINUE DRAIN LINE TO AN APPROVED LOCATION.
- (P) FIRE PENETRATION DETAILS, SEE M6.02, M6.04, M6.05
- (Q) 16X16 NON RATED ACCESS PANEL FOR FSD.

SHAFT DUCT SIZES

FLOOR	SUPPLY AIR	CFM	RETURN AIR	CFM	UNIT
ATTIC	26 X 26	4000	NA	NA	RTU-1
5TH	26 X 22	2290	NA	NA	RTU-1
4TH	26 X 22	1720	NA	NA	RTU-1
3RD	26 X 18	1150	NA	NA	RTU-1
2ND	26 X 18	570	NA	NA	RTU-1
1ST	26 X 18	1150	NA	NA	RTU-1
BSMNT	26 X 18	570	NA	NA	RTU-1

SHAFT DUCT SIZES

FLOOR	SUPPLY AIR	CFM	RETURN AIR	CFM	UNIT
ATTIC	26 X 26	4000	NA	NA	RTU-2
5TH	26 X 22	2290	NA	NA	RTU-2
4TH	26 X 22	1720	NA	NA	RTU-2
3RD	26 X 18	1150	NA	NA	RTU-2

VENTILATION CALCULATIONS:

ALL DWELLING UNITS ARE VENTILATED BY NATURAL VENTILATION, BATHROOM EXHAUST FANS RUN CONTINUOUSLY (SIZED PER ASHRAE 62.2).

COMMON SPACES AND HALLWAYS ARE VENTILATED BY PACKAGED ROOF TOP UNITS SIZED TO EXCEED THE MINIMUM 0.06 CFM/SQ FT REQUIREMENT

SEE VENTILATION SCHEDULES FOR OTHER UNITS

ALL DUCTWORK TO BE ROUTED UNDER THE RATED FLOOR/CEILING ASSEMBLY. ALL DUCTWORK LOCATED EITHER IN SOFFIT OR EXPOSED BELOW RATED CEILING.

ALL VENTILATION PROVIDED BY NATURAL VENTILATION OPERABLE PORTION OF WINDOWS TO BE GREATER THAN OR EQUAL TO 4% OF DWELLING UNIT FLOOR AREA. NO WINDOW LIMITERS ON ANY WINDOW AND ALL BEDROOMS TO INCLUDE OPERABLE WINDOWS FOR CODE REQUIRED VENTILATION