



McPhillips Architecture

Pre Bid Addendum #1

Architect: Kari L. McPhillips, RA
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(989) 859-8816 kari.mcphillipsarchitect@ gmail.com

Project: Mt. Haley Township Hall Addition and Alterations

Date: September 19, 2024

To: All Bidders, Building Department

The following clarifications, modifications and /or revisions to the above project shall be considered a part of the contract documents. It shall be the responsibility of the Contractor to notify their subcontractors and suppliers regarding the information contained herein.

1. Sheet CS Cover Sheet notes what drawing sets in Pre Add. #1.
2. Sheet A1 Site Plan shows sitework, parking, new asphalt and stone drive areas.
3. Sheet A3 plan and schedule updates.
4. Ceramic tile floor allowance \$10/sf @ 500 sf \$5000.00
5. 1x4 square red oak base board at carpet, stained to match interior door stain, TBD.
6. Allowance for carpet squares \$6.00/sf @ 900 sf \$5400.00
7. Door and hardware schedule (see attached) Allen Supply.
8. Drywall on addition walls to be 5 /8" to best accommodate door frames.
9. Sheet A3 for updated door numbers.
10. Sheet A4 Shows door '1' on the north elevation.
11. Sheet M1 for updated furnace and condenser resizing and ductwork.
12. Sheet P2 for gas line location option.
13. Allowance for cabinetry \$300/LF = \$21,000.00 door style TBD.
14. Allowance for Formica countertops \$45/sf. \$6000.00 Color TBD.

Material Schedule Report

Distributed By:
Allen Supply-Saginaw
 2800 Universal Drive
 Saginaw, MI 48603
 Phone: (989) 799-2525
 Fax: (989) 799-4726

Masonry
Cased

Masonry
Single

Masonry

FRAME PROFILES

Drywall

Drywall
Single

Drywall
Cased

RECORD OF SUBMITTALS

DOOR HANDING CHART

ARCHITECT JOB NO.

SUBMITTED

RETURNED

PROJECT

Mt Haley Township Hall

1ST

LOCATION

MERRILL, MI

2ND

3RD

ARCHITECT

MC PHILLIPS ARCHITECTURE

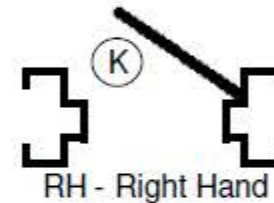
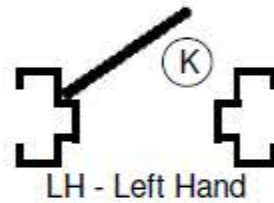
4TH

CONTRACTOR

RECEIVED APPROVED DRAWINGS

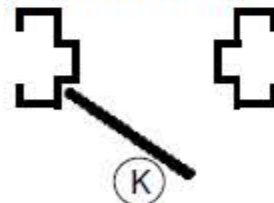
RECEIVED APPROVED HARDWARE

DRAWN BY:

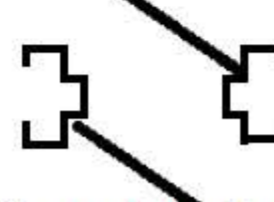
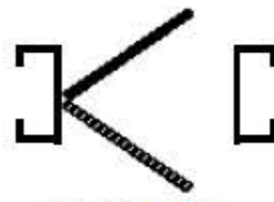
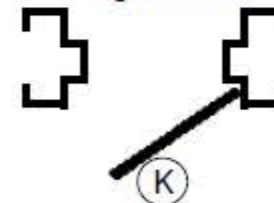


(K) = KEY SIDE

LHR - Left Hand Reverse



RHR - Right Hand Reverse



FINISH HARDWARE BY

SHEET NO. 1 OF 4

LEGEND

Hollow Metal Frame

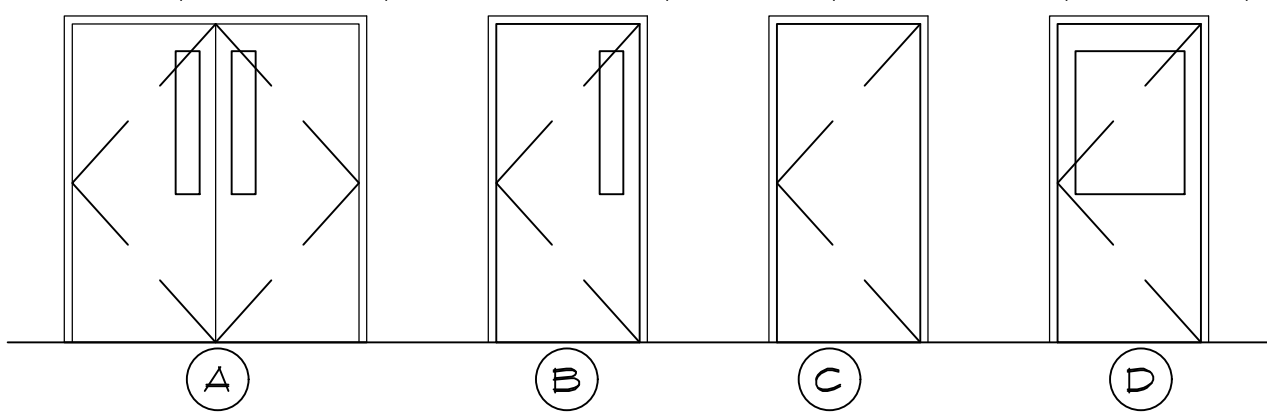
<u>Anchor</u>	
MP	Multipurpose min 4-3/4" J.D. (Loose)
<u>Construction</u>	
SW	Seam Welded die miter corner
<u>Elevation Type</u>	
3F	Three sided frame
<u>Gauge</u>	
16	16 Gauge
<u>Head Face</u>	
2"	2" Face Head
<u>Jamb Face</u>	
2"	2" Face Jambs
<u>Label</u>	
W90S	Warnock 1-1/2 Hour Label (for Single Opening)
<u>Mfr Location</u>	
S	Steelcraft
<u>Profile</u>	
M	Masonry
<u>Steel Type</u>	
CR	Cold Rolled

Hollow Metal Door

<u>Edge</u>	
S	Seam on edge
<u>Face Type</u>	
F	Flush
FNV1	6" x 36" Narrow Metal Vision
<u>Gauge</u>	
18	18 Gauge
<u>Mfr Location</u>	
S	Steelcraft
<u>Series</u>	
707	Polystyrene core
<u>Steel Type</u>	
CR	Cold rolled
<u>Vision Kit</u>	
T9	Type 9 window molding - 3/8" pocket (standard)

Wood Door

<u>Core</u>	
PC	Bonded Particleboard Core (Hardwood Edges)
<u>Face Type</u>	
F	Flush Door
HG	Half Glass Vision Lite
<u>Mfr Location</u>	
S	Steelcraft
<u>Moulding</u>	
6	M6G - Flush Moulding for Lites
<u>Series</u>	
GPD	Premium Door
<u>Species</u>	
SRO	Oak - Red, Plain Sliced



DOOR SWING PER FLOOR PLAN.

DOOR SCHEDULE - SEE ATTACHED DOOR & HARDWARE SPEC

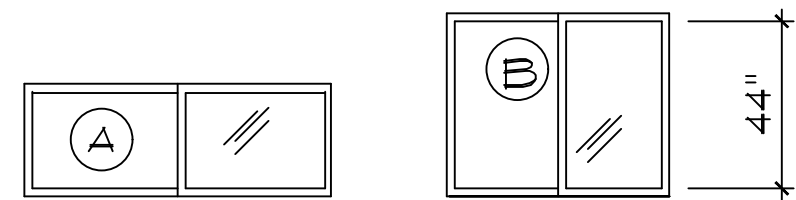
EXTERIOR DOORS

NUMB.	SIZE	TYPE	LOCATION	MATERIAL
①	6'x6'-8"	A	REPLACE EXISTING NORTH ENTRY	HM
②	3'x6'-8"	B	NEW NORTH ENTRY LOCATION	HM
③	3'x6'-8"	C	NEW SOUTH ENTRY LOCATION	HM
④	3'x6'-8"	-	EXISTING DOOR TO REMAIN/ NEW PAINT	HM

INTERIOR DOORS

LEVER TYP HANDLE ON ALL DOORS

NUMB.	SIZE	TYPE	RATING	COMMENTS	MATERIAL
⑤	3'x6'-8"	C	45 MIN.	MECHANICAL ROOM	HM
⑥	3'x6'-8"	D		RECEPTION AREA NORTH ENTRY	WOOD
⑦	3'x6'-8"	C		OFFICE 1	WOOD
⑧	3'x6'-8"	C		OFFICE 2	WOOD
⑨	3'x6'-8"	C		OFFICE 3	WOOD
⑩	3'x6'-8"	C		OFFICE 4	WOOD
⑪	3'x6'-8"	C	90 MIN.	FILE ROOM- 1 HOUR DOOR.	WOOD
⑫	3'x6'-8"	C		HALLWAY (WEST DOOR)	
⑬	3'x6'-8"	B		HALLWAY (EAST DOOR) THROUGH EXISTING BUILDING WEST WALL.	HM
⑭	3'x6'-8"			REST ROOM DOOR	WOOD



LEVEL: LL = LOWER LEVEL ML = MAIN LEVEL UL = UPPER LEVEL

WINDOW SCHEDULE PELLA 250 BROWN OUTSIDE, WHITE INSIDE

NUM.	SIZE	TYPE	QTY.	MAT'L	COMMENTS
A	48"x24"	FIXED	2	VINYL	
B	48"x42"	FIXED	5	VINYL	

NORTH ELEVATIONS

TYPICAL OFFICE CABINETRY PLAN

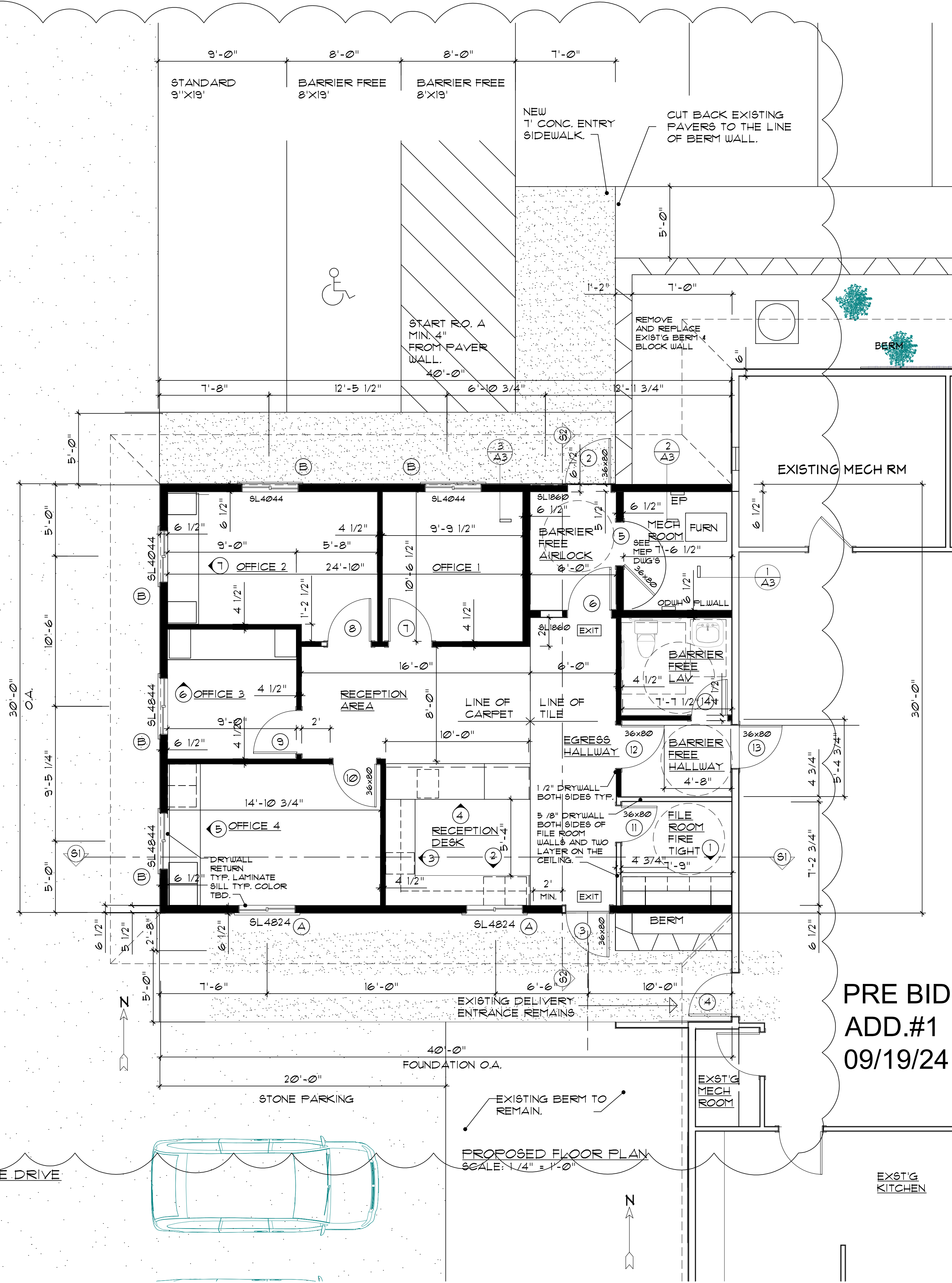
TWO DRAWER METAL FILES, STEELCASE BRAND OR EQUAL, PER PLAN W/LOCKS. 3/4" PLYWOOD TOP WITH FORMICA FINISH COLOR TBD, W/ 1 1/2" OAK FASCIA. 3" PENCIL DRAWER IN KNEE SPACE.

TYPICAL BASEBOARD

4" VINYL COVE BASE OVER HARD SURFACE FLOORS, STRAIGHT R.O. BASE STAINED TO MATCH WOOD OFFICE DOORS 4" BASE OVER CARPETED AREAS.

WINDOW & DOORS

WILL BE LISTED IN THE PRE BID ADD #1.



PRE BID
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A3



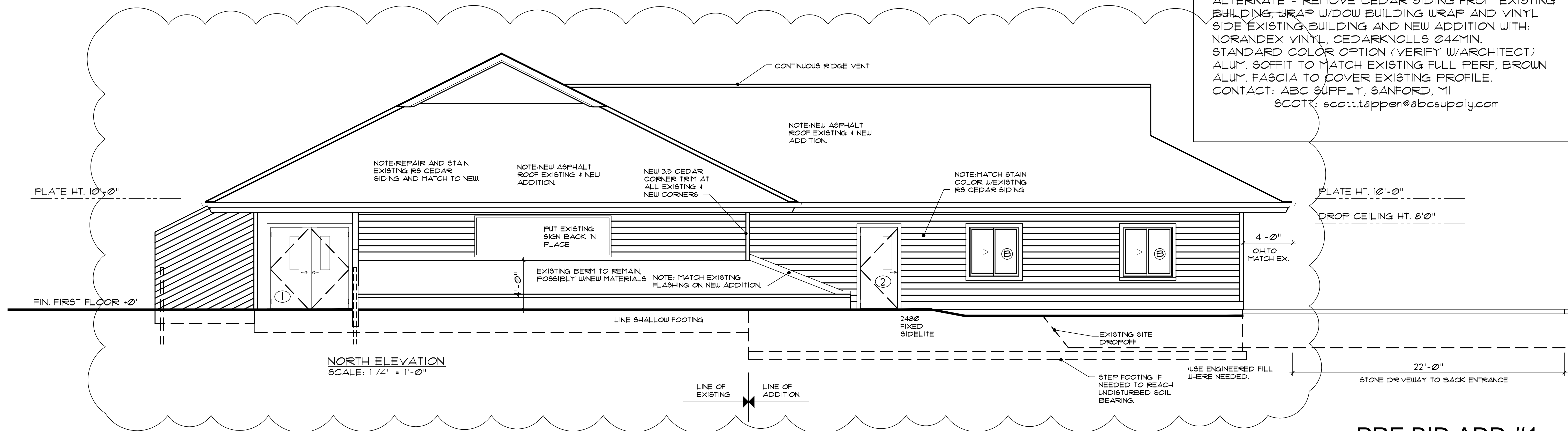
EAST ELEVATION
SCALE: 1/4" = 1'-0"

NOTE:

SIDING SPEC #1 and SIDING ALTERNATE:

#1 - ROUGH SAWN CEDAR ON THE NEW BUILDING TO MATCH EXISTING. PATCH EXISTING AND PUT NEW 1 X4 CORNERS ON EXISTING AND NEW ADDITION. SEE ATTACHED INFORMATION FROM CROSS AND LINCOLN OUT OF HEMLOCK, MI, SAME OR SIMILAR.

ALTERNATE - REMOVE CEDAR SIDING FROM EXISTING BUILDING, WRAP W/DOW BUILDING WRAP AND VINYL SIDE EXISTING BUILDING AND NEW ADDITION WITH: NORANDEX VINYL, CEDARKNOLLS Ø44MIN. STANDARD COLOR OPTION (VERIFY W/ARCHITECT) ALUM. SOFFIT TO MATCH EXISTING FULL PERF, BROWN ALUM. FASCIA TO COVER EXISTING PROFILE. CONTACT: ABC SUPPLY, SANFORD, MI SCOTT: scott.tappen@abcsupply.com



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

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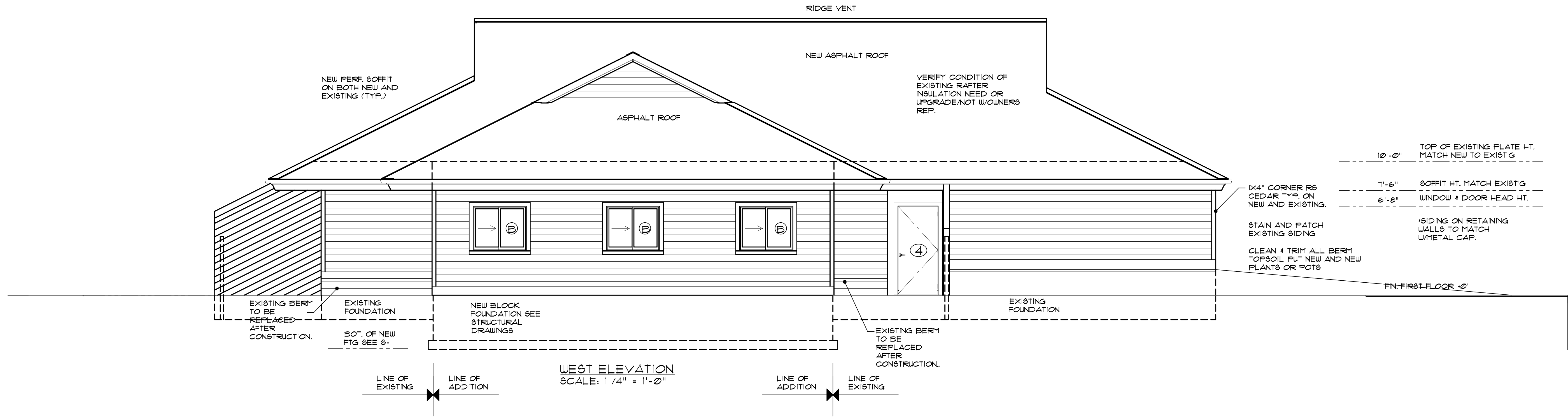
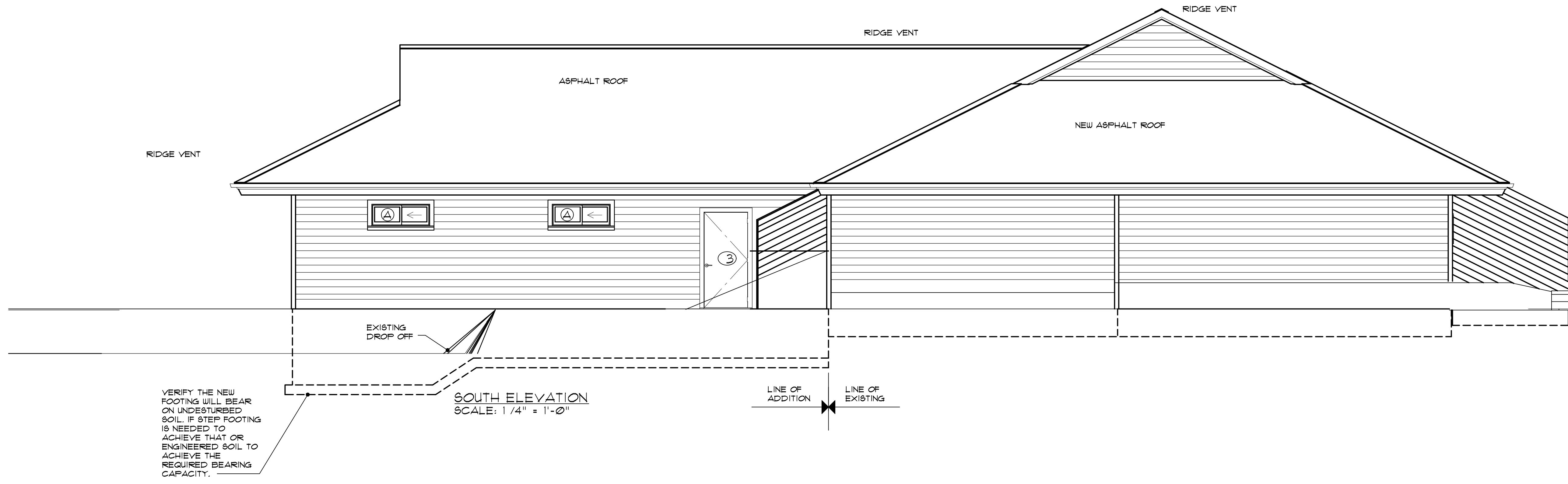
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A4



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A5

ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	2'x4' L.E.D. LIGHT FIXTURE
	2'x4' L.E.D. LIGHT FIXTURE W/ BATTERY BACKUP
	2'x2' L.E.D. LIGHT FIXTURE
	2'x2' L.E.D. LIGHT FIXTURE W/ BATTERY BACKUP
	L.E.D. DOWNLIGHT RECESSED IN CEILING
	L.E.D. WALL MTD EMERGENCY LIGHT FIXTURE
	EXIT LIGHT, EM - WITH EMERGENCY LIGHTING
	SINGLE POLE SWITCH
	THREE WAY SWITCH
	SINGLE POLE SWITCH W/ PIR VACANCY SENSOR
	EXISTING DUPLEX RECEPTACLE AT WALL
	EXISTING DUPLEX GFI RECEPTACLE
	DUPLEX RECEPTACLE AT WALL
	DUPLEX GFI RECEPTACLE
	SENSOR-CONTROLLED DUPLEX GFI RECEPTACLE
	JUNCTION BOX IN CEILING
	JUNCTION BOX; MOUNTED IN WALL
	PIR LIGHT SENSOR, CEILING MOUNTED
	SMOKE DETECTOR, CEILING MOUNTED
	SINGLE PHASE MOTOR
	DISCONNECT SWITCH
	POWER/LIGHTING PANEL
W.P.	WEATHER PROOF
G.F.I.	GROUND FAULT INTERRUPTER
DISC.	DISCONNECT (SWITCH)
'A'	LIGHTING FIXTURE TYPE 'A'
AFF	ABOVE FINISHED FLOOR
CKT.	CIRCUIT

RECEPTACLE SENSOR NOTES:

Ⓢ CEILING MOUNTED VACANCY SENSOR. PROVIDE A PASSIVE INFRARED & ULTRASON VACANCY SENSOR CONTROLLER MOUNTED ON CEILING TO AUTOMATICALLY TURN CONTROLLED RECEPTACLES OFF WHEN UNOCCUPIED FOR 20 MINUTES. LUTRON MODEL CAR2S-20-DTR OR EQUAL.

Ⓢ PROVIDE WIRELESS-CONTROLLED DUPLEX RECEPTACLE WHERE SHOWN ON PLAN TO AUTOMATICALLY TURN RECEPTACLE POWER OFF AFTER UNOCCUPIED FOR 20 MINUTES. ALL CONTROLLED RECEPTACLES SHALL BE TAGGED AS CONTROLLED.

POWER NOTES:

1. PROVIDE 100A-2P BREAKER IN EXISTING MAIN PANEL TO FEED NEW SUB-PANEL 'SP1'. RUN 3#3 AND 1#8 GRD IN 1-1/2" CONDUIT FROM MAIN PANEL TO SUB-PANEL 'SP1'.
2. PROVIDE A NEW 100A, 24 CKT., 240V-1P POWER PANEL ('SP1') IN NEW MECHANICAL ROOM IN NEW ADDITION. BACK-FED FROM EXISTING BUILDING'S 200A EXISTING MAIN PANEL.
3. TEST AND RING OUT ALL CIRCUITS AFTER THE COMPLETION OF THE JOB.
4. RECEPTACLES SHALL NOT EXCEED TO RECEPTACLES PER CIRCUIT. SEE POWER PANEL SCHEDULE.
5. SEE ELECTRICAL SPECIFICATION ON SHEET E-3.
6. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL A PASSIVE INFRARED MOTION SENSOR SYSTEM TO CONTROL POWER RECEPTACLES IN OFFICES AND RECEPTION/LOBBY ROOMS. THE SYSTEM SHALL AUTOMATICALLY TURN CONTROLLED RECEPTACLES OFF AFTER 20 MINUTES IN UNOCCUPIED SPACES. SEE "CONTROLLED RECEPTACLE" NOTES ON THIS SHEET.

GENERAL ELECTRICAL REQUIREMENTS

A. MATERIAL - GENERAL: ALL ELECTRICAL MATERIALS SHALL BE NEW, SHALL BE NATIONAL ELECTRIC CODE STANDARD UNLESS BETTER GRADE IS MENTIONED HEREIN, AND SHALL BEAR THE UNDERWRITERS' LABORATORIES' LABEL.

B. THE ELECTRICAL CONTRACTOR SHALL COMPLY WITH, AND ALL WORK AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, ORDINANCES, REGULATIONS, AS WELL AS, THE RULES AND STANDARDS OF THE NATIONAL BOARD OF FIRE UNDERWRITERS, THE NATIONAL ELECTRIC CODES, THE NATIONAL SAFETY CODE, A.I.E.E. AND OSHA.

C. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND CERTIFICATES OF INSPECTION FOR WORK HEREIN SPECIFIED.

D. ELECTRICAL CONTRACTOR SHALL VISIT THE EXISTING SITE AND SHALL EXAMINE TO HIS SATISFACTION, ALL OF THE PHYSICAL CONDITIONS THAT AFFECT HIS CONTRACT PRICE. NO ADDITIONS TO HIS CONTRACT PRICE WILL BE PERMITTED DUE TO IGNORANCE OF EXISTING CONDITIONS.

E. THE CONTRACTOR SHALL SEE THAT ALL NECESSARY CUTTING IN WALLS AND FLOORS IS NEATLY AND CAREFULLY DONE AND REPAIRED IN AN APPROVED AND WORKMANLIKE MANNER.

F. PROVIDE NEW FUSES AND/OR BREAKERS TO MATCH MECHANICAL AND ELECTRICAL EQUIPMENT INSTALLED.

G. ON COMPLETION OF ELECTRICAL WORK, THE INSTALLATION SHALL BE ENTIRELY FREE FROM GROUNDS AND SHORT CIRCUITS. ALL CIRCUITS SHALL BE RUNG OUT AND PROPERLY CHECKED.

H. CIRCUIT ALL NEW ELECTRICAL RECEPTACLES AND LIGHT FIXTURES TO NEW SUB-PANEL 'SP1'.

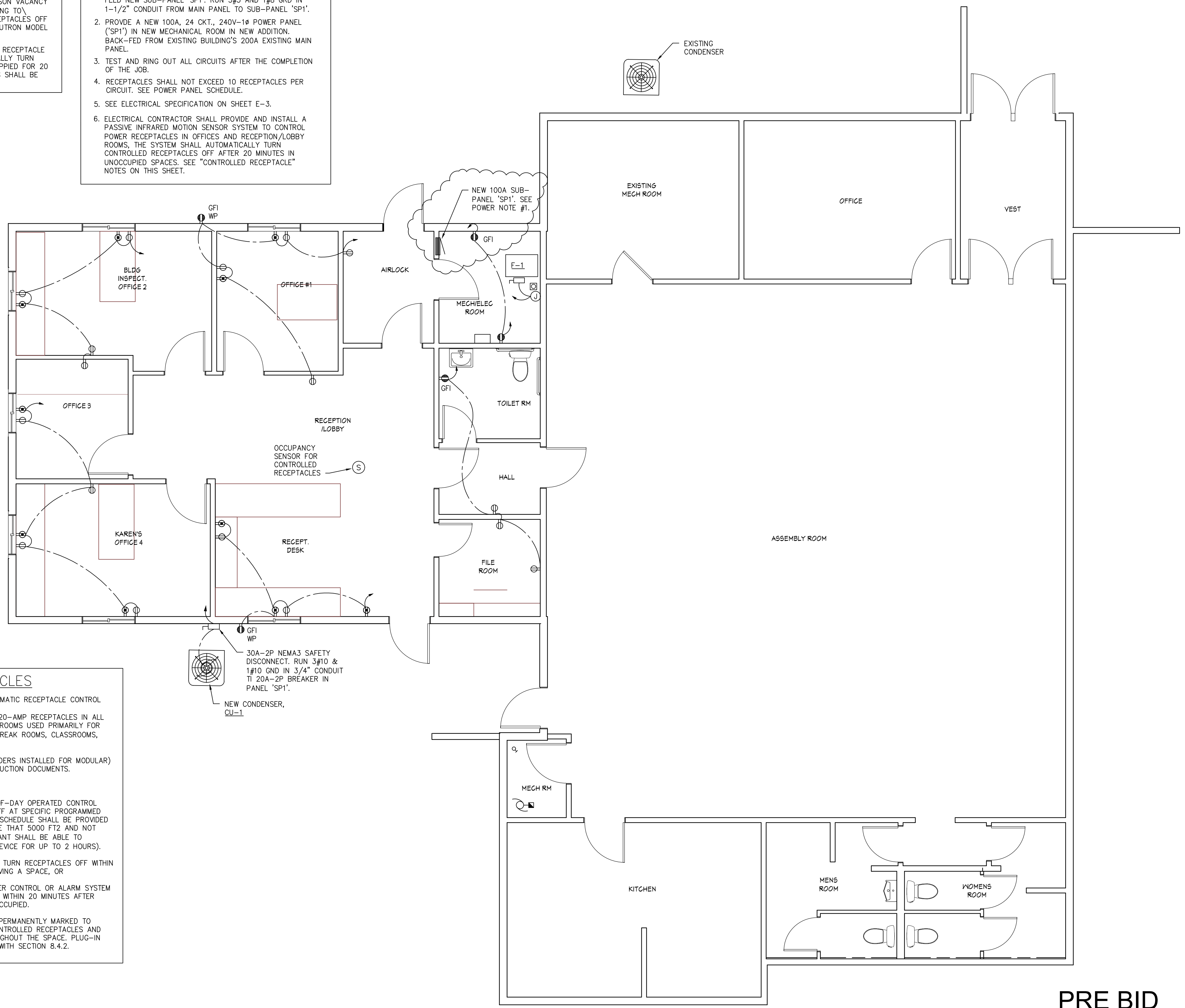
I. CIRCUIT EMERGENCY AND EXIT LIGHTS SHALL BE CIRCUITED WITH NEW LIGHTS.

CONTROLLED RECEPTACLES

ASHRAE 90.1-2022 SECTION 8.4.2 - AUTOMATIC RECEPTACLE CONTROL

- 1) AT LEAST 50% OF ALL 125V, 15- AND 20-AMP RECEPTACLES IN ALL PRIVATE OFFICES, CONFERENCE ROOMS, ROOMS USED PRIMARILY FOR PRINTING AND/OR COPYING FUNCTIONS, BREAK ROOMS, CLASSROOMS, AND INDIVIDUAL WORKSTATIONS
- 2) AT LEAST 25% OR BRANCH CIRCUIT FEEDERS INSTALLED FOR MODULAR FURNITURE NOT SHOWN ON THE CONSTRUCTION DOCUMENTS.
- 3) THIS CONTROL SHALL FUNCTION ON
 - A. A SCHEDULED BASIS USING A TIME-OF-DAY OPERATED CONTROL DEVICE THAT TURNS RECEPTACLES OFF AT SPECIFIC PROGRAMMED TIMES - AN INDEPENDENT PROGRAM SCHEDULE SHALL BE PROVIDED FOR CONTROLLED AREAS OF NO MORE THAN 5000 FT2 AND NOT MORE THAN ONE FLOOR (THE OCCUPANT SHALL BE ABLE TO MANUALLY OVERRIDE THE CONTROL DEVICE FOR UP TO 2 HOURS).
 - B. AN OCCUPANCY SENSOR THAT SHALL TURN RECEPTACLES OFF WITHIN 20 MINUTES OF ALL OCCUPANTS LEAVING A SPACE, OR
 - C. AN AUTOMATED SIGNAL FROM ANOTHER CONTROL OR ALARM SYSTEM THAT SHALL TURN RECEPTACLES OFF WITHIN 20 MINUTES AFTER DETERMINING THAT THE AREA IS UNOCCUPIED.

ALL CONTROLLED RECEPTACLES SHALL BE PERMANENTLY MARKED TO VISUALLY DIFFERENTIATE THEM FROM UNCONTROLLED RECEPTACLES AND ARE TO BE UNIFORMLY DISTRIBUTED THROUGHOUT THE SPACE. PLUG-IN DEVICES SHALL NOT BE USED TO COMPLY WITH SECTION 8.4.2.



ELECTRICAL POWER PLAN- NEW ADDITION
SCALE: 1/4"=1'-0"

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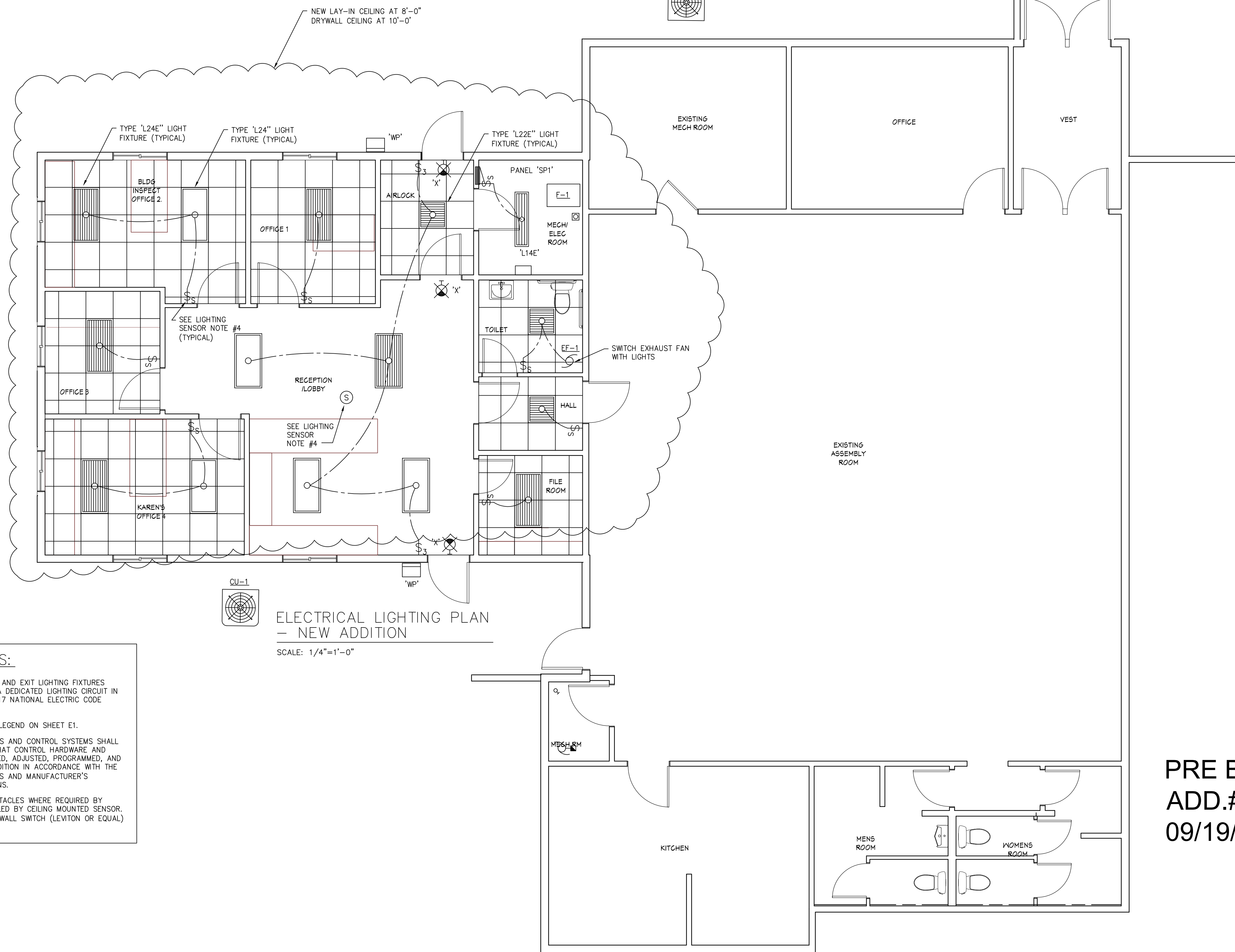
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E1

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LIGHT FIXTURE SCHEDULE

- 'L24' SURFACE MOUNTED, LOW PROFILE 2X2 L.E.D. LIGHT FIXTURE. LITHONIA LIGHTING MODEL CPANL-2X2-24/33/44LM-40K-M4 AND OPTIONAL SURFACE MOUNTING KIT 2X4SMKSH FOR DRYWALL CEILINGS. SWITCHABLE LUMEN OUTPUT (24K, 33K, 44K). COLOR TEMP. (CCT) 4000'. 44.8-WATTS/FIXTURE. SURFACE MOUNTING KIT 2X2SMKSH.
- 'L24E' SAME AS 'L24' EXCEPT WITH EMERGENCY BATTERY BACKUP. LITHONIA LIGHTING MODEL CPANL-2X4-24/33/44LM-40K-M4 WITH EMERGENCY BATTERY PACK KIT (MODEL ILBOP10A) AND SURFACE MOUNTING KIT (2X4SMKSH) FOR DRYWALL CEILINGS.
- 'L22E' SURFACE MOUNTED, LOW PROFILE 2X2 L.E.D. LIGHT FIXTURE. LITHONIA LIGHTING MODEL CPANL-2X2-24/33/44LM-40K-M4 WITH OPTIONAL SURFACE MOUNTING KIT (2X2SMKSH) AND EMERGENCY BATTERY PACK KIT (MODEL ILBOP10A). SWITCHABLE LUMEN OUTPUT (24K, 33K, 44K). COLOR TEMP. (CCT) 4000'. 40.4-WATTS/FIXTURE.
- 'L14E' SURFACE MOUNTED, LOW PROFILE 1X4 L.E.D. LIGHT FIXTURE. LITHONIA LIGHTING MODEL CPANL-1X4-AL01-SW7-M4 WITH FIELD INSTALLED EMERGENCY BATTERY PACK KIT (ILBOP10A) AND OPTIONAL SURFACE MOUNTING KIT 1X4SMKSH OR CABLE HANGERS (PAC2DNF36). SWITCHABLE LUMEN OUTPUT (24K, 33K, 44K). COLOR TEMP. (CCT) 4000K. 30.4-WATTS/FIXTURE.
- 'WP' EXTERIOR L.E.D. WALL-PACK LIGHT FIXTURE EQUAL TO LITHONIA LIGHTING MODEL ARC2-LED-P5-50K-MVOLT-PE-DDBXD. DARK BRONZE HOUSING, 51-WATT, 6500 LUMENS, MOUNTED ON BUILDING 14'-0" ABOVE GRADE WITH PHOTOCELL ON/OFF. SWITCHED AT BREAKER ON DEDICATED CKT.
- 'X' EXIT & EMERGENCY LIGHT FIXTURE. WALL MOUNTED ABOVE DOOR WITH TWIN, ADJUSTABLE L.E.D. LAMPS AND L.E.D. RED "EXIT" LED LETTERING. LITHONIA LIGHTING MODEL LHQM-LED-R-M6 OR APPROVED EQUAL. 4.3 WATTS
- 'EM' WALL MOUNTED, BATTERY BACKUP EMERGENCY LIGHTING FIXTURE. HIGH IMPACT BLACK POLYCARBONATE HOUSING, (2) SWIVEL L.E.D. LAMP HEADS, 640 LUMENS, HIGH-CHARGE INDICATOR. LITHONIA LIGHTING QUANTUM MODEL ELM4L.



**ELECTRICAL LIGHTING PLAN
- NEW ADDITION**

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

LIGHTING SENSOR NOTES:

1. CEILING MOUNTED VACANCY SENSOR. PROVIDE A PASSIVE INFRARED & ULTRASONIC LIGHTING VACANCY SENSOR CONTROLLER MOUNTED ON CEILING TO AUTOMATICALLY TURN LIGHTING OFF WHEN UNOCCUPIED FOR 20 MINUTES. LUTRON LOS-CDT-2000-WH OR EQUAL.
2. PROVIDE MANUAL-ON VACANCY WALL SENSOR AT THIS LOCATION. PROVIDE A PASSIVE INFRARED & ULTRASONIC WALL SWITCH SENSOR MOUNTED AT DOOR TO AUTOMATICALLY TURN LIGHTING OFF AFTER UNOCCUPIED FOR 20 MINUTES. LUTRON LOS-WDT-WH OR EQUAL.

LIGHTING NOTES:

1. ALL EMERGENCY LIGHTING AND EXIT LIGHTING FIXTURES SHALL BE CIRCUITED TO A DEDICATED LIGHTING CIRCUIT IN THE LOCAL AREA PER 2017 NATIONAL ELECTRIC CODE 701.12(G)
2. SEE ELECTRICAL SYMBOL LEGEND ON SHEET E1.
3. LIGHTING CONTROL DEVICES AND CONTROL SYSTEMS SHALL BE TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED, AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4. OFFICE LIGHTING & RECEPTACLES WHERE REQUIRED BY CODE SHALL BE CONTROLLED BY CEILING MOUNTED SENSOR OR WIRELESS RF SENSOR WALL SWITCH (LEVITON OR EQUAL)

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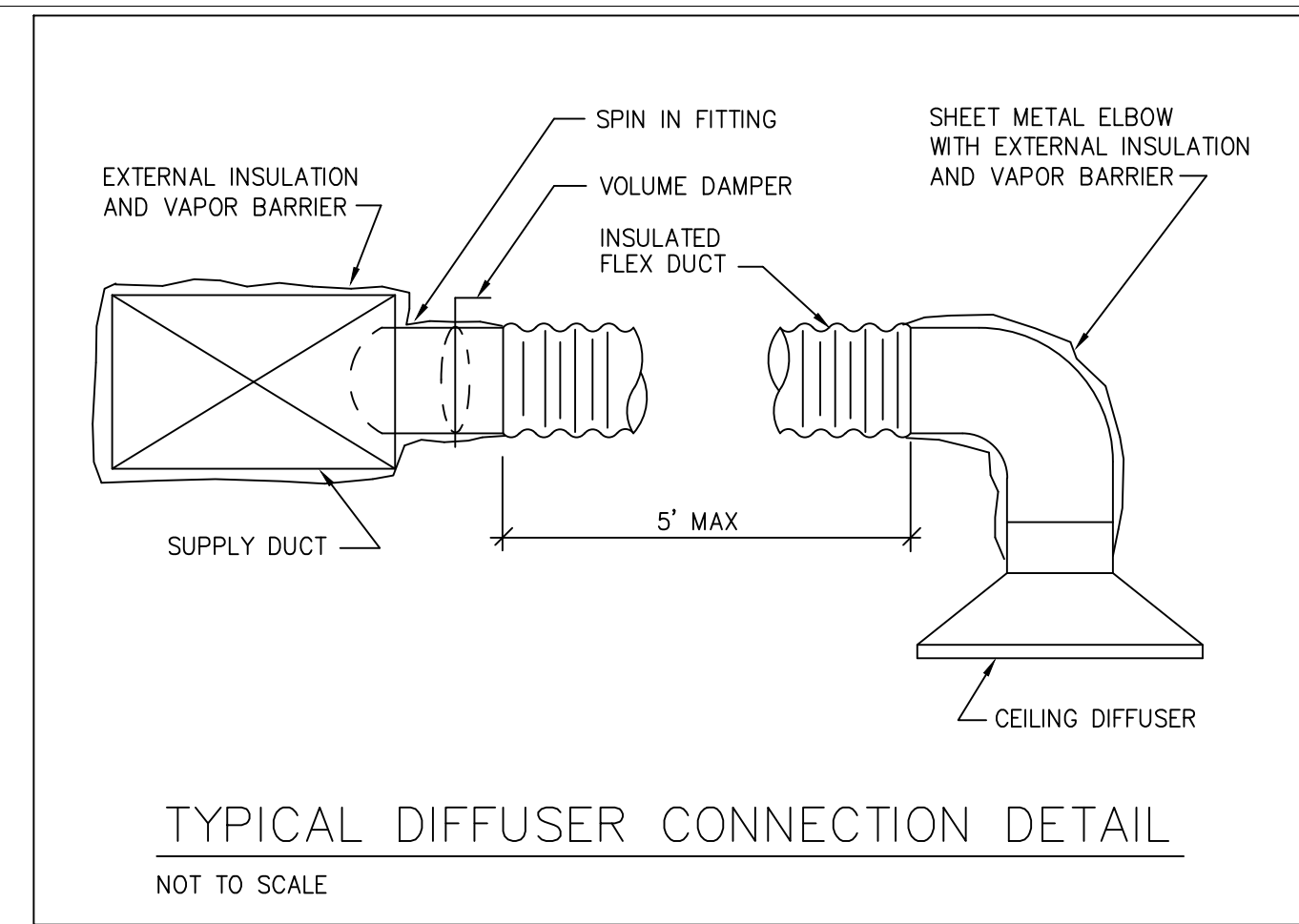
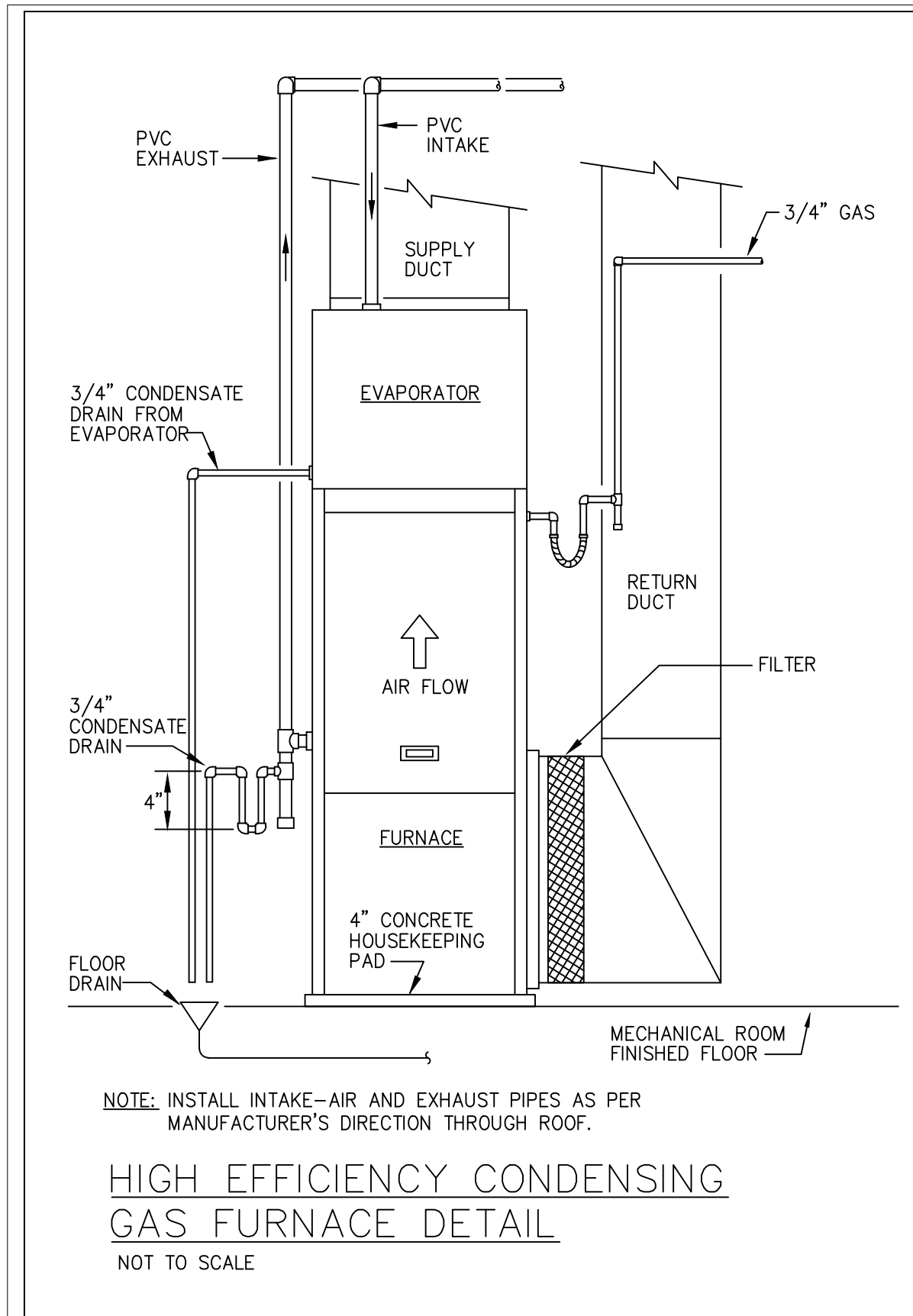


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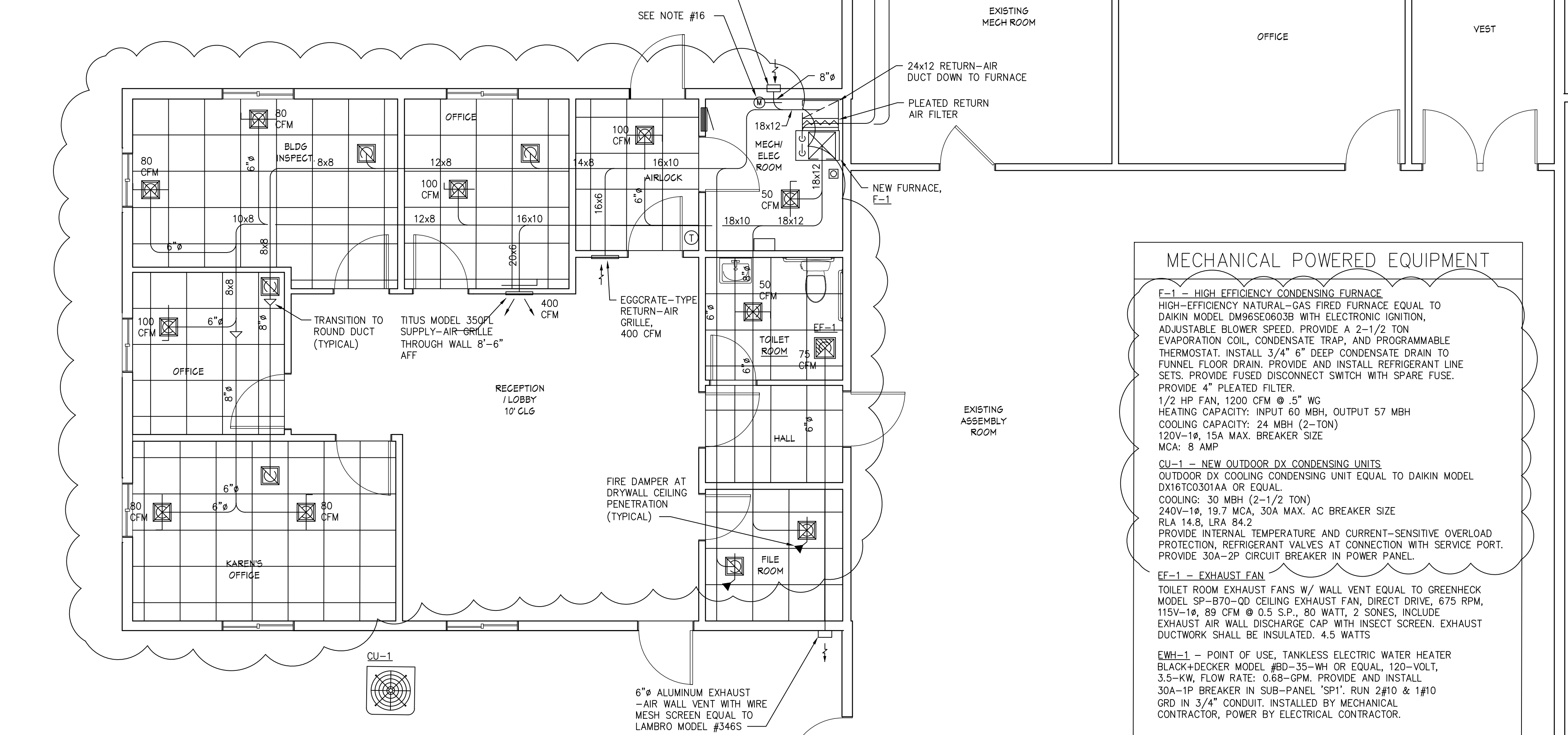
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E2



MECHANICAL NOTES:

- FABRICATE GALVANIZED DUCT IN ACCORDANCE WITH THE ASHRA GUIDE AND SMACNA LOW PRESSURE DUCT CONSTRUCTION STANDARDS.
- WHEN DUCT SHAPES OR DIMENSIONS ARE CHANGED FROM THOSE SHOWN ON THE DRAWINGS, DUCT CROSS-SECTIONAL AREAS MUST BE MAINTAINED. DUCT SIZES SHOWN ON PLANS ARE MINIMUM CROSS SECTIONAL SIZES.
- DRAWINGS ARE SCHEMATIC ONLY. MECHANICAL CONTRACTOR SHALL RUN MAIN DUCTS IN ATTIC SPACE. FLEX DUCT MAY BE USED AT CONNECTION TO DIFFUSERS. FLEXIBLE DUCTS MUST BE LESS THAN 5 FEET LONG. MINIMIZE BENDS IN FLEXIBLE DUCTS.
- DRAWINGS ARE SCHEMATIC ONLY. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE ROUTING OF ALL DUCTWORK. ANY CHANGES IN DUCT ROUTING, SIZE, OR TRANSITIONS REQUIRED TO MISS OBSTRUCTIONS OR CONFLICTS WITH OTHER TRADES SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR AND SHALL BE AT HIS EXPENSE.
- SUPPLY TAKE-OFF FITTINGS SHALL BE EQUIPPED WITH LOCKING QUADRANT DAMPERS FOR AIR-BALANCING, AS SHOWN ON DRAWINGS.
- BALANCE ALL DIFFUSERS, GRILLES AND FRESH-AIR DUCTS TO THE FLOW RATES SHOWN ON DRAWINGS TO WITHIN +/- 10% OF LISTED FLOW RATES.
- THERMOSTATS SHALL BE PLACED IN AREAS DESIGNATED ON DRAWINGS, ON INTERIOR WALLS AWAY FROM DRAFTS, HEATING, OR COOLING SOURCES.
- MATERIALS EXPOSED WITHIN PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84.
- PROVIDE AND SUPPORT DUCTS WITH MICHIGAN BUILDING CODE ACCEPTED DUCT HANGERS AT INTERVALS NOT EXCEEDING 10 FEET.
- PROVIDE & INSTALL FRESH-AIR INLET AND CONNECT TO MAIN RETURN-AIR DUCT AT FURNACE AS SHOWN AND AS REQUIRED BY LOCAL CODES AND/OR MANUFACTURER'S RECOMMENDATIONS.
- MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL REFRIGERANT LINES FROM FURNACE EVAPORATOR COIL TO OUTDOOR DX CONDENSER.
- PROVIDE ACCESS TO ALL MECHANICAL EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S MINIMUM CLEARANCES. OPERATING INSTRUCTIONS SHALL BE PERMANENTLY AND PROMINENTLY AFFIXED TO EACH APPLIANCE OR SHALL BE SHIPPED WITH THE EQUIPMENT. THE INSTRUCTIONS SHALL INDICATE IGNITION PROCEDURES, OPERATING INSTRUCTIONS, OWNER MAINTENANCE, AND SHUTDOWN PROCEDURES.
- PROVIDE AND SUPPORT DUCTS WITH MICHIGAN BUILDING CODE ACCEPTED DUCT HANGERS AT INTERVALS NOT EXCEEDING 10 FEET.
- WHERE FIRE DAMPERS ARE REQUIRED AND SHOWN ON PLANS, FIRE DAMPERS SHALL HAVE ACCESS IN DRYWALL CEILINGS.
- PROVIDE AND INSTALL CONDENSATE DRAINAGE FROM NEW FURNACE. PROVIDE AND INSTALL A CONDENSATE PUMP IF NECESSARY.
- CONNECT 8" FRESH-AIR DUCT TO FURNACE RETURN AIR DUCT. INSTALL MOTORIZED VOLUME DAMPER TO BE OPENED AND ENERGIZED BY FURNACE FAN ACTIVATION.
- SUPPLY-AIR DUCT ABOVE DRAP-IN CEILING SHALL BE WRAPPED WITH 1" INSULATION TO AVOID CONDENSATION ON DUCTWORK.



Fresh-Air Requirement Calculation

Fresh-Air Requirement = (7.5 CFM x #People) + (0.18 x Area ft²)

FURNACE	# of People	Area (ft ²)	Constant #1 (cfm/person)	Constant #2 (CFM per ft ²)	Fresh-Air Requirement (CFM)	Exhaust Air (CFM)	Fresh-Air less Exh. Air (CFM)
F-1, NEW ADDITION	5	1200	7.5	0.18	254	75	179

SUPPLY DIFFUSER & RETURN/EXHAUST GRILLE SCHEDULE

TYPE	TAG	CFM	MFG & MODEL		DIFFUSER NECK SIZE	REMARKS
			SUPPLY	RETURN		
A	⊗/⊗	10 - 110	TITUS - TMS-AA 12x12	TITUS - 50F EGGRATE TYPE	6"Ø OR 6"x6"	SUPPLY AIR DIFFUSER, TITUS MODEL TMS-AA (OR EQUAL) WITH ALUMINUM AIRFOIL BLADES SPACED AT 3/4", WITH MODEL AG-35 STEEL OPPOSED BLADE DAMPER.
B	⊗/⊗	120 - 240	TITUS - TMS-AA 12x12	TITUS - 50F EGGRATE TYPE	8"Ø OR 8"x8"	TITUS MODEL 300FL (OR EQUAL) SUPPLY-AIR GRILLE, DOUBLE-DEFLECTION ALUMINUM BLADE SPACED AT 3/4" WITH AG-35 STEEL OPPOSED BLADE DAMPER.
C	⊗/⊗	250 - 300	TITUS - TMS-AA 12x12	TITUS - 50F EGGRATE TYPE	10"Ø OR 8"x8"	TITUS EGGRATE TYPE 50F RETURN-AIR GRILLE (OR EQUAL) WITH SQUARE-TO-ROUND (MODEL SRG) ADAPTER.
D	⊗/⊗	310 - 380	TITUS - TMS-AA 24x24	TITUS - 50F EGGRATE TYPE	10"Ø OR 8"x8"	ALL SUPPLY DIFFUSERS MOUNTED IN DRYWALL CEILINGS SHALL HAVE INTEGRAL VOLUME DAMPER.
E	⊗/⊗	390 - 400	TITUS - 300FL	TITUS - 50F EGGRATE TYPE	12"Ø OR 12"x12"	SEE ARCHITECTURAL PLANS FOR FIRE RATED CEILINGS. ALL DIFFUSERS & GRILLES LOCATED IN FIRE-RATED CEILINGS SHALL HAVE INTEGRAL FIRE DAMPERS.
E	⊕	390 - 700	TITUS - 300FL	TITUS - 50F EGGRATE TYPE	SEE PLAN	

MECHANICAL HVAC PLAN - NEW ADDITION
SCALE: 1/4"=1'-0"

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Alterations and Addition
3012 S. Homer Rd.
Merrill, MI 48637

PRINT DATE:
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PRE BID
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M1

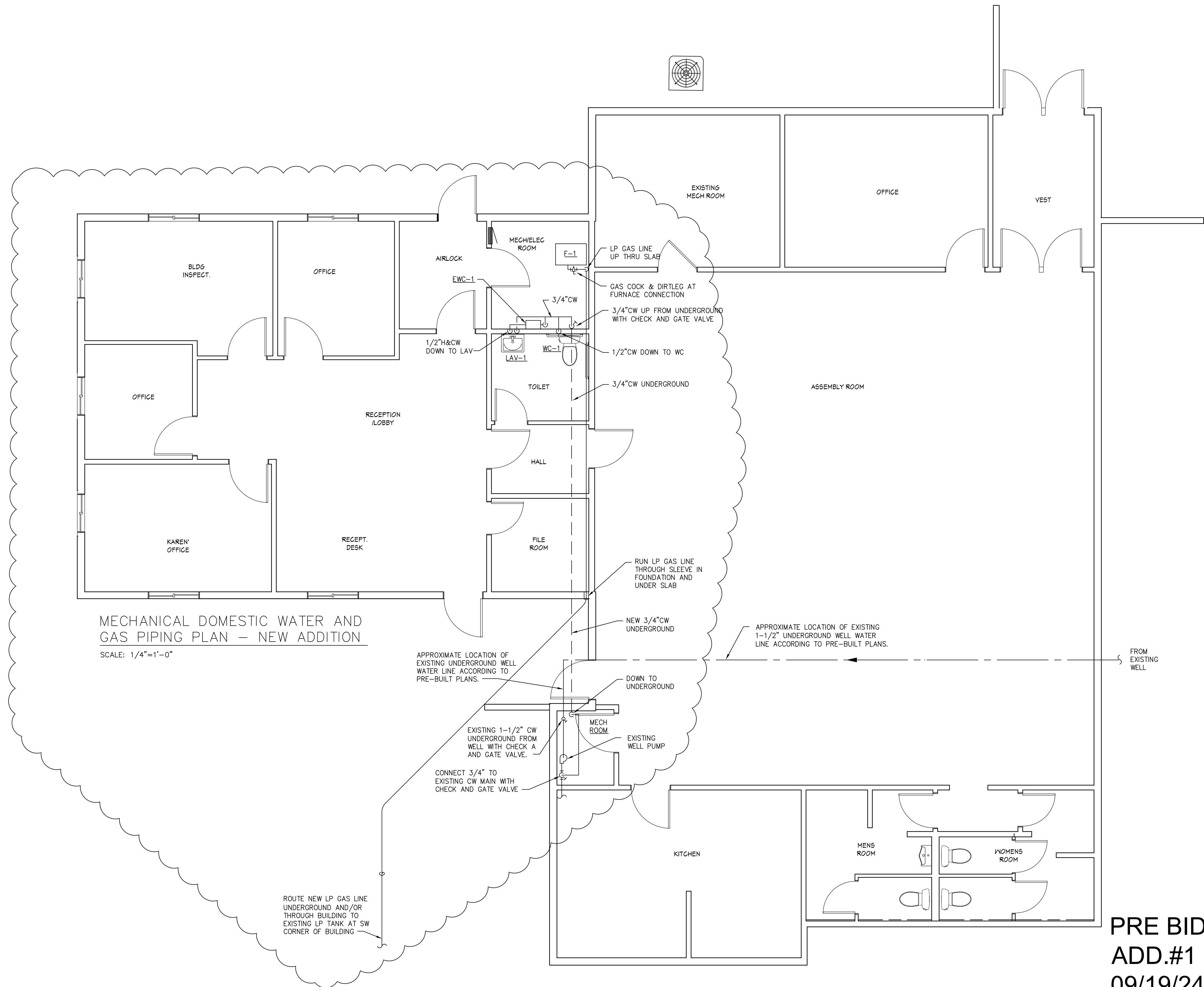
MINIMUM FIXTURE CONNECTION SIZE			
TAG	FIXTURE	HW	CW
WC	WATER CLOSET (FLUSH VALVE)	--	1/2"
LAV	LAVATORY, BATHROOM OR KITCHEN SINK	1/2"	1/2"
EWC	ELECTRIC WATER COOLER	--	1/2"
MS	MOP BASIN/MOP SINK	3/4"	3/4"
UR	URINAL	--	3/4"
NFWH	NON-FREEZE WALL HYDRANT (HOSE BIB)	--	3/4"

DOMESTIC WATER PIPING NOTES:

1. PIPING LOCATIONS ARE SCHEMATIC ONLY.
2. BASE BID FOR DOMESTIC WATER PIPING SHALL BE CROSS-LINKED POLYETHYLENE (PEX) WITH COPPER PIPING FOR ALL DROPS/RISES TO PLUMBING FIXTURES.
3. MECHANICAL CONTRACTOR SHALL PROVIDE ACCESS HATCHES WHERE NECESSARY FOR ACCESS, INSPECTION AND MAINTENANCE OF CLEANOUTS, VALVES, AND OTHER EQUIPMENT LOCATED ABOVE CEILINGS OR BEHIND WALLS.
4. ALL DOMESTIC WATER PIPING SHALL BE INSULATED.
5. ALL HAND-WASH FACILITIES SHALL HAVE A.S.S.E 1070 APPROVED MIXING VALVE EQUAL TO WATTS MODEL USC-B-M1 LAVATORY VALVE. OPTION: PROVIDE TEMPERED WATER AS SHOWN IN HOT WATER HEATER DETAIL.
6. PROVIDE AND INSTALL EXPANSION TANK WITH SHUTOFF VALVE ON CW SYSTEM IN 1ST FLOOR MECHANICAL ROOM.
7. ALL PIPE PENETRATIONS THROUGH FIRE RATED WALLS MUST BE SEALED WITH A FIRE RATED SILICONE SEALANT.
8. INSTALL INSULATION ON EXPOSED SANITARY PIPING UNDER SINKS.

PLUMBING EQUIPMENT

- CO-1 - PVC CLEANOUT IN CONCRETE FLOOR WITH BRONZE COVER.
- CO-2 - CLEANOUT WITH BRONZE COVER APPLICABLE FOR EXTERIOR ON-GRADE APPLICATION..
- FD-1 - FLOOR DRAIN WITH FUNNEL AND BRONZE COVER APPLICABLE FOR CONCRETE FLOOR.
- FD-2 - FLOOR DRAIN WITH BRONZE COVER APPLICABLE FOR FLOOR TYPE. SEE ARCHITECTURAL PLANS.
- LAV-1 - BARRIER-FREE WALL HUNG LAVATORY
BARRIER FREE WALL HUNG LAVATORY SHALL BE WHITE VITREOUS CHINA WITH CAST-IN-PLACE SOAP DISH, COMPLETE WITH ADJUSTABLE P-TRAP AND TAIL PIECE. FAUCET ON 4" CENTERS, 1-1/4" TRAP, GRID DRAIN, 3/4" O.D. COPPER INLETS. PROVIDE WITH LOOSE KEY STOPS. AMERICAN STANDARD 9141.011 WITH FAUCET 7490.172H OR EQUAL. PROVIDE CONCEALED SUPPORT ARMS, ZURN Z-1231 OR EQUAL. INSTALLATION TO CONFORM WITH A.D.A. GUIDELINES. PROVIDE INSULATION ON ALL EXPOSED PIPING.
- WC-1 - POWER FLUSH, TANK TYPE WATER CLOSET
SHALL BE POWER FLUSH TANK-TYPE WATER CLOSET, WHITE VITREOUS CHINA, WITH TANK AND ELONGATED BOWL, AND METAL FLUSH HANDLE, WITHOUT SEAT EQUAL TO AMERICAN STANDARD WHITE CADET PRESSURE ASSISTED 1.6 GPF MODEL 2467.016.020 OR EQUAL. PROVIDE 3/8" ANGLE SUPPLY WITH STOP. SEATS SHALL BE INJECTED MOLDED, HIGH STRENGTH SOLID PLASTIC, WHITE WITH OPEN FRONT LESS COVER COMPLETE WITH CHECK-HINGE, EQUAL TO OLSENITE #95
- EWH-1 - POINT OF USE, TANKLESS ELECTRIC WATER HEATER LISTED ON SHEET M-1.



MECHANICAL DOMESTIC WATER AND GAS PIPING PLAN - NEW ADDITION

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

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