INTERIOR RENOVATION

451 NW MURRAY ROAD LEE'S SUMMIT, MO 64081

HJM ARCHITECTS

7520 WASHINGTON ST KANSAS CITY, MO 64114 WWW.HJMARCH.COM



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PERMIT SET

As indicated DRAWING TITLE

COVER SHEET

DRAWING NUMBER

PROJECT TEAM:

BLUE SKY FERTILITY 14253 METCALF AVE. OVERLAND PARK, KS 66223 CONTACT: DR RYAN RIGGS PHONE: 913.218.0162 EMAIL: RYANR@BSFKC.COM

PROJECT OVERVIEW:

Applicable Codes Include But Are Not Limited To The Following:

Applicable Building Code: 2018 International Building Code

Applicable Plumbing Code: 2018 International Plumbing Code Applicable Mechanical Code: 2018 International Mechanical Code Applicable Electrical Code: 2017 National Electrical Code Applicable Gas Code: 2018 International Fuel Gas Code

Applicable Building Code: 2018 International Existing Building Code

Applicable Energy Code: 2018 International Energy Conservation Code

People, 2009 Edition

CP-2

YES

VB (ASSUMED)

USE AND OCCUPANCY CLASSIFICATION: B (BUSINESS) PER 2018 IBC, SECTION 304

APPLICABLE BUILDING CODES

BUILDING DETAILS:

EXISTING BUILDING:

AUTOMATIC SPRINKLERS:

AREA OF WORK:

ALARM SYSTEM:

DWG

DRAWING

EXISTING CONSTRUCTION TYPE:

ZONING:

THE RENOVATION OF AN EXISTING TENANT SPACE

All Applicable Codes: All Work Under This Contract Shall Comply With The Provisions Of The Specifications And

Permits and Licenses Necessary For The Proper Executions Of The Work Shall Be Secured And Paid For By The

Drawings, and Shall Satisfy All Applicable Codes, Ordinances And Regulations Of All Governing Bodies Involved. All

[Note: Project Owner and Design Professional are responsible for compliance to the federal Americans with Disabilities

ICC/ANSI-A117.1 Providing Accessibility and Usability for Physically Handicapped

1 STORY; OVERALL APPROX. 10,029 SF

1 STORY; OVERALL APPROX. 5,220 SF

CITY OF LEE'S SUMMIT, MO

ARCHITECT: HJM ARCHITECTS, INC. 7520 WASHINGTON STREET KANSAS CITY, MO 64114 CONTACT: MICHAEL LAIRD PHONE: 816.979.1661 EMAIL: MLAIRD@HJMARCH.COM

MEP CONSULTANT: BC ENGINEERS 5720 REEDER ST. SHAWNEE, KS 66203 **CONTACT: RICHARD CURRY** PHONE: 913.262.1772 EMAIL: RICHARD@BCENGINEER.COM

3042 SF / 150 GROSS = 21 OCC OCCUPANCY CALCS: BUSINESS*-1 OCC 231 SF / 300 GROSS =

* WAITING-100 INCLUDED AS ACCESSORY TO BUSINESS PER IBC2018 303.1.2

EGRESS NOTES:

EXITS REQUIRED: 22 OCC < 50 OCC = 1 EXIT REQUIRED EXITS PROVIDED: 1 (EXISTING) MINIMUM EGRESS WIDTH REQUIRED: 22 OCC X 0.2" = 4.4" MINIMUM EGRESS WIDTH PROVIDED: 34" MINIMUM MAXIMUM EXIT TRAVEL DISTANCE; IBC 2018, TABLE 1017.2: BUSINESS OCCUPANCY = 300'-0" WITH

PLUMBING REQUIREMENTS (IBC TABLE 2902.1):

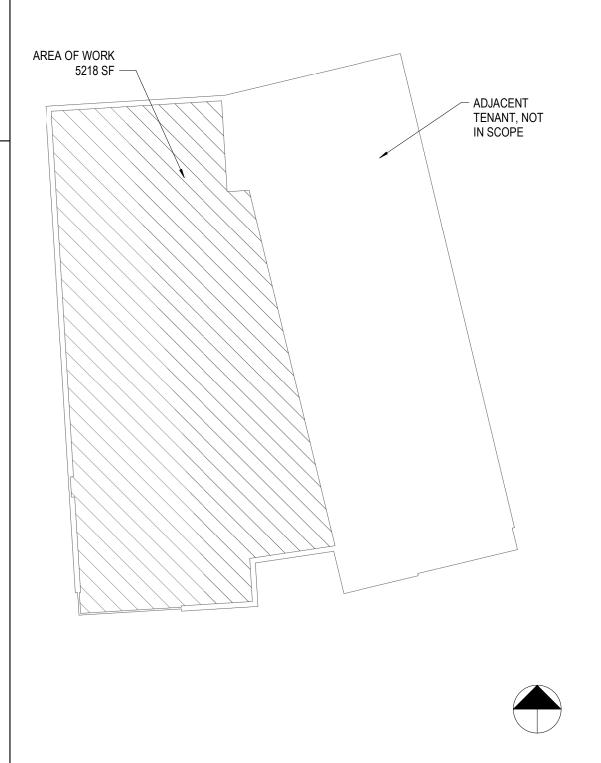
TOILETS REQUIRED: 1 PER 25 FOR 1ST 50 OCC, 1 PER 50 EXCEEDING 50 = 1 REQUIRED, 4 PROVIDED (3

LAVATORIES REQUIRED: 1 PER 40 FOR 1ST 80 OCC, 1 PER 80 EXCEEDING 80 = 1 REQUIRED, 6 PROVIDED (3

DRINKING FOUNTAINS: 1 REQUIRED, 1 PROVIDED.

SERVICE SINKS: 1 REQUIRED, 1 EXISTING PROVIDED

KEY PLAN:

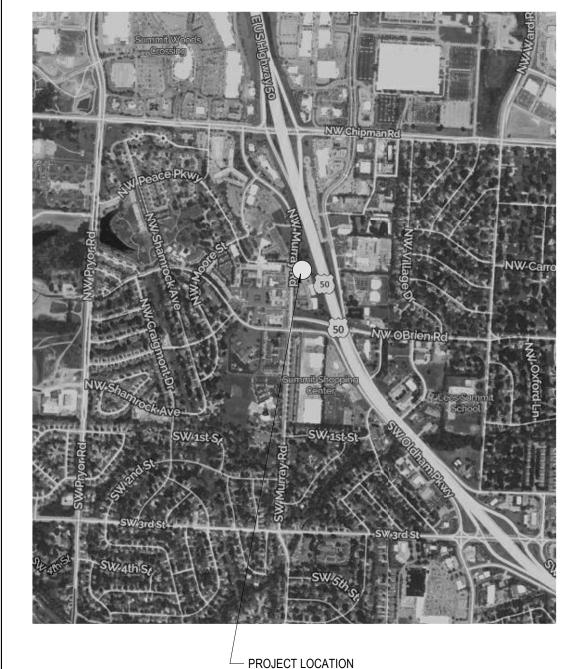


UNLESS NOTED OTHERWISE

VINYL COMPOSITION TILE VINYL WALL COVERING

WATERPROOFING, WATERPROOF

VICINITY MAP:



SHEET INDEX:

GENERAL INFORMATION ACCESSIBILITY GUIDELINES LIFE SAFETY PLANS & WALL TYPES **DEMOLITION FLOOR & REFLECTED CEILING PLANS** A101 OVERALL FLOOR PLAN **ENLARGED TOILET PLANS** A150 DOOR & WINDOW INFO & SCHEDULE A405 DOOR & FRAME DETAILS OVERALL REFLECTED CEILING PLAN INTERIOR ELEVATIONS INTERIOR ELEVATIONS MECHANICAL/PLUMBING SPECIFICATIONS MECHANICAL PLAN MECHANICAL SCHEDULES MECHANICAL DETAILS PLUMBING WASTE & VENT PLAN PLUMBING WATER PLAN PLUMBING DETAILS **ELECTRICAL SPECIFICATIONS** ELECTRICAL LIGHTING PLAN ELECTRICAL POWER PLAN E300 ELECTRICAL SCHEDULES

GENERAL ARREVIATIONS

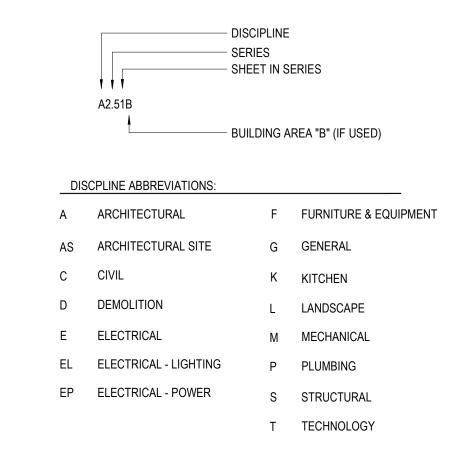
				GEINE	IRAL ADDR
AFF	ABOVE FINISHED FLOOR	EA	EACH	IN	INCH
ACT	ACOUSTICAL CEILING TILE	EF EJ	EXHAUST FAN EXPANSION JOINT	INSUL INT	INSULATION, INSULATE INTERIOR
ACOU ADJ	ACOUSTICAL ADJUSTABLE	EL	ELEVATION	IIN I	INTERIOR
ALUM	ALUMINUM	ELEC	ELECTRICAL		
AMB	ALGINITION AIR-MOISTURE BARRIER	EQ	EQUAL	JST	JOIST
ANC	ANCHOR	EQUIP	EQUIPMENT		
ANOD	ANODIZED	ETR	EXISTING TO REMAIN	LAM	LAMINATED
ARCH	ARCHITECT(URAL)	EW	EACH WAY	LAW	LAVATORY
ASSY	ASSEMBLY	EWC	ELECTRIC WATER COOLER	LLH	LONG LEG HORIZONTA
		EXIST	EXISTING	LLV	LONG LEG VERTICAL
		EXP	EXPANSION	LL V	LONG LLG VERTIONE
B.O.	BOTTOM OF	EXT	EXTERIOR		
BD	BOARD	EQ'D	FURNISHED BY OTHERS		
BFG	BELOW FINISHED GRADE			MFR	MANUFACTURER
BFF	BELOW FINISHED FLOOR			MAX	MAXIMUM
BLDG	BUILDING	FBD	FIBER BOARD	MECH	MECHANICAL
BLK	BLOCKING	FBO	FURNISHED BY OTHERS	MEP	MECHANICAL, ELECTRI
BM	BEAM BOTTOM	FD	FLOOR DRAIN	MILL	MILLWORK
BOT BRG	BEARING	FE	FIRE EXTINGUISHER FIRE EXTINGUISHER & CABINET	MIN	MINIMUM
BS	BOTH SIDES	FEC FFE		MIR	MIRROR
B/T	BETWEEN	FIN	FURNITURE, FIXTURES & EQUIPMENT FINISH	MISC	MISCELLANEOUS
D/ I	DETVVEEN	FLR	FLOOR	MLD	MOLDING
CAD	CADINET	FLUOR	FLUORESCENT	MO	MASONRY OPENING
CAB	CABINET CONTRACTOR FURNISHED & INSTALLED	FRP	FIBERGLASS REINFORCED PLASTIC	MTD MTL	MOUNTED METAL
CFCI CJ	CONTROL JOINT	FRT	FIRE RETARDANT TREATED	MUL	MULLION
CL	CENTER LINE	FS	FLOOR SINK	IVIUL	MOLLION
CLG	CEILING	FSE	FOOD SERVICE EQUIPMENT		
CLO	CLOSET	FT	FEET	NIC	NOT IN CONTRACT
CLR	CLEAR	FV	FIELD VERIFY	NOM	NOMINAL
CMU	CONCRETE MASONRY UNIT			NTS	NOT TO SCALE
COL	COLUMN			1110	1101110 00/122
CONC	CONCRETE	GA	GAUGE		
CONST	CONSTRUCT(ION)	GALV	GALVANIZED	OC	ON CENTER
CT	CERAMIC TILÈ	GC	GENERAL CONTRACTOR	OD	OUTSIDE DIAMETER
		GL	GLASS	OFCI	OWNER FINISHED, CON
DBL	DOUBLE	GWB	GYPSUM WALL BOARD	OFOI	OWNER FURNISHED, O
DEMO	DEMOLITION			OFVI	OWNER FINISHED, VEN
DIA	DIAMETER	HC	HOLLOW CORE	OPNG	OPENING
DN	DOWN	HM	HOLLOW METAL	OPT	OPTIONAL
DR	DOOR	HT	HEIGHT	OTS	OPEN TO STRUCTURE
DS	DOWNSPOUT	HDWD	HARDWOOD		
DTL	DETAIL	LID	LIOUD		

HORIZONTAL

HEATING, VENTILATION, & AIR CONDITIONING

GENERAL ABBREVIATIONS													
IN INSUL INT	INCH INSULATION, INSULATE INTERIOR	PBD PL PLAM PLYWD	PARTICLE BOARD PLATE PLASTIC LAMINATE PLYWOOD	T.O. T&B TBD	TOP OF TOP & BOTTOM TO BE DETERMINED								
JST	JOIST	PLUMB PNL PR	PLUMBING PANEL PAIR	TEMP TYP	TEMPERED TYPICAL								
LAM LAV LLH	LAMINATED LAVATORY LONG LEG HORIZONTAL	PREP PREFIN PTD	PREPARATION PREFINISHED PAINTED	UNO	UNLESS NOTED OTHERV								
LLV	LONG LEG VERTICAL	QT QTY	QUARRY TILE QUANTITY	VCT VWC VERT	VINYL COMPOSITION TIL VINYL WALL COVERING VERTICAL								
MFR MAX	MANUFACTURER MAXIMUM												
MAX MECH MEP MILL MIN MIR MISC MLD MO MTD MTD MTL MUL	MECHANICAL MECHANICAL, ELECTRICAL, & PLUMBING MILLWORK MINIMUM MIRROR MISCELLANEOUS MOLDING MASONRY OPENING MOUNTED METAL MULLION	RA RAD RCP RE: REF RECPT REFL REINF RELOC REQ'D REV RO RTU	RETURN AIR RADIUS REFLECTED CEILING PLAN REFER TO REFERENCE RECEPTACLE REFLECTED, REFLECTING REINFORCED, REINFORCING RELOCATE REQUIRED REVISION, REVERSED ROUGH OPENING ROOF TOP UNIT	W/ W/O WC WD WH WDW WP WT	WITH WITHOUT WATER CLOSET WOOD WATER HEATER WINDOW WATERPROOFING, WATE WEIGHT WELDED WIRE FABRIC								
NIC NOM NTS	NOT IN CONTRACT NOMINAL NOT TO SCALE	SC SF SHT	SOLID CORE SQUARE FOOT SHEET										
OC OD OFCI OFOI OFVI OPNG OPT OTS	ON CENTER OUTSIDE DIAMETER OWNER FINISHED, CONTRACTOR INSTALLED OWNER FURNISHED, OWNER INSTALLED OWNER FINISHED, VENDOR INSTALLED OPENING OPTIONAL OPEN TO STRUCTURE	SHTH SS SCHED SIM SM SPEC'D STD STL STRUCT SUSP	SHEATHING STAINLESS STEEL SCHEDULE SIMILAR SHEET METAL SPECIFIED STANDARD STEEL STRUCTURAL SUSPENDED										

SHEET NUMBER GUIDE:



1. ADA UNOBSTRUCTED REACH RANGES (AFF.) A. ADA FORWARD REACH = 48" MAX. & 15" MIN. B. ADA SIDE REACH = 48" MAX. & 15" MIN. DOOR HARDWARE (MEASURED AFF. TO C.L. OF HARDWARE) A. STANDARD MOUNTING HEIGHTS: 1. PUSH PLATES = 42" 2. PULL HANDLES = 42" 3. KNOBS/ LEVERS = 40" 4. PANIC EXIT = 42" CENTERLINE OF BAR 5. KICK PLATES: WIDTH= DOOR WIDTH MINUS 2", CENTERED HEIGHT= 16" FROM B.O. DOOR 6. THRESHOLDS: STANDARD = 1/2" MAX.

DRINKING FOUNTAINS & EWC'S (MEASURED FROM FLOOR TO SPOUT) A. STD. FLOOR MOUNTING = 40" TYP., 42" MAX. B. ADA = 36" MAX. (27" MIN. CLEAR KNEE SPACE)

AT EXT. SLIDING DOORS = 3/4" MAX.

B. ADA HARDWARE = 34" MIN. TO 48" MAX.

- 4. WATER CLOSETS (AFF. TO TOP OF SEAT) A. STANDARD MOUNTING = 14" TO 15" B. ADA (TO TOP OF SEAT) = 17" TO 19" C. ADA FLUSH CONTROLS = 44" MAX.
- 5. URINALS (MEASURED FROM FLOOR TO RIM) A. STANDARD MOUNTING = 24" MAX. B. ADA ACCESSIBLE =17" MAX. C. ADA FLUSH CONTROLS = 44" MAX.

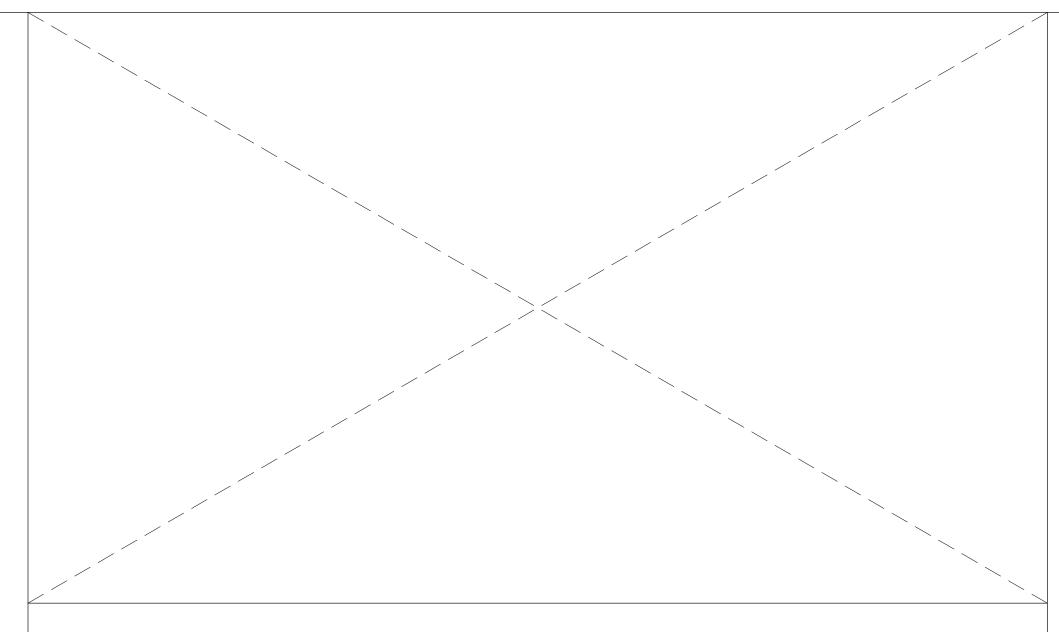
6. LAVATORIES (AFF. TO RIM/ COUNTERTOP)

- A. STANDARD MOUNTING = 36" MAX. B. ADA= 34" MAX. (29" MIN. CLEAR KNEE SPACE) 7. MIRRORS (AFF. TO B.O. REFLECTIVE SURFACE)
- A. STANDARD MOUNTING = VARIES B. ADA ACCESSIBLE = 40" MAX.
- 8. ADA GRAB BARS (MEASURED TO TOP OF BAR) A. WATER CLOSETS: 33" MIN. TO 36" MAX. AFF. B. SHOWERS: 33" MIN.-36" MAX.(AT B.O. SHOWER) C. BATHTUBS: TOP OF BAR = 33" MIN.-36" MAX. AFF. BOT. BAR = 9" ABOVE T.O. TUB
- 9. SHOWER HEADS (MEASURED AFF. TO HEAD) A. STANDARD MOUNTING: 72" TO 84" (84" TYP.) B. ADA: SPRAY UNIT W/ HOSE 60" LONG MIN. C. ADA: FIXED SHOWER HEAD = 48" AFF.
- 10. SHOWER CONTROLS (CONTROL AREA) A. STANDARD MOUNTING = 48" MAX. (TO TOP) B. ADA ACCESSIBLE = 38" MIN. TO 48" MAX.
- 11. COUNTERTOPS: (MEASURED AFF. TO SINK RIM/ COUNTERTOP) A. STANDARD MOUNTING = 36" MAX. B. ADA ACCESSIBLE = 28" MIN. TO 34" MAX.
- 12. SHOWER ROD (MEASURED FROM FLOOR TO C.L.)

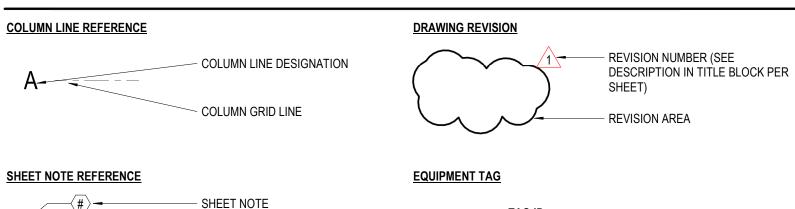
A. STANDARD MOUNTING = 78" MAX.

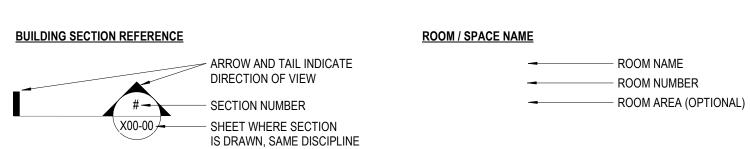
- 13. TOILET ROOM PARTITIONS (MEASURED AFF.) A. AT W.C.'S = 12" TO BOT. & 70" TO TOP. B. AT URINALS = 18" TO BOT. & 60" TO TOP.
- 14. TOILET PAPER DISPENSERS (AFF.TO C.L. OUTLET) A. STANDARD MOUNTING = 24" B. ADA ACCESSIBLE = 19" MIN. TO 24" MAX.
- 15. WALL MOUNTED SOAP DISPENSERS (MEASURED AFF. TO C. L. OF PUSH BUTTON) A. STANDARD MOUNTING = 40" B. ADA ACCESSIBLE = 46" MAX.
- 16. PAPER TOWEL DISP./ WASTE RECEPTACLE (MEASURED AFF. TO TOWEL SLOT A. STANDARD MOUNTING = 40" MAX. B. ADA FORWARD REACH = 48" MAX. & 15" MIN. C. ADA SIDE REACH = 48" MAX. & 15" MIN.
- 17. WARM AIR HAND DRYER (AFF. TO PUSH SWITCH) A. STANDARD MOUNTING = 44" MAX. B. ADA FORWARD REACH = 48" MAX. & 15" MIN. C. ADA SIDE REACH = 48" MAX. & 15" MIN.
- 18. SANITARY NAPKIN DISPENSER (MEASURED AFF. TO C.L. OF COIN SLOT) A. STANDARD MOUNTING = 40" MAX. B. ADA FORWARD REACH = 48" MAX. & 15" MIN. C. ADA SIDE REACH = 48" MAX. & 15" MIN.
- 19. SANITARY NAPKIN DISPOSAL UNIT A. STANDARD MOUNTING = 28" MAX. (T.O. UNIT) B. ADA ACCESSIBLE = 19" MIN.-24" MAX. (OPNG.)
- 20. TOILET SEAT COVER DISPENSERS (TO OPNG.) A. STANDARD MOUNTING = 40" MAX. B. ADA FORWARD REACH = 48" MAX. & 15" MIN. C. ADA SIDE REACH = 48" MAX. & 15" MIN.
- 21. COAT HOOKS A. STANDARD = 68" B. ADA ACCESSIBLE = 48" MIN. TO 54" MAX.
- 22. CHALKBOARDS/TACK BOARDS,/MARKER BOARDS A. STANDARD MOUNTING = 32" TO 39" (TO BOT.) B. STANDARD MOUNTING = 80" (TO TOP)
- 23. THERMOSTATS & CONTROL DEVICES (TO TOP) A. STANDARD MOUNTING = 42 3/4" MAX. B. ADA FORWARD REACH = 48" MAX. & 15" MIN. C. ADA SIDE REACH = 54" MAX. & 15" MIN.
- 24. LIGHT SWITCHES & CARD READERS (TO C.L.) A. STANDARD = 42 3/4" & 6" FROM DOOR JAMB B. ADA ACCESSIBLE = 48" MAX.
- 25. CONVENIENCE RECEPTACLES (ELECTRICAL/ TELEPHONE/ DATA) A. STANDARD = 18 3/4" B. ADA ACCESSIBLE = 15" MIN.
- 26. EXIT LIGHTS STANDARD WALL MOUNTED A. 2" MIN. BELOW CEILING. B. 2" MIN. ABOVE DOOR FRAME C. EQUAL SPACE - CEILING TO TOP OF FRAME.
- 27. FIRE EXTINGUISHERS (MEASURED AFF.) A. GROSS WT. 40 LBS OR LESS = 60" MAX. TO TOP. B. GROSS WT. MORE THAN 40 LBS = 42" MAX. TO TOP. C. ADA REACH RANGES = 48" MAX. & 15" MIN.
- 28. FIRE ALARM PULL STATIONS (AFF. TO LEVER) A. STANDARD MOUNTING = 48" MAX. B. ADA FORWARD REACH = 48" MAX. & 15" MIN. C. ADA SIDE REACH = 48" MAX. & 15" MIN.
- 29. SMOKE AND/OR HEAT DETECTORS A. STANDARD = CEILING HEIGHT
- 30. HORN/ SPEAKER/ VISUAL SIGNALS A. STANDARD = 80" AFF. OR 6" BELOW CEILING - WHICHEVER IS LOWER.

ACCESSIBILITY GUIDELINES



GENERAL SYMBOLS LEGEND





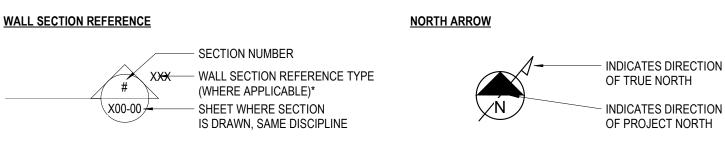
LEVEL

PLAN ELEVATION MARKER

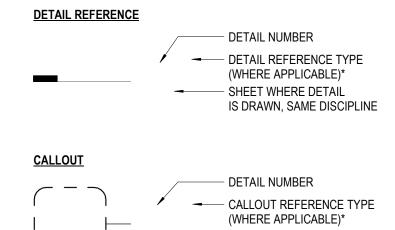
DEMOLITION LINEWORK

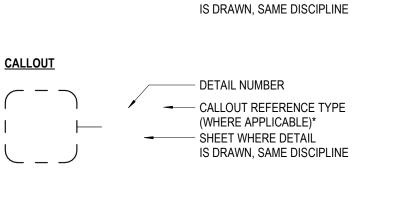
DIMENSIONS

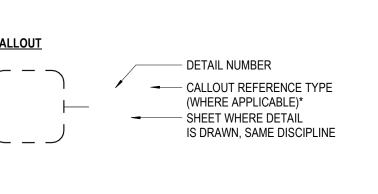
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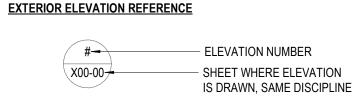


SEE NOTE LEGEND ON SAME SHEET

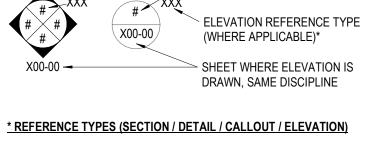






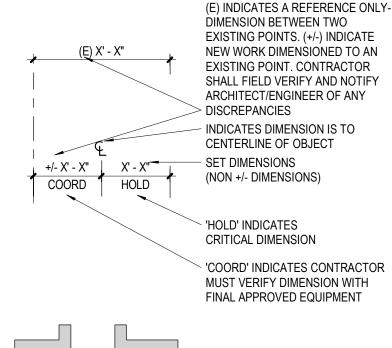


INTERIOR ELEVATION REFERENCE (SINGLE AND MULTIPLE) ELEVATION NUMBER



* REFERENCE TYPES (SECTION / DETAIL / CALLOUT / ELEVATION) OPP = (OPPOSITE) IDENTICAL TO REFERENCED VIEW EXCEPT OPPOSITE ORIENTATION SIM = (SIMILAR) DOCUMENTED SCOPE IS IDENTICAL TO REFERENCED VIEW, WITH MINOR DIFFERENCES IN CONTEXTUAL ELEMENTS TYP = (TYPICAL) REFERENCED VIEW DOCUMENTS A REPEATED CONDITION MATCH LINE

<u>Break line</u>



LEVEL NAME

ESTABLISHED 0.0 ELEVATION

(LEADER OPTIONAL)

OBJECT TO BE REMOVED

+/- 4' - 0" — HEIGHT ABOVE / BELOW

'COORD' INDICATES CONTRACTOR - INDICATES ALIGNMENT OF FINISHED FACE OF TWO ELEMENTS

GENERAL SYMBOLS LEGEND

GENERAL NOTES

ALL WORK SHALL COMPLY WITH THE LOCAL BUILDING CODES AND OTHER APPLICABLE STATE AND LOCAL CODES, ORDINANCES AND STANDARDS. RE: CODE ANALYSIS ON SHEET G1.11.

1. THE WORK UNDER THIS CONTRACT SHALL INCLUDE ALL LABOR, 17. MATERIALS, TOOLS, FEES, INSURANCE, TAXES, ETC. FOR GENERAL CONSTRUCTION, INCLUDING MECHANICAL, ELECTRICAL AND PLUMBING WORK FOR THE COMPLETE CONSTRUCTION OF THIS PROJECT.

- 2. THE CONTRACT DOCUMENTS ARE COMPLIMENTARY WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL. WHILE PREPARED WITH DUE CARE AND DILIGENCE, PERFECTION IS NOT POSSIBLE. DESIGN AND CONSTRUCTION ARE COMPLEX - EVERY POSSIBLE CONDITION OR CONTINGENCY CANNOT BE ANTICIPATED OR FULLY INDICATED WITHIN THE DOCUMENTS.
- 3. CAREFULLY STUDY AND COMPARE ALL DRAWINGS (INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, STRUCTURAL, MECHANICAL OR ELECTRICAL) AND OTHER CONTRACT DOCUMENTS WITH THE EXISTING CONDITIONS AT THE PROJECT-SITE. REPORT ERRORS, INCONSISTENCIES OR OMISSIONS DISCOVERED FOR CLARIFICATION BY THE ARCHITECT. THE CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR OR CORRECTION COSTS IF WORK IS EXECUTED WITH KNOWLEDGE THAT IT INVOLVES AN ERROR, INCONSISTENCY OR OMISSION - WITHOUT THE ABOVE NOTICE.
- 4. CONTRACTOR SHALL COORDINATE THE REQUIREMENTS OF ANY AND ALL DRAWINGS INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, MECHANICAL, ELECTRICAL. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ARCHITECT PRIOR TO EXECUTION OF WORK.
- 5. N THE EVENT OF CONFLICT OR AMBIGUITY WITHIN THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR WILL BE DEEMED TO HAVE AGREED TO PROVIDE THE GREATER QUANTITY AND / OR BETTER QUALITY OF MATERIALS AND / OR WORK. OMISSIONS IN THE DESCRIPTION OF THE WORK DO NOT
- 6. TO ENSURE COORDINATION BETWEEN DISCIPLINES, CONTRACTOR SHALL SUPPLY EACH SUBCONTRACTOR OR AGENT WITH A FULL SET OF CONSTRUCTION DOCUMENTS FOR THEIR USE.
- 7. CONTRACTOR AND HIS SUBCONTRACTORS AND AGENTS SHALL JURISDICTION WHERE THE WORK WILL BE PERFORMED.
- 8. ALL WORK LISTED, SHOWN OR IMPLIED IN THE CONSTRUCTION DOCUMENTS SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR EXCEPT WHERE OTHERWISE NOTED. THE CONTRACTOR SHALL CLOSELY COORDINATE HIS WORK WITH THAT OF OTHER CONTRACTORS AND VENDORS FURNISHING SEQUENCE OF INSTALLATION OF ALL ELEMENTS SHALL BE EFFICIENT AND ORDERLY WITH PROVISIONS FOR SHALL BE DONE IN CONFORMANCE WITH THE MANUFACTURER'S REQUIREMENTS.
- 9. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES.
- 10. DEVELOPER COORDINATION: OBTAIN AND COMPLY WITH THE DEVELOPER'S CONSTRUCTION RULES & REGULATIONS AND COMPLY WITH THEIR APPROVED DRAWINGS OF THIS WORK, IF APPLICABLE. MAINTAIN PRINTED COPIES OF RULES, REGULATIONS AND APPROVED DRAWINGS AT THE SITE AND ACKNOWLEDGE RECEIPT TO THE OWNER.
- 11. COMPLY WITH APPLICABLE LOCAL, STATE, AND NATIONAL ALL REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION (AHJ). PROVIDE ALL REQUIRED NOTICES TO THE AHJ'S FOR THEIR INSPECTION AND APPROVALS OF THE WORK, THE MOST RESTRICTIVE REQUIREMENTS WILL APPLY IN THE EVENT OF ANY CONFLICT.
- 12. UNLESS OTHERWISE INDICATED IN THE AGREEMENT, SECURE AND PAY FOR THE BUILDING PERMIT AND ALL OTHER PERMITS OR UTILITY HOOK-UP CHARGES REQUIRED TO PERFORM THE WORK - INCLUDING BUT NOT LIMITED TO SEPARATE TRADE PERMITS, SEWER AND WATER SERVICE TAP-FEES, UTILITY-SERVICE CONNECTION FEES, AS APPLICABLE. OBTAIN ALL LICENSES (BUSINESS OR TRADE) REQUIRED FOR EXECUTION OF THE WORK.
- 13. CONTRACTOR SHALL PROTECT THE EXISTING CONSTRUCTION AND REPAIR ANY DAMAGE OCCURRING AS A RESULT OF THEIR OPERATIONS AT NO COST TO THE TENANT OR LANDLORD. CONTRACTOR SHALL ALSO ENSURE THAT THEIR OPERATIONS DO NOT INTERFERE WITH THE OPERATION OF THE REMAINDER OF THE DEVELOPMENT/MALL. BARRIERS TO NOISE, DUST AND SECURITY BETWEEN CONSTRUCTION AREAS AND PUBLIC AREAS SHALL BE ERECTED, MAINTAINED AND REMOVED PER 32. EASE EXPOSED EDGES OF METAL WORK TO A RADIUS OF THE DEVELOPMENT CRITERIA BY THE CONTRACTOR.
- 14. CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION OF WORK, MATERIALS, FIXTURES, ETC. FROM LOSS, DAMAGE, FIRE, THEFT, ETC.
- 15. ALL AREAS OF EXISTING LANDSCAPING DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO ORIGINAL CONDITION.
- 16. VERIFY LOCATIONS OF EXISTING UTILITY SERVICE CONNECTIONS SERVING THE PROJECT BEFORE STARTING CONSTRUCTION AND PROVIDE ADDITIONAL UTILITY SERVICE AS REQUIRED TO MEET THE SCOPE AND INTENT OF THE WORK. 35. PROVIDE FIRE-RETARDANT TREATED PLYWOOD BACKING AT ALL LOCATIONS OF EXISTING UTILITIES NOTED ARE APPROXIMATE, ELECTRICAL, PHONE AND SECURITY SYSTEM PANELS. AND MAY BE BASED ON UN-VERIFIED INFORMATION. PROVIDE ALL CONNECTIONS REQUIRED AT UTILITY CONNECTION POINTS AT NO ADDITIONAL COST TO THE OWNER. ANY AND ALL LOSSES OF BUSINESS TO THE LANDLORD, DEVELOPER OR OTHER PARTY RESULTING FROM DAMAGE CAUSED BY CONTRACTOR OPERATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED/REPLACED IMMEDIATELY AT THE SOLE EXPENSE OF THE CONTRACTOR.

- PROJECT GENERAL NOTES
 - ETC.) RELATED TO EQUIPMENT AND APPLIANCES. 18. CONTRACTOR SHALL COORDINATE THE DELIVERY AND STORAGE OF EQUIPMENT WITH EQUIPMENT SUPPLIER AND TAKE MEASURES TO ENSURE THE PROTECTION OF EQUIPMENT FROM DAMAGE DURING THE CONSTRUCTION PHASE PRIOR TO AND AFTER EQUIPMENT INSTALLATION. CONTRACTOR SHALL REVIEW THE DIMENSIONS OF ALL EQUIPMENT IN THE PROJECT REGARDLESS OF THE SOURCE, COORDINATE ACCESS TO THE SPACE, VERIFY THAT EQUIPMENT HAS APPROPRIATE

CONTRACTOR SHALL VERIFY AND PROVIDE ALL UTILITY

CONNECTIONS (PLUMBING, ELECTRICAL, GAS, ETC. IN THE FORM

OF SUPPLY AND DRAINPIPES, CONDUIT AND PULLING WIRES,

19. NEW WORK AT EXISTING CONDITIONS SHALL ALIGN WITH AND MATCH EXISTING WORK EXCEPT WHERE OTHERWISE DIMENSIONED OR DETAILED.

CLEARANCES DURING INSTALLATION INCLUDING MAINTENANCE

CLEARANCES, AND VERIFY THOSE WHICH INVOLVE CONFLICTING

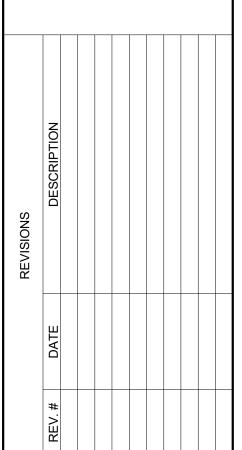
- 20. CONTRACTOR SHALL NEVER SCALE DRAWINGS. LOCATIONS FOR ALL PARTITIONS, WALLS, CEILINGS, ETC. WILL BE DETERMINED BY DIMENSIONS ON THE DRAWINGS. ANY AREA OF THE PLANS MISSING REQUIRED DIMENSIONS MUST BE REPORTED TO THE ARCHITECT IMMEDIATELY.
- 21. WHERE A CONDITION IS NOTED "TYPICAL" (TYP.) IT IS UNDERSTOOD THAT ALL SIMILAR CONDITIONS BE CONSTRUCTED OF THE SAME MATERIAL AND/OR DIMENSIONS.PARTS OF DETAILS THAT MAY BE CONSIDERED TYPICAL CONSTRUCTION ARE NOT REPEATED.
- 22. NOT ALL MATERIALS ARE NOTED OR KEYED THROUGHOUT THE DRAWINGS. PLEASE CONTACT ARCHITECT FOR ANY MATERIALS NOT NOTED.
- RELIEVE THE CONTRACTOR FROM PROVIDING A COMPLETE 23. CONTRACTOR SHALL PROVIDE DRAFT/FIRE STOPS, AS REQ'D BY GOVERNING CODES AND JURISDICTIONS. NEW AND EXISTING PENETRATIONS IN FIRE-RATED PARTITIONS OR DRAFT STOPS SHALL BE PROTECTED BY A SYSTEM LISTED BY A RECOGNIZED TESTING AGENCY.
 - 24. PROVIDE FIRE EXTINGUISHERS PER APPLICABLE CODES. VERIFY FINAL LOCATION WITH AHJ.
- HOLD ALL APPLICABLE AND REQUIRED LICENSES FOR THE 25. CONTRACTOR SHALL COORDINATE ALL WORK THAT AFFECTS THE ROOF WITH THE LANDLORD AND, IF REQUIRED BY THE LANDLORD, HIRE THE SHELL ROOFING SUBCONTRACTOR TO PERFORM ALL WORK OF PENETRATING THE ROOF FOR ANY AND ALL ITEMS ADDED ON THE ROOF AND PATCHING/SEALING OF SUCH PENETRATIONS DURING AND AFTER EQUIPMENT
- LABOR, MATERIALS, ETC. ON THE PROJECT TO ASSURE THAT 26. ALL JOINTS AND OTHER OPENINGS IN THE BUILDING ENVELOPE ALL SCHEDULES ARE MET WITHOUT CONFLICT OR DELAY. THE SHALL BE SEALED IN ACCORDANCE WITH THE BUILDING CODE
- ACCOMMODATING ITEMS TO BE INSTALLED LATER. ALL WORK 27. ALL CONSTRUCTION WORK MUST BE OF GOOD QUALITY FREE FROM DEFECTS AND IN ACCORDANCE WITH REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS - OR THE WORK MAY BE CONSIDERED DEFECTIVE - AND SUBJECT TO CORRECTION OR REPLACEMENT BY THE CONTRACTOR.
 - 28. FINISH ALL NEW EXPOSED SURFACES OF MATERIALS (UNLESS PRE-FINISHED) WITH PAINT OR OTHER FINISH COATING AS INDICATED, OR IF NOT INDICATED, PROVIDE A FINISH SIMILAR TO OTHER ADJACENT MATERIALS UNLESS OTHERWISE INDICATED. COMPLY WITH TYPICAL COMMERCIAL QUALITY INDUSTRY STANDARDS AND PROVIDE ALL APPLICABLE SURFACE PREPARATION OR TREATMENTS, SANDING, PRIMING, AND FINISHES IN STRICT-ACCORDANCE WITH FINISH MANUFACTURER'S RECOMMENDATIONS.
- LAWS OR REGULATIONS, CODES AND ORDINANCES, AND WITH 29. AT PROJECTIONS OF FINISHED SURFACES, INCLUDING PILASTERS OR THICKENED WALLS. RETURN ALL EXPOSED SURFACE FINISHES BACK TO THE PRIMARY SURFACE EVEN IF NOT SPECIFICALLY NOTED.
 - 30. PERFORM CUTTING AND PATCHING TO ACCOMMODATE CONSTRUCTION WORK AND TO ACHIEVE THE INTENT OF THE CONSTRUCTION DOCUMENTS. CUT & PATCH PARTITIONS FOR INSTALLATION OF PLUMBING OR ELECTRICAL SERVICES AND FOR INSTALLATION OF WALL BLOCKING, IF NECESSARY. PROVIDE ESCUTCHEONS, GROMMETS AND SIMILAR SURFACE CLOSURE OR FINISHED TRIMS AT EXPOSED PENETRATIONS OF FINISHED
 - 31. CONTRACTOR SHALL KEEP ALL AREAS CLEAN OF CONSTRUCTION DEBRIS. DISPOSE OF CONSTRUCTION DEBRIS AT THE END OF EACH DAY AND LEAVE OCCUPIED SPACES CLEAN. CLEAN THE PROJECT SITE OF RUBBISH, LITTER AND OTHER FOREIGN SUBSTANCES. BROOM CLEAN PAVED AREAS AND REMOVE STAINS, SPILLS AND OTHER FOREIGN DEPOSITS. RAKE GROUNDS THAT ARE NEITHER PAVED NOR PLANTED, TO A SMOOTH EVEN-TEXTURED SURFACE.
 - APPROX. 1/4" UNLESS OTHERWISE SHOWN. WELD ALL CORNERS AND SEAMS CONTINUOUSLY, COPING CONNECTIONS TYPICALLY. GRIND EXPOSED WELDS SMOOTH AND FLUSH TO MATCH AND BLEND WITH ADJOINING SURFACES.
 - 33. FORM EXPOSED CONNECTIONS WITH HAIRLINE JOINTS, FLUSH AND SMOOTH, USING CONCEALED FASTENERS WHEREVER POSSIBLE AND WHEN NECESSARY USE PHILLIPS FLAT-HEADED (COUNTERSUNK) SCREWS OR BOLTS.
 - 34. PROVIDE PRESERVATIVE-TREATED WOOD AT ROOFS OR WHEN WOOD IS IN DIRECT CONTACT WITH CONCRETE OR MASONRY

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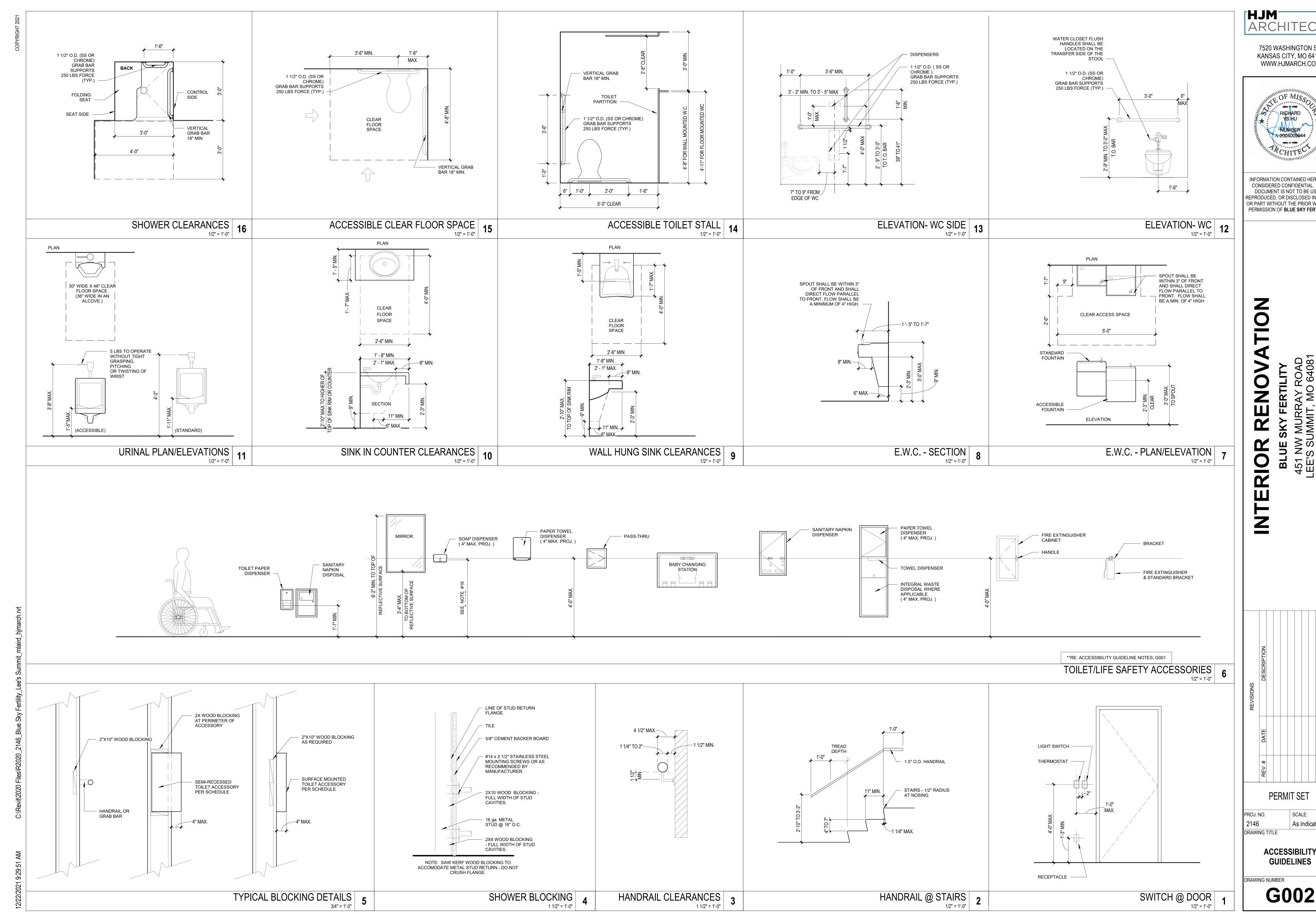
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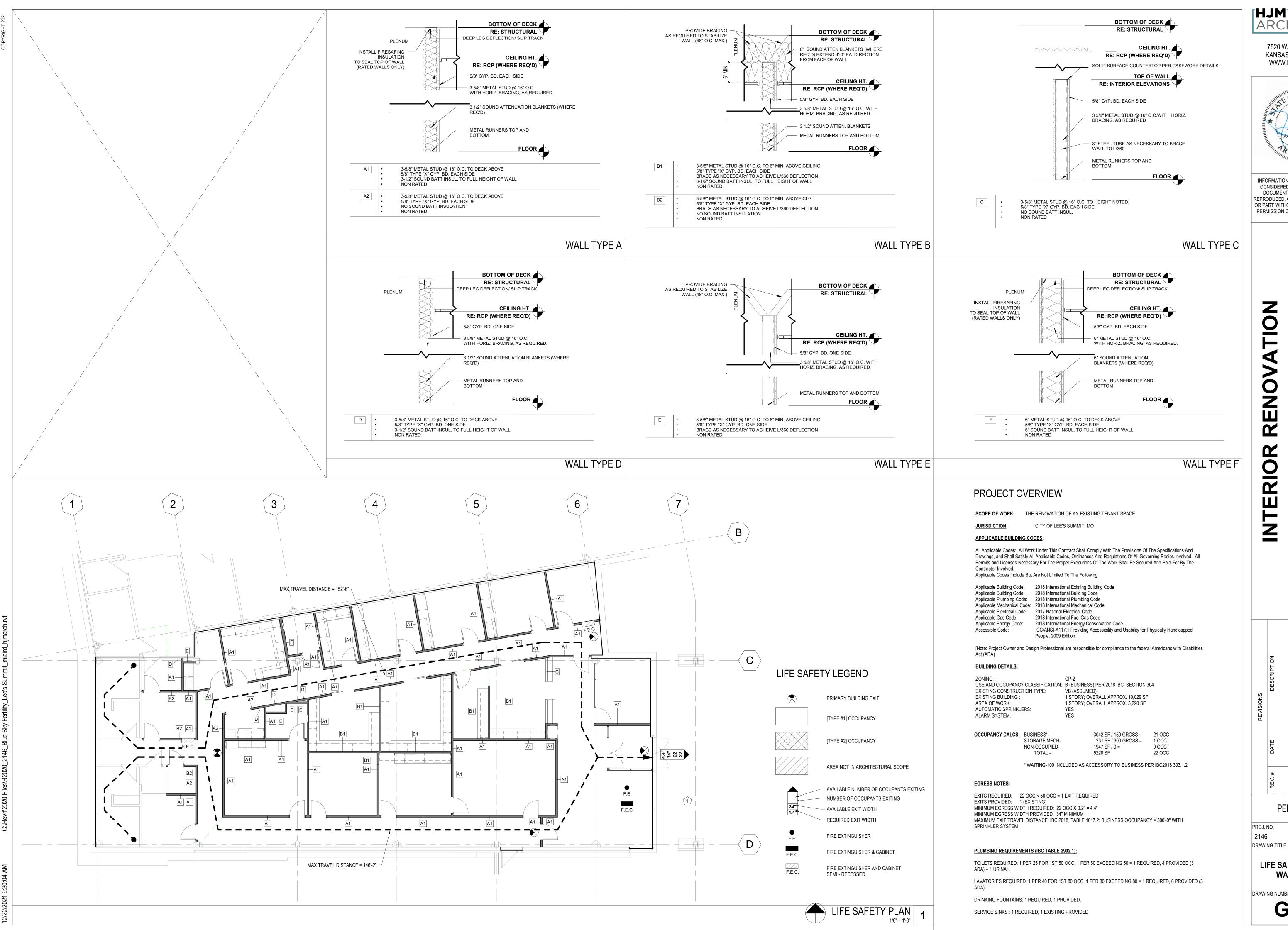


BLUE SKY FERTILITY 451 NW MURRAY ROAD LEE'S SUMMIT, MO 64081

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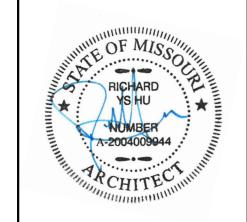
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ACCESSIBILITY GUIDELINES



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LIFE SAFETY PLANS &

WALL TYPES

DRAWING NUMBER

G101

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DEMOLITION PLAN LEGEND

- 1. COORDINATE W/ OWNER REGARDING SALVAGED EQUIPMENT & MATERIALS. RE SALVAGE NOTES ON DRAWINGS.
- 2. EXISTING CONDITIONS SHOWN ON DWGS ARE FOR INFORMATIONAL PURPOSES ONLY AND DO NOT SHOW ALL CONDITIONS THAT MAY AFFECT THE WORK OF THIS CONTRACT. FIELD VERIFY ALL EXISTING CONDITIONS.

EXISTING WALL TO REMAIN

EXISTING DOOR TO REMAIN

EXISTING WALL TO BE DEMOLISHED

EXISTING DOOR TO BE REMOVED

KEYNOTE, RE: DEMO KEYNOTE LEGEND

- 3. REMOVE EXISTING (EXIST) CONSTRUCTION TO THE EXTENT INDICATED ON THE DRAWINGS AND TO THE EXTENT REQUIRED TO FACILITATE NEW CONSTRUCTION. PROTECT ALL OTHER EXISTING CONSTRUCTION FROM DAMAGE THROUGHOUT CONSTRUCTION.
- 4. SHOULD ANY DAMAGE OCCUR TO ANY EXIST CONSTRUCTION TO REMAIN ON SITE, THE CONTRACTOR SHALL REPAIR THE DAMAGE TO THE SATISFACTION OF THE OWNER. THE CONTRACTOR ALONE SHALL BE RESPONSIBLE FOR THE PROTECTION AND SAFETY OF THE EXISTING STRUCTURE AND ARCHITECTURAL ELEMENTS DURING THE ENTIRE DEMO AND SHALL TAKE ADEQUATE PRECAUTIONS TO PREVENT DAMAGE TO ANY PART OF THE REMAINING STRUCTURE OR ANY COMPONENTS THAT ARE TO BE SALVAGED FOR LATER REUSE. ANY DAMAGE, IF INCURRED, SHALL BE RECTIFIED TO THE SATISFACTION OF THE OWNER AT NO EXTRA COST TO THE OWNER.
- 5. PROTECT ALL EXISTING CONSTRUCTION NOTED TO REMAIN FROM DAMAGE AND SOILING DURING DEMO. REMOVE DEBRIS REGULARLY AS NECESSARY TO ELIMINATE INTERFERENCE WITH ROADS, STREETS, WALKS, OTHER ADJACENT FACILITIES AND AREAS TO REMAIN AS-IS AND/OR IN USE OR OCCUPIED BY THE OWNER.
- 6. EXCEPT FOR ITEMS OR MATERIALS INDICATED TO BE SALVAGED OR OTHERWISE INDICATED TO REMAIN THE OWNER'S PROPERTY, DEMO MATERIALS SHALL BECOME THE CONTRACTOR'S PROPERTY AND SHALL BE REMOVED FROM THE SITE.
- 7. ALL DEMO MATERIALS SHALL BE DISPOSED OF PROMPTLY OFF SITE IN ACCORDANCE W/ ALL RELEVANT LAWS AND REGULATIONS. DO NOT ALLOW DEMO MATERIALS TO ACCUMULATE ON SITE. BURNING IS NOT ALLOWED.
- 8. WHEN MECHANICAL, ELECTRICAL OR STRUCTURAL ELEMENTS CONFLICT W/ THE INTENDED FUNCTION OF DESIGN ARE ENCOUNTERED, DETERMINE THE NATURE AND EXTENT OF THE CONFLICT AND NOTIFY ARCHITECT IMMEDIATELY FOR RESOLUTION. THE CONTRACTOR SHALL PREPARE THE NECESSARY SKETCHES OF THE DISCREPANCIES AND SUBMIT TO THE ARCHITECT. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ARCH PRIOR TO PROCEEDING W/ THE DEMO TO THE AREA IN QUESTION.
- 9. ALL WORK MUST BE COORDINATED W/ THE OWNER REGARDING THE SCHEDULE AND DISRUPTION OF BUSINESS HOURS.
- COORDINATE DEMO WORK W/ NEW CONSTRUCTION. NOTIFY ARCHITECT OF DISCREPANCIES IN THE CONTRACT DOCUMENTS THAT IMPACT THE DESIGN INTENT.
- 11. DO NOT INTERRUPT EXISTING UTILITIES EXCEPT WHEN AUTHORIZED IN WRITING BY THE OWNER. PROVIDE TEMPORARY SERVICES DURING INTERRUPTIONS TO EXIST UTILITIES, AS ACCEPTABLE TO THE OWNER. PROVIDE 72 HOUR NOTIFICATION.
- 12. WHEN UTILITY SERVICES ARE REQUIRED TO BE REMOVED, RELOCATED OR ABANDONED, PROVIDE BYPASS CONNECTIONS TO MAINTAIN CONTINUITY OF SERVICE BEFORE PROCEEDING WITH DEMO. CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN AND PERMITTING OF ALL TEMPORARY UTILITY WORK.
- 13. CONTACT ALL UTILITY COMPANIES INCLUDING THE FOLLOWING: ELECTRICAL, GAS, WATER, TELEPHONE, STORM SEWER AND SANITARY SEWER FOR FIELD LOCATION OF ALL UNDERGROUND AND OVERHEAD UTILITY LINES.
- 14. UNLESS NOTED OTHERWISE, WALLS AND PARTITIONS INDICATED TO BE REMOVED ARE ASSUMED TO BE NON-STRUCTURAL. ALL NECESSARY SHORING, BRACING AND SUPPORT TO PREVENT MOVEMENT, SETTLEMENT OR COLLAPSE OF STRUCTURE OR ELEMENT TO BE DEMOLISHED AND ADJACENT STRUCTURE OR ELEMENT SHOWN TO REMAIN SHALL BE DESIGNED BY CONTRACTOR'S PROFESSIONAL ENGINEER LICENSED IN THE APPLICABLE JURISDICTION. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING, SHEETING, BRACING AND/OR TEMPORARY SUPPORT WHEREVER REQUIRED TO THE EXISTING STRUCTURE DURING THE ENTIRE DEMO AND CONSTRUCTION PERIOD.
- 15. WHERE FINISHES ARE SHOWN TO BE REMOVED FROM EXISTING CONSTRUCTION, REPAIR AND PATCH REMAINING SUBSTRATE AND PREPARE FOR NEW FINISH.
- 16. ALL INFILL OR REPLACEMENT WORK SHALL MATCH EXISTING CONDITIONS IN MATERIALS, CONSTRUCTION AND FINISH, UNLESS SPECIFICALLY NOTED ELSEWHERE IN THE CONSTRUCTION DOCUMENTS. PROVIDE ALL CUTTING AND PATCHING OF EXISTING CONSTRUCTION TO ACCOMMODATE NEW CONSTRUCTION WORK.
- 17. DO NOT REMOVE STRUCTURAL MEMBERS UNLESS NOTED OTHERWISE.
- 18. REMOVE EXISTING PARTITIONS, CEILINGS, SOFFITS AND ASSOCIATED FRAMING AND BRACING BACK TO STRUCTURE WHERE THESE ITEMS OCCUR AT AREAS SHOWN TO BE DEMO.
- 19. REMOVE ALL EXISTING FINISH MATERIALS BACK TO EXPOSED FRAMING OR STUDS, CONCRETE OR MASONRY WALLS OR STRUCTURAL ELEMENTS INDICATED TO REMAIN WHERE INDICATED.
- 20. MAINTAIN EXISTING EXITS TO REMAIN, EXIT ACCESS AND PROVIDE APPROPRIATE FIRE PREVENTION PROCEDURES DURING
- 21. PROVIDE TEMPORARY DUST PROOF ENCLOSURE BETWEEN THE CONSTRUCTION AREA AND EXISTING OCCUPIED SPACES.
- 22. REQUIREMENTS FOR DEMO INCLUDE ALL ITEMS NECESSARY TO MAINTAIN STABILITY OF THE FACILITY AND ITS COMPONENTS FROM THE TIME DEMO AND CONSTRUCTION BEGINS TO THE TIME OF COMPLETION OF RENOVATION CONSTRUCTION.
- 23. ALL INFORMATION RELATING TO THE EXISTING STRUCTURE SHOWN ON THE CONSTRUCTION DOCUMENTS IS BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL PERFORM A COMPLETE SURVEY OF ALL THE NECESSARY ITEMS REQUIRED TO PERFORM THE WORK PROPERLY, SUCH AS LOCATIONS OF EXISTING COLUMNS, ETC.
- 24. EXACT EXTENT OF DEMO TO BE DONE SHALL BE FIELD VERIFIED AT THE SITE. DETERMINE THE NATURE AND EXTENT OF DEMO THAT WILL BE NECESSARY BY COMPARING THE DRAWINGS W/ THE EXISTING CONDITIONS.
- 25. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE MEANS AND METHODS OF DEMO AND THE SAFETY AND INTEGRITY OF THE EXISTING STRUCTURE.
- 26. MATERIALS AND EQUIPMENT SHALL BE STORED AND TRANSPORTED IN A MANNER COMPATIBLE W/ THE ALLOWABLE FLR DESIGN LIVE
- 27. DO NOT DETAIL, ORDER OR FABRICATE ANY MATERIAL W/O COORDINATING THE SAME WITH ACTUAL FIELD CONDITIONS. THE CONTRACTOR ALONE IS RESPONSIBLE FOR THE PROPER FITTING AND CONSTRUCTION OF THE NEW CONSTRUCTION TO THE EXISTING CONSTRUCTION.
- 28. ALL EXISTING PIPES, DUCTS AND UTILITIES SHALL BE TEMPORARILY SUPPORTED, PROTECTED AND REPLACED, AS REQUIRED, IN THE AREAS WHERE EXISTING STRUCTURE IS TO BE REMOVED.
- 29. ALL SPECIAL INSPECTIONS SHALL BE BY AN INDEPENDENT TESTING AGENCY HIRED BY THE OWNER.
- 30. NO PORTIONS OF THE STRUCTURE SHALL BE PERMITTED TO FALL NOR SHALL ANY DEBRIS BE DROPPED EXCEPT BY METHODS WHICH WILL ENSURE SAFETY AND MINIMIZE DUST, NOISE AND OTHER NUISANCES.
- 31. EXISTING BUILDING ELEMENTS OR CONSTRUCTION TO REMAIN IS SHOWN W/ SCREENED LINES.
- 32. VERIFY ALL QUANTITIES OF ITEMS TO BE DEMOLISHED OR SALVAGED.

GENERAL NOTES- DEMOLITION

INTERIOR RENOV BLUE SKY FERTILITY

REV.# DATE DESCRIPTION

PERMIT SET

PROJ. NO.
2146
DRAWING TITLE

DEMOLITION FLOOR & REFLECTED CEILING

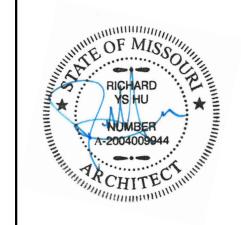
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PLANS
RAWING NUMBER

D100



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1. REFER TO SHEET CS FOR ADDITIONAL GENERAL NOTES

2. ARCHITECTURAL ELEVATION 100'-0" = CIVIL ELEVATION

3. DIMENSIONS SHOWN ON THE FLOOR PLAN ARE TO THE FACE OF GYP. BOARD AND COLUMN GRID LINES, UNLESS

4. NOTE: WALL THICKNESSES ARE NOMINAL DIMENSIONS, NOT ACTUAL DIMENSIONS. ALL STUD WALL THICKNESSES ARE 5 INCHES, UNLESS DIMENSIONED OTHERWISE.

5. DOOR OPENINGS NOT LOCATED BY DIMENSION SHALL BE CENTERED IN WALL SHOWN OR LOCATED 4 INCHES FROM FINISH WALL TO FINISH JAMB, ALWAYS ALLOWING MINIMUM OF 18" FROM THE PULL SIDE OF THE DOOR TO

6. ALL PUBLIC SPACES: THE WALLS WILL BE FINISHED WITH 5/8" GYP. BD. TO A LEVEL 4 FINISH AND PAINTED, UNLESS

7. REFER TO FINISH LEGEND, FINISH SCHEDULE AND

GENERAL NOTES- FLOOR PLAN

	EXISTING WALL TO REMAIN
	PROPOSED WALL
	EXISTING DOOR TO REMAIN
	PROPOSED DOOR
(#)	KEYNOTE, RE: KEYNOTE LEGEND
(#)	EQUIPMENT TAG
W4A2	WALL TAG
	FLOOR DRAIN

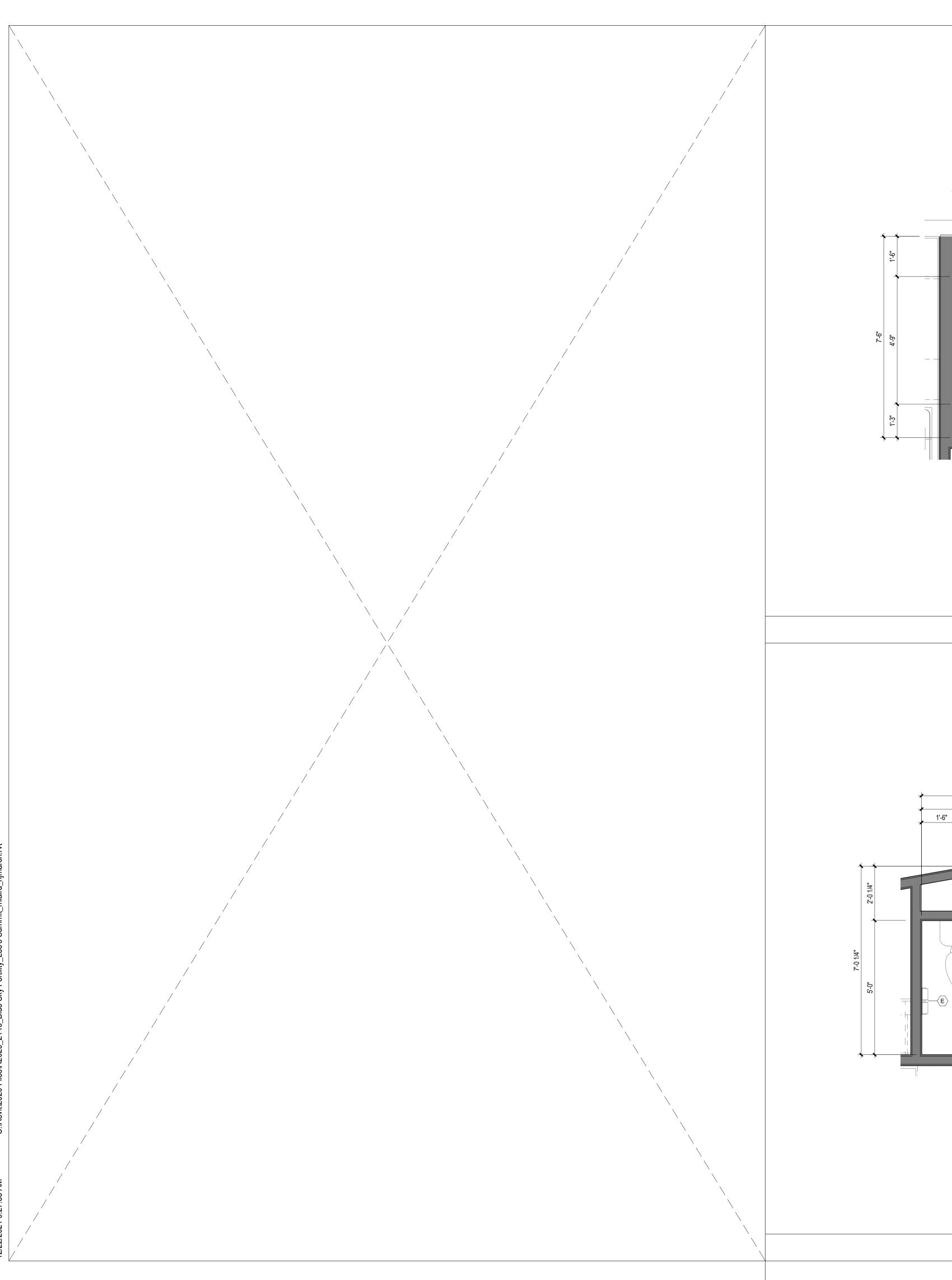
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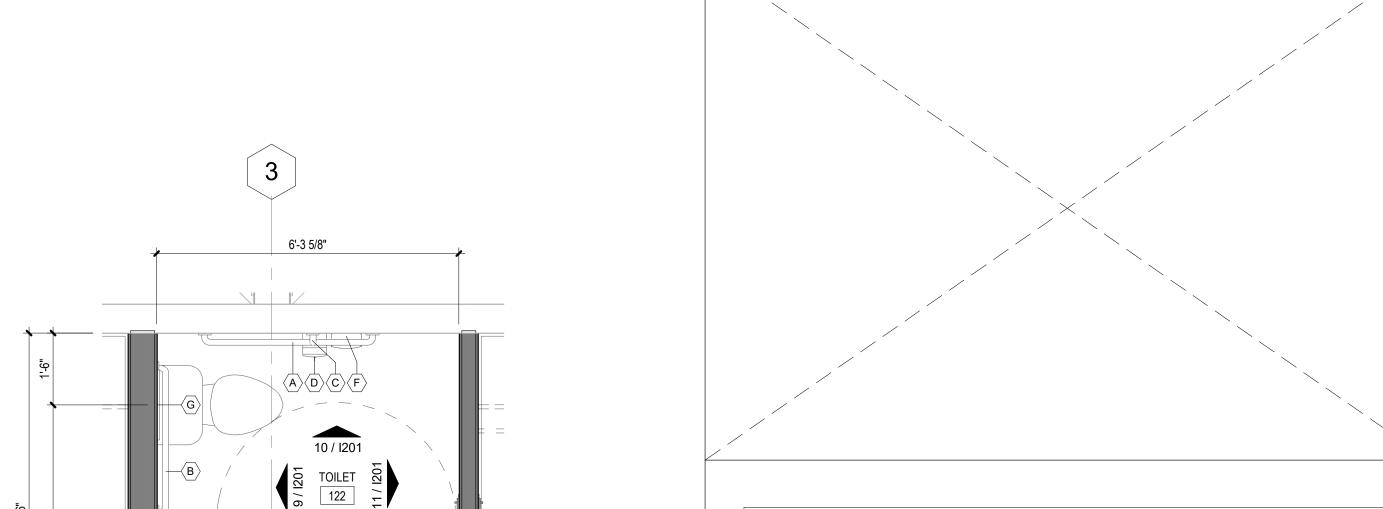
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OVERALL FLOOR PLAN

As indicated





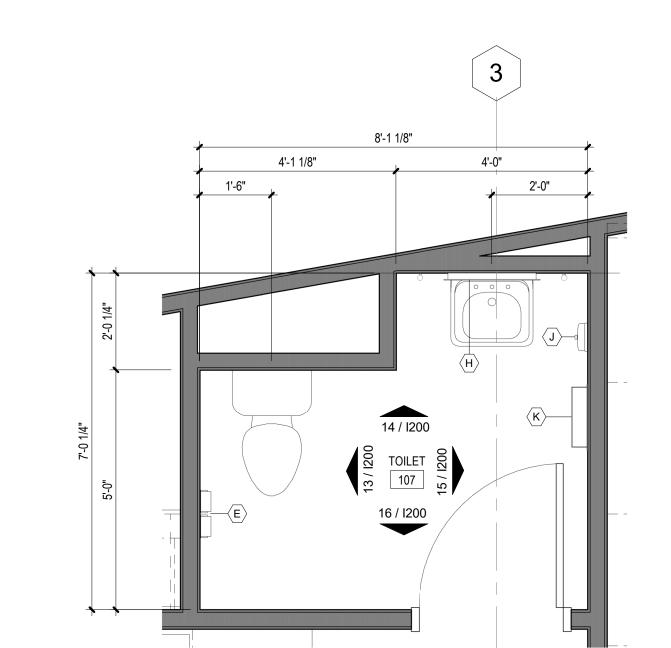
		TOILET ACCESSORY SCH	EDULI	Ε	
TYPE MARK	MFG	DESRIPTION	MODEL	FINISH	COMMENTS
	1				
Α	BOBRICK	42" GRAB BAR	B-6806x42	SATIN SS	3, 7
В	BOBRICK	36" GRAB BAR	B-6806x36	SATIN SS	3, 7
С	BOBRICK	18" GRAB BAR	B-6806x18	SATIN SS	3, 7
D	BOBRICK	SURFACE MOUNTED MULTI-ROLL TOILET TISSUE DISPENSER	B-4288	SATIN SS	3, 6, 7
E	BOBRICK	RECESSED MULTI-ROLL TOILET TISSUE DISPENSER	B-6997	SATIN SS	1, 6, 7
F	BOBRICK	SANITARY NAPKIN DISPOSAL	B-270	SATIN SS	3, 7
G	BOBRICK	RECESSED TOILET SEAT-COVER DISPENSER	B-3013	SATIN SS	1, 4
Н	BOBRICK	LED BACKLIT MIRROR	B-164 2442	SATIN SS	3, 5, 7
J	BOBRICK	SURFACE MOUNTED SOAP DISPENSER	B-4112	SATIN SS	3, 7
K	BOBRICK	RECESSED COMBO TOWEL AND WASTE UNIT	B-3944	SATIN SS	1, 7
L	BRADLEY	RECESSED SPECIMEN PASS-THROUGH CABINET	9813	SATIN SS	1, 7, 8

- RECESSED
 SEMI-RECESSED
 SURFACE MOUNTED
 INSTALL C/L OF UNIT AT 48" A.F.F.
 CENTER ON SINK
 TOILET PAPER DISPENSER SHALL BE 7" MIN. TO 9" MAX. IN FROM EDGE OF W.C.
 MOUNT PER ACCESSIBILITY GUIDELINES, RE: G002
 FOR WALL WITH 6" METAL STUDS
- 8. FOR WALL WITH 6" METAL STUDS

ENLARGED TOILET PLAN-122

12 / 1201

TOILET ACCESSORY SCHEDULE & REMARKS



- A. REFER TO G0.02 AND MANUFACTURER SPECIFICATIONS FOR MOUNTING HEIGHTS.
- B. COORDINATE ALL MOUNTING HEIGHTS W/ PLUMBING FIXTURES TO ALLOW PROPER OPERATION & INFORM ARCHITECT IN WRITING OF ANY CONFLICTS.
- C. REFER TO ELEVATIONS AND GUIDE SHEETS FOR ANY ACCESSORIES THAT MAY NOT SHOW UP ON THE PLANS.
- D. G.C. TO COORDINATE DIRECTLY W/ OWNER TO DETERMINE IF ANY ITEMS WILL BE OWNER PROVIDED, CONTRACTOR INSTALLED; VERIFY ALL ITEMS W/ OWNER PRIOR TO PURCHASING.
- E. ALL TOILET ACCESSORIES LOCATIONS BASED ON PLAN LAYOUT.

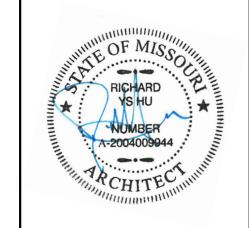
GENERAL NOTES - ENLARGED PLAN

	EXISTING WALL TO REMAIN
	PROPOSED WALL
	EXISTING DOOR TO REMAIN
	PROPOSED DOOR
#)	KEYNOTE, RE: KEYNOTE LEGEND
(#)	EQUIPMENT TAG
W4A2	WALL TAG
	FLOOR DRAIN

FLOOR PLAN LEGEND

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RENOVATION

INTERIOR

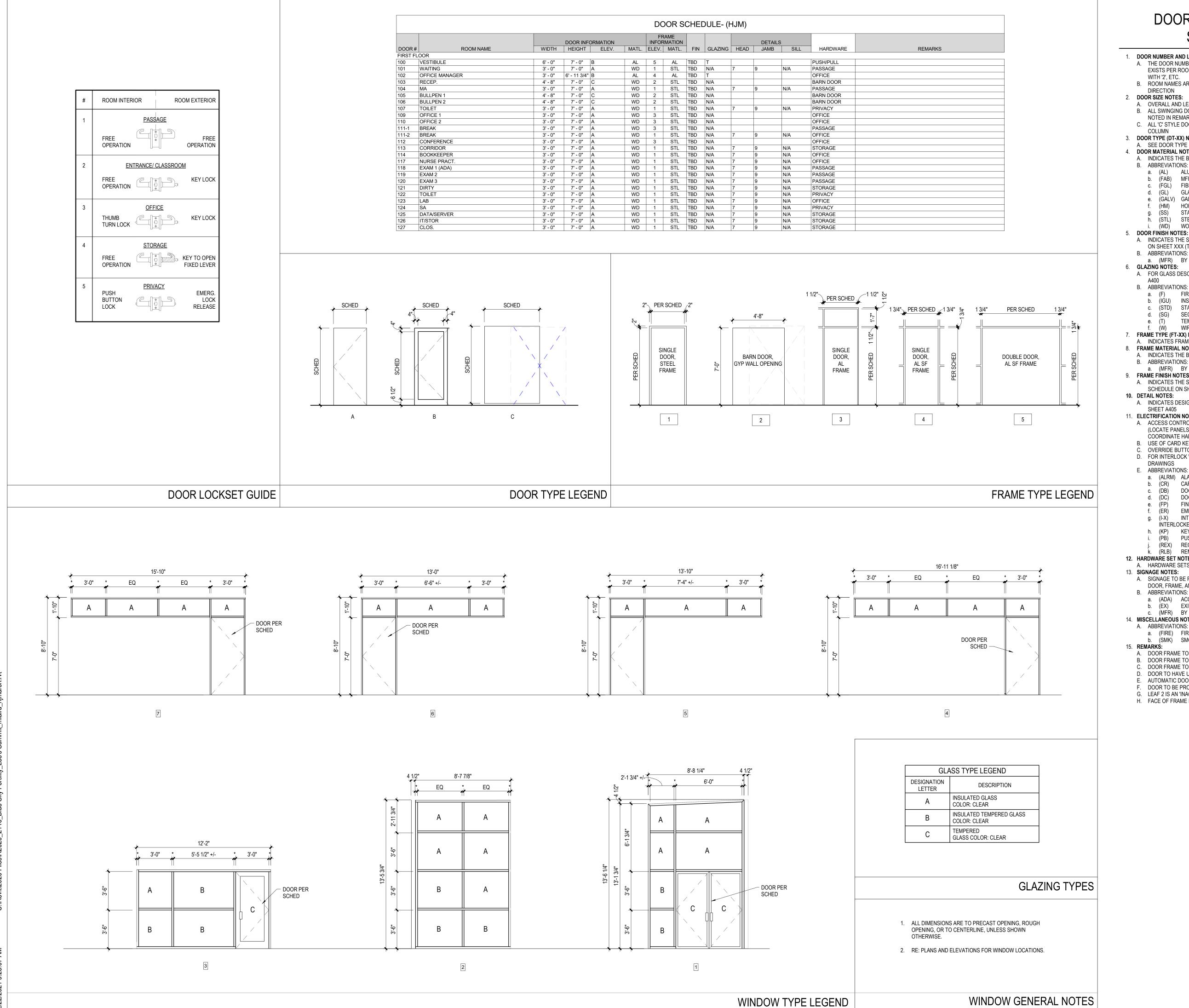
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ENLARGED TOILET PLANS

A150

ENLARGED TOILET PLAN-107
1/2" = 1'-0"
1



DOOR, FRAME, & HARDWARE SCHEDULE NOTES

1. DOOR NUMBER AND LOCATION NOTES:

A. THE DOOR NUMBER MATCHES THE ROOM NUMBER. WHEN MORE THAN ONE DOOR EXISTS PER ROOM, THE FIRST DOOR NUMBER IS FOLLOWED WITH '1', THE SECOND

B. ROOM NAMES ARE INCLUDED AS A REFERENCE AND DO NOT INDICATE DOOR SWING

2. DOOR SIZE NOTES: A. OVERALL AND LEAF WIDTH AND HEIGHT ARE NOMINAL; FIELD VERIFY OPENINGS. B. ALL SWINGING DOORS ARE 1-3/4" THICK WITH 3/4" UNDERCUT UNLESS OTHERWISE

NOTED IN REMARKS COLUMN C. ALL 'C' STYLE DOORS ARE 1-3/4" THICK UNLESS OTHERWISE NOTED IN REMARKS

3. DOOR TYPE (DT-XX) NOTES:

A. SEE DOOR TYPE SCHEDULE ON SHEET A400 4. **DOOR MATERIAL NOTES:**

A. INDICATES THE BASE DOOR CONSTRUCTION MATERIAL B. ABBREVIATIONS:

a. (AL) ALUMINUM b. (FAB) MFR.'S STANDARD 'FABRIC' FINISH

c. (FGL) FIBERGLASS

d. (GL) GLASS e. (GALV) GALVANIZED STEEL

f. (HM) HOLLOW METAL g. (SS) STAINLESS STEEL h. (STĹ)

DOOR FINISH NOTES: A. INDICATES THE SPECIFIC VISIBLE DOOR FINISH; REFER TO FINISH MATERIAL SCHEDULE

ON SHEET XXX (TBD)

i. (WD) WOOD

a. (MFR) BY DOOR MANUFACTURER 6. **GLAZING NOTÉS:**

A. FOR GLASS DESCRIPTIONS, REFER TO INTERIOR GLAZING TYPE SCHEDULE ON SHEET

B. ABBREVIATIONS: FIRE-RESISTANT GLASS a. (F) b. (IGU) INSULATED GLASS UNIT

c. (STD) STANDARD GLASS SECURITY GLASS

d. (SG) e. (T) TEMPERED GLASS f. (W) WIRE GLASS

7. FRAME TYPE (FT-XX) NOTES:

A. INDICATES FRAME CONFIGURATION; REFER TO FRAME TYPE SCHEDULE ON SHEET A400 8. FRAME MATERIAL NOTES:

A. INDICATES THE BASE FRAME CONSTRUCTION MATERIAL B. ABBREVIATIONS: REFER TO DOOR MATERIAL NOTES ABOVE a. (MFR) BY DOOR MANUFACTURER

9. FRAME FINISH NOTES: A. INDICATES THE SPECIFIC VISIBLE FRAME FINISH; REFER TO FINISH MATERIAL

SCHEDULE ON SHEET XXX (TBD)

10. DETAIL NOTES: A. INDICATES DESIGNATIONS (H-X, J-X, S-X) FOR HEAD, JAMB AND SILL DETAILS; REFER TO

SHEET A405

11. ELECTRIFICATION NOTES: A. ACCESS CONTROL PANEL, DEVICES AND POWER SUPPLIES BY SECURITY CONTRACTOR (LOCATE PANELS/POWER SUPPLIES IN NEAREST ELECTRICAL OR DATA ROOM).

COORDINATE HARDWARE AND INSTALLATION WITH SECURITY CONTRACTOR B. USE OF CARD KEYS OR KEYPADS SHALL 'NOT' BE REQUIRED TO EXIT ANY SPACE

C. OVERRIDE BUTTONS SHALL 'NOT' BE REQUIRED FOR NORMAL OPERATION OF DOORS D. FOR INTERLOCK WIRING DIAGRAMS AND SEQUENCE OF OPERATIONS, SEE ELECTRICAL DRAWINGS

E. ABBREVIATIONS:

a. (ALRM) ALARM b. (CR) CARD READER

c. (DB) DOOR BELL

d. (DC) DOOR CONTACT e. (FP) FINGERPRINT READER

EMERGENCY RELEASE g. (I-X) INTERLOCK; NUMBER SHOWN INDICATES GROUP OF DOORS TO BE

INTERLOCKED. LIMIT (1) DOOR IN EACH GROUP TO BE OPEN AT A TIME.

i. (PB) PUSH BUTTON (REX) REQUEST TO EXIT MOTION SENSOR

k. (RLB) REMOTE LOCK BUTTON 12. HARDWARE SET NOTES:

A. HARDWARE SETS ARE DEFINED ON SHEET AXXX (TBD)

13. SIGNAGE NOTES:

A. SIGNAGE TO BE PROVIDED BY SIGNAGE VENDOR; COORDINATE INSTALLATION WITH DOOR, FRAME, AND HARDWARE CONTRACTOR. B. ABBREVIATIONS:

a. (ADA) ACCESSIBILITY:

b. (EX) EXIT: c. (MFR) BY DOOR MANUFACTURER

14. MISCELLANEOUS NOTES: A. ABBREVIATIONS:

a. (FIRE) FIRE DETECTION DEVICE:

b. (SMK) SMOKE DETECTION DEVICE:

15. **REMARKS**: A. DOOR FRAME TO HAVE 4" HIGH HOSPITAL/SANITARY STOPS

B. DOOR FRAME TO BE KNOCK-DOWN TYPE C. DOOR FRAME TO BE FULLY WELDED

D. DOOR TO HAVE UNDERCUT OF 1"

E. AUTOMATIC DOOR F. DOOR TO BE PROVIDED BY STOREFRONT MFR.

G. LEAF 2 IS AN 'INACTIVE' LEAF H. FACE OF FRAME HEAD TO BE 4" DEEP

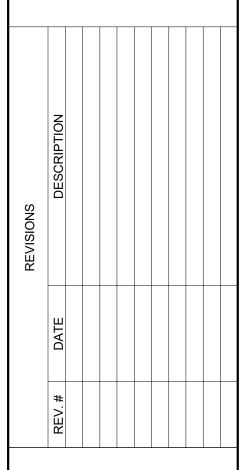
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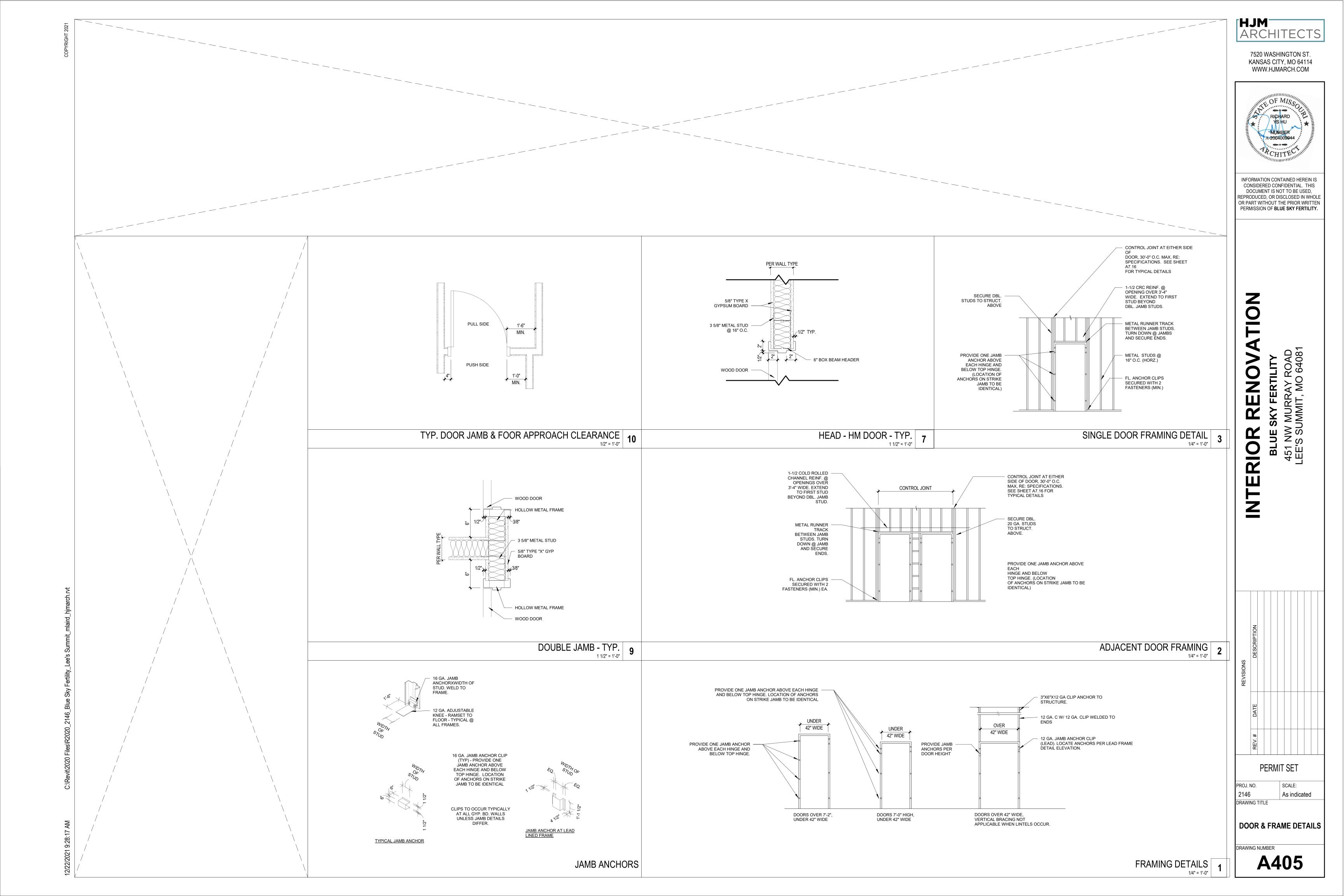
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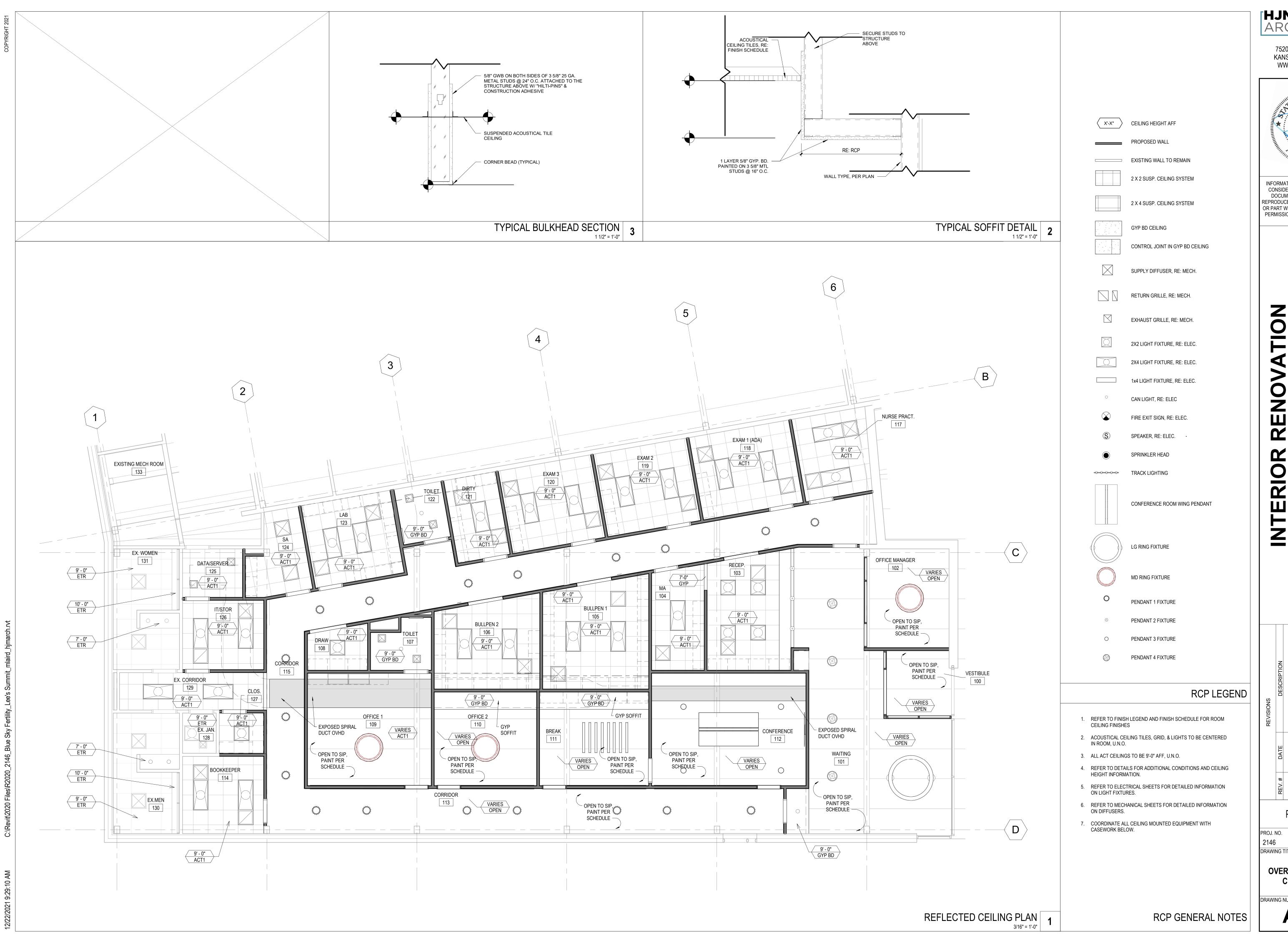
1/4" = 1'-0" DRAWING TITLE

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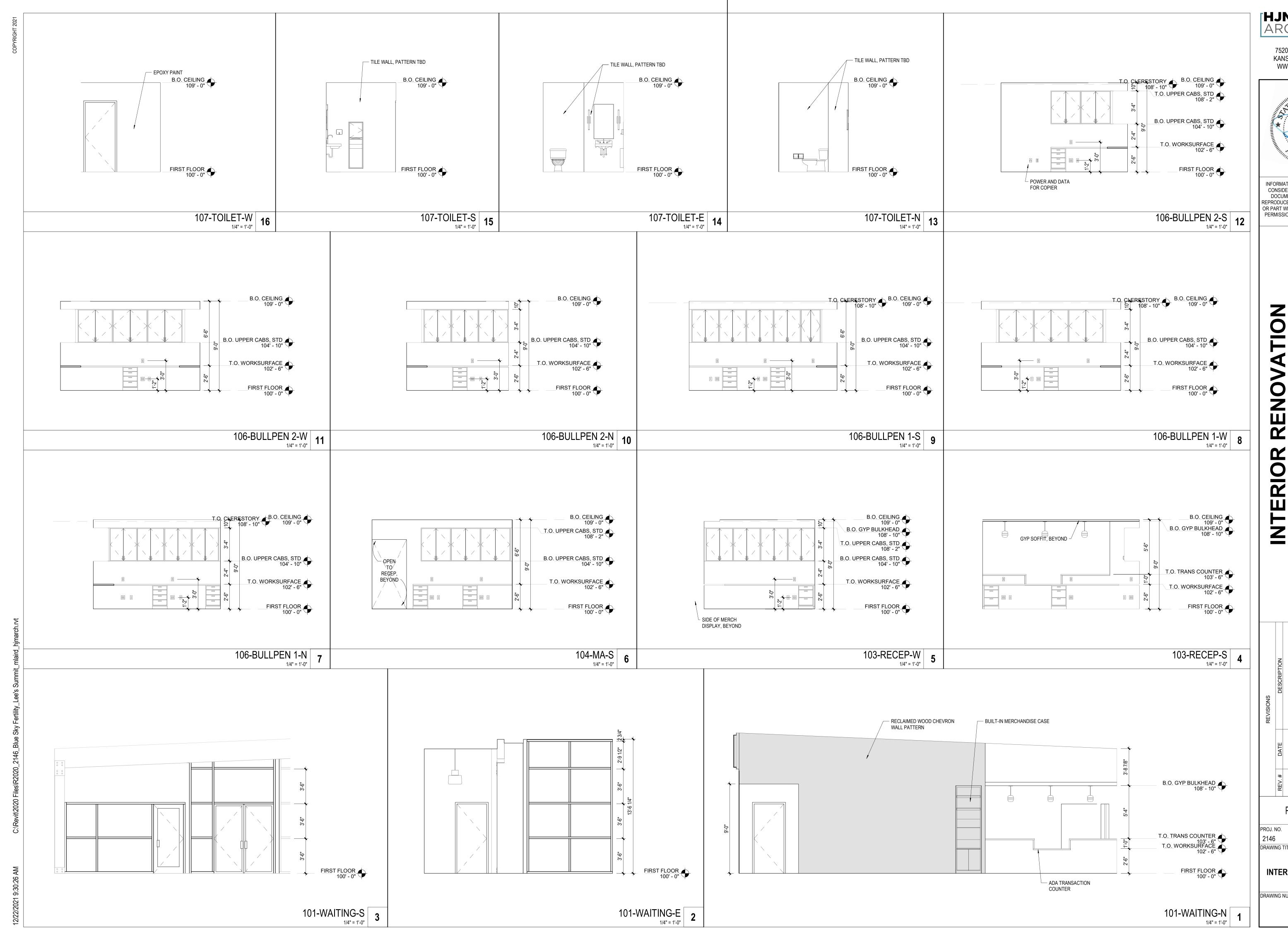
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BLUE SKY FERTILITY 451 NW MURRAY ROAD LEE'S SUMMIT, MO 64081

PERMIT SET

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

INTERIOR ELEVATIONS

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BLUE SKY FERTILITY 451 NW MURRAY ROAD LEE'S SUMMIT, MO 64081

PERMIT SET SCALE:

1/4" = 1'-0"

INTERIOR ELEVATIONS

I201

1. GENERAL PROVISIONS

PLUMBING AND MECHANICAL SYSTEMS OUTLINED.

APPROVAL AS REQUIRED BY THE AUTHORITIES

MANUFACTURERS:

COVERED WITH INSULATION.

UNLESS NOTED OTHERWISE

FROM FINAL ACCEPTANCE.

2. OPERATION AND MAINTENANCE MANUALS:

COUNCIL (AABC) OR NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB). 1) BALANCING SHALL INCLUDE THE BALANCING OF THE EQUIPMENT AND AIR DISTRIBUTION SYSTEMS TO PROVIDE DESIGN QUANTITIES INDICATED AND VERIFICATION OF PERFORMANCE OF ALL EQUIPMENT AND AUTOMATIC CONTROLS.

2) WITH IN 30 DAYS OF THE COMPLETION OF THE TESTING AND BALANCING WORK, SUBMIT THE TEST AND BALANCING REPORT BEARING THE SIGNATURE OF THE TEST AND BALANCE ENGINEER. THI REPORTS SHALL BE CERTIFIED PROOF THAT THE SYSTEMS HAVE BEEN TESTED ADJUSTED AND BALANCED IN ACCORDANCE WITH THE REFERENCED STANDARDS; ARE AN ACCURATE REPRESENTATION OF HOW THE SYSTEMS HAVE BEEN INSTALLED AND ARE OPERATING. REPORTS SHALL BE BOUND IN A VINYL BINDER AND THE BINDER LABELED OR MAY BE AN ELECTRONIC PDF SUBMITTAL

D. DOMESTIC WATER PIPING SHALL BE HYDROSTATICALLY TESTED AT A PRESSURE OF NOT LESS THAN 1-1/2

MECHANICAL SPECIFICATIONS

A. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, NECESSARY FOR THE COMPLETE INSTALLATION OF THE

C. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES AND REGULATIONS

OR CAPPED AS REQUIRED TO KEEP CLEAN AND UNDAMAGED. ALL DAMAGED ITEMS SHALL BE RESTORED TO ORIGINAL CONDITION OR REPLACED. ALL PROTECTIVE COVERING SHALL BE REMOVED BEFORE FINAL

NECESSARY PATCH AROUND ALL OPENINGS SHALL MATCH ADJACENT AREA. COORDINATE ALL ROOFING

G. CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS AGAINST DEFECTS FOR A PERIOD OF ONE YEAR

B. OBTAIN ALL PERMITS, FEES, LICENSES, INSPECTIONS, AND CERTIFICATES OF COMPLIANCE OR

E. DURING CONSTRUCTION, ALL FIXTURES, EQUIPMENT, PIPE, DUCT, ETC. SHALL BE COVERED, PLUGGED

F. PROVIDE ALL NECESSARY CUTTING AND PATCHING OF WALLS, FLOORS, CEILINGS, AND ROOFS AS

MORK WITH OWNER OR RESPONSIBLE PARTY, SO THAT THE EXISTING ROOFING WARRANTY WILL BE

A. DURING THE COURSE OF CONSTRUCTION, COLLECT AND COMPILE OPERATING INSTRUCTIONS, WIRING

B. ALL LITERATURE AND INSTRUCTIONS SHIPPED WITH THE EQUIPMENT SHALL BE SAVED FOR INCLUSION

C. ALL LITERATURE LISTED ABOVE AND ALL PAPERS LISTING WARRANTIES, ETC. SHALL BE BOUND IN A

A. MANUFACTURERS, MODEL NUMBERS, ETC. INDICATED OR SCHEDULED ON THE DRAWINGS SHALL BE

LIMITING COMPETITION. ARTICLES, FIXTURES, ETC. OF EQUAL QUALITY BY MANUFACTURERS SHALL

INTERPRETED AS HAVING ESTABLISHED A STANDARD OF QUALITY AND SHALL NOT BE CONSTRUED AS

BE ACCEPTABLE, SUBJECT TO STRUCTURAL AND ELECTRICAL CONSTRAINTS OF THE PROJECT DESIGN

3-RING BINDER AND LABELED WITH THE PROJECT NAME, ADDRESS, ARCHITECT, ENGINEER,

A. PROVIDE THERMAL OVERLOAD PROTECTION FOR EACH MOTOR PROVIDED BY THIS WORK.

DIAGRAMS, CATALOG CUTS, LUBRICATION AND PREVENTIVE MAINTENANCE INSTRUCTIONS, PARTS LISTS,

OF THE GOVERNMENTAL BODIES HAVING JURISDICTION OVER THE SITE.

ETC. FOR ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT

IN THE OPERATION AND MAINTENANCE MANUALS.

D. ALL TESTING REQUIRED BY AUTHORITIES SHALL BE CONSIDERED PART OF THIS WORK.

F. BEFORE DOMESTIC WATER PIPING IS PLACED IN SERVICE, ALL DOMESTIC WATER DISTRIBUTION SYSTEMS, INCLUDING THOSE FOR COLD WATER AND HOT WATER SYSTEMS, SHALL BE FLUSHED STERILIZED AND CHLORINATED IN ACCORDANCE WITH HEALTH DEPARTMENT REGULATIONS. THE SYSTEMS SHALL BE THOROUGHLY FLUSHED OF ALL DIRT AND FOREIGN MATTER, THEN FILLED WITH WATER TREATED WITH 50 PPM OF CHLORINE. DURING THE FILLING PROCESS, VALVES AND FAUCETS SHALL BE OPENED SEVERAL TIMES TO ASSURE TREATMENT OF THE ENTIRE SYSTEM. THE TREATED WATER SHALL BE LEFT IN THE SYSTEM FOR 24 HOURS AFTER WHICH TIME THE SYSTEM SHALL BE FLUSHED; IF THE RESIDUAL CHLORINE IS NOT LESS THAN 10 PPM, THE FLUSHING SHALL BE REPEATED. AFTER STERILIZATION, SAMPLES OF WATER IN THE SYSTEM SHALL BE APPROVED BY THE BOARD OF HEALTH.

A. PROVIDE AN APPROVED WATER HAMMER ARRESTOR FOR EACH PLUMBING FIXTURE SUPPLY AS REQUIRED BY FIXTURE MANUFACTURER.

B. ALL EXPOSED WASTE PIPE SHALL BE CHROME PLATED BRASS PIPE, NO FERROUS PIPE.

C. PROVIDE CLEANOUTS AT EACH CHANGE OF DIRECTION AND AT 100 FOOT INTERVALS IN STRAIGHT RUNS.

D. PROVIDE ACCESS PANELS FOR ALL CONCEALED VALVES AND TRAPS

E. CLEANOUTS:

1) VINYL TILE FLOOR: JR SMITH #4140, OR EQUAL 2) QUARRY TILE FLOOR: JR SMITH #4200, OR EQUAL 3) CARPETED FLOOR: JR SMITH #4020-Y. OR EQUAL 4) UNFINISHED FLOOR: JR SMITH #4020, OR EQUAL

5) WALL: JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR. F. PROVIDE DIELECTRIC UNIONS WITH APPROPRIATE END CONNECTIONS TO MATCH THE PIPE SYSTEM IN WHICH INSTALLED (SCREWED, SOLDERED, OR FLANGED). PROVIDE DIELECTRIC UNIONS ON ALL PIPING CONNECTIONS TO HOT WATER HEATERS AND EXPANSION TANKS.

G. WATER HEATERS:

1) EVERY WATER HEATER SHALL HAVE AN APPROVED MEANS INSTALLED ON THE COLD WATER SUPPLY LINE ABOVE THE EQUIPMENT TO PREVENT SIPHONING OF A STORAGE WATER HEATER OR TANK. 2) BOTTOM FED WATER HEATERS AND TANKS CONNECT TO WATER HEATERS SHALL HAVE A VACCUM RELIEF VALVE INSTALLED. ANSI Z21.22.

3) STORAGE HEATERS OPERATING ABOVE ATMOSPHERIC PRESSURE SHALL HAVE AN APPROVED PRESSURE RELIEF VALVE AND/OR TEMPERATURE RELIEF VALVE.

H. ALL SEWER PIPING LOCATED INSIDE THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES.

1) INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL 2) INSTALL 3" AND LARGER PIPE AT 1/8" PER FOOT FALL

A. DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING (ABOVEGROUND).

1) TYPE L HARD DRAWN COPPER TUBING, ASTM B-88. a) WROUGHT COPPER SOLDERED FITTINGS, ASTM B75 ALLOY C12200. ANSI B16.22. MS5 SP-104.

b) MECHANICAL PRESS COPPER FITTINGS FOR USE IN PLUMBING OR MECHANICAL APPLICATIONS. ASME B16.22, ASME B16.51, Or ASME B16.18. MECHANICAL PRESS COPPER FITTINGS SHALL CONFORM TO IAPMO PS-117 OR

2) PEX, HIGH-DENSITY CROSS-LINKED POLYETHYLENE TUBING SHALL BE MANUFACTURED TO THE REQUIREMENTS OF ASTM F876 AND MEET THE STANDARD GRADE HYDROSTATIC PRESSURE

RATINGS FROM PLASTIC PIPE INSTITUTE IN ACCORDANCE WITH TR-4/03. (MUST BE INSTALLED PER THE MANUFACTURERS REQUIREMENTS FOR PLENUM USE) a) PEX-A AND PEX-B MEETING ANSI/NSF61 AND ANSI/NSF372 STANDARDS FOR POTABLE WATER SAFETY AND

LEAD-FREE STANDARDS AND MUST BE MARKED WITH "PW-G", "NSF-61-G" OR OTHER NSF-APPROVED MARKING. ASTM F2023 FOR USE WITH CHLORINATED WATER.
(MUST BE INSTALLED PER THE MANUFACTURERS REQUIREMENTS FOR PLENUM USE) b) PEX MECHANICAL, CRIMP/INSERT OR EXPANSION FITTINGS INSTALLED IN ACCORDANCE WITH MANUFACTURER'S

INSTRUCTIONS. PIPE SIZES GIVEN ON THE DRAWINGS ARE NOMINAL COPPER PIPE SIZE, INCREASE PEX PIPING SIZE TO EQUAL OR EXCEED COPPER PIPE INSIDE DIAMETER FOR SUPPLY MAINS. (MUST BE INSTALLED PER THE MANUFACTURERS REQUIREMENTS FOR PLENUM USE)

a) TO BE INSTALLED ON THE FIXTURE SUPPLY TO EACH PLUMBING FIXTURE. D) TO BE INSTALLED ON THE WATER SUPPLY SIDE TO EACH APPLIANCE OR MECHANICAL EQUIPMENT.

. GATE VALVE: JOMAR T/S-301G OR EQUAL. LEAD-FREE NSF 61, ANSI B1.20.1. 2. GLOBE VALVE: JOMAR TGG OR EQUAL.

3. BALL VALVE: JOMAR JP100PXP OR EQUAL COMPACT LEAD FREE BRASS BALL VALVE. UL842, CSA 3371-12 & 3371-92, FM, CALIFORNIA CODE AB1953, NSF61 ANNEX G APPROVED. 4. BALL VALVE: JOMAR T-100NE OR EQUAL. UL842, FM, CSA, NSF 61-8, MSS SP-110

B. DOMESTIC COLD, AND HOT WATER (UNDERGROUND).

a) WROUGHT COPPER SOLDERED FITTINGS, ASTM B75 ALLOY C12200. ANSI B16.22. MSS SP-104. b) MECHANICAL PRESS COPPER FITTINGS FOR USE IN PLUMBING OR MECHANICAL APPLICATIONS. ASME B16.22, ASME B16.51, Or ASME B16.18. MECHANICAL PRESS COPPER FITTINGS SHALL CONFORM TO IAPMO PS-117 OR

2) PEX, HIGH-DENSITY CROSS-LINKED POLYETHYLENE TUBING SHALL BE MANUFACTURED TO THE

REQUIREMENTS OF ASTM F876 AND MEET THE STANDARD GRADE HYDROSTATIC PRESSURE RATINGS FROM PLASTIC PIPE INSTITUTE IN ACCORDANCE WITH TR-4/03. a) PEX-A AND PEX-B MEETING ANSI/NSF61 AND ANSI/NSF372 STANDARDS FOR POTABLE WATER SAFETY AND LEAD-FREE STANDARDS AND MUST BE MARKED WITH "PW-G", "NSF-61-G" OR OTHER NSF-APPROVED

b) PEX MECHANICAL, CRIMP/INSERT OR EXPANSION FITTINGS INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. PIPE SIZES GIVEN ON THE DRAWINGS ARE NOMINAL COPPER PIPE SIZE, INCREASE PEX PIPING SIZE TO EQUAL OR EXCEED COPPER PIPE INSIDE DIAMETER FOR SUPPLY MAINS.

c) HDPE, PIGMENTED BLUE THROUGHOUT, CTS SIZES 1"-2" AWWA C901 4710 DR9 PC250

IPS SIZES 2"-3", AWWA C901 4710 DR11 PC200. C. LEAD CONTENT OF WATER SUPPLY PIPE AND FITTINGS:

MARKING. ASTM F2023 FOR USE WITH CHLORINATED WATER.

1) PIPE AND PIPE FITTINGS, INCLUDING VALVES AND FAUCETS, UTILIZED IN THE WATER SUPPLY SYSTEM SHALL NOT HAVE MORE THAN 8% LEAD CONTENT

2) PIPE, PIPE FITTINGS, JOINTS, VALVES, FAUCETS, AND FIXTURE FITINGS UTILIZED TO SUPPLY WATER FOR DRINKING OR COOKING PURPOSES SHALL COMPLY WITH NSF 372 AND SHALL HAVE A MEIGHTED AVERAGE LEAD CONTENT OF 0.25% OR LESS.

MECHANICAL SPECIFICATIONS (CONTINUED)

D. SANITARY SEWER AND VENTS (UNDERGROUND, INTERIOR TO THE BUILDING). ABS SCHEDULE 40 CELLULAR CORE (FOAM CORE) PIPE AND DWV FITTING SYSTEM:(ASTM F1488) PIPE AND FITTINGS SHALL BE MANUFACTURED FROM ABS COMPOUND WITH A CELL CLASS OF 42222 FOR PIPE AND 32222 FOR FITTINGS AS PER ASTM D 3965 AND CONFORM WITH NATIONAL SANITATION

FOUNDATION (NSF) STANDARD 14. PIPE SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO ASTM F 628 FITTINGS SHALL CONFORM TO ASTM D 2661. SOLVENT CEMENTS SHALL CONFORM TO ASTM D 2235. 2) PVC SCHEDULE 40 CELLULAR CORE (FOAM CORE) PIPE AND DWV FITTING SYSTEM:(ASTM F1488) PIPE AND FITTINGS SHALL BE MANUFACTURED FROM PVC COMPOUND WITH A CELL CLASS OF 11432 PER ASTM D 4396 FOR PIPE AND 12454 PER ASTM D 1784 FOR FITTINGS AND CONFORM WITH NATIONAL SANITATION FOUNDATION (NSF) STANDARD 14. PIPE SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO

ASTM F 891. INJECTION MOLDED FITTINGS SHALL CONFORM TO ASTM D 2665. FABRICATED FITTINGS SHALL CONFORM TO ASTM F 1866. SOLVENT CEMENTS SHALL CONFORM TO ASTM D 2564. 3) PVC SCHEDULE 40 SOLID WALL PIPE AND DWV FITTING SYSTEM:(ASTM D2665) PIPE AND FITTINGS SHALL BE MANUFACTURED FROM PVC COMPOUND WITH A CELL CLASS OF 12454 PER ASTM D 1784 AND CONFORM WITH NATIONAL SANITATION FOUNDATION (NSF) STANDARD 14. PIPE SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO ASTM D 1785 AND ASTM D 2665. INJECTION

MOLDED FITTINGS SHALL CONFORM TO ASTM D 2665. FABRICATED FITTINGS SHALL CONFORM TO ASTM E 1866 SOLVENT CEMENTS SHALL CONFORM TO ASTM D 2564 4) HUBLESS CAST IRON SOIL PIPE AND FITTINGS: HUBLESS CAST IRON PIPE AND FITTINGS SHALL BE MANUFACTURED FROM GRAY CAST IRON AND SHALL CONFORM TO ASTM A 888 AND CISPI STANDARD 301

HUBLESS COUPLINGS SHALL CONFORM TO CISPI STANDARD 310 AND BE CERTIFIED BY NSF® INTERNATIONAL.

5) HUB AND SPIGOT CAST IRON SOIL PIPE AND FITTINGS: HUB AND SPIGOT CAST IRON PIPE AND FITTINGS SHALL BE MANUFACTURED FROM GRAY CAST IRON AND SHALL CONFORM TO ASTM A 74. E. SANITARY SEMER AND VENTS.

(ABOVE GROUND, INTERIOR TO THE BUILDING).) ABS SCHEDULE 40 CELLULAR CORE (FOAM CORE) PIPE AND DWY FITTING SYSTEM:(ASTM F1488) PIPE AND FITTINGS SHALL BE MANUFACTURED FROM ABS COMPOUND WITH A CELL CLASS OF 42222 FOR PIPE AND 32222 FOR FITTINGS AS PER ASTM D 3965 AND CONFORM WITH NATIONAL SANITATION FOUNDATION (NSF) STANDARD 14. PIPE SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO ASTM F 628 FITTINGS SHALL CONFORM TO ASTM D 2661. SOLVENT CEMENTS SHALL CONFORM TO ASTM D 2235.

(NOT FOR USE IN A RETURN AIR PLENUM) 2) PVC SCHEDULE 40 CELLULAR CORE (FOAM CORE) PIPE AND DMV FITTING SYSTEM:(ASTM F1488) PIPE AND FITTINGS SHALL BE MANUFACTURED FROM PVC COMPOUND WITH A CELL CLASS OF 11432 PER ASTM D 4396 FOR PIPE AND 12454 PER ASTM D 1784 FOR FITTINGS AND CONFORM WITH NATIONAL SANITATION FOUNDATION (NSF) STANDARD 14. PIPE SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO ASTM F δ 91. INJECTION MOLDED FITTINGS SHALL CONFORM TO ASTM D 2665. FABRICATED FITTINGS SHALL CONFORM TO ASTM F 1866. SOLVENT CEMENTS SHALL CONFORM TO ASTM D 2564

(NOT FOR USE IN A RETURN AIR PLENUM) B) PVC SCHEDULE 40 SOLID WALL PIPE AND DWV FITTING SYSTEM: (ASTM D 2665) PIPE AND FITTINGS SHALL BE MANUFACTURED FROM PVC COMPOUND WITH A CELL CLASS OF 12454 PER ASTM D 1784 AND CONFORM WITH NATIONAL SANITATION FOUNDATION (NSF) STANDARD 14. PIPE SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO ASTM D 1785 AND ASTM D 2665. INJECTION MOLDED FITTINGS SHALL CONFORM TO ASTM D 2665. FABRICATED FITTINGS SHALL CONFORM TO ASTM F 1866. SOLVENT CEMENTS SHALL CONFORM TO ASTM D 2564. (WHERE APPROVED BY LOCAL JURISDICTIONS) (NOT FOR USE IN A RETURN AIR PLENUM)

HUBLESS CAST IRON SOIL PIPE AND FITTINGS: HUBLESS CAST IRON PIPE AND FITTINGS SHALL BE MANUFACTURED FROM GRAY CAST IRON AND SHALL CONFORM TO ASTM A 866 AND CISPI STANDARD 301. HUBLESS COUPLINGS SHALL CONFORM TO CISPI STANDARD 310 AND BE CERTIFIED BY NSF® INTERNATIONAL. 6) HUB AND SPIGOT CAST IRON SOIL PIPE AND FITTINGS: HUB AND SPIGOT CAST IRON PIPE AND FITTINGS

SHALL BE MANUFACTURED FROM GRAY CAST IRON AND SHALL CONFORM TO ASTM A 74. F. ALL PIPE HANGERS AND SUPPORTS SHALL BE STANDARD PRODUCTS OF GRINNELL, FEE AND MASON, OR ELCEN. HANGER SPACING SHALL BE IN ACCORDANCE WITH MSS-SP-69.

1) PROVIDE, SET, AND PROPERLY LOCATE PIPE SLEEVES AS REQUIRED FOR THIS WORK. ALL SLEEVES SHALL BE OF SUFFICIENT SIZE TO PERMIT PIPE MOVEMENT DUE TO EXPANSION AND CONTRACTION AND TO ACCOMMODATE PIPE INSULATION.

2) INTERIOR PARTITIONS: 16 GAGE GALVANIZED STEEL, PACK BETWEEN PIPE AND SLEEVE WITH FIRE SAFING AND CAULK AT EACH END WITH FIRE RESISTANT SEALAN

3) ROOF: PROSET OR EQUAL, MANUFACTURED PVC SCHEDULE 40 PIPE SLEEVE WITH WATERPROOF SEAL. COORDINATE WITH ROOFING CONTRACTOR AND FLASH AS REQUIRED TO MAINTAIN ROOF WARRANTY.

4) PROTECTION AGAINST CONTACT: METALLIC PIPING, EXCEPT FOR CAST IRON, DUCTILE IRON AND GALVANIZED STEEL SHALL NOT BE PLACED IN DIRECT CONTACT WITH STEEL FRAMING MEMBERS, CONCRETE, OR CINDER WALLS AND FLOORS OR OTHER MASONRY. METALLIC PIPING SHALL NOT BE PLACED IN DIRECT CONTACT WITH CORROSIVE SOIL. SHEATHING USED TO PREVENT DIRECT CONTACT SHALL HAVE A THICKNESS OF GREATER THAN .008: AND THE SHEATHING SHALL BE MADE OF PLASTIC. ANY PIPE THAT PASSES THROUGH A FOUNDATION WALL OR FOOTING SHALL BE PROVIDED WITH A RELIEVING ARCH, OR A PIPE SLEEVE SHALL BE BUILT INTO THE FOUNDATION WALL. THE SLEEVE SHALL BE TMO SIZES GREATER THAN THE PIPE PASSING THOUGH THE WALL OR FOOTING.

5) PLUMBING VENTS: FLASH ROOF VENT INTO ROOFING SYSTEM AS REQUIRED BY THE ROOFING ONTRACTOR TO MAINTAIN EXISTING ROOF MARRANTY. ALL PLUMBING VENT TERMINALS SHALL TERMINATE A MINIMUM OF 12" ABOVE ROOF OR EQUAL TO HEIGHT OF PARAPET, WHICHEVER IS GREATER

H. PROVIDE CHROME PLATED ESCUTCHEONS ON ALL PIPE ENTERING FINISHED AREAS.

8. MATER HEATERS A. COMMERCIAL, LIGHT-DUTY, STORAGE, ELECTRIC, DOMESTIC-WATER HEATERS:

1. STANDARD: UL 174

2. STORAGE-TANK CONSTRUCTION: STEEL, VERTICAL ARRANGEMENT.

a. PRESSURE RATING: 150 PSIG. b. INTERIOR FINISH: COMPLY WITH NSF 61 AND NSF 372 BARRIER MATERIALS FOR POTABLE-WATER TANK

LININGS, INCLUDING EXTENDING LINING MATERIAL INTO TAPPINGS. 3. FACTORY-INSTALLED, STORAGE-TANK APPURTENANCES:

a. ANODE ROD: REPLACEABLE MAGNESIUM

b. DIP TUBE: REQUIRED UNLESS COLD-WATER INLET IS NEAR BOTTOM OF TANK.

C. DRAIN VALVE: CORROSION-RESISTANT METAL WITH HOSE-END CONNECTION. d. INSULATION: COMPLY WITH ASHRAE/IES 90.

e. JACKET: STEEL WITH ENAMELED FINISH OR HIGH-IMPACT COMPOSITE MATERIAL.

F. HEAT-TRAP FITTINGS: INLET TYPE IN COLD-WATER INLET AND OUTLET TYPE IN HOT-WATER OUTLET.

g. HEATING ELEMENTS: ELECTRIC, SCREW-IN IMMERSION TYPE.

h. TEMPERATURE CONTROL: ADJUSTABLE THERMOSTAT . SAFETY CONTROL: HIGH-TEMPERATURE-LIMIT CUTOFF DEVICE OR SYSTEM.

RELIEF VALVE: ASME RATED AND STAMPED FOR COMBINATION TEMPERATURE-AND-PRESSURE RELIEF VALVES, INCLUDE RELIEVING CAPACITY AT LEAST AS GREAT AS HEAT INPUT, AND INCLUDE PRESSURE

SETTING LESS THAN WORKING-PRESSURE RATING OF DOMESTIC-WATER HEATER. SELECT RELIEF VALVE WITH SENSING ELEMENT THAT EXTENDS INTO STORAGE TANK.

B. DOMESTIC-WATER EXPANSION TANKS:

1. DESCRIPTION: STEEL, PRESSURE-RATED TANK CONSTRUCTED WITH WELDED JOINTS AND FACTORY-INSTALLED, BUTYL-RUBBER DIAPHRAGM. INCLUDE AIR PRECHARGE TO MINIMUM SYSTEM-OPERATING PRESSURE AT TANK.

2. CONSTRUCTION: a. TAPPINGS: FACTORY-FABRICATED STEEL, WELDED TO TANK BEFORE TESTING AND LABELING.

INCLUDE ASME B1.20.1 PIPE THREAD b. INTERIOR FINISH: COMPLY WITH NSF 61 AND NSF 372 BARRIER MATERIALS FOR POTABLE-WATER TANK LININGS, INCLUDING EXTENDING FINISH INTO AND THROUGH TANK FITTINGS AND OUTLETS. C. AIR-CHARGING VALVE: FACTORY INSTALLED.

3. CAPACITY AND CHARACTERISTICS: a. WORKING-PRESSURE RATING: 150 PSIG

9. INSULATION AND DUCT LINING:

A. ALL INSULATIONS AND ACCESSORIES SHALL HAVE A FIRE HAZARD CLASSIFICATION WITH A FLAME SPREAD RATING OF NOT OVER 25, A FUEL CONTRIBUTION RATING OF NOT OVER 50, AND A SMOKE DEVELOPED RATING OF NOT OVER 50, IN ACCORDANCE WITH NFPA.

B. PIPE INSULATION - ABOVE GRADE:

1) THE PIPING INSULATION USED SHALL HAVE A THERMAL CONDUCTIVITY OF 0.27 Btu PER in/hr*sqft*f° OR LESS.

2) FIBERGLASS INSULATION WITH FACTORY APPLIED VAPOR BARRIER, ASJ JACKET, FACTORY APPLIED RESSURE SEALING LONGITUDE LAP JOINT, NO STAPLES, ZESTON PREMOLDED PVC FITTING COVERS. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

3) FLEXIBLE CLOSED CELL ELASTOMERIC THERMAL INSULATION, UNSLIT OR PRESLIT WITH PRESSURE SENSITIVE ADHESIVE SYSTEM FOR CLOSURE AND VAPOR SEALING, EQUAL TO ARMSTRONG AP ARMAFLEX OR ARMAFLEX 2000.

4) FOR NON CIRCULATING SYSTEMS, THE FIRST & FEET OF INLET AND OUTLET PIPING BETWEEN THE TANK AND THE HEAT TRAP (INCLUDING THE HEAT TRAP) MUST BE INSULATED 5) FOR CIRCULATING SYSTEMS, ALL HOT WATER PIPING IN THE CIRCULATION LOOP MUST BE INSULATED

AS SPECIFIED BELOW. 6) INSULATION SCHEDULE: a) DOMESTIC COLD WATER b) DOMESTIC HOT WATER

C) HOT WATER RECIRCULATING d) CONDENSATE DRAINS INSIDE BUILDING 1/2" C. EQUIPMENT INSULATION:

RECOMMENDATIONS.

1) FLEXIBLE FIBERGLASS: GLASS FIBER INSULATION, ASTM C 553, TYPE 1, CLASS B-4, SEMI-RIGID BOARD, WITH FACTORY LAMINATED KRAFT ALUMINUM FOIL (ALL SERVICE JACKET), VAPOR BARRIER, OWENS/CORNING PIPE AND TANK INSULATION.

D. DUCTWORK: ACOUSTICAL INSULATION. 1) DUCT LINING: 2 LB/CF, THICKNESS AS SCHEDULED, AIR STREAM SIDE COATED, INSTALL PER SMACNA STANDARDS.

a) DUCT LINING SCHEDULE (1) RECTANGULAR SUPPLY DUCT 1/2" : THROUGHOUT THE FIRST 10 FEET OF DUCT. 1/2" : THROUGHOUT THE FIRST 10 FEET OF DUCT. (2) RETURN AIR DUCT

E. DUCTWORK: THERMAL INSULATION 1) DUCT COVERING: 3/4 LB/CF, FIBERGLASS BLANKET WITH FACTORY APPLIED VAPOR BARRIER AND FACING, THICKNESS AS SCHEDULED, INSTALLATION IN ACCORDANCE WITH MANUFACTURERS

a) DUCT COVERING SCHEDULE: MINIMUM R-6 (1) ROUND SUPPLY DUCT (2) RECTANGULAR SUPPLY DUCT (3) RETURN AIR DUCT (4) BYPASS AIR DUCT

MECHANICAL SPECIFICATIONS (CONTINUED)

2) EXPOSED SPIRAL DUCT

2) ROUND AND OVAL SPIRAL SEAM DUCT:

a) DOUBLE WALL SPIRAL - DOUBLE WALL INSULATED SPIRAL DUCT AND FITTINGS WITH PERFORATED 1"LINER WITH A K VALUE OF 0.27.

A. ALL DUCTWORK, UNLESS OTHERWISE INDICATED, SHALL BE FABRICATED FROM GALVANIZED SHEET STEEL COMPLYING WITH ASTM A 527, LOCKFORMING QUALITY, WITH G 90 ZINC COATING IN ACCORDANCE WITH ASTM A 525; AND MILL PHOSPHATIZED FOR EXPOSED LOCATIONS.

B. WHERE DUCTWORK IS INDICATED TO BE EXPOSED TO VIEW IN OCCUPIED SPACES, PROVIDE MATERIALS WHICH ARE FREE FROM VISUAL IMPERFECTIONS INCLUDING PITTING, SEAM MARKS, ROLLER MARKS. STAINS AND DISCOLORATIONS, AND OTHER IMPERFECTIONS, INCLUDING THOSE WHICH WOULD IMPAIR

C. DUCTWORK, METAL GAUGES, REINFORCING, ETC. SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA

"HVAC DUCT CONSTRUCTION STANDARDS," LATEST EDITION FOR A 2 INCH WATER GAUGE STATIC 1) RECTANGULAR DUCT:

NOT LESS THAN 1.5 DUCT WIDTH OR SQUARE ELBOW WITH DOUBLE WALL STREAMLINE VANES. b) RETURN AIR ACOUSTICAL ELBOMS AND SOUND BOOTS SHALL BE A SQUARE ELBOM WITH NO TURNING VANES. c) SLOPES FOR TRANSITIONS OR OTHER CHANGES IN DIMENSIONS SHALL BE MINIMUM 1 TO 3.

a) ELBOWS, UNLESS INDICATED OTHERWISE SHALL BE CONSTRUCTED WITH CENTERLINE RADIUS OF

a) PROVIDE RADIUS TYPE FITTINGS FABRICATED OF MULTIPLE SECTIONS WITH MAXIMUM 15 DEGREE CHANGE OF DIRECTION PER SECTION. UNLESS SPECIFICALLY DETAILED OTHERWISE USE 45 DEGREE LATERALS FOR BRANCH TAKEOFF CONNECTIONS. WHERE 90 DEGREE BRANCHES ARE INDICATED PROVIDE CONICAL TYPE TEES.

b) SLOPES FOR TRANSITIONS OR OTHER CHANGES IN DIMENSIONS SHALL BE MINIMUM 1 TO 3. c) AS AN OPTION, PROVIDE FACTORY-FABRICATED DUCT AND FITTINGS, IN LIEU OF SHOP-FABRICATED DUCT AND FITTINGS.

(1) ELBOWS: ONE PIECE CONSTRUCTION FOR 90 DEGREES AND 45 DEGREE ELBOW 14" AND SMALLER. PROVIDE MULTIPLE GORE CONSTRUCTION FOR LARGER DIAMETERS WITH STANDING SEAM CIRCUMFERENTIAL JOINT.

(2) DIVIDED FLOW FITTINGS: 90 DEGREE TEES, CONSTRUCTED WITH SADDLE TAP SPOT WELDED AND BONDED TO DUCT FITTING BODY. d) ROUND LONGITUDINAL SEAM DUCT. USE FOR RIGID METAL DUCT ON LEAVING SIDE OF DUCT IN CONCEALED LOCATIONS FOR EXTENSION TO FLEX FOR DIFFUSERS, UNLESS OTHERWISE

D. DUCT SIZES SHOWN ON THE DRAWINGS ARE SHEETMETAL SIZES, ALLOWANCE FOR DUCT LINER HAS BEEN MADE WHERE APPLICABLE.

E. INSTALLATION OF METAL DUCTWORK:

1) GENERAL: ASSEMBLE AND INSTALL DUCTWORK IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES WHICH WILL ACHIEVE AIR-TIGHT SYSTEMS (MAXIMUM 5% LEAKAGE), WITH NO OBJECTIONABLE NOISE, AND CAPABLE OF PERFORMING INDICATED SERVICE. INSTALL EACH RUN MITH MINIMUM NUMBER OF JOINTS. ALIGN DUCTWORK ACCURATELY WITH INTERNAL SURFACES SMOOTH, SUPPORT DUCTS RIGIDLY WITH SUITABLE STRAPS, BRACES, HANGERS AND ANCHORS IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS" LATEST EDITION. DUCT HANGERS SHALL BE OF THE TYPE WHICH WILL HOLD DUCTS TRUE-TO-SHAPE AND TO PREVENT BUCKLING. SUPPORT VERTICAL DUCTS AT EVERY FLOOR.

2) AUXILIARY STEEL: PROVIDE AUXILIARY STEEL AS REQUIRED TO ADEQUATELY SUPPORT DUCTWORK.

3) ROUTING: LOCATE DUCTWORK RUNS, EXCEPT AS OTHERWISE INDICATED, VERTICALLY AND HORIZONTALLY AND AVOID DIAGONAL RUNS WHEREVER POSSIBLE. LOCATE RUNS AS INDICATED BY DIAGRAMS, DETAILS AND NOTATIONS OR, IF NOT OTHERWISE INDICATED, RUN DUCTWORK IN SHORTEST ROUTE WHICH DOES NOT OBSTRUCT USABLE SPACE OR BLOCK ACCESS FOR SERVICING BUILDING AND ITS EQUIPMENT. HOLD DUCTS CLOSE TO WALLS, OVERHEAD CONSTRUCTION, COLUMNS, AND OTHER STRUCTURAL AND PERMANENT ENCLOSURE ELEMENTS OF BUILDING. WHEREVER POSSIBLE IN FINISHED AND OCCUPIED SPACES, CONCEAL DUCTWORK FROM VIEW, BY LOCATING IN MECHANICAL SHAFTS, HOLLOW WALL CONSTRUCTION OR ABOVE SUSPENDED CEILINGS. DO NOT ENCASE HORIZONTAL RUNS IN SOLID PARTITIONS, EXCEPT AS SPECIFICALLY SHOWN. COORDINATE LAYOUT WITH SUSPENDED CEILING AND LIGHTING LAYOUTS AND SIMILAR FINISHED WORK.

4) DO NOT ROUTE DUCTWORK THROUGH ELECTRICAL EQUIPMENT SPACES AND ENCLOSURES, UNLESS INDICATED OTHERWISE.

a) WHERE DUCTS PASS THROUGH INTERIOR PARTITIONS OR EXTERIOR WALLS, AND ARE EXPOSED TO VIEW, CONCEAL SPACE BETWEEN OPENING AND DUCT OR DUCT INSULATION WITH SHEET METAL FLANGES OF SAME GAGE AS DUCT. OVERLAP OPENING ON 4 SIDES BY AT LEAST 1-

b) WHERE DUCTS PASS THROUGH FIRE-RATED FLOORS, WALLS, OR PARTITIONS, PROVIDE FIRESTOPPING BETWEEN DUCT AND WALL.

5) COORDINATION: COORDINATE DUCT INSTALLATIONS WITH INSTALLATION OF ACCESSORIES DAMPERS, COIL FRAMES, EQUIPMENT, CONTROLS, AND OTHER ASSOCIATED WORK OF THE DUCTWORK

7) INSTALLATION: INSTALL METAL DUCTWORK IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS", LATEST EDITION

F. EQUIPMENT CONNECTIONS: 1) CONNECT METAL DUCTWORK TO EQUIPMENT AS INDICATED, PROVIDE FLEXIBLE CONNECTION FOR EACH DUCTWORK CONNECTION TO EQUIPMENT MOUNTED ON VIBRATION ISOLATORS, AND/OR EQUIPMENT CONTAINING ROTATING MACHINERY. PROVIDE ACCESS DOORS AS REQUIRED.

G. SEAL ALL CONCEALED DUCTWORK JOINTS WITH NON-HARDENING, NON-MIGRATING MASTIC SEALANT, AS RECOMMENDED FOR SEALING SEAMS AND JOINTS IN DUCTWORK. OIL BASE CAULKING AND GLAZING COMPOUNDS SHALL NOT BE ACCEPTABLE. DUCTS SHALL BE SEALED TO THE CLASS LEVEL LISTED BELOW.

1) UNCONDITIONED SPACES CLASS B CLASS A CLASS C 2) CONDITIONED SPACES (PLENUM) CLASS C CLASS B CLASS B SUPPLY < 2" M.C. SUPPLY > 2" M.C. EXHAUST

11. FLEXIBLE DUCT:

1/2". FASTEN TO DUCT AND WALL.

A. ATCO #086 (R-6), OR EQUAL B. FACTORY APPLIED INSULATION AND VAPOR BARRIER, 1-1/2" THICK.

C. MAXIMUM LENGTH OF 5'-O".

12. EXHAUST FANS:

A. CENTRIFUGAL TYPE FAN WITH CHARACTERISTICS AND CAPACITY AS SCHEDULED, ELECTRICALLY POWERED SUITABLE FOR MOUNTING ON ROOF CURB, DIRECT OR BELT DRIVEN, HEAVY GAUGE SPUN-ALUMINUM WEATHERPROOF HOUSINGS OF THE HOODED DOME OR UPBLAST TYPE. PROVIDE PERMANENT SPLIT-CAPACITOR TYPE MOTOR FOR DIRECT DRIVEN FANS, AND CAPACITOR-START, INDUCTION-RUN TYPE MOTOR

B. CENTRIFUGAL CEILING FANS SHALL BE ELECTRICALLY POWERED CENTRIFUGAL TYPE FAN SUITABLE FOR MOUNTING IN THE CEILING WITH A PERFORATED OFF-WHITE METAL GRILLE WITH A THUMBSCREW ATTACHMENT FOR EASY ACCESS TO FAN HOUSING. UNIT SHALL CONSIST OF A GALVANIZED STEEL HOUSING LINED WITH ACOUSTICAL INSULATION AND SHALL INCLUDE AN INTEGRAL BACKDRAFT DAMPER ON FAN DISCHARGE. MOTOR SHALL BE A PERMANENT SPLIT-CAPACITOR TYPE MOTOR, PERMANENTL' LUBRICATED, WITH THERMAL OVERLOAD PROTECTION. PROVIDE DISCONNECT SWITCH OR OTHER MEANS

OF DISCONNECT AT MOTOR IN FAN HOUSING. 13. FAN POWERED TERMINALS - PARALLEL FLOW (VARIABLE)

DEDUCTED FROM THE SOUND POWER.

A. FURNISH AND INSTALL PARALLEL FLOW PARALLEL FAN POWERED TERMINALS OF THE SIZES AND CAPACITIES SHOWN ON THE PLANS. SPACE LIMITATIONS SHALL BE REVIEWED CAREFULLY TO ENSURE THAT ALL TERMINALS MILL FIT THE AVAILABLE SPACE.

B. TERMINALS SHOULD BE CERTIFIED UNDER THE ARI STANDARD 880 CERTIFICATION PROGRAM AND CARRY THE C. THE TERMINAL SHALL BE DESIGNED, BUILT, AND TESTED AS A SINGLE UNIT INCLUDING MOTOR AND FAN

ASSEMBLY, PRIMARY AIR DAMPER ASSEMBLY, WATER OR ELECTRIC HEATING COILS, AND ACCESSORIES AS SHIPPED. ALL ELECTRICAL COMPONENTS SHALL BE UL LISTED AND INSTALLED IN ACCORDANCE WITH UL STANDARD 1995. ELECTRICAL CONNECTION SHALL BE SINGLE POINT. ALL ELECTRICAL COMPONENTS, INCLUDING LOW VOLTAGE CONTROLS, SHALL BE MOUNTED IN SHEET METAL CONTROL ENCLOSURES. THE ENTIRE TERMINAL SHALL BE ETL LISTED AS A COMPLETE ASSEMBLY.

D. THE TERMINAL CASING SHALL BE MINIMUM 22-GAUGE GALVANIZED STEEL, INTERNALLY LINED WITH DUAL DENSITY INSULATION WHICH COMPLIES WITH UL 181 AND NFPA 90A. ANY EXPOSED INSULATION EDGES SHALL BE COATED WITH NFPA 90A APPROVED SEALANT TO PREVENT ENTERTAINMENT OF FIBERS IN THE AIRSTREAM. THE TERMINAL SHALL HAVE A ROUND DUCT COLLAR FOR THE PRIMARY AIR CONNECTION AND A RECTANGULAR DISCHARGE SUITABLE FOR FLANGED DUCT CONNECTION. THE CASING SHALL BE DESIGNED FOR HANGING BY SHEET METAL

E. PROVIDE 1" THICK THROMAMAY TYPE FILTERS ON THE RETURN AIR OPENING OF THE UNIT. F. THE FAN SHALL BE CONSTRUCTED OF STEEL AND HAVE A FORWARD CURVED, DYNAMICALLY BALANCED WHEEL WITH DIRECT DRIVE MOTOR. THE MOTOR SHALL BE SUITABLE FOR 120, 208, 240, OR 277 VOLT, 60 CYCLE, SINGLE PHASE POWER. THE MOTOR SHALL BE OF ENERGY EFFICIENT DESIGN, PERMANENT SPLIT CAPACITOR TYPE, WITH INTEGRAL THERMAL OVERLOAD PROTECTION AND PERMANENTLY LUBRICATED BEARINGS, AND BE SPECIFICALLY DESIGNED FOR USE WITH AN SCR FOR FAN SPEED ADJUSTMENT. FAN ASSEMBLY SHALL INCLUDE A

TUNED SPRING STEEL SUSPENSION AND ISOLATION BETWEEN MOTOR AND FAN HOUSING. G. THE TERMINALS SHALL UTILIZE A MANUAL SCR, WHICH ALLOWS CONTINUOUSLY ADJUSTABLE FAN SPEED FROM MAXIMUM TO MINIMUM, AS A MEANS OF SETTING FAN AIRFLOW. SETTING FAN AIRFLOW WITH ANY DEVICE THAT RAISES THE PRESSURE ACROSS THE FAN TO REDUCE AIRFLOW IS NOT ACCEPTABLE. THE SPEED CONTROL SHALL INCORPORATE A MINIMUM VOLTAGE STOP TO INSURE THAT THE MOTOR CANNOT OPERATE IN A STALL

H. THE TERMINALS SHALL INCLUDE A GASKETED BACKDRAFT DAMPER AT THE FAN SECTION DISCHARGE TO PREVENT PRIMARY AIR FROM FLOWING BACK THROUGH THE FAN SECTION INTO THE RETURN AIR PLENUM. SOUND RATINGS FOR THE TERMINALS SHALL NOT EXCEED 30 NC AT 1.5" INLET STATIC PRESSURE, AND DISCHARGE STATIC PRESSURE OF 0.5". SOUND PERFORMANCE SHALL BE ARI CERTIFIED. THE RADIATED AND

DISCHARGE PATH ATTENUATION FUNCTION FOR THE SPECIFIED NC SHALL BE BASED UPON FACTORS FOUND IN

ARI STANDARD 885-98 AND IN THE PRECEDING TABLES. NO ADDITIONAL ATTENUATION FACTORS SHALL BE

MECHANICAL SPECIFICATIONS (CONTINUED)

J. ELECTRIC HEATING COILS

1. ELECTRIC COILS SHALL BE SUPPLIED AND INSTALLED ON THE TERMINAL BY THE TERMINAL MANUFACTURER. COIL SHALL BE INTEGRAL WITH THE TERMINAL. ELEMENTS SHALL BE 80/20 NICKEL CHROME, SUPPORTED BY CERAMIC ISOLATORS A MAXIMUM OF 3½ INCHES APART, STAGGERED FOR MAXIMUM THERMAL TRANSFER AND ELEMENT LIFE, AND BALANCED TO ENSURE EQUAL OUTPUT PER STEP. THE INTEGRAL CONTROL PANEL SHALL BE HOUSED IN A NEMA 1 ENCLOSURE, WITH HINGED ACCESS DOOR FOR

ACCESS TO ALL CONTROLS AND SAFETY DEVICES. 2. ELECTRIC COILS SHALL CONTAIN A PRIMARY AUTOMATIC RESET THERMAL CUTOUT PER ELEMENT DIFFERENTIAL PRESSURE AIRFLOW SWITCH FOR PROOF OF FLOW, AND LINE TERMINAL BLOCK, COIL SHALL INCLUDE AN INTEGRAL DOOR INTERLOCK TYPE DISCONNECT SWITCH, WHICH WILL NOT ALLOW THE ACCESS DOOR TO BE OPENED WHILE POWER IS ON. NON-INTERLOCKING TYPE DISCONNECTS ARE NOT ACCEPTABLE. ALL INDIVIDUAL COMPONENTS SHALL BE UL LISTED OR RECOGNIZED

14. VARIABLE AIR VOLUME TERMINALS

A. FURNISH AND INSTALL SINGLE DUCT, VARIABLE AIR VOLUME TERMINALS OF THE SIZES AND CAPACITIES SHOWN IN THE PLANS.

B. TERMINALS SHALL BE CERTIFIED UNDER THE ARI STANDARD 880 CERTIFICATION PROGRAM AND CARRY THE ARI

THE TERMINAL CASING SHALL BE MINIMUM 22-GAUGE GALVANIZED STEEL. INTERNALLY LINED WITH 1/3-INCH DUAL DENSITY INSULATION WHICH COMPLIES WITH UL 181 AND NFPA 90A. ALL EXPOSED INSULATION EDGES SHALL BE COATED WITH NFPA 90A APPROVED SEALANT TO PREVENT ENTRAINMENT OF FIBERS IN THE AIRSTREAM. THE DISCHARGE CONNECTION SHALL BE SLIP AND DRIVE CONSTRUCTION FOR ATTACHMENT TO METAL DUCTWORK. THE CASING SHALL BE CONSTRUCTED TO HOLD LEAKAGE TO THE MAXIMUM VALUES SHOWN IN THE CASING LEAKAGE TABLE.

D. THE DAMPER SHALL BE HEAVY GAUGE STEEL WITH SHAFT ROTATING IN DELRIN® SELF-LUBRICATING BEARINGS. NYLON BEARINGS ARE NOT ACCEPTABLE. SHAFT SHALL BE CLEARLY MARKED ON THE END TO INDICATE DAMPER POSITION. STICKERS OR OTHER REMOVABLE MARKINGS ARE NOT ACCEPTABLE. THE DAMPER SHALL INCORPORATE A MECHANICAL STOP TO PREVENT OVERSTROKING AND A SYNTHETIC SEAL TO LIMIT CLOSE-OFF LEAKAGE TO THE MAXIMUM VALUES SHOWN IN THE DAMPER LEAKAGE TABLE

E. ACTUATORS SHALL BE CAPABLE OF SUPPLYING AT LEAST 35-INCH LBS, OF TORQUE TO THE DAMPER SHAFT

AND SHALL BE MOUNTED EXTERNALLY FOR SERVICE ACCESS. TERMINALS WITH INTERNAL ACTUATOR MOUNTING OR LINKAGE CONNECTION MUST INCLUDE GASKETED ACCESS PANEL, REMOVABLE WITHOUT DISTURBING DUCTWORK, CASING WITH ACCESS PANEL SHALL BE CONSTRUCTED TO HOLD LEAKAGE TO THE MAXIMUM VALUES SHOWN IN THE CASING LEAKAGE TABLE.

F. AT AN INLET VELOCITY OF 2000 FPM, THE MINUMUM STATIC PRESSURE REQUIRED TO OPERATE ANY TERMINAL SIZE SHALL NOT EXCEED 0.13-INCH WG FOR THE BASIC TERMINAL.

G. SOUND RATINGS FOR THE TERMINAL SHALL NOT EXCEED 30 NG AT 1.5" STATIC PRESSURE. SOUND PERFORMANCE SHALL BE ARI CERTIFIED 15. SMOKE DETECTORS:

B. DUCT DETECTOR REMOTE TEST STATION SHALL BE SIMPLEX #4098-9842 WITH REMOTE ALARM INDICATOR,

A. UNITS MOUNTED IN THE DUCTMORK SHALL BE A DUCT MOUNTED UL LISTED PHOTO-ELECTRIC SELF-CONTAINED SMOKE DETECTOR WITH HOUSING. UNITS SHALL BE EQUAL TO SIMPLEX #4098-9687. THE SAMPLING TUBE SHALL BE #2098-9804, LENGTH AS REQUIRED FOR DUCT

POWER-ON INDICATOR, TONE-ALERT, TONE-ALERT SILENCE SMITCH, AND TEST/RESET SMITCH.

1) DEVICES SHALL BE MOUNTED IN APPROVED LOCATION AS INDICATED ON THE FLOOR PLANS OR AS DIRECTED BY LOCAL AUTHORITY HAVING JURISDICTION. C. PROVIDE AND INSTALL A PHOTO-ELECTRIC SMOKE DETECTOR IN THE RETURN AIR DUCT FOR EACH HVAC UNIT AS INDICATED ON THE FLOOR PLANS. DETECTORS ARE TO BE PROVIDED WITH A SUB-BASE CONTAINING AUXILIARY RELAY CONTACTS. RELAY CONTACTS SHALL BE WIRED INTO UNIT CONTROL WIRING, SO AS TO SHUT UNIT DOWN IN THE CASE OF SMOKE DETECTION. PROVIDE ALL

CONTROL WIRING. ELECTRICAL CONTRACTOR SHALL PROVIDE 120 VOLT POWER TO EACH DETECTOR.

D. SMOKE DETECTORS SHALL BE INTERLOCKED. IN ALARM CONDITION OF A SINGLE DETECTOR ALL UNITS SHALL SHUT DOWN.

16. CONTROL WIRING:

A. ELECTRICAL WIRING AND WIRING CONNECTIONS REQUIRED FOR THE INSTALLATION OF THE TEMPERATURE CONTROL SYSTEM, SHALL BE PROVIDED BY THIS CONTRACTOR, UNLESS SPECIFICALLY SHOWN ON THE ELECTRICAL DRAWINGS OR SPECIFICATIONS.

B. INSTALL CONTROL WIRING, WITHOUT SPLICES BETWEEN TERMINAL POINTS, COLOR CODED. INSTALL IN

NEAT WORKMANLIKE MANNER, SECURELY FASTENED. INSTALL IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE AND THE ELECTRICAL SPECIFICATIONS. 1) INSTALL CIRCUITS OVER 25 YOLT WITH COLOR CODED NUMBER 12 WIRE.

2) INSTALL CIRCUITS UNDER 25 VOLT WITH COLOR CODED NUMBER 18 MIRE WITH 0.031 INCH HIGH TEMPERATURE 105 DEGREES F PLASTIC INSULATION ON EACH CONDUCTOR AND PLASTIC SHEATH OVER

3) INSTALL ELECTRONIC CIRCUITS WITH COLOR CODED NUMBER 22 WIRE WITH 0.023 INCH POLYETHYLENE INSULATION ON EACH CONDUCTOR WITH PLASTIC JACKETED COPPER SHIELD OVER

4) INSTALL LOW VOLTAGE CIRCUITS, LOCATED IN CONCRETE SLABS AND MASONRY WALLS, OR EXPOSED IN OCCUPIED AREAS, IN ELECTRIC CONDUIT 5) ALL MIRING IN AREAS USED AS AIR PLENUMS SHALL BE IN ELECTRIC CONDUIT EXCEPT THAT LOW VOLTAGE WIRING MAY BE TEFLON COATED, ALUMINUM SHEATHED CABLE OR OTHER WIRE

SPECIFICALLY APPROVED FOR INSTALLATION IN AIR PLENUMS, WHERE ACCEPTABLE BY LOCAL 6) ALL WIRING IN AREAS NOT USED FOR AIR MOVEMENT SHALL BE IN ELECTRIC METALLIC TUBING

EXCEPT LOW VOLTAGE WIRING MAY BE IN APPROVED SIGNAL CABLE WHERE ACCEPTED BY LOCAL C. THERMOSTATIC CONTROLS TO HAVE A 5°F DEADBAND AND SETPOINT OVERLAP RESTRICTIONS.

17. REMODELING WORK: A. DEMOLITION: DISCONNECT, DEMOLISH, AND REMOVE ABANDONED MECHANICAL MATERIALS AND EQUIPMENT

NOTED. PATCH FLOOR TO MATCH EXISTING.

INDICATED TO BE REMOVED AND NOT INDICATED TO BE SALVAGED OR REMAIN. B. EQUIPMENT TO BE SALVAGED:

1) DISCONNECT AND REMOVE, EXISTING MECHANICAL EQUIPMENT INDICATED TO BE REMOVED AND SALVAGED. DELIVER EQUIPMENT TO THE LOCATION DESIGNATED BY THE OWNER FOR STORAGE. 2) ALL MATERIALS AND EQUIPMENT DESIGNATED TO BE REUSED OR RELOCATED SHALL BE CAREFULLY REMOVED, AND STORED UNTIL NEEDED FOR REMODELING WORK. ALL ITEMS SHALL BE RESTORED TO "LIKE NEW" CONDITION WITH RUST OR CORROSION REMOVED, SURFACE PAINT TOUCHED UP OR REPAINTED AS REQUIRED TO MATCH NEW CONSTRUCTION, AND THOROUGHLY CLEANED AND INSPECTED.

ANY ITEMS WHICH BECOME DAMAGED BEYOND REPAIR AS A RESULT OF CONSTRUCTION OR DEMOLITION

1) TEMPERATURE CONTROLS SETBACK TO BE 55°F (HEAT) AND 85° (COOL), 2-HOUR OCCUPANT OVERRIDE,

ACTIVITY SHALL BE REPLACED WITH NEW MATERIAL EQUIVALENT IN EVERY RESPECT C. DISPOSAL AND CLEANUP: REMOVE FROM THE SITE AND LEGALLY DISPOSE OF DEMOLISHED MATERIALS AND

EQUIPMENT NOT INDICATED TO BE SALVAGED. D. PROTECT ADJACENT MATERIALS INDICATED TO REMAIN. INSTALL AND MAINTAIN DUST AND NOISE BARRIERS TO KEEP DIRT, DUST, AND NOISE FROM BEING TRANSMITTED TO ADJACENT AREAS. REMOVE PROTECTION AND BARRIERS AFTER REMODELING OPERATIONS ARE COMPLETE.

E. LOCATE, IDENTIFY, AND PROTECT MECHANICAL SERVICES PASSING THROUGH REMODELING AREA AND SERVING OTHER AREAS OUTSIDE THE REMODELING LIMITS. MAINTAIN SERVICES TO AREAS OUTSIDE REMODELING LIMITS. WHERE MECHANICAL SERVICES ARE LOCATED IN A WALL, ETC. TO BE DEMOLISHED, REROUTE PIPING TO NEW OR EXISTING CONSTRUCTION TO MAINTAIN CONTINUITY OF THE SYSTEM. WHEN SERVICES MUST BE INTERRUPTED, INSTALL TEMPORARY SERVICES FOR AFFECTED AREAS.

G. PIPING AND DUCTS EMBEDDED IN FLOORS, WALLS, AND CEILINGS MAY REMAIN IF SUCH MATERIALS DO NOT INTERFERE WITH NEW INSTALLATIONS. PIPING AND DUCTS TO REMAIN SHALL BE APPROVED BY THE ARCHITECT. REMOVE MATERIALS ABOVE ACCESSIBLE CEILINGS. DRAIN AND CAP PIPING AND DUCTS ALLOMED TO REMAIN ABOVE CEILING OR BELOW FLOOR, CONCEALED FROM VIEW, EXCEPT AS OTHERWISE

F. REMOVE ALL PIPING TO BE DEMOLISHED BACK TO PIPE MAIN OR EDGE OF PROJECT AREA, AND CAP

H. PIPE AND DUCT SHALL BE CONCEALED WITH NEW OR EXISTING CONSTRUCTION WHENEVER POSSIBLE, UNLESS INDICATED OTHERWISE

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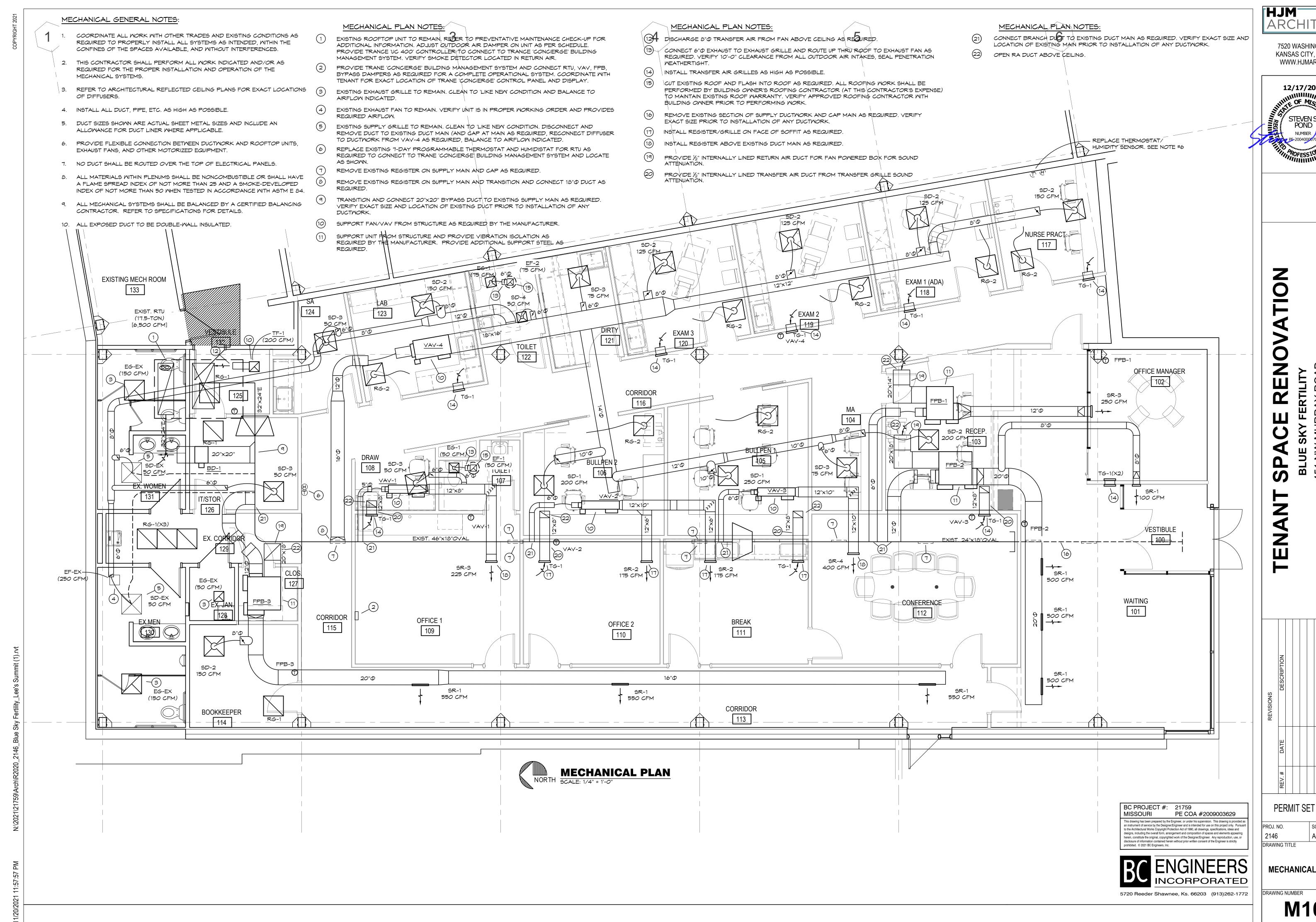
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As indicated

MECHANICAL PLAN

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NOTES:	1.	UNIT IS E	XISTING, LIS	TED FOR RE	FERENCE	ONLY. REF	ER TO PRE	EVENTATIVE M	IAINTENANCE	CHECK	K-UP FOR ADI)ITIC
	2.	PROVID	E TRANE UC	400 2H/2C	CONTROLL	ER TO CON	NNECT TO	TRANE CONC	IERGE' BUILDI	NG CC	ONTROL SYST	EM.

		1	EXHAU	ST/TR/	ANSFE	R FAN	SCHE	DULE		
				EXTERNAL		ELECTRIC	AL.			
MARK	MFGR	MODEL	CFM	STATIC P IN. MG.	. RPM	VOLT/Ф/HZ	PWR	FAN TYPE	CONTROLS	NOTES
EF-1	COOK	70C10D	50	0.1	1160	120/1/60	69 M	ROOF EXHAUST	SMITCH	2
EF-2		70C10D	70C10D 75 1160			69 M	†	SMITCH	2	
TF-1		GC-182	200	₩	1,400	V	167 M	CEILING EXHAUST	T-STAT	1

NOTES: 1. PROVIDE CEILING GRILLE, INTEGRAL BACK DRAFT DAMPER, AND VARI-SPEED CONTROLLER (NEAR FAN AND ABOVE CEILING) AND COOLING ONLY THERMOSTAT SET TO 80°F.

2. PROVIDE INSULATED 18" HIGH (AT LOWEST POINT) PREFABRICATED ROOF CURB, BACKDRAFT DAMPER, BIRD SCREEN, UNIT MOUNTED VARIABLE SPEED CONTROLLER.

	FAN POWERED TERMINAL SCHEDULE															
			INLET	ВОХ	MAX	MIN	ΔP	CFM	MAX S.P.	ELEC	TRIC H	IEATING	COIL	ELECTRIC	CAL	
MARK	MFGR	MODEL NO.	SIZE	SIZE		CFM	(IN MG)	RANGE	SEE NOTE # 2	FAN CFM	KM	мвн	STAGES	√ <i>0</i> LT/Ф/HZ	FAN HP	REMARKS
FPB-1	TRANE	VPEF	6"	02	250	80	0.05	60 - 500	0.5	150	2.0	6.8	1	208/1/60	1/8	-
FPB-2			12"	07	1600	240		240 - 2000		960	10.0	34.1	2	208/3/60	1	-
FPB-3	 	•	12"	07	1800	240	•	240 - 2000	•	1140	12.0	40.9	2	208/3/60	1	-

- NOTES: 1. ALL BOXES SHALL BE PRESSURE INDEPENDENT.
 - 2. MAXIMUM STATIC PRESSURE DOWNSTREAM OF BOX OUTLET.
 - 3. ALL BOXES SHALL HAVE A MINIMUM OF 3 INLET DIAMETERS OF STRAIGHT DUCT AT BOX INLET.
 - 4. REFER TO DETAIL FOR TEMPERATURE CONTROL SQUENCE.
 - 5. PROVIDE 24 VOLT CONTROL TRANSFORMER & WALL MOUNTED TEMPERATURE SENSOR/THERMOSTAT FOR EACH UNIT.
 - 6. MAXIMUM RADIATED SOUND PRESSURE LEVEL (Lp) NOT TO EXCEED THE FOLLOWING FOR RC 40N OCTAVE BAND 2 3 4 5 6 7 PER AHRI STANDARD 885-2008. Lp (RC 40N) 55 50 45 40 35 30
 - 7. ACOUSTICAL MATERIAL SHALL BE 3/4" DUAL DENSITY COATED TO PREVENT AIR EROSION & MEETS REQUIREMENTS OF UL 181 & NFPA-90A.
 - 8. PROVIDE 1" THICK THROWAWAY TYPE FILTER WITH HOLDING FRAME ON RA INLET, WITH BOTTOM ACCESS, VIBRATION ISOLATORS & NON-FUSED DISCONNECT FOR EACH UNIT.
 - 9. PROVIDE TRANE UC210 VAV CONTROLLER TO CONNECT TO 'TRANE CONCIERGE' BUILDING CONTROL SYSTEM.

						ı		1			
MARK	MF	GR	MODE	EL NO.	INLET SIZE	MAX CFM	MIN CFM	ΔP (IN MG)	CFM RANGE	DOWNSTREAM STATIC PRESS. (IN MG)	REMARKS
V-1	TR,	ANE	V	CEF	5"	275	60	0.02	40 - 350	0.5	1,2,3,4,5,6,7
V-2					6"	350	80	0.23	60 - 500		1,2,3,4,5,6,7
V-3					6"	400	120	0.23	60 - 500		1,2,3,4,5,6,7
V-4				•		1600	482	0.08	240 - 2000	†	1,2,3,4,5,6,7
BD 1	,		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		20", 20"	E200		_	0 5600	0.1	1224568
BD-1		1	V P	RA.	20"x20"	5200	0		0 - 5600	0.1	1,2,3,4,5,6,8

NOTES: 1. ALL BOXES SHALL BE PRESSURE INDEPENDENT.

- 2. ALL BOXES SHALL HAVE A MINIMUM OF 3 INLET DIAMETERS OF STRAIGHT DUCT AT BOX INLET.
- 3. REFER TO DETAIL FOR TEMPERATURE CONTROL SQUENCE.
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- 6. ACOUSTICAL MATERIAL SHALL BE 3/4" DUAL DENSITY COATED TO PREVENT AIR EROSION & MEETS REQUIREMENTS OF UL 181 & NFPA-90A.
- 7. PROVIDE TRANE UC210 VAV CONTROLLER TO CONNECT TO 'TRANE CONCIERGE' BUILDING CONTROL SYSTEM.
- 8. PROVIDE TRANE UC210 BYPASS DAMPER CONTROLLER TO CONNECT TO 'TRANE CONCIERGE' BUILDING CONTROL SYSTEM.

ALL EXISTING HVAC UNITS SHOULD HAVE A PREVENTATIVE MAINTENANCE CHECK-UP TO INCLUDE THE FOLLOWING CR	RITERIA

- CHANGE ALL FILTERS.
- CLEAN ALL CONDENSATE DRAIN PANS AND FLUSH ALL CONDENSATE DRAIN LINES.
- 3. CLEAN ALL EVAPORATOR AND CONDENSER COILS WITH A NON-ACID CLEANER. 4. CHECK REFRIGERANT CHARGE (GUAGES OR RETURN/SUPPLY TEMPERATURE VARIANCE).
- 5. PROVIDE COMPLETE LUBRICATION OF ALL SHAFTS AND BEARINGS THAT HAVE LUBRICATION ZERKS. 6. THE REPLACEMENT OF ALL BELTS, HOSES AND FABRIC/RUBBER COATED ITEMS THAT ARE SUBJECT TO WEAR.
- CHECK AMPS OF THE INDOOR, OUTDOOR MOTORS, AND COMPRESSORS
- 8. TURN UNIT POWER OFF TIGHTEN ALL ELECTRICAL CONNECTIONS, CONTACTORS, ETC.
- EXAMINE AND REPAIR ALL ELECTRICAL WIRING, CONTROLS, STARTERS, RELAYS, CAPACITORS AND LIKE ITEMS THAT TEND TO
- DETERIORATE OVER TIME OR BECOME NON-OPERATIONAL. THIS INCLUDES SMOKE DETECTORS. 10. GREASE ALL FITTINGS
- 12. NOTIFY GENERAL CONTRACTOR OF ANY REQUIRED PARTS OR REPAIRS NOT INCLUDED IN THIS LIST. ALL UNITS SHALL BE FUNCTIONING AND COOLING PROPERLY AT COMPLETION OF JOB.
- 13. CHECK THE ECONOMIZER FOR PROPER FUNCTION AND CORRECT OPERATION OF THE SYSTEM WHEN A CALL FOR COOLING
- COMES FROM THE THERMOSTAT. REPAIR AND ADJUST AS NEEDED. 14. VERIFY ANY WORK REQUIRED BY THE LANDLORD PRIOR TO BID.

CHECK DUCTWORK CONNECTIONS AND REPAIR AS NEEDED.

15. ALL FINDINGS AND VALUES TO BE NOTED AND PROVIDED TO TENANT'S CONSTRUCTION MANAGER & OR TENANT'S MAINTENANCE DIRECTOR.

_																												
		EXISTING ROOFTOP UNIT SCHEDULE																										
				NOM	EVAP.	EXT.			COOLING	5		нот	H	EATING (GA	45)		ELECTR	RICAL			UNIT	BLOWER	ECONOMIZER + BARG	OMETRIC RELIEF	MINIMUM	SEED	TOTAL	
	MARK	MFGR.	MODEL NO.	TONS	CFM .	IN. MG.	COOLING STAGES	TOTAL BTUH	SENS. BTUH	AMB.	EVAP. EAT DB/NB	GAS REHEAT	BTUH INPUT	BTUH OUTPUT	HEATING STAGES	VOLT/Ф/HZ	BLOWER MOTOR	POMER EXHAUST	MCA (AMPS)	MOCP (AMPS)	CONTROLS	DRIVE TYPE	TYPE	CONTROLLER	OUTDOOR AIR (CFM)	1 /HHR	MEIGHT (LBS)	NOTES
	RTU-1	TRANE	YHD210	17.5	6500	1.0	2	199,360	158,590	105	80/67	Y	350,000	280,000	2	208/3/60	5 HP	N	-	-	-	BELT	ENTHALPY	STANDARD	655	14.0/12.5	- !	1,2
		·	The state of the s					·"								The state of the s			·				·				1	

TIONAL INFORMATION.

DIFFUSER SCHEDULE

6"Ф

22"x22"

10"Ф

18"×10"

12"x8"

12"×10"

6"Ф

12"x8"

NOTES: 1. PROVIDE TITUS 10"Φ 'FLEXABOOT' (5' LENGTH) FOR SOUND ATTENUATION.

OCCUPANCY CLASSIFICATION

Hospitals, nursing homes

FACE SIZE

24"x24"

24"×24"

24"×24"

12"×12"

FINISH

MHITE

ANODIZED

MHITE

MHITE

OUTDOOR AIR CALCULATIONS

10

50

30

25

10

0

0

DAMPER

AIR SCOOP

OPPOSED BLADE

People outdoor | Area outdoor

Occupant Density #/1000 sqft | breathing zone, | breathing | airflow rate |

(Rp) cfm/person

25

5

5

5

5

0

0

0

airflow rate in airflow rate in Exhaust

cfm/sqft

0

0.06

0.06

0.06

0.06

0.06

0.06

0

0.06

zone, (Ra) cfm/sqft

ACCESSORIES

_

TRM FRAME

TRM FRAME

Zone air distribution

(Ez)

108 0.8 134

0.8

0.8

0.8

0.8

0.8

0.8

0.8

0.8

Total

effectivene outdoor

airflow (cfm)

120

138

46

84

0

655

zone

outdoor

airflow (Vbz)

37

35

67

65

0

50/10

MODEL BORDER TYPE | NECK SIZE

SD-1

SD-3

SD-4

RG-1

RG-2

SR-1

SR-3

SR-4

EG-1

UNIT

RTU-1

Area (sqft)

TITUS

TMS

53*00*F

300RL

350RL

430 | Patient rooms

Offices

310 | Conference rooms

175 | Reception areas

610 Main entry lobbies

375 | Toilet rooms public

Storage

Public spaces

1300 Office spaces

190 Break Room

1080 | Corridors

100 Storage

MECHANICAL SYMBOLS

NEW SUPPLY DIFFUSER NEW RETURN AIR GRILLE EXHAUST GRILLE/FAN

REMOTE TEMPERATURE SENSOR HUMIDISTAT, MOUNTED AT 48" AFF

DUCT-MOUNTED SMOKE DETECTOR MOTORIZED DAMPER/LOUVER

NEW DUCTMORK SIZE OF RECTANGULAR DUCT

SIZE OF ROUND DUCT

FLEXIBLE DUCTMORK FLEXIBLE CONNECTION TO FAN

—(3) FLOOR PLAN NOTE DESIGNATION SUPPLY AIR

RETURN AIR EXHAUST AIR

TRANSITION IN DUCT SIZE ELBOW WITH TURNING VANES

> MANUAL VOLUME DAMPER MANUAL VOLUME DAMPER

MOTORIZED CONTROL DAMPER

SPLITTER DAMPER WITH HORIZONTAL REGULATOR

SUPPLY AIR DUCT UP/DOWN

RETURN AIR DUCT UP/DOWN EXHAUST AIR DUCT UP/DOWN

CHANGE IN ELEVATION UP (UP) DOWN (DN) IN DIRECTION OF FLOW

SCHEDULED MECHANICAL EQUIPMENT EXIST'G DUCT TO REMAIN

--- EXIST'G DUCT TO BE REMOVED

EXISTING FLEXIBLE DUCTWORK SIZE OF EXISTING DUCT

EXISTING SUPPLY DIFFUSER

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> **MECHANICAL** SCHEDULES

7520 WASHINGTON ST. KANSAS CITY, MO 64114 WWW.HJMARCH.COM

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M200

ADJUST AIR DAMPER/EXTRACTOR

ADJUST AIR THROW AS REQUIRED

TO DISTRIBUTE AIR EVENLY OVER

SPACE WITHOUT DRAFTS

SUPPLY REGISTER DETAIL

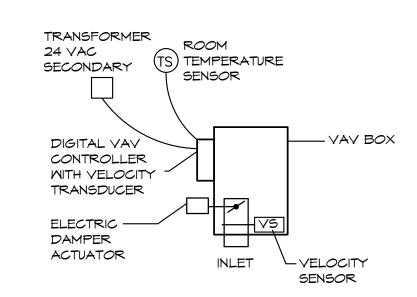
· & DIFFUSER/

TO PROVIDE SPECIFIED AIRFLOW

REGISTER

-LOW PRESSURE SUPPLY AIR DUCT.

SEE FLOOR PLAN FOR SIZES.



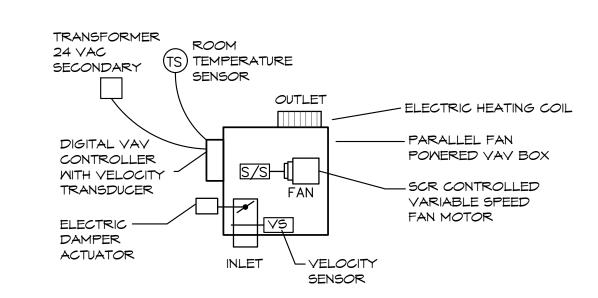
SINGLE DUCT VAV TERMINALS

COOLING ONLY

1. WITH ROOM TEMPERATURE AT SETPOINT, UNIT DELIVERS MINIMUM CFM. AN INCREASE IN ROOM TEMPERATURE CAUSES AIRFLOW TO INCREASE, REACHING MAXIMUM CFM 2°F ABOVE SETPOINT.

VAV BOX (PRESSURE INDEPENDENT) CONTROL SEQUENCE

SCALE: NONE



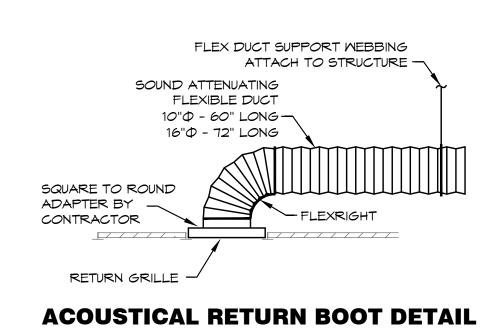
PARALLEL FAN POWERED FAN BOXES

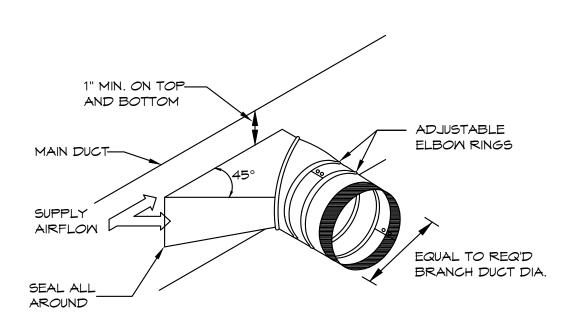
VARIABLE VOLUME FAN VAV TERMINAL WITH ELECTRIC HEAT

- 1. WITH ROOM TEMPERATURE AT COOLING SETPOINT, UNIT DELIVERS MINIMUM COOLING CFM. AN INCREASE IN ROOM TEMPERATURE CAUSES AIRFLOW TO INCREASE. ON A DECREASE IN ROOM TEMPERATURE BELOW HEATING SETPOINT OR ON A DECREASE IN COOLING CFM APPROACHING COOLING SETPOINT (SOFTWARE SELECTABLE), UNIT FAN IS ENERGIZED TO PROVIDE PLENUM AIR TO THE SPACE, AND STAGES OF HEAT ARE
- 2. ELECTRICAL CONTRACTOR SHALL PROVIDE INTERLOCK TO STOP ALL FPB BOX FANS UPON THE DETECTION OF SMOKE BY ANY DUCT SMOKE DETECTOR.

FAN POWERED VAV BOX (PRESSURE INDEPENDENT) CONTROL SEQUENCE

SCALE: NONE





BRANCH DUCT TAKEOFF DETAIL SCALE: NONE

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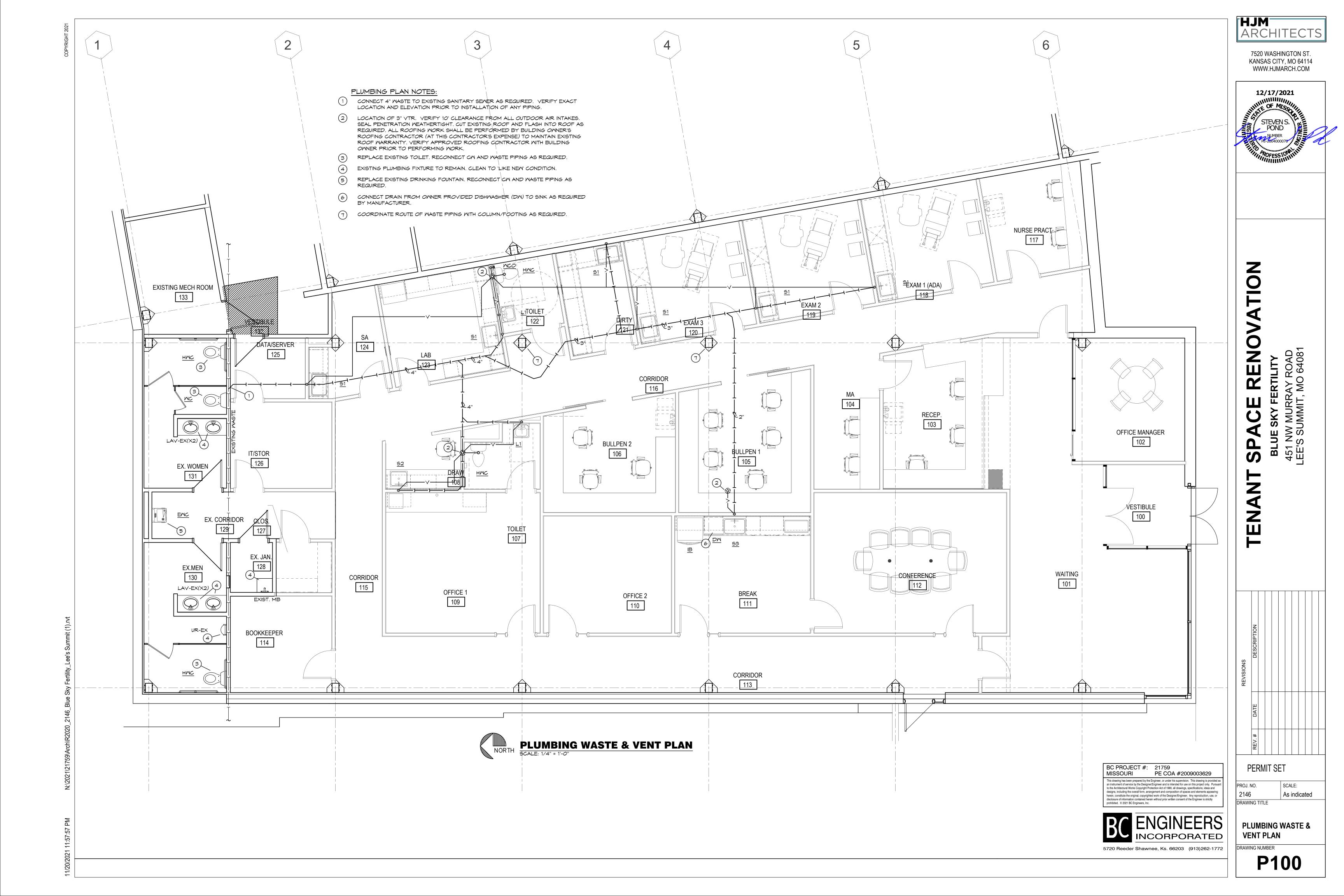
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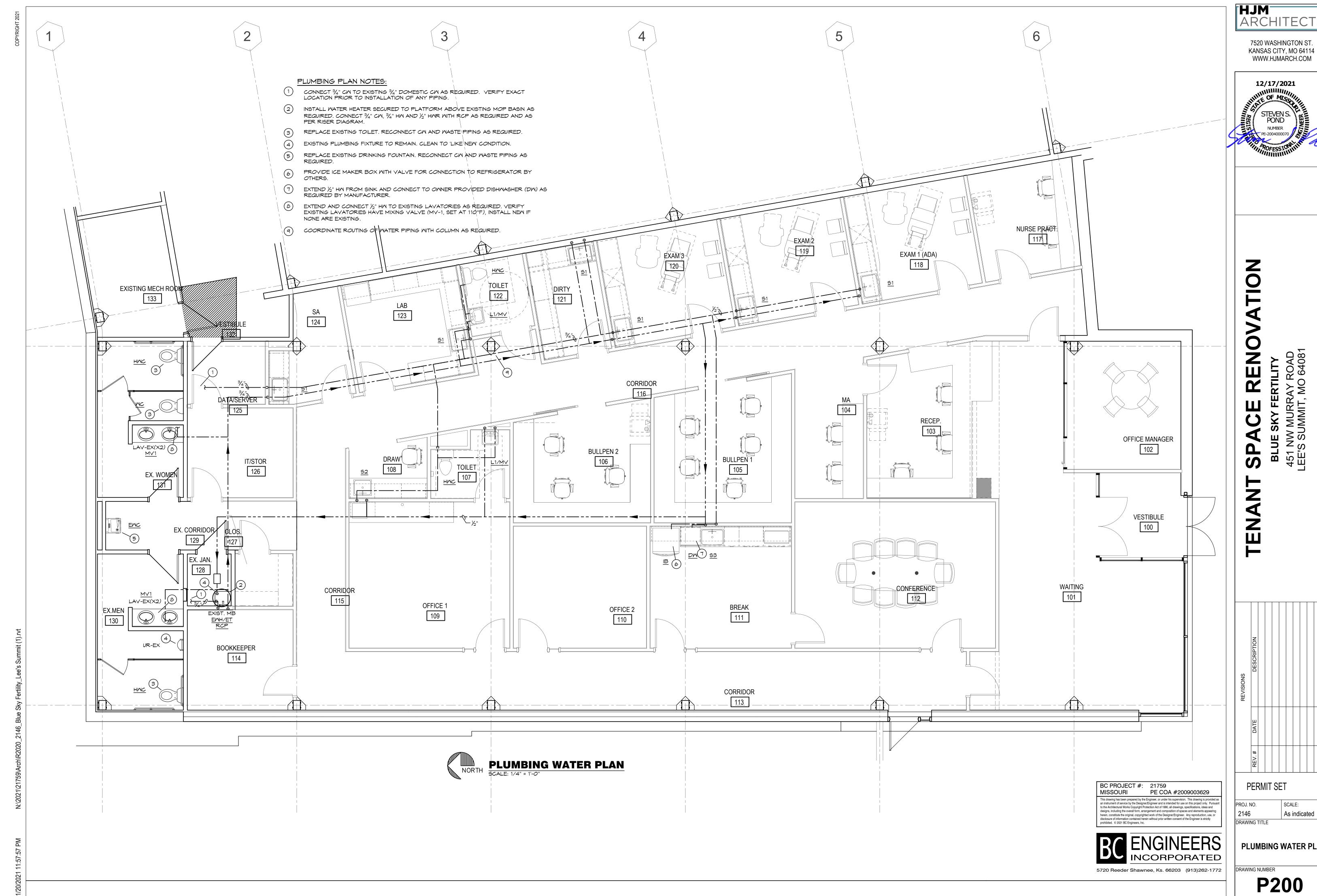
12/17/2021

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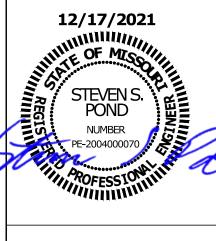
> **MECHANICAL DETAILS**

DRAWING NUMBER





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PLUMBING WATER PLAN

P200

PLUMBING GENERAL NOTES:

- 1. INSTALL ALL PIPE, ETC. AS HIGH AS POSSIBLE.
- 2. COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACES AVAILABLE, AND WITHOUT INTERFERENCES.
- 3. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF FIXTURES.
- 4. REFER TO ARCHITECTURAL & STRUCTURAL DRAWINGS FOR REQUIREMENTS FOR SUPPORTING PIPING, EQUIPMENT, ETC. FROM THE STRUCTURE. PROVIDE ADDITIONAL STEEL AS REQUIRED TO PROPERLY SUPPORT SYSTEMS FROM THE STRUCTURE.
- 5. SAWCUT EXISTING FLOOR AS REQUIRED FOR INSTALLATION OF UNDERFLOOR PIPING. PATCH FLOOR TO MATCH EXISTING.
- 6. NO PIPING SHALL BE ROUTED OVER THE TOP OF ELECTRICAL PANELS.
- 7. ALL MATERIALS 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 E 84.
- 9. CONTRACTOR TO TEST WATER PRESSURE ON SITE AND PROVIDE PRESSURE REDUCING VALVE ON WATER SERVICE IF PRESSURE IS OVER 80 PSI.
- 9. ALL WATER SERVICE INSTALLATIONS INCLUDING BACKFLOW DEVICES ARE SUBJECT TO FIELD VERIFICATION AND APPROVAL BY THE WATER DEPARTMENT INSPECTOR.

PLUMBING SYMBOLS

SOIL AND WASTE PIPING BELOW FLOOR/GRADE SOIL AND WASTE PIPING ABOVE FLOOR/GRADE SANITARY VENT PIPING ABOVE GRADE SANITARY VENT PIPING BELOW GRADE DOMESTIC COLD WATER PIPING DOMESTIC HOT WATER PIPING ____ DOMESTIC HOT WATER RECIRCULATION PIPING EQUIPMENT DRAIN LINE PIPING TURNING DOWN PIPING TURNING UP TEE TOP CONNECTION UNION BACKFLOW PREVENTER FLOOR DRAIN FCO 🖸 FLOOR CLEAN OUT

MALL CLEAN OUT

BALANCING VALVE

SOLENOID VALVE

CHECK VALVE

DIAGRAM

PRESSURE REGULATOR

CONNECT TO EXISTING

INVERT ELEVATION OF PIPE

MATCH MARKS ON PLUMBING RISER

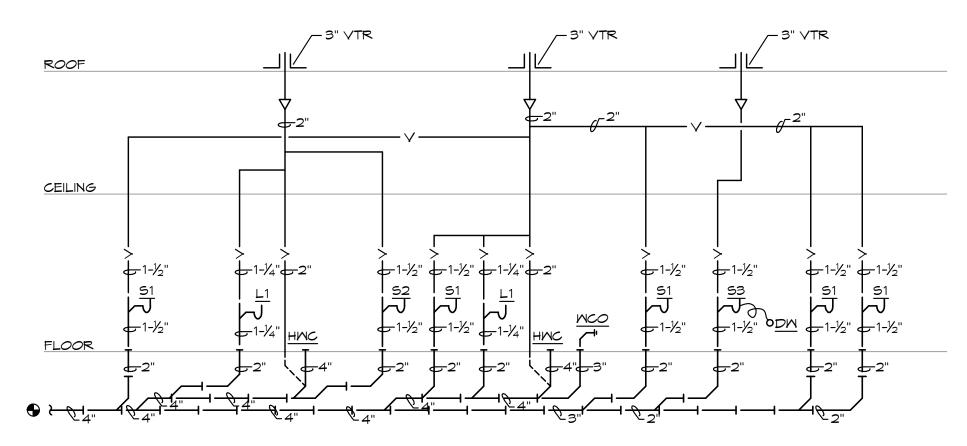
VALVE

FIRE PROTECTION NOTES:

- THE EXISTING SPACE IS PROTECTED WITH AN EXISTING WET PIPE SPRINKLER SYSTEM. RELOCATE AND PROVIDE ADDITIONAL SPRINKLER HEADS AND PIPING AS REQUIRED FOR THE NEW CONSTRUCTION. SPRINKLER HEADS IN FINISHED CEILINGS SHALL BE SEMI-RECESSED PENDENT TYPE (VERIFY FINISH). SPRINKLER HEADS IN ROOMS WITHOUT CEILINGS SHALL BE UPRIGHT BRASS TYPE HEADS.
- . SPRINKLER WORK SHALL BE PERFORMED BY A LICENSED SPRINKLER CONTRACTOR PRE-APPROVED BY THE OWNER/LANDLORD.
- 3. REFER TO THE ARCHITECTURAL DRAWINGS FOR NEW WALL CONSTRUCTION.
- 4. SPRINKLER PIPING SHALL MATCH EXISTING AND COMPLY WITH NFPA 13.
- SPRINKLER SYSTEM (SHOP DRAWINGS) SHALL BE APPROVED BY THE LOCAL FIRE AUTHORITY AND OWNERS/LANDLORD'S INSURANCE CARRIER PRIOR TO START OF WORK.

FLOOR HWC HWC HWC TERMINATE ASME RELIEF VALVE

HOT & COLD MATER



DISCHARGE PIPE (FULL SIZE) OVER

MOP BASIN WITH AIR GAP.

MASTE & VENT

PLUMBING RISER DIAGRAMS
SCALE: NONE

PLUMBING FIXTURE SCHEDULE:

- HMC HANDICAP WATER CLOSET: TOTO, #CST454CEF(R)(G), "DRAKE CLOSE COUPLED TOILET", 1.28 GALLON 'TORNADO' FLUSH, 16-1/2" HIGH ELONGATED BOWL, FLOOR MOUNTED, FLOOR OUTLET, TANK TYPE, VITREOUS CHINA, SIPHON-JET ACTION, #SC534 OPEN FRONT SEAT WITH CHECK HINGE AND LESS COVER, CHROME PLATED ANGLE STOP AND RISER. HANDLE ON WIDE SIDE OF FIXTURE. NO EXCEPTIONS
- MATER CLOSET: TOTO, #CST176CEF(R)(G), "DRAKE CLOSE COUPLED TOILET", 1.28 GALLON 'TORNADO' FLUSH, ELONGATED BOWL, FLOOR MOUNTED, FLOOR OUTLET, TANK TYPE, VITREOUS CHINA, SIPHON-JET ACTION, #SC534 OPEN FRONT SEAT WITH CHECK HINGE AND LESS COVER, CHROME PLATED ANGLE STOP AND RISER. NO EXCEPTIONS
- L1 HANDICAP LAVATORY, COUNTERTOP: TOTO, #LT501, VITREOUS CHINA,20"X 17" OVAL BASIN, DELTA #501 FAUCET WITH SINGLE METAL LEVER HANDLE, OFFSET GRID DRAIN WITH 1-1/4" TAILPIECE, CHROME PLATED P-TRAP(MOUNTED PARALLEL WITH WALL), CHROME PLATED ANGLE STOPS AND RISERS,INSULATE EXPOSED DRAIN, WATER SUPPLIES, AND VALVES WITH PROWRAP SEAMLESS MOLDED CLOSED CELL VINYL INSULATION.
- SINK (LAB): ELKAY, #DLR312210, 28"x16"x10-1/8" DEEP BOWL, SINGLE COMPARTMENT, SELF-RIMMING STAINLESS STEEL SINK WITH SATIN FINISH AND SOUND DAMPENING UNDERCOATING, DELTA TRINSIC #DSP-K-9159-DST FAUCET, SWING SPOUT, AERATOR, SINGLE LEVER HANDLE, CHROME PLATED CAST BRASS P-TRAP WITH CLEANOUT, CHROME PLATED ANGLE STOPS AND RISERS.
- 52 SINK (EXAM): ELKAY, #LRAD-2222, 19"X16"X 6-1/2" DEEP BOWL,21-3/8"X 21-3/8" CUT-OUT, ADA COMPLIANT, SINGLE COMPARTMENT, SELF-RIMMING STAINLESS STEEL SINK WITH SATIN FINISH AND SOUND DAMPENING UNDERCOATING, #LK-1000CR FAUCET, SWING SPOUT, AERATOR, SINGLE LEVER HANDLE, CHROME PLATED CAST BRASS P-TRAP WITH CLEANOUT, CHROME PLATED ANGLE STOPS AND RISERS.
- SINK, DOUBLE COMPARTMENT: ELKAY, #LR-3322, TWO 13-1/2"x16"x8" DEEP BOWL, 32-3/8"x21-3/8" CUT-OUT, SELF-RIMMING STAINLESS STEEL SINK WITH SATIN FINISH AND SOUND DAMPENING UNDERCOATING, FAUCET #LKHA1041 PULL-DOWN FAUCET, SMING SPOUT, AERATOR, SINGLE HANDLE, #LK-35 BASKET STRAINER WITH 1-1/2" TAILPIECE, CHROME PLATED CAST BRASS P-TRAP WITH CLEANOUT, CHROME PLATED ANGLE STOPS AND RISERS, IN-SINK-ERATOR #BADGER 1HP DISPOSAL, 1 HP, 120 VOLT. SINK CUT-OUT IN CASEWORK SHALL BE BY CASEWORK CONTRACTOR.
- DM DISHWASHER: OWNER FURNISHED AND INSTALLED BY PLUMBING CONTRACTOR. CONNECT TO HM AND DRAIN PIPING UNDER SINK AS REQUIRED. PROVIDE HOSE, PIPING AND SHUT-OFF VALVES AS REQUIRED TO MAKE CONNECTIONS.
- EMH HOT WATER HEATER: AO SMITH #DEL;-30, 30 GALLON STORAGE, 208 VOLT, 1 PHASE, (2) 4500 WATT ELEMENTS (NON-SIMULTANEOUS), ASME TEMPERATURE AND PRESSURE RELIEF VALVE. SET AT 140°F.
- HOT WATER EXPANSION TANK: AMTROL, #ST-5, 2 GALLON EXPANSION TANK WITH DIAPHRAGM.
- RCP HOT WATER RECIRCULATING PUMP: BELL & GOSSETT, #SERIES NBF-10, 3 GPM @ 7 FT. HEAD, 1/12 HP, 120 VOLT, WITH HONEYWELL #L6006C1018 AQUASTAT & TACO #265-3 7-DAY DIGITAL TIMER, 120°-125°F, ½" PIPE.
- MIXING VALVE: WATTS, #LFUSG-B, THERMOSTATIC CONTROLLED MIXING VALVE, LEAD FREE BRONZE BODY, LOCKED TEMPERATURE ADJUSTMENT CAP (VANDAL RESISTANT), COPPER ENCAPSULATED THERMOSTAT ASSEMBLY WITH BRASS SHUTTLE, STAINLESSSTEEL SPRINGS, INTEGRAL CHECK VALVES ON HOT AND COLD INLETS. (SET TO 110°F). ASSE 1070 LISTED.
- MV1
 MIXING VALVE: WATTS, #LFMMV THERMOSTATIC CONTROLLED MIXING VALVE, LEAD
 FREE BRONZE BODY, LOCKED TEMPERATURE ADJUSTMENT CAP (VANDAL RESISTANT),
 SOLID WAX HYDRAULIC PRINCIPLE THERMOSTAT, INTEGRAL FILTER WASHERS AND
 CHECK VALVES ON HOT AND COLD INLETS. (SET TO 110°F) ASSE #1017, #1069, #1070
- $\frac{\text{IB}}{\text{FCO/MCO}} \hspace{0.2cm} \text{ICE BOX: GUY GRAY $^{+}\text{AB-9700}, ICE BOX WITH $1/2$" CONNECTION AND $1/4$-TURN SHUT} \\ \text{OFF VALVE.}$
 - VINYL TILE FLOOR: JR SMITH #4140, OR EQUAL.
 QUARRY TILE FLOOR: JR SMITH #4200, OR EQUAL.
 CARPETED FLOOR: JR SMITH #4020-Y, OR EQUAL.
 UNFINISHED FLOOR: JR SMITH #4020, OR EQUAL.
 WALL: JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR
 - HANDICAPPED ELECTRIC WATER COOLER WITH BOTTLE FILLER: ELKAY, #LZSG8WSLK, BARRIER FREE WATER COOLER WITH EXH20 BOTTLE FILLING STATION, 8.0 GPH, 50 DEGREES F WATER WITH 90 DEGREES F AIR TEMPERATURE, 120 VOLT, COLOR TO BE SELECTED BY ARCHITECT AFTER AWARD OF CONTRACT, FRONT AND SIDE PUSH BARS, CHROME PLATED CAST BRASS P-TRAP WITH CLEANOUT, CHROME PLATED LOOSE KEY ANGLE STOP, AND FLOOR MOUNTED CARRIER.

PLUMBING FIXTURE BRANCH	PIPINO	5 SCH	HEDUL	-E
FIXTURE	MASTE	VENT	CM	HM
WATER CLOSET (TANK TYPE)	4"	2"	1/2"	
LAVATORY	1-1/4"	1-1/4"	1/2"	1/2"
SINK	1-1/2"	1-1/2"	1/2"	1/2"

NOTE: INDIVIDUAL VENTS FOR FIXTURES ON PLANS AND RISER DIAGRAMS HAVE BEEN INCREASED WHERE HORIZONTAL VENT LENGTH IS IN EXCESS OF THE MAXIMUM DISTANCE INDICATED BY THE CODE.

BC PROJECT #: 21759 MISSOURI PE COA

MISSOURI

PE COA #2009003629

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12/22/2021

INTERPRETATION OF MISSING STEVEN S. POND

NUMBER
PE-2004000070

PE-2004000070

7520 WASHINGTON ST. KANSAS CITY, MO 64114

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NOLATION

BLUE SKY FERTILITY 451 NW MURRAY ROA LEE'S SUMMIT, MO 620

NC

4

REV.# DATE DESCRIPTION

PERMIT SET

PROJ. NO. SCALE:
2146 As indicated
DRAWING TITLE

PLUMBING DETAILS

DRAWING NUMBER

P300

ELECTRICAL SPECIFICATIONS

1. GENERAL PROVISIONS

- A. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, NECESSARY FOR THE COMPLETE INSTALLATION OF THE ELECTRICAL SYSTEMS OUTLINED.
- B. OBTAIN ALL PERMITS, FEES, LICENSES, INSPECTIONS, AND CERTIFICATES OF COMPLIANCE OR APPROVAL AS REQUIRED BY THE AUTHORITIES.
- C. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE NATIONAL ELECTRIC CODE (NEC.), AND ALL APPLICABLE LAWS, CODES AND REGULATIONS OF THE
- D. ALL TESTING REQUIRED BY AUTHORITIES SHALL BE CONSIDERED PART OF THIS WORK.

GOVERNMENTAL BODIES HAVING JURISDICTION OVER THE SITE.

ETC. FOR ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT

- E. DURING CONSTRUCTION, ALL FIXTURES, EQUIPMENT, CONDUIT, ETC. SHALL BE COVERED, PLUGGED, OR CAPPED AS REQUIRED TO KEEP CLEAN AND UNDAMAGED. ALL DAMAGED ITEMS SHALL BE RESTORED TO ORIGINAL CONDITION OR REPLACED. ALL PROTECTIVE COVERING SHALL BE REMOVED BEFORE FINAL
- F. PROVIDE ALL NECESSARY CUTTING AND PATCHING OF WALLS, FLOORS, CEILINGS, AND ROOFS AS NECESSARY. PATCH AROUND ALL OPENINGS SHALL MATCH ADJACENT AREA. COORDINATE ALL ROOFING WORK WITH OWNER OR RESPONSIBLE PARTY, SO THAT THE EXISTING ROOFING WARRANTY
- G. CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS AGAINST DEFECTS FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE.
- H. CONTRACTOR SHALL PROVIDE ACCESS PANELS WHERE NECESSARY FOR CONCEALED ELECTRIAL
- I. CONTRACTOR SHALL PROMPTLY CALL ENGINEERS ATTENTION TO ANY APPARENT CONTRADICTIONS, AMBIGUITIES, ERRORS, DISCREPANCIES, OR OMISSIONS IN THE PLANS OR SPECIFICATIONS.
- 2. OPERATION AND MAINTENANCE MANUALS: A. DURING THE COURSE OF CONSTRUCTION, COLLECT AND COMPILE OPERATING INSTRUCTIONS, WIRING DIAGRAMS. CATALOG CUTS, LUBRICATION AND PREVENTIVE MAINTENANCE INSTRUCTIONS, PARTS LISTS,
- B. ALL LITERATURE AND INSTRUCTIONS SHIPPED WITH THE EQUIPMENT SHALL BE SAVED FOR INCLUSION
- IN THE OPERATION AND MAINTENANCE MANUALS.
- C. ALL LITERATURE LISTED ABOVE AND ALL PAPERS LISTING WARRANTIES, ETC. SHALL BE COLLATED AND LABELED WITH THE PROJECT NAME, ADDRESS, ARCHITECT, ENGINEER, CONTRACTORS, ETC.

3. MANUFACTURERS:

A. MANUFACTURERS, MODEL NUMBERS, ETC. INDICATED OR SCHEDULED ON THE DRAWINGS SHALL BE INTERPRETED AS HAVING ESTABLISHED A STANDARD OF QUALITY AND SHALL NOT BE CONSTRUED AS LIMITING COMPETITION. ARTICLES, FIXTURES, ETC. OF EQUAL QUALITY BY MANUFACTURERS SHALL BE ACCEPTABLE, SUBJECT TO STRUCTURAL AND ELECTRICAL CONSTRAINTS OF THE PROJECT DESIGN, UNLESS NOTED OTHERWISE

CONTRACTORS, ETC. DOCUMENTS SHALL BE COMPILED AND BOUND IN DIGITAL FILE OR 3 RING BINDER.

- A. ALL CIRCUITS SHALL BE TESTED FOR CONTINUITY, SHORTS, AND GROUNDS BEFORE CONNECTING TO THE PROPER PHASE AS DESIGNED TO BALANCE THE LOADING BETWEEN PHASES.
- B. POWER AND LIGHTING PANELS SHALL BE PROPERLY PHASED TO DISTRIBUTE THE LOAD AND SHALL BE CONNECTED AND ADJUSTED TO OPERATE AS SPECIFIED.
- C. ALL MOTORS AND SIMILAR EQUIPMENT SHALL BE CHECKED FOR PROPER PHASE ROTATION AND OPERATION.

RACEWAYS

- A. CONDUIT INSIDE THE BUILDING SHALL BE METALLIC TUBING (EMT), BEARING THE UL LABEL, WITH
- COMPRESSION TYPE FITTINGS OR SCREW SET FITTINGS. B. CONDUIT EXPOSED TO THE WEATHER, INSTALLED UNDERGROUND, IN CONCRETE, OR USED FOR SERVICE
- ENTRANCE SHALL BE STANDARD RIGID CONDUIT (GALVANIZED) WITH THREADED FITTINGS. C. UNDERGROUND CONDUIT MAY BE POLYVINYL CHLORIDE WITH A DEFLECTION TEMPERATURE, UNDER LOAD AT 264 PSI, OF 78 DEGREES C, AND A TENSILE STRENGTH OF 5,200 PSI. JOINTS SHALL BE FLUSH SOLVENT MELDED IN ACCORDANCE MITH THE MANUFACTURER'S INSTRUCTIONS. CONDUIT SHALL BE EQUAL TO CARLON POWER AND COMMUNICATIONS DUCT TYPE DB (DIRECT BURIAL). CONDUIT AND FITTINGS
- D. FLEXIBLE METAL CONDUIT SHALL ONLY BE USED FOR CONNECTIONS TO MOTORS, TRANSFORMERS, AND LIGHT FIXTURES. MAXIMUM LENGTH SHALL BE 6'-0".

SHALL BE PRODUCED BY THE SAME MANUFACTURER.

6. CONDUCTORS:

- A. WIRES SHALL BE CONTINUOUS WITHOUT SPLICES OR TAPS IN CONDUIT RUNS. ALL SPLICES SHALL BE MADE IN JUNCTION, PULL, OR OUTLET BOXES. ALL WIRE SHALL BE INSTALLED IN CONDUIT, WIREWAYS, OR OTHER PROTECTIVE COVER SANCTIONED BY CODES.
- B. CONDUCTORS FOR LIGHTING AND POWER SHALL BE COPPER, MINIMUM NO. 12 A.M.G., 600 VOLT. C. NO. 10 GAUGE AND SMALLER CONDUCTORS SHALL BE TYPE THWN (MET LOCATIONS) OR THHN (DRY
- LOCATIONS), SOLID CONDUCTOR, UNLESS OTHERWISE INDICATED.
- D. NO. 8 GAUGE AND LARGER CONDUCTORS SHALL BE TYPE THWN (MET LOCATIONS) OR THHN (DRY LOCATIONS), STRANDED, UNLESS OTHERWISE INDICATED.
- E. SERVICE ENTRANCE AND PANEL FEEDER CONDUCTORS, NO. 3 GAUGE AND LARGER SHALL BE TYPE XHHM-2 (MET LOCATIONS) OR THHN (DRY LOCATIONS), STRANDED COPPER, UNLESS OTHERWISE INDICATED.
- A. MC CABLE SHALL CONSIST OF INTERLOCK ARMORED CABLE MADE OF THREE OR FOUR TYPE THHN SOLID (#8 AWG AND LARGER MAY BE STRANDED) COPPER CONDUCTORS RATED 90°C FOR DRY LOCATIONS, WITH NYLON OR EQUIVALENT UL LISTED JACKET, PER UL STANDARD 83 THE THREE CONDUCTORS SHALL BE TWISTED TOGETHER WITH THE COPPER GROUNDING CONDUCTOR, SUITABLE FILLERS, AND WRAPPED IN BINDER TAPE. THE ASSEMBLY SHALL BE ARMORED WITH SPIRALLY WRAPPED INTERLOCKED ARMOR OF ALUMINUM OR GALVANIZED
- B. CABLES SHALL BE TESTED IN ACCORDANCE WITH UL STANDARD 1569 FOR TYPE MC CABLE AND RATED AT $600\ \text{VOLTS}$, $90\ \text{DEG}$. C FOR DRY LOCATIONS AND 75 DEG. C FOR MET LOCATIONS.
- C. MC CABLE INSTALLED IN PATIENT CARE AREAS SHALL BE "HCF" TYPE WITH GREEN INSULATED COPPER GROUNDING CONDUCTOR, BARE ALUMINUM GROUNDING/BONDING CONDUCTOR AND INTERLOCKED GREEN ALUMINUM ARMOR LISTED FOR USE AS AN EQUIPMENT GROUNDING CONDUCTOR IN CONJUCTION WITH THE BARE ALUMINUM BONDING CONDUCTOR.
- 1) CABLES SHALL MEET ALL NEC REQUIREMENTS FOR ARTICLE 517 AND SHALL BE UL LISTED FOR
- USE IN HEALTH CARE FACILITIES. 2) HCF CABLE SHALL NOT BE USED IN HAZARDOUS ANESTHETIZING AREAS.

8. WIRING DEVICES:

- A. WALL SMITCHES SHALL BE SPECIFICATION GRADE, QUIET TYPE, FLUSH TOGGLE SMITCH, RATED
- FOR 20 AMPS, WITH THERMOPLASTIC COVER PLATES. 1) SINGLE POLE: HUBBELL #CS1221-X, OR EQUAL.
-) THREE WAY: HUBBELL #CS1223-X, OR EQUAL. B. RECEPTACLES SHALL BE SPECIFICATION GRADE, DUPLEX, GROUNDING, THREE-WIRE TYPE, RATED
- FOR 20 AMPS, WITH THERMOPLASTIC COVER PLATES. HUBBELL #CR5352-X, OR EQUAL C. GROUND FAULT INTERRUPTER RECEPTACLES (GFI) SHALL BE HUBBELL #GF20-XL. DEVICE COVER
- PLATES SHALL BE AS HEREINBEFORE SPECIFIED.
- D. ISOLATED GROUND RECEPTACLES (IG) SHALL BE HUBBELL #CR5352IG, ORANGE COLOR. DEVICE COVER PLATES SHALL BE AS HEREINBEFORE SPECIFIED. E. RECEPTACLES OUTSIDE BUILDING AND WHERE NOTED AS WEATHERPROOF, SHALL BE LISTED 'WEATHER-RESISTANT' HUBBEL #GFTR20-X OR EQUAL AND SHALL BE INSTALLED IN A WEATHERPROOF ENCLOSURE

WHICH SHALL BE INTERMATIC #WP1010MXD OR #WP1010HMXD DIECAST METAL WEATHERPROOF RECEPTACLE

COVER. COVER SHALL BE WEATHER PROOF RATED WHILE IN USE. F. VERIFY DEVICES AND DEVICE COVERPLATES COLOR AND STYLE WITH ARCHITECT.

- A. HOT DIPPED GALVANIZED STEEL BOXES. PROVIDE TYPE TO SUIT CONDITIONS FOR INSTALLATION.
- B. ALL BOXES SHALL BE FLUSH MOUNTED, UNLESS INDICATED OTHERWISE.

- A. FURNISH AND INSTALL CIRCUIT BREAKER PANELBOARDS AS SHOWN ON THE DRAWINGS. PANELBOARDS SHALL BE LISTED BY UL AND SO LABELED, AND SHALL BE FULLY RATED FOR THE VOLTAGE AND CURRENT CAPACITY INDICATED ON THE PANEL SCHEDULE. PANELBOARDS SHALL BE EQUAL TO SQUARE D TYPE NQ OR NF WITH BOLT IN TYPE BREAKERS. PANELBOARD LUGS SHALL BE RATED AT 75°C.
- 1) CIRCUIT BREAKER INTERRUPTING CAPACITIES SHALL MEET OR EXCEED THE AVAILABLE RMS YMMETRICAL FAULT CURRENTS INDICATED AND AS REQUIRED TO MEET OR EXCEED THE AVAILABLE FAULT CURRENT FROM LOCAL UTILITY.
- B. CIRCUIT BREAKERS SHALL MEET APPLICABLE PORTIONS OF UL STANDARD 489 AND NEMA AB-L. CIRCUIT BREAKERS SHALL BE BOLT-ON, GROUP MOUNTED, AMBIENT MAGNETIC, WITH COMMON TRIP, UL RATED TO CARRY 80% OF NAMEPLATE RATING CONTINUOUSLY IN FREE AIR AT 40° C. CIRCUIT BREAKERS SHALL BE TRIP INDICATING AND FULLY INTERCHANGEABLE WITHOUT DISTURBING ADJACENT UNITS. WIRE TERMINALS SHALL BE RATED 75 DEGREES C. THE OPERATING MECHANISM SHALL BE TRIP-FREE SO THAT CONTACTS CANNOT BE HELD CLOSED AGAINST ANY ABNORMAL OVERCURRENT OR SHORT CIRCUIT
- a) BREAKERS SHALL MEET APPLICABLE NEMA AND/OR UL SPECIFICATIONS.
- C. PANELBOARD BOXES SHALL BE GALVANIZED SHEET STEEL WITH AMPLE WIRING GUTTER SPACE IN ACCORDANCE WITH NEC. FRONTS SHALL BE OF SHEET STEEL PAINTED LIGHT GREY OVER A SUITABLE RUST INHIBITOR PRIMER. PANELBOARDS SHALL BE EQUIPPED WITH ONE PIECE DOOR. CYLINDER TUMBLER TYPE LOCK, DIRECTORY CARD-HOLDER AND QUARTER-TURN ADJUSTABLE TRIM CLAMPS
- D. PANELBOARD INTERIORS SHALL CONSIST OF REINFORCED GALVANIZED SHEET STEEL FRAMES WITH ALUMINUM BUS BARS AND CIRCUIT BREAKERS, PROPERLY SUPPORTED TO PREVENT VIBRATIONS AND BREAKAGE IN HANDLING. BUS BARS SHALL BE SEQUENCE PHASED. PANELBOARD SHALL HAVE A FULL SIZED SOLID ALUMINUM NEUTRAL AND GROUND BUS.

ELECTRICAL SPECIFICATIONS (CONTINUED)

- E BUS BAR BRACING SHALL BE UL LISTED AS INDICATED ON DRAWINGS. ADDITIONAL BRACING SHALL BE PROVIDED AS REQUIRED TO MEET OR EXCEED INDICATED AVAILABLE FAULT
- F. DIRECTORY CARDS SHALL BE COMPLETELY FILLED IN BY TYPEWRITER, LISTING CIRCUIT NUMBERS AND LOAD SERVED, INCLUDING EXISTING CIRCUITS. CIRCUIT BREAKERS SHALL BE IDENTIFIED BY CIRCUIT NUMBER LABELS AS HEREINBEFORE SPECIFIED.

- A. DISCONNECTS SHALL BE EXTERNALLY OPERATED, QUICK-MAKE, QUICK-BREAK, SAFETY, WITH PROVISIONS FOR PAD LOCKING. FUSED AND NON-FUSED DISCONNECT SWITCHES SHALL BE PROVIDED AS INDICATED.
- B. INDOOR SWITCHES SHALL BE NEMA I AND OUTDOOR SWITCHES SHALL BE NEMA 3R, UNLESS INDICATED
- A. FUSES PROTECTING CIRCUIT BREAKER PANELS SHALL BE CURRENT LIMITING U.L. CLASS RK-1 FUSES WITH 200,000 AMPERES RMS SYM INTERRUPTING CAPACITY. FUSING ELEMENTS SHALL BE SILVER FOR RATINGS ABOVE 60 AMPERES.
- B. ALL OTHER FUSES SHALL BE U.L. CLASS RK-5, DUAL-ELEMENT WITH A MINIMUM TIME-DELAY OF 10 SECONDS AT 500% RATING. FUSES SHALL HAVE CURRENT-LIMITING SHORT-CIRCUIT LINKS AND 200,000 AMPERES RMS SYM INTERRUPTING CAPACITY. FUSING ELEMENTS SHALL BE COPPER.
- A. WHERE LIGHT FIXTURES ARE MOUNTED IN A LAY-IN CEILING, PROVIDE A MINIMUM OF 2 SUPPORT WIRES ATTACHED DIRECTLY BETWEEN EACH LIGHT FIXTURE AND THE BUILDING STRUCTURE. SUPPORT WIRES
- B. FIXTURES ARE REQUIRED AT ALL LIGHTING OUTLETS SHOWN ON THE DRAWINGS. APPROVED LIGHTING FIXTURE WIRE IS REQUIRED IN ALL FIXTURES AND FIXTURE RACEWAYS. WEATHERPROOF WIRING IS REQUIRED FOR EXTERIOR FIXTURES. ALL PARTS OF FIXTURES AND WIRING SHALL BE IN ACCORDANCE WITH NEC REQUIREMENTS.
- C. ALL FIXTURES SHALL CARRY UL AND ETL LABELS.

14. SLEEVES:

A. PROVIDE, SET, AND PROPERLY LOCATE PIPE SLEEVES AS REQUIRED FOR THIS WORK.

SHALL BE A MINIMUM OF 12 GAUGE GALVANIZED STEEL WIRE, SOFT ANNEALED.

- B. INTERIOR PARTITIONS: 16 GAGE GALVANIZED STEEL, PACK BETWEEN CONDUIT AND SLEEVE WITH FIRE SAFING AND CAULK AT EACH END WITH FIRE RESISTANT SEALANT
- C. ROOF: PROSET OR EQUAL, MANUFACTURED PVC SCHEDULE 40 PIPE SLEEVE WITH WEATHERPROOF SEAL COORDINATE WITH ROOFING CONTRACTOR AND FLASH AS REQUIRED TO MAINTAIN ROOF WARRANTY.
- A. GROUND ALL ELECTRICAL APPARATUS IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC) 250, AND ANY LOCAL REQUIREMENTS. INSURE CONTINUOUS BOND WHERE FLEXIBLE CONDUIT IS USED. PROVIDE BONDING JUMPER INSIDE ALL FLEXIBLE CONDUIT.
- B. BOND METAL PIPING SYSTEMS IN COMPLIANCE WITH NEC 250.4(A)(4).

A. DEMOLITION: DISCONNECT, DEMOLISH AND REMOVE ABANDONED ELECTRICAL MATERIALS AND EQUIPMENT INDICATED TO BE REMOVED AND NOT INDICATED TO BE SALVAGED OR REMAIN.

1) DISCONNECT AND REMOVE EXISTING ELECTRICAL EQUIPMENT INDICATED TO BE REMOVED AND

2) ALL MATERIALS AND EQUIPMENT DESIGNATED TO BE REUSED OR RELOCATED SHALL BE CAREFULLY REMOVED, AND STORED UNTIL NEEDED FOR REMODELING WORK. ALL ITEMS SHALL BE RESTORED TO "LIKE NEW" CONDITION WITH RUST OR CORROSION REMOVED, SURFACE PAINT TOUCHED UP OR REPAINTED AS REQUIRED TO MATCH NEW CONSTRUCTION, AND THOROUGHLY CLEANED AND INSPECTED. ANY ITEMS WHICH BECOME DAMAGED BEYOND REPAIR AS A RESULT OF CONSTRUCTION OR DEMOLITION ACTIVITY SHALL BE REPLACED WITH NEW MATERIAL EQUIVALENT IN EVERY RESPECT.

SALVAGED. DELIVER EQUIPMENT TO THE LOCATION DESIGNATED BY THE OWNER FOR STORAGE

DISPOSAL AND CLEANUP: REMOVE FROM THE SITE AND LEGALLY DISPOSE OF DEMOLISHED MATERIALS AND EQUIPMENT NOT INDICATED TO BE SALVAGED.

OBSTRUCTION. PATCH FLOOR TO MATCH EXISTING.

- D. PROTECT ADJACENT MATERIALS INDICATED TO REMAIN. INSTALL AND MAINTAIN DUST AND NOISE BARRIERS TO KEEP DIRT, DUST, AND NOISE FROM BEING TRANSMITTED TO ADJACENT AREAS. REMOVE PROTECTION AND BARRIERS AFTER REMODELING OPERATIONS ARE COMPLETE.
- E. PROVIDE ALL ALTERATIONS AND REMORK INDICATED AND/OR REQUIRED FOR THE PROPER INSTALLATION AND OPERATION OF ALL EXISTING ELECTRICAL SYSTEMS, INTEGRATING THE NEW AND EXISTING AREAS. LOCATE, IDENTIFY, AND PROTECT ELECTRICAL SERVICES PASSING THROUGH REMODELING AREA AND SERVING OTHER AREAS OUTSIDE THE REMODELING LIMITS. MAINTAIN SERVICES TO AREAS OUTSIDE REMODELING LIMITS. WHEN SERVICES MUST BE INTERRUPTED, INSTALL TEMPORARY SERVICES FOR
- 1) ABANDONED CONDUIT SHALL HAVE WIRE REMOVED AND SHALL BE CAPPED. ABANDONED OUTLETS IN WALLS OR PARTITIONS SHALL HAVE DEVICES AND WIRE REMOVED. AND SHALL BE COVERED.
- 2) WHERE EXISTING CONDUITS TERMINATE AT AN EXISTING OUTLET IN A WALL, CEILING, OR FLOOR TO BE REMOVED, DISCONNECT AND REMOVE DEVICE AND WIRE FROM CONDUIT. CONDUIT SHALL BE CUT BACK AND CAPPED (BELOW THE FLOOR OR ABOVE THE CEILING) SO NOT TO CREATE AN
- 3) WHERE EXISTING CIRCUITS EXTEND BEYOND THE OUTLET IN THE EXISTING WALL, CEILING, OR FLOOR TO BE REMOVED, FURNISH AND INSTALL NEW CONDUIT AND WIRE TO EITHER REROUTE THE CIRCUIT OR FEED THE REMAINING OUTLET(S) FROM ANOTHER ELECTRICAL SOURCE, BUT IN SUCH A MANNER AS NOT TO REVISE THE CIRCUIT. ALL REPOUTED CONDUIT SHALL BE APPROVED BY THE
- 4) WHERE EXISTING OUTLETS IN A WALL, CEILING, OR FLOOR TO BE REMOVED ARE ESSENTIAL TO MAINTAIN OPERATION OF OTHER REMAINING OUTLETS, RELOCATE THE OUTLET TO A NEW CONVENIENT
- LOCATION. EXISTING WIRING DEVICES SHALL NOT BE REUSED, UNLESS OTHERWISE INDICATED. 5) WHERE LIGHTING FIXTURES ARE INDICATED TO BE DEMOLISHED, REMOVE ALL WIRE AND MODIFY THE EXISTING CONDUIT (IF APPLICABLE) FOR THE NEW LIGHTING. ALL UNUSED CONDUIT SHALL BE
- 6) WHERE A TELEPHONE CIRCUIT EXTENDS BEYOND AN OUTLET IN AN EXISTING WALL, CEILING, OR FLOOR TO BE REMOVED, PROVIDE NECESSARY EMPTY CONDUIT AND NOTIFY THE OWNER WHO WILL REQUEST THE OWNER TO ARRANGE WITH THE TELEPHONE COMPANY FOR NEW WIRING TO OUTLETS THAT
- 7) WHERE EXISTING CONDUIT AND WIRE RUNS ARE LOCATED IN OR ATTACHED TO AN EXISTING WALL, CEILING OR FLOOR TO BE REMOVED, THEY SHALL BE REROUTED IN EITHER NEW OR EXISTING
- CONSTRUCTION TO MAINTAIN CONTINUITY OF CIRCUITS UNLESS OTHERWISE INDICATED.
- 8) CONDUIT SHALL BE CONCEALED WITHIN THE EXISTING BUILDING CONSTRUCTION WHEREVER POSSIBLE, EXCEPT WHERE OTHERWISE INDICATED. 9) EXISTING WIRE SHALL BE DISCONNECTED AND REMOVED WHEREVER EXISTING CIRCUITS ARE

ABANDONED.

- 17. BOXES IN FIRE RATED ASSEMBLIES: A. OUTLET BOXES THAT DO NOT EXCEED 16 SQUARE INCHES AND INSTALLED IN FIRE RATED WALLS SHALL NOT BE INSTALLED
- B. IF BOXES MUST BE INSTALLED WITHIN 24" OF EACH OTHER THAN BOTH OUTLET BOXES SHALL BE PROTECTED WITH LISTED PUTTY PADS, 3M FIRE BARRIER MOLDABLE PUTTY + OR EQUAL.

18. FIRE ALARM SYSTEM (AEGIS FIRE PROTECTION):

CLOSER THAN 24" HORIZONTAL INCHES TO OTHER OUTLET BOXES.

ELECTRICAL CONTRACTOR SHALL PROVIDE DESIGN BUILD ENERGINEERED SHOP DRAWINGS OF FIRE ALARM SYSTEM TO BE INSTALLED. PROVIDE DEVICES, CONDUIT, WIRES, CABLE, PROGRAMMING AND TESTING AS DIRECTED BY EQUIPMENT MANUFACTURER AND LOCAL FIRE DEPARTMENT FOR A CODE COMPLIANT FIRE ALARM/DETECTION SYSTEM. MATERIALS, EQUIPMENT, AND WORKMANSHIP SHALL MEET PREVAILING CODES. THE SYSTEM SHALL BE COMPLETE AND OPERABLE. SUBMIT ONE LINE DIAGRAM OF SYSTEM WITH SIZES AND BATTERY CALCULATIONS. EQUIPMENT TO BE NEW AND SHALL BE STAMPED, SIGNED, CALIBRATION AND TESTED BY FACTORY CERTIFIED TECHNICIAN. FIRE ALARM DEVICES ARE SHOWN FOR INTENT ONLY FOR PERMITTING PROCESS. CONTRACTOR IS RESPONSIBLE FOR INCLUDING IN BID/DESIGN ALL NECESSARY DEVICES (ANNUNCIATOR(S), NOTIFICATION APPLICANCES, INITIATING DEVICES, AND ADDITIONAL COMPONENTS).

	ELECTRICAL SYMBOLS LIST
CIRCUITING	5 & NOTES
+46"	SPECIAL MOUNTING HEIGHT FOR ASSOCIATED DEVICE (CENTERLINE OF DEVICE)
GFI	GROUND FAULT CIRCUIT INTERRUPTER DEVICE
MP	MEATHERPROOF ENCLOSURE ON DEVICE
E	EXISTING DEVICE TO REMAIN
×	ELECTRICAL FLOOR PLAN NOTE WITH DESIGNATION
LP LP	CONDUIT CONCEALED WHERE POSSIBLE OR AS NOTED, ARROWS INDICATE HOME RUN TO PANEL. CIRCUIT NUMBERS INDICATED
#	#12 WIRE IN CONDUIT, UNLESS NOTED OTHERWISE ON DRAWINGS OR SPECIFICATION
\leftarrow	GROUNDING CONDUCTOR, #12 WIRE UNLESS NOTED OTHERWISE ON DRAWINGS OR SPECIFICATION
/	CONDUIT ROUTED UNDER FLOOR/GRADE
LIGHTING	
₩	EMERGENCY TWIN HEAD LIGHT FIXTURE
181	EXIT LIGHT WITH DIRECTIONAL ARROWS INDICATED
A	STRIP FIXTURE WITH TYPE DESIGNATION
A •	RECESSED OR SURFACE MOUNTED FIXTURE WITH TYPE DESIGNATION
A NL	NIGHT LIGHT, CONNECT TO UNSMITCHED CIRCUIT
ΑX	CEILING OR RECESSED FIXTURE WITH TYPE DESIGNATION
^ Q +	MALL MOUNTED FIXTURE WITH TYPE DESIGNATION
POWER D	EVICES
ф	DUPLEX RECEPTACLE, BOTTOM OF BOX AT 16" AFF, UNLESS NOTED OTHERWISE
ф	FOURPLEX RECEPTACLE, BOTTOM OF BOX AT 16" AFF, UNLESS NOTED OTHERWISE
₩ ▽	DEVICE MOUNTED ABOVE COUNTER AND/OR SPLASH GUARD
•	HEAVY DUTY OUTLET - NEMA CONFIGURATION SIZE PER EQUIPMENT MANUFACTURER'S RECOMMENDATION
	PANEL BOARD, TOP OF BOX 6'-0" AFF
Q)	JUNCTION BOX
ㅁ	NON-FUSED DISCONNECT SWITCH
<u>D</u>	FUSED DISCONNECT SMITCH
⊘	MOTOR WITH DESIGNATION
CONTROL	<u>5</u>
5	SINGLE POLE WALL SWITCH, TOP OF BOX AT 48" AFF
52	TWO POLE WALL SWITCH, TOP OF BOX AT 48" AFF
5 3	THREE-WAY WALL SMITCH, TOP OF BOX AT 48" AFF
Sm	MANUAL MOTOR STARTER WITH OVERLOADS
\$₽	DIMMER SMITCH, TOP OF BOX AT 48" AFF. VERIFY DIMMER TYPE AND COMPATIBILITY MITH FIXTURE (0-10V, ELV, LINE VOLTAGE)
5 .3D	THREE WAY DIMMER SWITCH, TOP OF BOX AT 48" AFF. VERIFY DIMMER TYPE AND COMPATIBILITY WITH FIXTURE (0-10V, ELV, LINE VOLTAGE)
COMMUNIC	CATIONS
▼	DATA/TELEPHONE OUTLET WITH MINIMUM 3/4" CONDUIT STUBBED UP TO ABOVE ACCESSIBLE CEILING, BOTTOM OF BOX AT 16", UNLESS NOTED OTHERWISE. PROVIDE WITH PULL STRING
₩	FLAT SCREEN TELEVISION - PROVIDE AND INSTALL ONE (1) HUBBELL #RR1510X RECESSED TAMPER-RESISTANT DUPLEX RECEPTACLE WITH COVERPLATE AND ONE(1) HUBBELL #HBL260 TWO GANG LARGE CAPACITY WALL BOX (UP TO 2" KNOCKOUT) W/ MUD RING AND COVERPLATE FOR DATA. PROVIDE 2"C WITH PULL STRING TO

COVERPLATE FOR DATA. PROVIDE 2"C WITH PULL STRING TO

7'-6" AFF UNLESS NOTED OTHERWISE (VERIFY)

FIRE ALARM - FIRE ALARM SYSTEM IS EXISTING TO REMAIN. PROVIDE

ADDITIONAL COMPATIBLE DEVICES AND CONNECT TO EXISTING SYSTEM AS

FIRE ALARM VISUAL STROBE, CENTERLINE AT 6'-8" AFF

COMBINATION POWER AND DATA FLOORBOX

LINE VOLTAGE THERMOSTAT

DUCT MOUNT SMOKE DETECTOR

REQUIRED.

MISCELLANEOUS

ABOVE ACCESSIBLE CEILING FOR DATA CABLES. MOUNT BOX AT

FIRE ALARM HORN/STROBE COMBINATION SIGNAL, CENTERLINE AT

RELAY TO SHUT DOWN FAN POWERED BOX IN ALARM CONDITION

ELECTRICAL GENERAL NOTES:

- 1. COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACES AVAILABLE, AND WITHOUT INTERFERENCES.
- 2. WHERE CONDUIT IS SHOWN UNDER FLOOR, SAW CUT EXISTING FLOOR SLAB AS REQUIRED FOR INSTALLATION OF UNDER FLOOR CONDUIT. NO STRUCTURAL ELEMENTS SHALL BE OR SAW CUT. WHEN SAW CUTTING, PATCH FLOOR TO MATCH EXISTING SURFACE AS REQUIRED.
- 3. IT IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY TO PROPERLY BALANCE ALL BRANCH CIRCUITS BETWEEN THE PHASES OF THE SYSTEM REGARDLESS OF CIRCUITING INDICATED.
- 4. ALL EXPOSED RACEMAYS SHALL BE IN EMT CONDUIT, MC CABLE IS NOT PERMITTED IN EXPOSED AREAS.
- 5. ELECTRICAL CONTRACTOR SHALL REMOVE ALL EXISTING ELECTRICAL EQUIPMENT, FIXTURES, SYSTEMS, CONDUIT AND WIRE, ETC. NOT BEING REUSED. DO NOT JUST ABANDON.
- 6. ELECTRICAL CONTRACTOR TO COORDINATE MANUFACTURER ELECTRICAL REQUIREMENTS FOR HVAC EQUIPMENT BEING FURNISHED WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. EQUIPMENT DISCONNECTS TO BE PROVIDED BY ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE IN MECHANICAL SCHEDULES.
- 7. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF LIGHT FIXTURES AND DEVICES.
- REFER TO ARCHITECTURAL & STRUCTURAL DRAWINGS FOR REQUIREMENTS FOR SUPPORTING TRANSFORMERS, EQUIPMENT, ETC. FROM THE STRUCTURE. PROVIDE ADDITIONAL STEEL AS REQUIRED TO PROPERLY SUPPORT SYSTEMS FROM THE STRUCTURE.
- 9. ALL MATERIALS EXPOSED MITHIN 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 E 84.
- 10. EACH BRANCH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL PER NEC 210.4.

MANUFACTURER'S INSTRUCTIONS WHETHER INDICATED ON PLANS OR NOT.

- 11. FIRE ALARM SYSTEM(AEGIS FIRE PROTECTIONS) IS SHOWN FOR SCHEMATIC PURPOSES. THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR PROVIDING DESIGN AND SHOP DRAWINGS SUBMITTAL TO FIRE MARSHAL FOR APPROVAL AS REQUIRED BY THE FIRE MARSHAL. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE ADDITIONAL DEVICES, POWER SUPPLIES, ETC FOR COMPLIANCE WITH CODE.
- 12. ALL BRANCH CIRCUITS SHALL BE SIZED TO ALLOW FOR A MAXIMUM OF 3% VOLTAGE DROP. ALL FEEDERS SHALL BE SIZED TO ALLOW FOR A MAXIMUM OF 2% VOLTAGE DROP. ELECTRICAL CONTRACTOR SHALL VERIFY WIRING INDICATED IS SUFFICIENT AND INCREASE CONDUCTOR SIZE AS REQUIRED BASED OFF ACTUAL INSTALLED LENGTH OF CONDUCTORS.
- 13. PROVIDE LOW VOLTAGE WIRING BETWEEN ALL 0-10V DIMMING DRIVERS CONTROLLED BY 0-10V DIMMERS PER
- 14. REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHT OF POWER/DATA OUTLETS.

HEALTH CARE FACILITY NOTES

- PATIENT AREAS (DRAW AND ALL EXAM) SHALL COMPLY WITH NEC ARTICLE 517 FOR HEALTH CARE FACILITIES.
- 2. ALL BRANCH CIRCUITS SUPPLYING PATIENT AREAS (DRAW AND ALL EXAM) SHALL HAVE REDUNDANT GROUNDING PER NEC 517.13(a) & (b). ALL UNDER FLOOR CONDUITS FOR BRANCH CIRCUITS SHALL BE METALLIC.
- 3. ALL DEVICES IN PATIENT CARE AREAS (DRAW AND ALL EXAM) SHALL BE HOSPITAL GRADE, GROUNDING, THREE WIRE TYPE, RATED FOR 20 AMPS, WITH COVER PLATES. HUBBELL #HBL8300-H, OR EQUAL. YERIFY COLOR WITH ARCHITECT.

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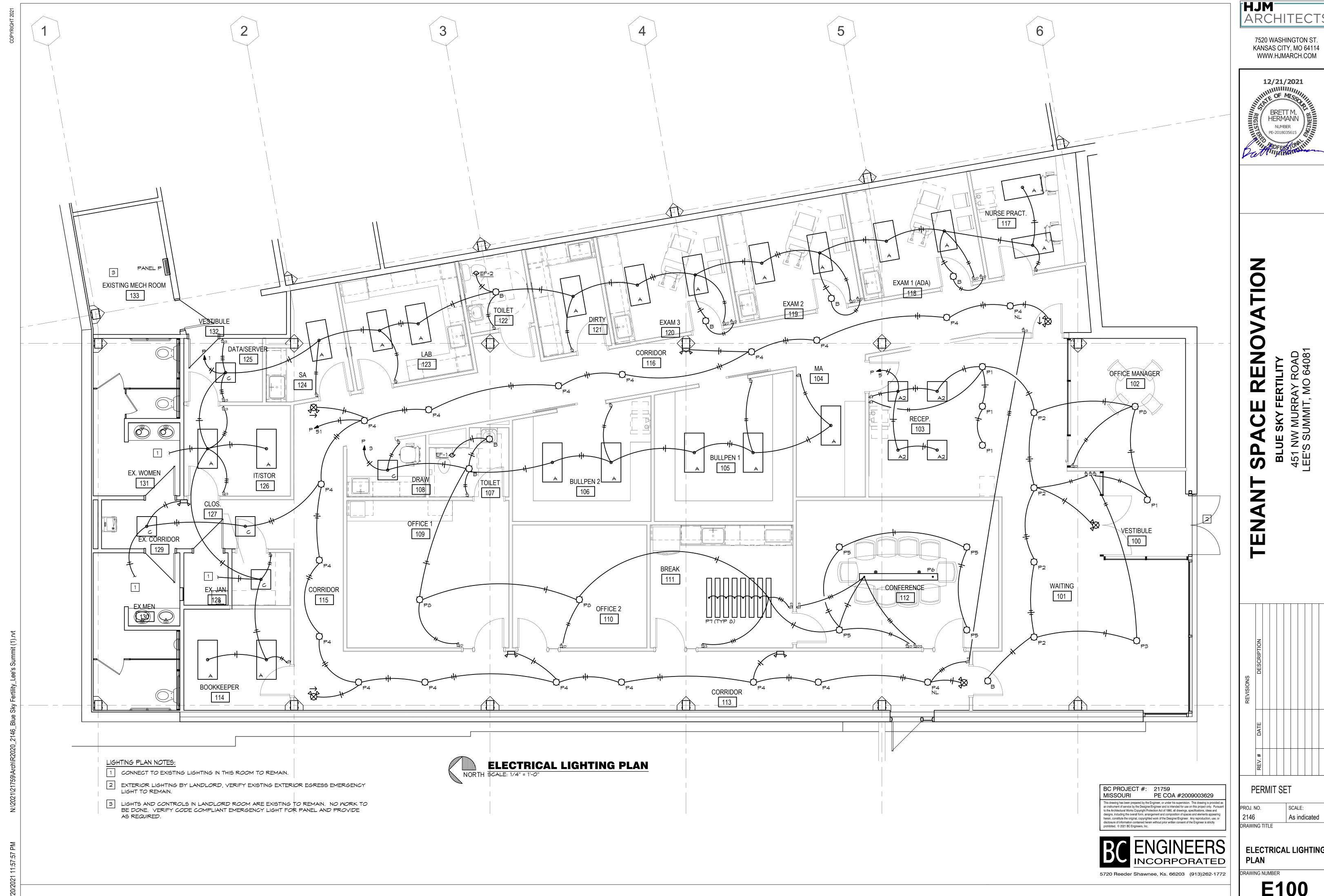
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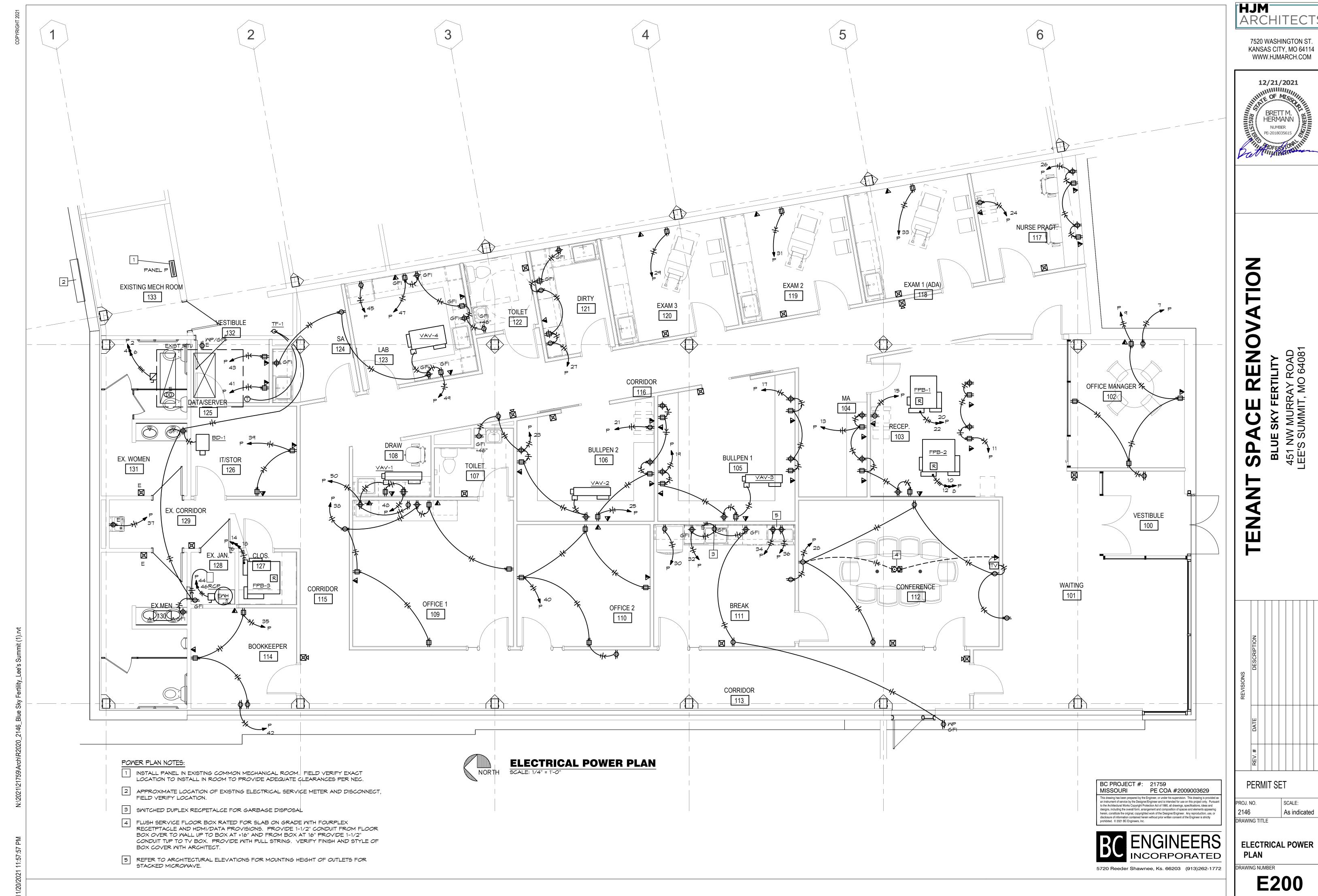
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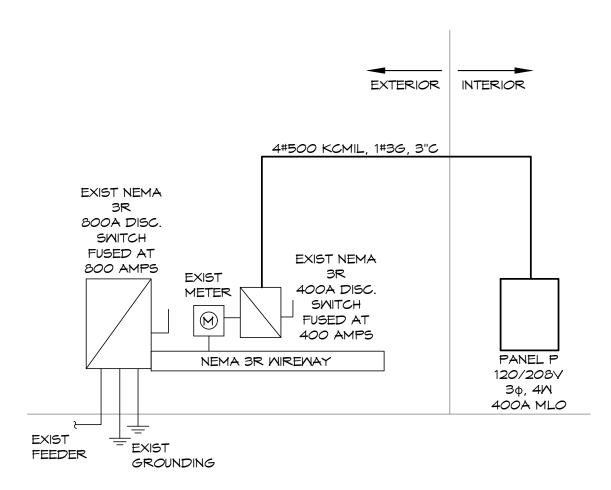


ELECTRICAL LIGHTING

E100



	LIGHT FIXTURE SCHEDULE											
MARK NO.	MANUFACTURER & CATALOG NUMBER	VOLTS MATTS	LIGHT SOURCE	DESCRIPTION	EQUIVALENT MANUFACTURERS							
A	H.E. WILLIAMS LP-24-L50/835-DIM- UNV	120 49	LED - 3500K 5000 LUMS	2'X4' GRID LAY-IN LED FLAP PANEL.	COLUMBIA, LITHONIA, SIGNIFY, OR EQUAL							
В	H.E. WILLIAMS 6DR-TL-L15/835-DIM- UNV-0-W-0F-CS-N-F1	120 14	LED - 3500K 1500 LUMS	6" LED DOWN LIGHT WITH WIDE DISTRUBUTION, CLEAR SEMI-SPECULAR REFLECTOR/TRIM, AND 0-10V DIMMING.	PRESCOLITE, LITHONIA, SIGNIFY, OR EQUAL							
c	H.E. WILLIAMS LP-22-L50/835-DIM- UNV	12 <i>0</i> 39	LED - 3500K 5000 LUMS	2'X2' GRID LAY-IN LED FLAP PANEL.	COLUMBIA, LITHONIA, SIGNIFY, OR EQUAL							
P1-P8	PENDANT FIXTURE SELECTED BY INTERIOR DESIGNER	120	VERIFY	PENDANT, VERIFY DIMMING COMPATIBILITY AND IF TENANT WANTS FIXTURE DIMMED BASED OFF FIXTURE SELECTED. VERIFY WATTAGE PRIOR TO INSTALLATION.	-							
¢	DUAL-LITE EV2	120 1	INCL	EMERGENCY LIGHT WITH TWIN ADJUSTABLE 1 WATT LED HEADS AND BATTERY, MOUNT AT 7'-6"±, TO CLEAR OBSTACLES. (PROVIDES 1 FC AVG. ON 27' CENTER FIXTURE SPACING)	SURE-LITES LITHONIA OR EQUAL							
₩	DUAL-LITE EVC-U-R-M	12 <i>0</i> 3	INCL	COMBINATION EMERGENCY/EXIT LIGHT WITH LED LAMPS, RED LETTERS ON WHITE BACKGROUND, TWIN LED EMERGENCY LIGHT HEADS, UNIVERSAL MOUNT, BATTERY BACKUP	SURE-LITES LITHONIA OR EQUAL							



ELECTRICAL RISER DIAGRAM
SCALE: NONE

PANEL: P VOLTS: 120/208V BUS: 400A MAIN: 400A MLO		PH: 30 MIRE: 4M LOCATION:			MECH RM			MOUNTING: SURFACE							
		IC:	S: 22,000		RMS SYM AMPS						FEEDER: SEE RISER DIAGRAM				
KT	DESCRIPTION	AMPS	POLE	MIRE	ФА	ФB	ФС	ФА	ФВ	ФС	MIRE	POLE	AMPS	DESCRIPTION	OK.
1	LIGHTS	20	1	12	1,500			10,560							2
3	LIGHTS	20	1	12		1,500			10,560		3	3	100	ROOFTOP UNIT	4
5	LIGHTS	20	1	12			1,500			10,560				(FIELD VERIFY RTU BRKR RQD)	6
7	OFFICE MANAGER OUTLET	20	1	12	180			3,600							8
9	OFIFCE MANAGEAR OUTLETS	20	1	12		1,620			3,600		8	3	40	FAN POWERED BOX FPB-2	10
11	RECEPTION OUTLETS	20	1	12			1,080			3,600					12
13	RECEPTION OUTLETS	20	1	12	1,620			4,500							14
15	COPIER	20	1	12		1,200			4,500		6	3	50	FAN POWERED BOX FPB-3	16
17	BULLPEN 1 OUTLETS	20	1	12			1,080			4,500					18
19	BULLPEN 1 OUTLETS	20	1	12	1,080			1,400			12	2	20	FAN POWERED BOX FPB-1	20
21	COPIER	20	1	12		1,200			1,400						22
23	BULLPEN 2 OUTLETS	20	1	12			1,080			1,200	12	1	20	NURSE PRACT COPIER	24
25	BULLPEN 2 OUTLETS	20	1	12	900			1,080			12	1	20	NURSE PRACT OUTELTS	26
27	DIRTY OULTETS	20	1	12		1,260			1,440		12	1	20	CONF OUTLETS	28
29	EXAM 3 OUTLETS	20	1	12			360			1,000	12	1	20	REFRIGERATOR [GF]	30
31	EXAM 2 OUTLETS	20	1	12	360			1,200			12	1	20	BREAK COUNTER OUTLETS	32
33	EXAM 1 OUTLETS	20	1	12		360			1,200		12	1	20	MICROWAVE [GF]	34
35	BOOK KEEPER OUTLETS	20	1	12			900			1,200	12	1	20	MICROWAVE [GF]	36
37	DRINKING FOUNTAIN [GF]	20	1	12	200			1,800			12	1	20	OFFICE 1 OUTLETS	38
39	IT/STORAGE OUTLETS	20	1	12		720			1,620		12	1	20	OFFICE 2 OUTLETS	40
41	IT OUTLETS	20	1	12			800			180	12	1	20	BOOK KEEPER	42
43	IT OUTLETS	20	1	12	800			2,250			10	2	30	WATER HEATER	44
45	LAB REFRIGERATOR [GF]	20	1	12		1,000			2,250						46
47	LAB OUTELTS	20	1	12			1,260			720	12	1	20	DRAW OUTLETS	48
49	LAB OUTLETS	20	1	12	540			800			12	1	20	OFFICE 1 PRINTER/UC REFRIG	50
51	CORRIDOR LIGHTS	20	1	12		400						1	20	SPARE	52
53	SPARE	20	1									1	20	SPARE	54
55	SPARE	20	1									1	20	SPARE	56
57	SPARE	20	1									1	20	SPARE	58
59	SPARE	20	1									1	20	SPARE	60
NOTE					7,180	9,260	8,060	27,190	26,570	22,960				1000 100 100 100 100 100 100 100 100 10	
					901			1	141	111					

34,370 35,830 31,020

TOTAL CONNECTED LOAD:

DEMAND AMPS @ 208 VOLT / 34:

NEC DEMAND LOAD:

101,220 VA 94,950 VA

263.55 A

BC PROJECT #: 21759

MISSOURI PE COA #2009003629

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ELECTRICAL SCHEDULES

E300