THE MEDICAL CENTER OF AURORA

LAB ANALYZER

CONSTRUCTION DOCUMENTS

02/19/2025

Provide a full-size set of legible APPROVED construction documents on site PRINTED IN COLOR for review by inspector.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Kirk Nagle*
Date: *May 13, 2026*
2021 INTERNATIONAL CODES & 2023 NEC

Code violations found during inspections are required to be corrected. Permit issuance does not grant approval of a code violation.

Field inspection consultation is available upon request. Call 303.739.7420 to request a consultation.

Structural plan review is limited to a general survey for code compliance. No review is implied nor was undertaken to verify structural adequacy.

City of Aurora Building Division
Project: *Lab Analyzer Replacement*
Address: *1501 S Potomac St*
Occupancy Group: *IBC I2*
Construction Type: *UBC IFR-SPK*
RSN: *1972129*
Permit: *2026-2623561-LT*

OWNER
HCA Healthcare
One Park Plaza Bldg 2-3E
Nashville, TN 37203
(p) 615.344.2646

FACILITY
The Medical Center of Aurora
1501 S. Potomac Street
Aurora, CO 80012
(p) 303.873.4895

ARCHITECT
Treanor, Inc.
1755 Blake Street, Suite 400
Denver, Co. 80202
(p) 303.298.4700

MECHANICAL
Salas O'Brien
9250 E. Coastilla Ave., Ste. 220
Greenwood Village, CO 80112
(p) 303.225.6320

ELECTRICAL
Salas O'Brien
9250 E. Coastilla Ave., Ste. 220
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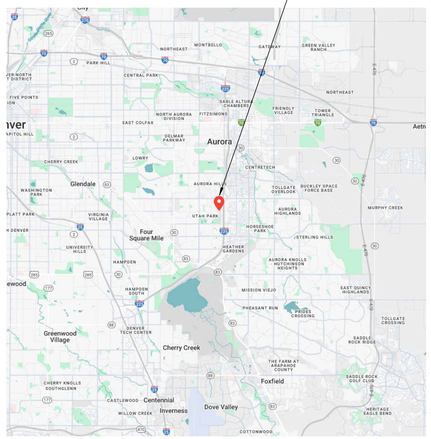
PLUMBING
Salas O'Brien
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Greenwood Village, CO 80112
(p) 303.225.6320

ABBREVIATIONS

AA	AUTOMATICALLY ACTUATED	FLUOR	FLUORESCENT	PNL	PANEL
ABS	ABSOLUTE	FND	FOUNDATION	PR	PAIR
ABV	ABOVE	FOC	FACE OF CONCRETE	PSF	POUNDS PER SQUARE FOOT
AC	ABOVE COUNTER	FOF	FACE OF FINISH	PSI	POUNDS PER SQUARE INCH
ACMU	ARCHITECTURAL CEMENTITIOUS MASONRY UNIT	FOM	FACE OF MASONRY	PT	PAINT, PAINTED
ACOUS	ACOUSTICAL	FOS	FACE OF STUCCO	PTR	PAPER TOWEL RECEPTOR
ACT	ACOUSTICAL CEILING TILE	FP	FIREPROOF(ING)	PVC	POLYVINYL CHLORIDE
AD	AREA DRAIN	FR	FIRE RATED	PVMT	PAVEMENT
ADA	AMERICANS WITH DISABILITIES ACT	FRP	FIBERGLASS REINFORCED PLASTIC	QT	QUARRY TILE
ADJ	ADJUSTABLE	FS	FLOOR SINK	QTY	QUANTITY
AFF	ABOVE FINISHED FLOOR	FT	FEET	R	RADIUS OR RISER
AG	ACRYLIC GLAZING	FTG	FOOTING	RA	RETURN AIR
AHU	AIR HANDLING UNIT	FUR	FURRING	RAD	RADIUS
ALT	ALTERNATE	FUT	FUTURE	RB	RUBBER BASE
ALUM	ALUMINUM	GA	GAUGE	RBT	RABBET
ANCH	ANCHOR	GALV	GALVANIZED	RCP	REFLECTED CEILING PLAN
AP	ACCESS PANEL	GB	GRAB BAR	RD	ROOF DRAIN
APX	APPROXIMATE	GC	GENERAL CONTRACTOR	RE	REFERENCE
ARCH	ARCHITECT(URAL)	GD	GRADE/GRADING	RECEP	RECEPTACLE
AUTO	AUTOMATIC	GF	GROUND FACE	REF	REFERENCE
BD	BOARD	GFRC	GLASS FIBER REINFORCED CONCRETE	REFR	REFRIGERATOR
BLDG	BUILDING	GR	GRADE, GRADING	REG	REGISTER
BLK	BLOCK	GYP	GYPSUM	REINF	REINFORCED(ING)
BM	BENCH MARK	GYP BD	GYPSUM BOARD	REM	REMOVE
BO	BOTTOM OF	H	HIGH/HEIGHT	REQ	REQUIRE(D)
BOD	BASIS OF DESIGN	HB	HOSE BIB	RES	RESILIENT
BOT	BOTTOM	HM	HOLLOW METAL	RET	RETURN
BR	BRICK	HO	HOLD OPEN	REV	REVISION
BRG	BEARING	HORZ	HORIZONTAL	RFG	ROOFING
BS	BOTH SIDES	HR	HOUR	RFL	REFLECT(ED), (IVE), (OR)
BSMT	BASEMENT	HT	HEIGHT	RFS	ROOM FINISH SCHEDULE
BUR	BUILT UP ROOFING	HVAC	HEATING/VENTILATING/AIR CONDITIONING	RH	RIGHT HAND
CA	CARD ACTUATED	HW	HOT WATER	RM	ROOM
CAB	CABINET	HWD	HARD WOOD	RO	ROUGH OPENING
CB	CHALKBOARD	ID	INSIDE DIAMETER	RTU	ROOF TOP UNIT
CCTV	CLOSED CIRCUIT TELEVISION	IN	INCHES	RVRS	REVERSE
CF	CORK FLOORING	INCL	INCLUDE(D), (ING)	S	SOUTH
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED	INSUL	INSULATION, INSULATING	SA	SUPPLY AIR
CG	CORNER GUARD	INT	INTERIOR	SAM	SELF-ADHERED MEMBRANE
CH	CONDUCTOR HEAD	INTM	INTERMEDIATE	SAN	SANITARY
CI	CAST IRON	JB	JUNCTION BOX	SCHED	SCHEDULE
CIP	CAST IN PLACE	JF	JOINT FILLER	SD	STORM DRAIN
CJ	CONTROL JOINT	JST	JOIST	SECT	SECTION
CL	CENTER LINE	JT	JOINT	SF	SQUARE FEET
CLG	CEILING	KB	KEYBOARD	SHT	SHEET
CLR	CLEAR	KIT	KITCHEN	SHTH	SHEATHING
CMU	CONCRETE MASORY UNIT	KO	KNOCK OUT	SHWR	SHOWER
CO	CLEAN OUT	KS	KNEE SPACE	SIM	SIMILAR
COL	COLUMN	L	LONG/LENGTH	SLNT	SEALANT
CONC	CONCRETE	LAM	LAMINATE	SND	SANITARY NAPKIN DISPENSER
COND	CONDITION	LAV	LAVATORY	SNR	SANITARY NAPKIN RECEPTACLE
CONST	CONSTRUCTION	LH	LEFT HAND	SPC	SPACE
CONT	CONTINUOUS, CONTINUE	LIN	LINOLEUM	SPCR	SPACER
CORR	CORRIDOR	LLH	LONG LEG HORIZONTAL	SPEC	SPECIFICATION(S)
CPT	CARPET	LLV	LONG LEG VERTICAL	SPKR	SPEAKER
CR	CARD READER	LMS	LIMESTONE	SQ	SQUARE
CS	CUSTOM STEEL	LT	LIGHT	SS	SOLID SURFACE
CT	CERAMIC TILE	LTL	LINTEL	SSK	SERVICE SINK
CTR	COUNTER	LW	LIGHT WEIGHT	SST	STAINLESS STEEL
CTSK	COUNTERSUNK	LWC	LIGHT WEIGHT CONCRETE	ST	SPECIAL TREATMENT
CW	COLD WATER	LWCMU	LIGHT WEIGHT CONCRETE MASONRY UNIT	STA	STATION
D	DEEP/DEPTH/DRAIN	M	METER(S)	STD	STANDARD
DBL	DOUBLE	MAS	MASONRY	STL	STEEL
DF	DRINKING FOUNTAIN	MAT	MATERIAL(S)	STN	STONE
DFS	DOOR AND FRAME SCHEDULE	MAX	MAXIMUM	STOR	STORAGE
DIA	DIAMETER	MB	MARKERBOARD	STP	STANDPIPE
DIM	DIMENSION	MDF	MEDIUM DENSITY FIBERBOARD	STRUCT	STRUCTURAL
DIV	DIVISION	MECH	MECHANICAL	SUSP	SUSPENDED
DN	DOWN	MED	MEDIUM	SY	SQUARE YARD
DPR	DISPENSER	MEMB	MEMBRANE	SYM	SYMMETRICAL
DR	DOOR	MFR	MANUFACTURE/MANUFACTURER	SYS	SYSTEM
DS	DOWNSPOUT	MH	MANHOLE	T	TREAD
DTL	DETAIL	MHO	MAGNETIC HOLD OPEN	T&G	TONGUE AND GROOVE
DWG	DRAWING	MIN	MINIMUM	TBD	TO BE DETERMINED
E	EAST	MIR	MIRROR	TD	TRENCH DRAIN
EA	EACH	MISC	MISCELLANEOUS	TEL	TELEPHONE
EB	EXPANSION BOLT	MLD	MOLDING, MOULDING	THK	THICK(NESS)
ECUH	ELECTRIC CABINET UNIT HEATER	MO	MASONRY OPENING	THRU	THROUGH
EF	EACH FACE	MOD	MODULAR	TLT	TOILET
EIFS	EXTERIOR INSUL. FINISH SYSTEM	MS	METAL STUDS	TO	TOP OF
EJ	EXPANSION JOINT	MT	MOUNT(ED), (ING)	TOC	TOP OF CONCRETE
EL	ELEVATION	MTFR	METAL FURRING	TOS	TOP OF STEEL, TOP OF SLAB
ELEC	ELECTRIC(AL)	MTL	METAL	TOW	TOP OF WALL
ELEV	ELEVATION/ELEVATOR	MTLR	METAL ROOF	TPD	TOILET PAPER DISPENSER
EMER	EMERGENCY	MULL	MULLION	TPTN	TOILET PARTITION
ENC	ENCLOSURE	N	NORTH	TS	TUBE STEEL
EOS	EDGE OF SLAB	NIC	NOT IN CONTRACT	TYP	TYPICAL
EP	ELECTRICAL PANEL	NO	NUMBER	TZ	TERRAZZO
EPS	EXPANDED POLYSTYRENE	NOM	NOMINAL	UC	UNDER CONTRACT
EQ	EQUAL	NR	NOISE REDUCTION	UNF	UNFINISHED
EQUIP	EQUIPMENT	NRC	NOISE REDUCTION COEFFICIENT	UNO	UNLESS NOTED OTHERWISE
EST	ESTIMATE	NTS	NOT TO SCALE	UR	URINAL
ETR	EXISTING TO REMAIN	OC	ON CENTER	US	URINAL SCREEN
EWC	ELECTRIC WATER COOLER	OD	OUTSIDE DIAMETER (or) OVERFLOW DRAIN	VB	VAPOR BARRIER
EXIST	EXISTING	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED	VCT	VINYL COMPOSITE TILE
EXP	EXPANSION	OFOI	OWNER FURNISHED OWNER INSTALLED	VERT	VERTICAL
EXT	EXTERIOR	OFVI	OWNER FURNISHED VENDOR INSTALLED	VEST	VESTIBULE
FA	FRESH AIR	OH	OVERHEAD	VFCI	VENDOR FURNISHED CONTRACTOR INSTALLED
FAAP	FIRE ALARM ANNUNCIATOR PANEL	OPH	OPPOSITE HAND	VFOI	VENDOR FURNISHED OWNER INSTALLED
FACP	FIRE ALARM CONTROL PANEL	OPNG	OPENING	VFVI	VENDOR FURNISHED VENDOR INSTALLED
FAS	FASTENER	OPP	OPPOSITE	VIF	VERIFY IN FIELD
FB	FACE BRICK	PAR	PARAPET	W	WIDE/WIDTH
FBO	FURNISHED BY OTHERS	PAV	PAVING	W/	WITH
FD	FLOOR DRAIN	PB	PUSH BUTTON	W/O	WITHOUT
FDC	FIRE DEPARTMENT CONECTION	PC	PORTLAND CEMENT	WC	WATER CLOSET
FE	FIRE EXTINGUISHER	PCC	PRECAST CONCRETE	WD	WOOD
FEB	FIRE EXTINGUISHER BRACKET	PED	PEDESTRIAN	WDB	WOOD BASE
FEC	FIRE EXTINGUISHER CABINET\	PERIM	PERIMETER	WDO	WINDOW
FF	FINISH FLOOR	PERP	PERPENDICULAR	WG	WIRE GLASS
FFCO	FLUSH FLOOR CLEANOUT	PFB	PREFABRICATE(D)	WO	WHERE OCCURS
FFE	FINISHED FLOOR ELEVATION	PIC	POLYISOCYANURATE	WPG	WATERPROOFING
FFL	FINISHED FLOOR LINE	PK	PARKING	WS	WRITABLE SURFACE
FH	FLAT HEAD	PL	PLATE	WS	WATERSTOP
FHC	FIRE HOSE CABINET	PL	PROPERTY LINE	WSCT	WAINSCOT
FHMS	FLAT HEAD MACHINE SCREW	PLAM	PLASTIC LAMINATE	WT	WEIGHT
FHWS	FLAT HEAD WOOD SCREW	PLAS	PLASTER	WTW	WALL TO WALL
FIN	FINISH	PLBG	PLUMBING	WWF	WELDED WIRE FABRIC
FL	FLOW LINE	PLWD	PLYWOOD		

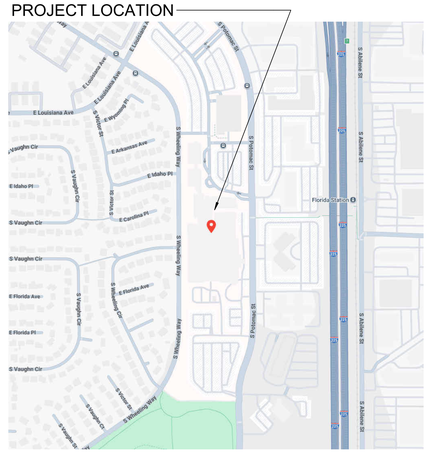
REGIONAL MAP

PROJECT LOCATION



SITE MAP

PROJECT LOCATION



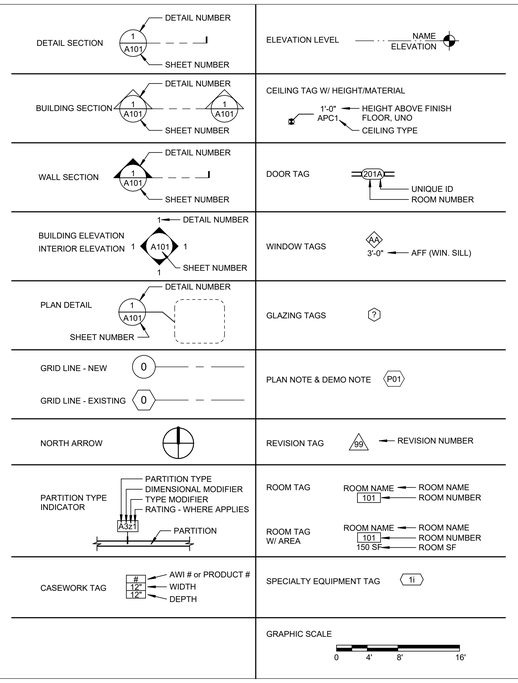
BUILDING INFORMATION

OCCUPANCY CLASSIFICATION:
- 2021 IBC - GROUP I-2 (SECTION 308.4)
- 2012 NFPA 101 - EXISTING HEALTHCARE OCCUPANCY (CHAPTER 19)

PRINCIPAL OCCUPANCY TYPE:
- I-2

CONSTRUCTION TYPE:
- *EXISTING: SBC - TYPE 1-A, UNRESTRAINED, FULLY SPRINKLERED*
- NEW: 2021 IBC - TYPE 1-A, FULLY SPRINKLERED
  2012 NFPA 220 - TYPE 1 (332)

SYMBOLS



PROJECT DESCRIPTION

THIS PROJECT INCLUDES INSTALLATION OF NEW CHEMISTRY ANALYZERS, RELOCATION OF EXISTING EQUIPMENT AND UTILITY INFRASTRUCTURES, AND PATCHING OF EXISTING WALLS AND FINISHES AS REQUIRED. THE PROJECT WILL BE COMPLETED IN THREE PHASES WITH INFECTION CONTROL AND INTERIM LIFE SAFETY MEASURES AS REQUIRED FOR THIS PROJECT DURING EACH PHASE.

GOVERNING CODES

CITY OF AURORA:
2021 INTERNATIONAL BUILDING CODE (IBC)
2021 INTERNATIONAL MECHANICAL CODE (IMC)
2021 INTERNATIONAL FUEL GAS CODE (IFGC)
2021 INTERNATIONAL FIRE CODE (IFC)
2021 INTERNATIONAL PLUMBING CODE (IPC)
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2021 INTERNATIONAL ENGERGY CONSERVATION CODE (IECC)
2023 NATIONAL ELECTRICAL CODE (NEC)

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NFPA 99 HEALTH CARE FACILITIES CODE - 2012 EDITION
NFPA 3 STANDARD FOR COMMISSIONING OF FIRE PROTECTION AND LIFE SAFETY SYSTEMS -2015 EDITION
NFPA 4 STANDARD FOR INTEGRATED FIRE PROTECTIONS AND LIFE SAFETY SYSTEM TESTING -2015 EDITION
NFPA 170 STANDARD FOR FIRE SAFETY AND EMERGENCY SYMBOLS - 2021 EDITION
2021 INTERNATIONAL CODE SERIES
2018 FACILITY GUIDELINES INSTITUTE

FEDERAL
2010 AMERICANS WITH DISABILITIES ACT GUIDELINES
2017 ICC / ANSI A117.1 ACCESSIBILITY COD

SHEET INDEX

Number	Name	CD 02/19/26
GENERAL		
G000	COVERSHEET	•
G001	INDEX OF DRAWINGS	•
LS101	LIFE SAFETY PLAN - FLOOR 1	•
ARCHITECTURE		
A101.1	OVERALL EXISTING PLAN - PHASING	•
A101.2	DEMO AND NEW CONSTRUCTION PLANS - PHASE 1	•
A101.3A	DEMO AND NEW CONSTRUCTION PLANS - PHASE 2	•
A101.3B	DEMO AND NEW CONSTRUCTION RCPS - PHASE 2	•
A101.3C	INTERIOR ELEVATIONS - PHASE 2	•
A101.4	DEMO AND NEW CONSTRUCTION PLAN - PHASE 3	•
PLUMBING		
P000	PLUMBING SYMBOLS, ABBREVIATIONS, NOTES, DETAILS, AND SCHEDULES	•
P001	PLUMBING SPECIFICATIONS	•
P002	PLUMBING DIAGRAMS	•
P101.1	LEVEL 01 UNDERGROUND PLUMBING PLAN - PHASE 1	•
P101.2	LEVEL 01 UNDERGROUND PLUMBING PLAN - PHASE 2	•
P101.3	LEVEL 01 UNDERGROUND PLUMBING PLAN - PHASE 3	•
P111.1	LEVEL 01 PLUMBING PLAN - PHASE 1	•
P111.2	LEVEL 01 PLUMBING PLAN - PHASE 2	•
P111.3	LEVEL 01 PLUMBING PLAN - PHASE 3	•
MECHANICAL		
M000	MECHANICAL SYMBOLS , ABBREVIATIONS & NOTES	•
M001	MECHNICAL DETAILS AND SCHEDULES	•
M002	MECHNICAL SPECIFICATIONS	•
M101.1	LEVEL 01 MECHANICAL PLAN PHASE 2	•
ELECTRICAL		
E000	ELECTRICAL SYMBOLS , ABBREVIATIONS & NOTES	•
E001	ELECTRICAL SYMBOLS , ABBREVIATIONS & NOTES	•
E002	ELECTRICAL SPECIFICATIONS	•
E101.2	LEVEL 01 ELECTRICAL POWER & SYSTEMS PLAN - PHASE 2	•
E101.3	LEVEL 01 ELECTRICAL POWER & SYSTEMS PLAN - PHASE 3	•
E102.1	LEVEL 01 ELECTRICAL LIGHTING PLAN - ALL PHASES	•
E600	ELECTRICAL SCHEDULES	•

COLORADO LICENSED MICHAEL NAGEL 403945 ARCHITECT
2/20/2026

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1755 Blake Street, Suite 400
Denver, CO 80202
Phone: 303.298.4700
www.treanor.design

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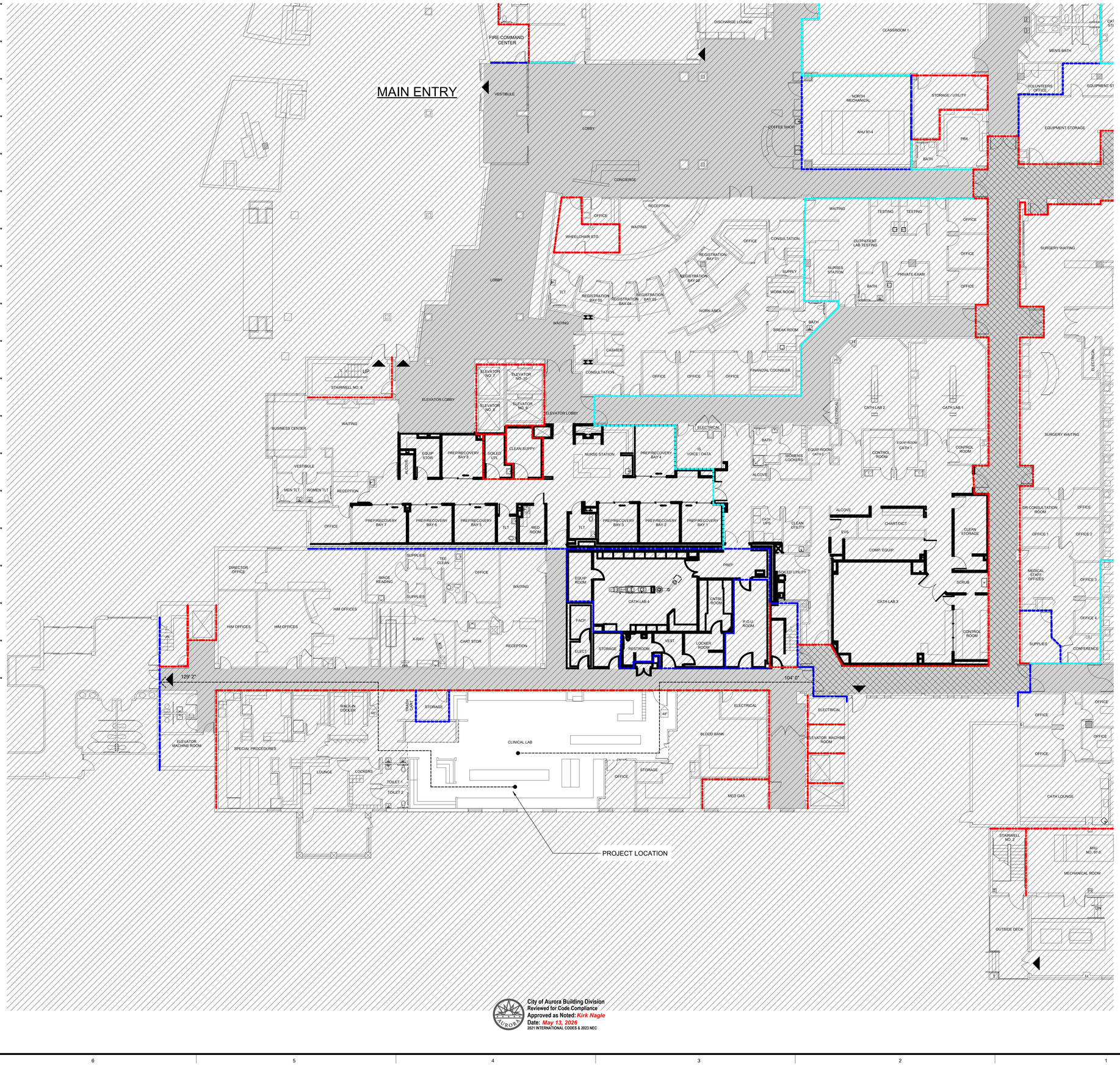
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G000

COVERSHEET

Treanor NO. HC16222.2401.00

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Approved as Noted: *Kirk Nagle*
Date: *May 13, 2026*
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LIFE SAFETY CALCULATIONS

SMOKE COMPARTMENT 1P
- 12,476 SF
- MAX TRAVEL DISTANCE: 200 FT
- ACTUAL LONGEST TRAVEL DISTANCE: 130 FT

OCCUPANT LOAD
- AREA OF RENOVATION: 1033 SF
- PRIMARY OCCUPANCY: INSTITUTIONAL, OUTPATIENT
- OCCUPANT LOAD FACTOR: 100 SF GROSS
- OCCUPANT LOAD: 11 OCCUPANTS

EGRESS WIDTH
- OCCUPANT LOAD CALCULATIONS RESULT IN WIDTH LESS
- THAN MINIMUM WIDTHS AS NECCESSITATED OTHERWISE
- PROVIDE 42.5" CLR IN I-2 WHERE MOVEMENT OF BEDS MAY
- BE REQUIRED

LIFE SAFETY LEGEND

- 0 HR FRR "SMOKE BARRIER"
- 0 HR FRR "SMOKE PARTITION"
- 1 HR FRR "FIRE BARRIER"
- 1 HR FRR "SMOKE BARRIER"
- 2 HR FRR "FIRE BARRIER"
- 2 HR FRR "FIRE WALL"
- 2 HR FRR "SMOKE BARRIER"
- 3 HR FRR "FIRE BARRIER"
- 3 HR FRR "FIRE WALL"

EGRESS CAPACITY

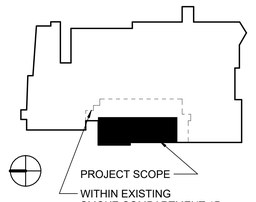


EGRESS COMPONENT CAPACITY

PATH — MAXIMUM TRAVEL DISTANCE FROM FARTHEST POINT

OUT OF SCOPE

CODE KEY PLAN



COLORADO LICENSED
MICHAEL NAGLE
403945
ARCHITECT
2/20/2026

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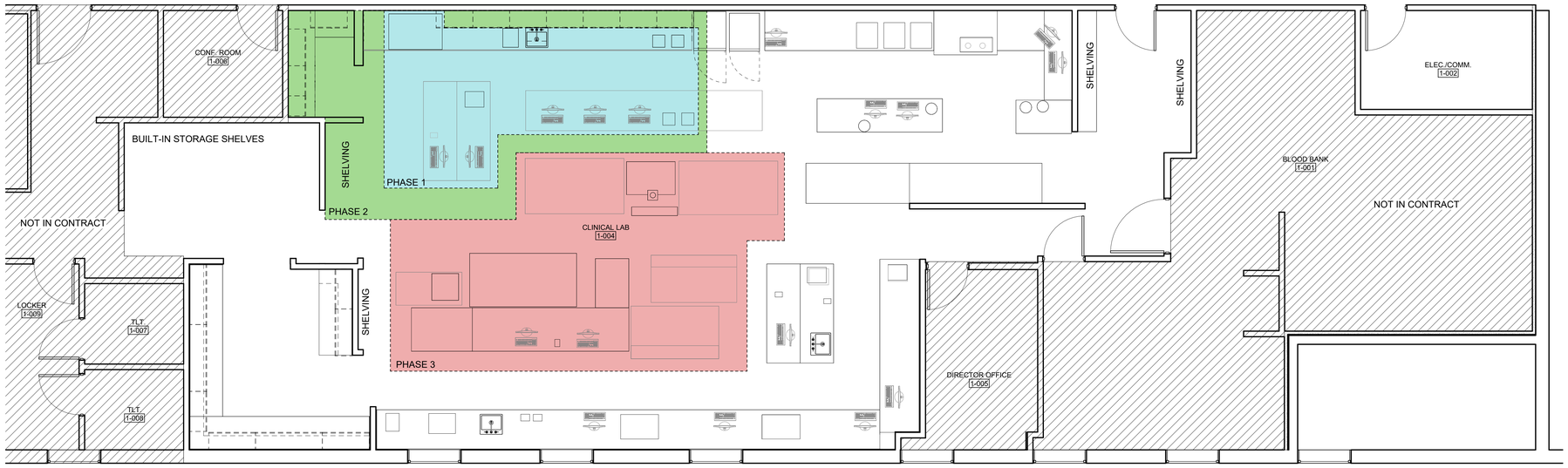
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LS101

LIFE SAFETY PLAN - FLOOR 1

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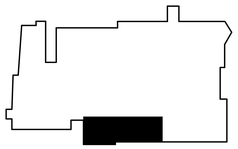
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PHASING PLAN LEGEND

- PHASE 1 WORK AREA
- PHASE 2 WORK AREA
- PHASE 3 WORK AREA

KEY PLAN



OVERALL EXISTING PLAN - PHASING 2

1/4" = 1'-0"

0 2' 4' 8'

COLORADO LICENSED
MICHAEL HAAS
403945
ARCHITECT
2/20/2026

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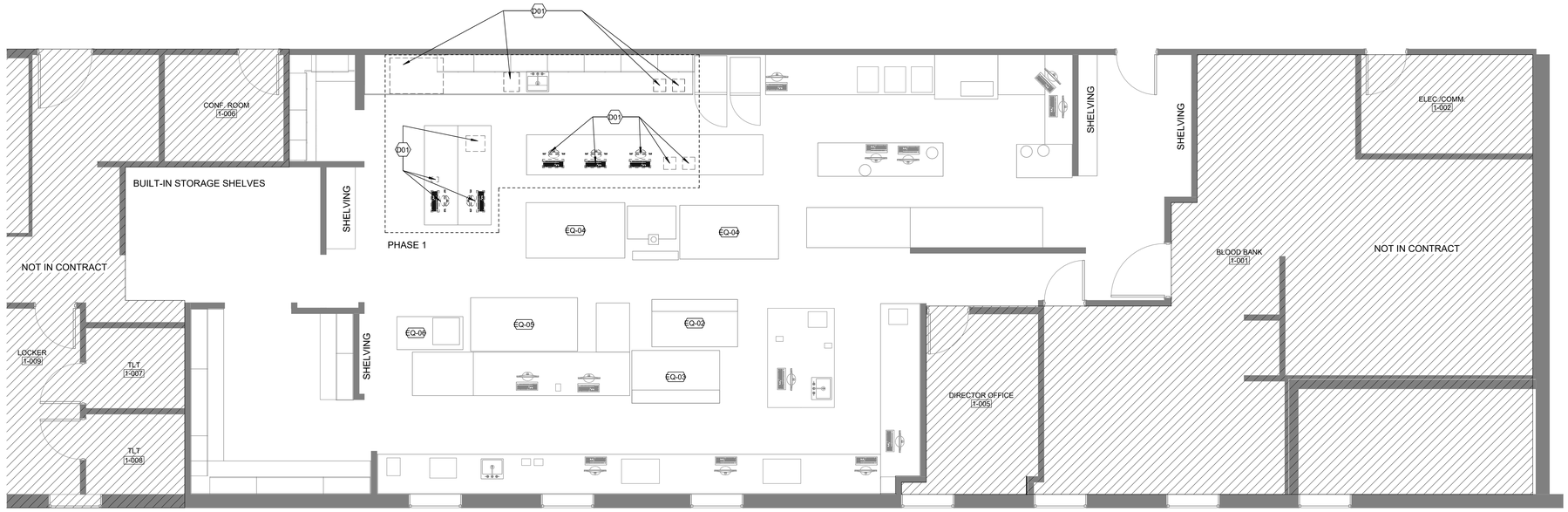
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A101.1

OVERALL EXISTING PLAN - PHASING

Treanor NO. HC16222.2401.00

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DEMO PLAN - PHASE 1 B2
1/4" = 1'-0"
0 2' 4' 8'

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Kirk Nagle*
Date: *May 13, 2026*
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NEW CONSTRUCTION PLAN - PHASE 1 A1
1/4" = 1'-0"
0 2' 4' 8'

FLOOR PLAN GENERAL NOTES

1. DO NOT SCALE DRAWINGS.
2. ALL ANGLES SHOWN ON THE FLOOR PLAN ARE 90 DEGREES UNLESS OTHERWISE NOTED.
3. REFER TO MECHANICAL AND ELECTRICAL PLANS FOR MORE
4. INFORMATION. COORDINATE AS REQUIRED.
5. REFER TO THE LIFE SAFETY PLANS FOR FIRE RATING LOCATIONS. PARTITIONS MUST CONFORM TO TESTED ASSEMBLIES WHEN THEY ARE INDICATED TO BE RATED ON THE ARCHITECTURAL FLOOR PLANS. WHEN NO RATING IS INDICATED, CONSTRUCT THE PARTITION PER THE INDICATED TYPE AS NON-RATED ASSEMBLY.
6. EQUIPMENT PROVIDED BY SIEMENS. REFER TO SIEMENS' DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
7. PATCH EXISTING CONSTRUCTION SCHEDULED TO REMAIN. REPAIRED SURFACES TO BE FLUSH WITH ADJACENT FINISH SURFACES. PATCH, SAND, AND TEXTURE EXISTING SURFACES TO SAME QUALITY AS NEW CONSTRUCTION PRIOR TO INSTALLING NEW FINISHES. REFER TO THE FINISH MANUFACTURER'S GUIDELINES FOR INSTALLATION.

PHASE 1 SHEET NOTES

1. PHASE 1 INCLUDES THE HOSPITAL RELOCATION OF EXISTING EQUIPMENT AND SUPPLIES.

OVERALL FLOOR PLAN LEGEND

- NOT IN SCOPE
- EXISTING WALL TO REMAIN
- EXISTING TO REMAIN
- DEMO
- NEW
- EQ-XX — EQUIPMENT TAG
- CG — CORNER GUARD

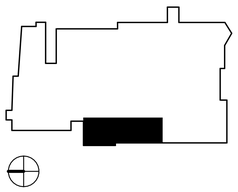
DEMO PLAN NOTES

D01	REMOVE EQUIPMENT, TO BE MOVED TO NEW LOCATION AS DETERMINED BY OWNER

EQUIPMENT SCHEDULE

Type Mark	Description	Comments
EQ-01	ANTELLICA	
EQ-02	SIEMENS UN-3000	
EQ-03	SYSMEX XN	
EQ-04	SIEMENS VISTA 500 ANALYZER	
EQ-05	SIEMENS CENTAUR XPT	
EQ-06	GENEXPERT CEPHEID	
EQ-07	UPS	
EQ-08	MILLIPORE SYSTEM	

KEY PLAN



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2/20/2026

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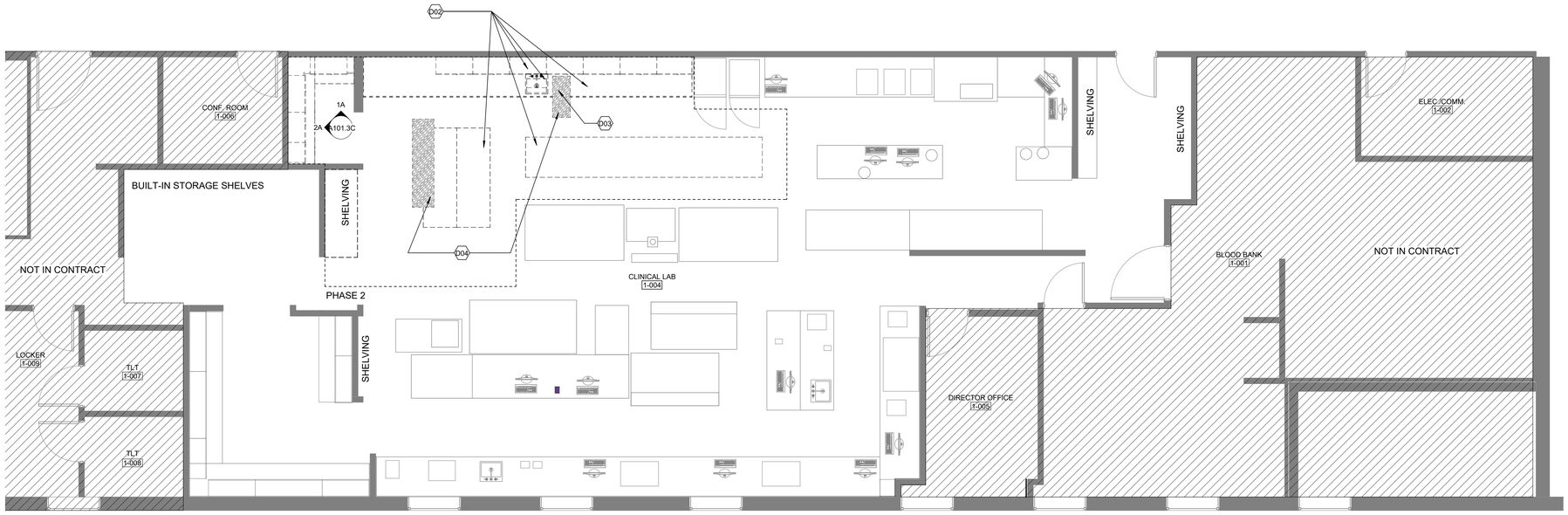
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DEMO AND NEW CONSTRUCTION PLANS - PHASE 1

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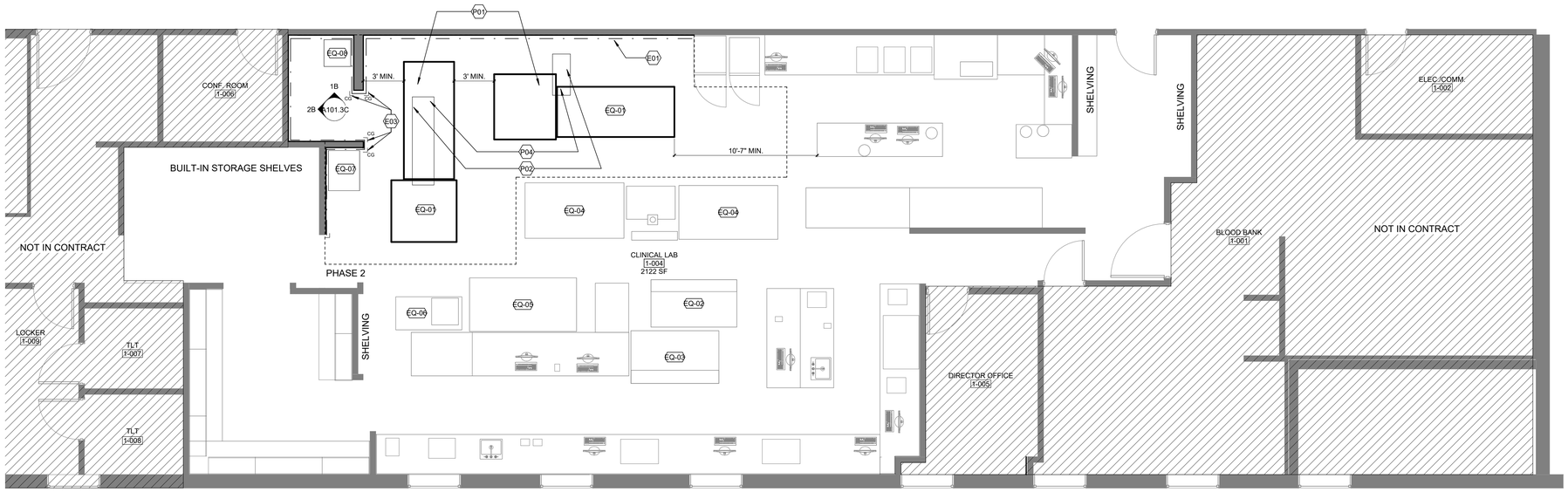
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DEMO PLAN - PHASE 2 B1

1/4" = 1'-0"

0 2' 4' 8'



NEW CONSTRUCTION PLAN - PHASE 2 A1

1/4" = 1'-0"

0 2' 4' 8'

FLOOR PLAN GENERAL NOTES

1. DO NOT SCALE DRAWINGS.
2. ALL ANGLES SHOWN ON THE FLOOR PLAN ARE 90 DEGREES UNLESS OTHERWISE NOTED.
3. REFER TO MECHANICAL AND ELECTRICAL PLANS FOR MORE
4. INFORMATION. COORDINATE AS REQUIRED.
5. REFER TO THE LIFE SAFETY PLANS FOR FIRE RATING LOCATIONS. PARTITIONS MUST CONFORM TO TESTED ASSEMBLIES WHEN THEY ARE INDICATED TO BE RATED ON THE ARCHITECTURAL FLOOR PLANS. WHEN NO RATING IS INDICATED, CONSTRUCT THE PARTITION PER THE INDICATED TYPE AS NON-RATED ASSEMBLY.
6. EQUIPMENT PROVIDED BY SIEMENS. REFER TO SIEMENS' DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
7. PATCH EXISTING CONSTRUCTION SCHEDULED TO REMAIN. REPAIRED SURFACES TO BE FLUSH WITH ADJACENT FINISH SURFACES. PATCH, SAND, AND TEXTURE EXISTING SURFACES TO SAME QUALITY AS NEW CONSTRUCTION PRIOR TO INSTALLING NEW FINISHES. REFER TO THE FINISH MANUFACTURER'S GUIDELINES FOR INSTALLATION.

PHASE 2 SHEET NOTES

1. PHASE 2 INCLUDES DEMOLITION AND NEW UTILITIES IN PREPARATION FOR NEW ANALYZERS. THIS INCLUDES CASEWORK AND SINKS IN THE PROPOSED AREAS OF INSTALLATION.

OVERALL FLOOR PLAN LEGEND

- NOT IN SCOPE
- EXISTING WALL TO REMAIN
- EXISTING TO REMAIN
- DEMO
- NEW
- EQ-XX EQUIPMENT TAG
- CG CORNER GUARD

DEMO PLAN NOTES

D02	DEMO CASEWORK, FASCIA, COUNTERS, AND SINK
D03	CUT AND CAP, SEAL EXISTING FLOOR SINK, RE: PLUMBING
D04	SAW CUT AS REQUIRED FOR NEW FLOOR SINKS, RE: PLUMBING

FLOOR PLAN NOTES

P01	ADD NEW EQUIPMENT
P02	PATCH AND REPAIR SAW CUT AS REQUIRED FOR NEW FLOOR SINKS, RE: PLUMBING
P04	PREP CONCRETE FOR NEW FLOORING. FLOORING TO BE PULLED FROM OWNER STOCK
E01	ADD WALL PROTECTION, INPRO, PALLADIUM RIGID SHEET, MONTEREY 0110, .060" THICKNESS
E03	ADD CORNER GUARDS, MATCH EXISTING

EQUIPMENT SCHEDULE

Type Mark	Description	Comments
EQ-01	ANTELLICA	
EQ-02	SIEMENS UN-3000	
EQ-03	SYSMEX XN	
EQ-04	SIEMENS VISTA 500 ANALYZER	
EQ-05	SIEMENS CENTAUR XPT	
EQ-06	GENEXPERT CEPHEID	
EQ-07	UPS	
EQ-08	MILLIPORE SYSTEM	

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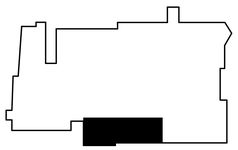
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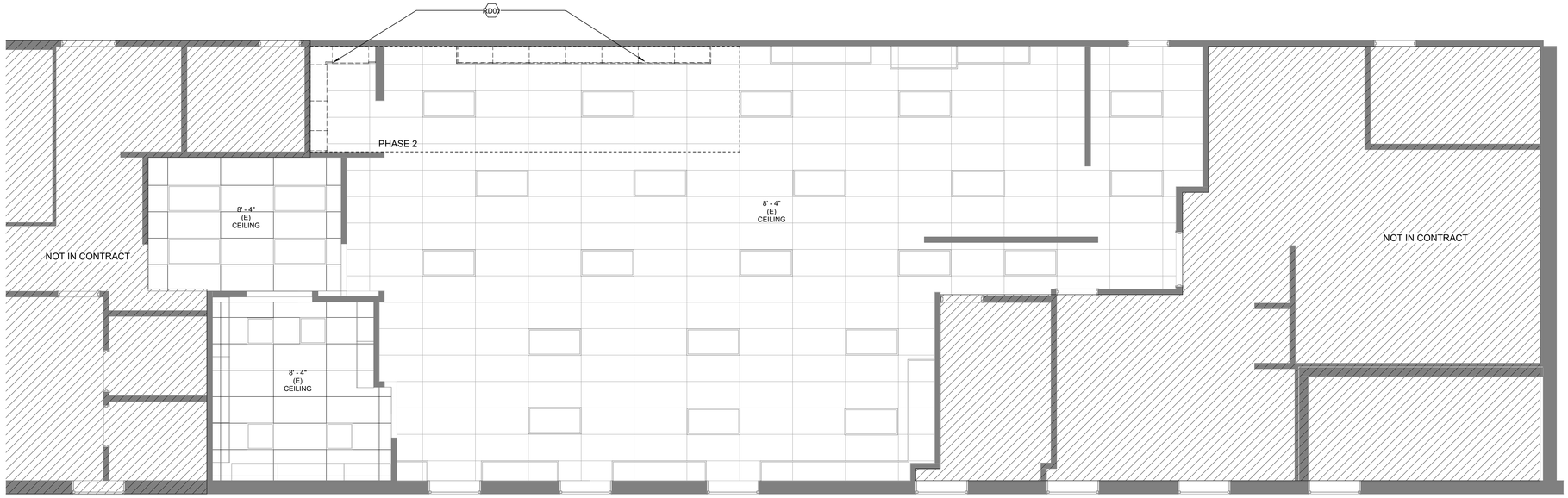


A101.3A

DEMO AND NEW CONSTRUCTION PLANS - PHASE 2

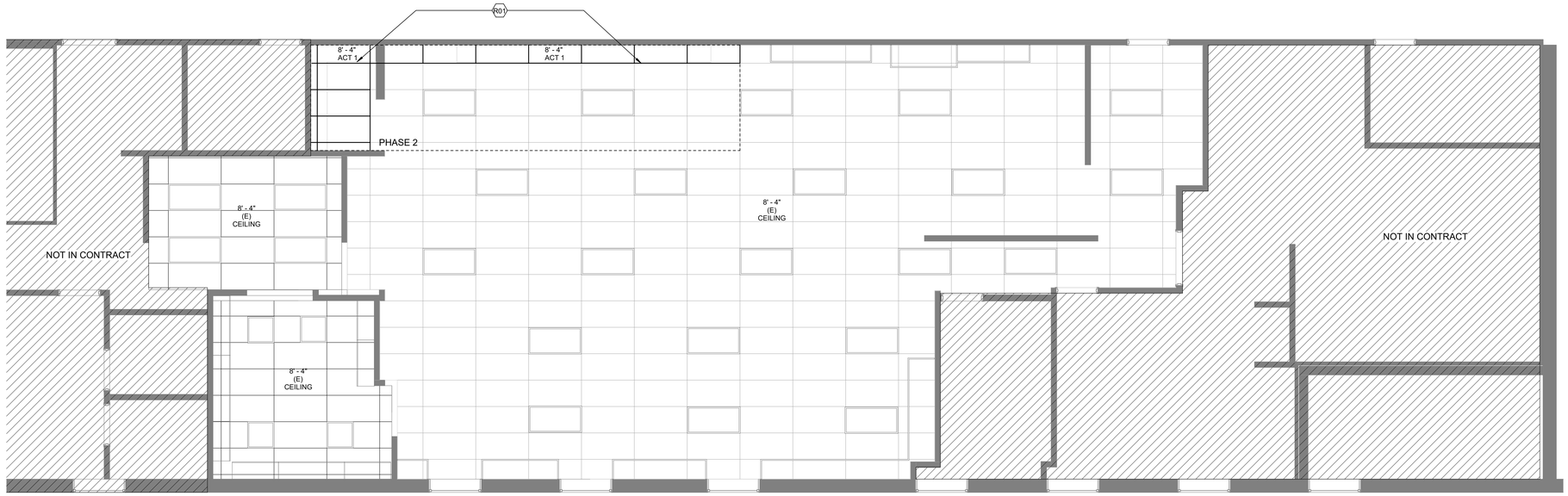
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DEMO RCP - PHASE 2 B1
1/4" = 1'-0"
0 2' 4' 8'

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Kirk Nagle*
Date: *May 13, 2026*
2021 INTERNATIONAL CODES & 2023 NEC



NEW RCP - PHASE 2 A1
1/4" = 1'-0"
0 2' 4' 8'

RCP NOTES-GENERAL

A. REPLACE ANY DAMAGED TILES TO MATCH EXISTING CEILING TILES.
B. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR MOUNTING LOCATIONS OF ITEMS WHERE NO CEILING IS REQUIRED OR INDICATED
C. LIGHTS, DIFFUSERS, EXIT SIGNS, SMOKE DETECTORS, AND FIREALARM SPEAKER/STROBES SHALL BE CENTERED IN THE CEILING TILES IN WHICH THEY OCCUR, UNLESS NOTED OTHERWISE.
D. CENTER ALL CEILING GRIDS IN EACH ROOM OR SPACE UNLESS OTHERWISE INDICATED WITH A GRID ORIGIN OR DIMENSION.

RCP PLAN LEGEND

(E)ACOUSTICAL CEILING 2' x 4'

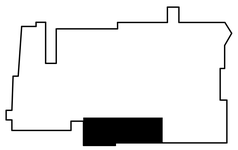
(N) ACOUSTICAL CEILING 2' x 4'

(E) RECESSED TROFFER LIGHT

RCP NOTES

R01	FILL IN THE CEILING GRID WITH NEW ACT FROM THE VOIDS LEFT BY THE SOFFIT WALL REMOVAL, MATCH EXISTING CEILING
RD01	DEMO UPPER CASEWORK AND SOFFIT WALLS

KEY PLAN



COLORADO LICENSED
MICHAEL MARK
403945
ARCHITECT
2/20/2026

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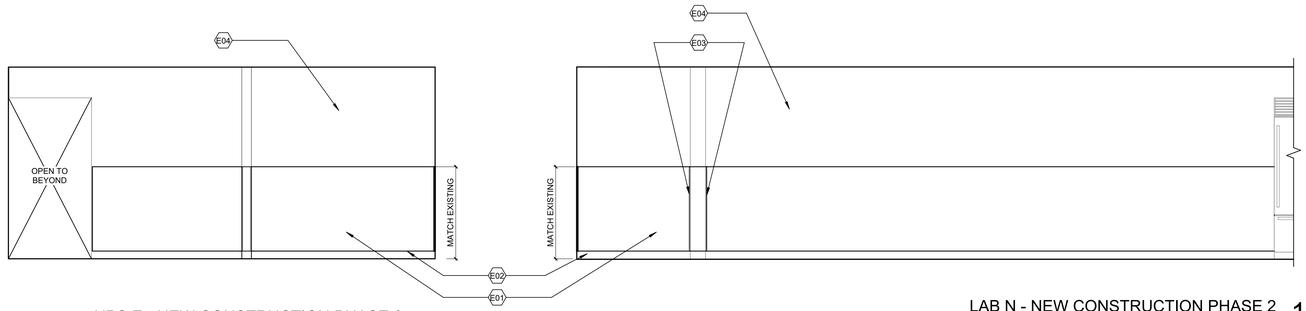
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DEMO AND NEW CONSTRUCTION RCPS - PHASE 2

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UPS E - NEW CONSTRUCTION PHASE 2 2B

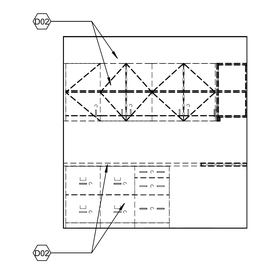
3/8" = 1'-0"

0 2' 4' 6'

LAB N - NEW CONSTRUCTION PHASE 2 1B

3/8" = 1'-0"

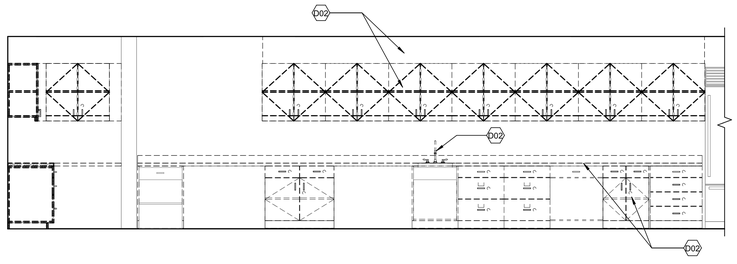
0 2' 4' 6'



UPS E - DEMO PHASE 2 2A

3/8" = 1'-0"

0 2' 4' 6'



LAB N - DEMO PHASE 2 1A

3/8" = 1'-0"

0 2' 4' 6'

ELEVATION NOTES

E01	ADD WALL PROTECTION. INPRO, PALLADIUM RIGID SHEET, MONTEREY 0110, .060" THICKNESS
E02	NEW RUBBER BASE, MATCH EXISTING
E03	ADD CORNER GUARDS, MATCH EXISTING
E04	SEMI-GLOSS PAINT, MATCH EXISTING

ELEVATION DEMO NOTES

D02	DEMO CASEWORK, FASCIA, COUNTERS, AND SINK

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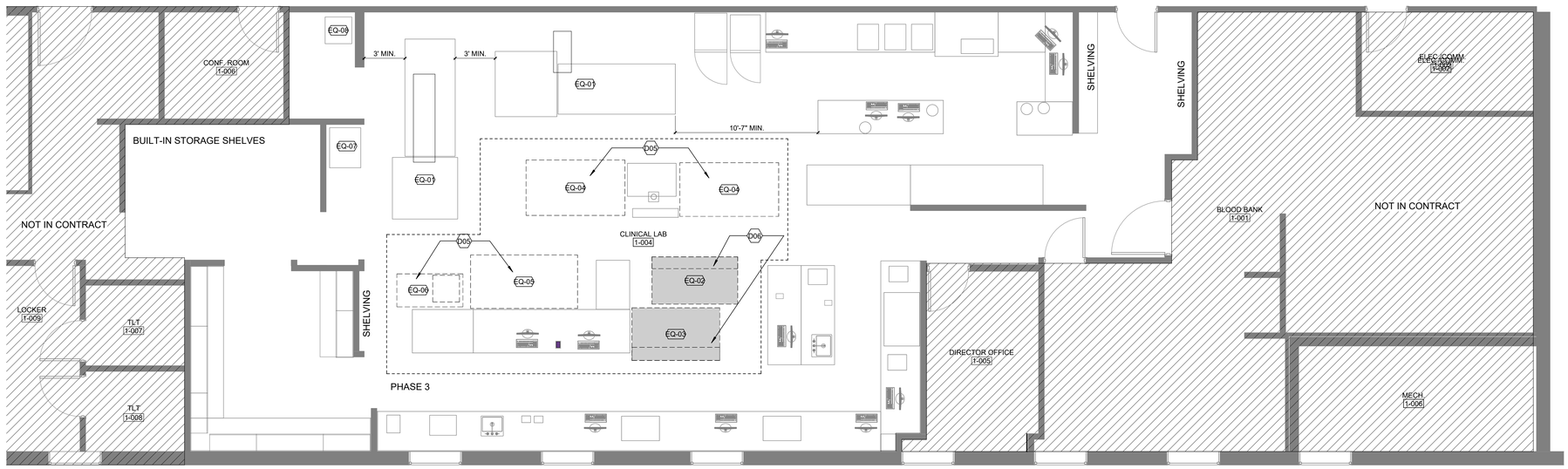
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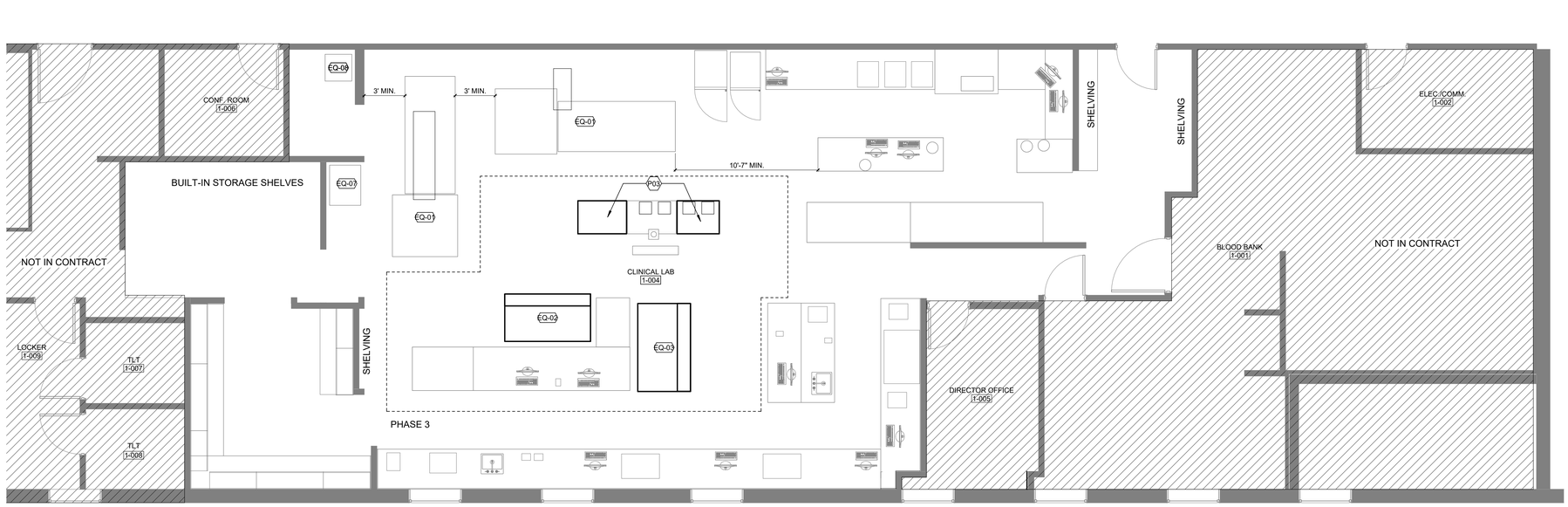
INTERIOR ELEVATIONS - PHASE 2

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DEMO PLAN - PHASE 3 B1
1/4" = 1'-0"
0 2' 4' 8'



NEW CONSTRUCTION PLAN - PHASE 3 A1
1/4" = 1'-0"
0 2' 4' 8'

FLOOR PLAN GENERAL NOTES

1. DO NOT SCALE DRAWINGS.
2. ALL ANGLES SHOWN ON THE FLOOR PLAN ARE 90 DEGREES UNLESS OTHERWISE NOTED.
3. REFER TO MECHANICAL AND ELECTRICAL PLANS FOR MORE INFORMATION. COORDINATE AS REQUIRED.
4. REFER TO THE LIFE SAFETY PLANS FOR FIRE RATING LOCATIONS. PARTITIONS MUST CONFORM TO TESTED ASSEMBLIES WHEN THEY ARE INDICATED TO BE RATED ON THE ARCHITECTURAL FLOOR PLANS. WHEN NO RATING IS INDICATED, CONSTRUCT THE PARTITION PER THE INDICATED TYPE AS NON-RATED ASSEMBLY.
5. EQUIPMENT PROVIDED BY SIEMENS. REFER TO SIEMENS' DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
6. PATCH EXISTING CONSTRUCTION SCHEDULED TO REMAIN. REPAIRED SURFACES TO BE FLUSH WITH ADJACENT FINISH SURFACES. PATCH, SAND, AND TEXTURE EXISTING SURFACES TO SAME QUALITY AS NEW CONSTRUCTION PRIOR TO INSTALLING NEW FINISHES. REFER TO THE FINISH MANUFACTURER'S GUIDELINES FOR INSTALLATION.

PHASE 3 SHEET NOTES

1. PHASE 3 INCLUDES COMMISSIONING OF NEW ANALYZERS AND REMOVAL OF EXISTING ONES. CAP FLOOR SINK.

OVERALL FLOOR PLAN LEGEND

- NOT IN SCOPE
- EXISTING WALL TO REMAIN
- EXISTING TO REMAIN
- DEMO
- NEW
- EQ-XX — EQUIPMENT TAG
- CG — CORNER GUARD

DEMO PLAN NOTES

D05	REMOVE EQUIPMENT
D06	EQUIPMENT TO BE MOVED, RE: A101.4 A1 FOR NEW LOCATIONS

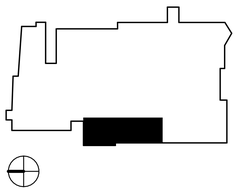
FLOOR PLAN NOTES

P03	ADD MOBILE WORKSTATIONS

EQUIPMENT SCHEDULE

Type Mark	Description	Comments
EQ-01	ANTELLICA	
EQ-02	SIEMENS UN-3000	
EQ-03	SYSMEX XN	
EQ-04	SIEMENS VISTA 500 ANALYZER	
EQ-05	SIEMENS CENTAUR XPT	
EQ-06	GENEXPERT CEPHEID	
EQ-07	UPS	
EQ-08	MILLIPORE SYSTEM	

KEY PLAN



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DEMO AND NEW CONSTRUCTION PLAN - PHASE 3

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PLUMBING SYMBOL LIST

SYMBOL	DESCRIPTION
UNDERGROUND PIPING	
—SAN—	SANITARY SEWER
—ST—	STORM SEWER
—OW—	OIL WASTE
—KW—	KITCHEN (GREASE) WASTE
—AW—	ACID WASTE
SUSPENDED PIPING	
—SAN—	SANITARY SEWER
—ST—	STORM SEWER
—KW—	KITCHEN (GREASE) WASTE
—OW—	OIL WASTE
—AW—	ACID WASTE
—V—	VENT
—OV—	OIL VENT
—AV—	ACID VENT
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RETURN
VALVES	
	SHUT OFF VALVE
	CHECK VALVE
	CIRCUIT SETTER / BALANCING COCK
	HOT WATER RETURN BALANCING VALVE ASSEMBLY
	GAS COCK
	SOLENOID VALVE
	PRESSURE REDUCING VALVE/PRESSURE BLENDING VALVE
	BUTTERFLY VALVE
	PRESSURE & TEMPERATURE RELIEF VALVE
	(ANGLE) DRAIN VALVE
	VACUUM RELIEF VALVE
GENERAL	
	BACKFLOW PREVENTER
M	WATER METER
	TEE (TOP)
	TEE (BOTTOM)
	90 DEGREE ELL TURNED DOWN
	90 DEGREE ELL TURNED UP (OR RISER UP AND DOWN)
	WASTE PIPE WITH TRAP
	GRADE/FLOOR CLEANOUT
	SUSPENDED CLEANOUT
	CAP
	HOSE BIBB
	NON-FREEZE WALL HYDRANT
	RECESSED NON-FREEZE WALL HYDRANT IN BOX
	VENT THROUGH ROOF
	ROOF DRAIN/OVERFLOW ROOF DRAIN
	FLOOR DRAIN/GARAGE DRAIN/AREA DRAIN
	FLOOR SINK
	TRENCH DRAIN
	OSD/HD
PITCH	PIPE PITCHES DOWN
	DIRECTION OF FLOW
	POINT OF NEW CONNECTION
	NEW PIPE
	EXISTING PIPE
	EXISTING PIPE TO BE REMOVED
	EXISTING FIXTURE/EQUIPMENT TO BE REMOVED

NOTE: DISREGARD SYMBOLS THAT DO NOT APPLY TO THIS PROJECT.

PLUMBING ABBREVIATION LIST

ABBREVIATION	DESCRIPTION
AFF	ABOVE FINISHED FLOOR
AG	AIR GAP
AP	ACCESS PANEL
CLG	CEILING
D	DISPOSER OR DEPTH
DCV	DOUBLE CHECK VALVE
DFU	DRAINAGE FIXTURE UNIT
DN	DOWN
DW	DISHWASHER
ET	EXPANSION TANK
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EXIST. (E)	EXISTING
FBO	FURNISHED BY OTHERS
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FS	FLOOR SINK
FT	FEET OR FOOT
GGB	GUY GRAY BOX
GPM	GALLONS PER MINUTE
GS	GREASE SEPARATOR
HD	HUB DRAIN OR HEAD
HW or DHW	DOMESTIC HOT WATER
IE	INVERT ELEVATION
IM	ICE MAKER
IW	INDIRECT WASTE
KS	KITCHEN SINK
L (LAV)	LAVATORY OR LENGTH
MAX	MAXIMUM
MR	MOP RECEPTOR
NFWH	NON-FREEZE WALL HYDRANT
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
ORD	OVERFLOW ROOF DRAIN
OSD	OPEN SITE DRAIN
PLBG	PLUMBING
PRV	PRESSURE REDUCING VALVE
RD	ROOF DRAIN
REF	REFRIGERATOR
RP	RECIRCULATING PUMP
RPBP/RPZ	REDUCED PRESSURE BACKFLOW PREVENTOR
SAN	SANITARY PIPE
SH	SHOWER
SK	SINK
SS	SERVICE SINK
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER
TYP.	TYPICAL
UR	URINAL
V	VENT OR VOLTS
VB	VACUUM BREAKER
VIF	VERIFY IN FIELD
VR	VACUUM RELIEF VALVE
W	WASTE OR WATTS
W/	WITH
WB	WATER BOX
WC	WATER CLOSET OR WATER COLUMN (INCHES OF)
WCO	WALL CLEANOUT
WH	WALL HYDRANT (HOSE BIBB) OR WATER HEATER
WM	WASHING MACHINE

NOTE: DISREGARD ABBREVIATIONS THAT DO NOT APPLY TO THIS PROJECT.

PLUMBING FIXTURE & EQUIPMENT SCHEDULE

FD-1 FLOOR DRAIN
ZURN MODEL NO. ZM1833 316 STAINLESS-STEEL BODY, LIGHT-DUTY PERFORATED GRATES, AND BEAD BLASTED FINISH FLOOR DRAIN . PROVIDE WITH SILICONE GASKETED TRAP SEAL, ASSE 1072 LISTED.

NOTE: PROVIDE WITH FUNNEL FOR INDIRECT WASTE.

FS-1 FLOOR SINK
ZURN MODEL NO. ZM1750-2 12" SQUARE CORROSION RESISTANT 316 STAINLESS-STEEL, NO-HUB RIM CONNECTION 4" LIGHT DUTY SANI-FLOR RECEPTACLE. INCLUDED GRATE TO BE HALF VARIATION.

NOTE: GRATE TO BE ORIENTED TO ACCOMMODATE INDIRECT DRAINAGE FROM CHEMISTRY UNITS.

TMV-1 THERMOSTATIC MIXING VALVE
SYMMONS MAXLINE MODEL 7230CKM THERMOSTATIC MIXING VALVE MAX 14 GPM @ 60-85 PSI, MINIMUM THERMOSTATICALLY CONTROLLED FLOW RATE 0.5 GPM. WITH A PRESSURE DROP OF 17 PSI, AND A OPERATING FLOW OF 9.2GPM. SOLID BRASS BODY, INTEGRAL SPRING CHECKS, STAINLESS-STEEL DEBRIS STRAINER, 3/8" COMPRESSION PORTS. TEMPERATURE CONTROL RANGE OF 59°F-115°F DEGREES. VANDAL-RESISTANT CAP WITH LIMIT STOP. MOUNTING BRACKET INCLUDED. 10-YEAR COMMERCIAL WARRANTY. 1070/1017 AND A112.18.1 CERTIFIED.

NOTE: FIELD SET TEMPERATURE TO 75°F.

RPBP-1 REDUCE PRESSURE BACKFLOW PREVENTOR
WATTS REGULATOR CO. MODEL LF009QT-S (FEBCO, WILKINS OR CONBRACO) BRONZE BODY REDUCE PRESSURE PRINCIPLE BACKFLOW PREVENTER, THE ASSEMBLY SHALL CONSIST OF A PRESSURE DIFFERENTIAL RELIEF VALVE LOCATED IN A ZONE BETWEEN TWO POSITIVES SEATING CHECK VALVES. ASSEMBLY IS FURNISHED WITH QUARTER TURN, FULL PORT, RESILIENT SEATED TEST COCKS, AIR GAP DRAIN FITTING AND BRONZE STRAINER. BODY AND SHUTOFFS SHALL BE CONSTRUCTED USING LEAD-FREE CAST COPPER SILICON ALLOY MATERIALS.

PROVIDE RPBP WITH WATTS 'SENTRYPLUS ALERT' FLOOR SENSOR CONNECTION KIT FOR FLOOR PROTECTION AND WIRELESS ALERT. KIT TO BE INTEGRATED INTO FACILITY BMS. COORDINATE WITH FACILITY CONTROLS INSTALLER AND PROVIDE ALL REQUIRED COMPONENTS. POWER REQUIREMENTS: 0.7 AMPS 115V/1PH.

FCO FLOOR CLEANOUT
ZURN MODEL NO. Z1400-K-ZS ADJUSTABLE FLOOR CLEANOUT WITH ANCHORING FLANGE AND STAINLESS-STEELTOP.

WCO WALL CLEANOUT
ZURN MODEL NO. Z1400-K-ZS ADJUSTABLE FLOOR CLEANOUT WITH ANCHORING FLANGE AND STAINLESS-STEELTOP.

PLUMBING GENERAL DEMOLITION NOTES

1. CONTRACTOR SHALL VISIT SITE AND COORDINATE EXACT EXTENT OF PLUMBING DEMOLITION REQUIRED.
2. COORDINATE WITH ALL RESPECTIVE TRADES FOR REMOVAL OF PLUMBING DEVICES AND EQUIPMENTS FOR THE PROPER DISCONNECTION AS REQUIRED.
3. PROTECT EXISTING BUILDING ELEMENTS FROM DAMAGE DURING DEMOLITION. PROVIDE ALL NECESSARY PROTECTIVE MEASURES. ANY DAMAGE THAT OCCURS IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR BACK TO ORIGINAL CONDITIONS.
4. ARRANGE FOR OPENING OF CEILINGS, CHASES, SHAFTS, ETC. WITH THE GENERAL CONTRACTOR FOR REMOVAL OF PLUMBING.
5. REMOVE EXISTING BUILDING PLUMBING SYSTEMS NOT TO BE REUSED IN THEIR ENTIRETY.
6. REMOVE ALL EXISTING PIPING BACK TO ACTIVE SOURCE LEAVING NO DEAD END RUNS. CAP AND ARRANGE WASTE AND VENT PIPING FOR FUTURE EXTENSION. VALVE AND CAP EXISTING WATER FOR FUTURE EXTENSION.
7. REMOVAL OF PIPING SHALL INCLUDE ALL INSULATION, HANGERS & SUPPORTS, ANCHORS, ETC.
8. REMOVE ALL PLUMBING FIXTURES, TRIM, AND ALL RELATED DEVICES INCLUDING SUPPORTS, BRACKETS, WASTES, TRAPS, STOPS, SUPPLIES, ETC.
9. REMOVE ALL EXISTING WATER HEATERS, TANKS, PUMPS AND RELATED EQUIPMENT AND DEVICES.
10. DISPOSE OF ALL MATERIALS IN ACCORDANCE TO CODE AND CITY REQUIREMENTS.

PLUMBING MATERIAL LIST

SERVICE DESCRIPTIOIN	MATERIAL
DOMESTIC COLD, HOT AND RETURN HOT WATER (ALL SIZES - ABOVE GROUND)	TYPE "L" HARD TEMPERED SEAMLESS COPPER TUBING CONFORMING TO ASTM B 88, WITH LEAD FREE SOLDER JOINTS CONFORMING TO ASTM B16.24
SANITARY, WASTE AND VENT (SUSPENDED) (3-INCHES AND LARGER)	SERVICE WEIGHT HUBLESS CAST IRON PIPE AND FITTINGS THOROUGHLY COATED WITH COAL TAR INSIDE AND OUTSIDE, CONFORMING TO ASTM A74, AND CAST IRON SOIL INSTITUTE STANDARD 301.
SANITARY, STORM, WASTE AND VENT (UNDERGROUND) (ALL SIZES)	SCHEDULE 40 SOLID CORE POLYVINYL CHLORIDE (PVC) PLASTIC PIPE AND FITTINGS CONFORMING TO ASTM D 2665, WITH SOLVENT CEMENTED JOINTS

CODE REFERENCES

2021 INTERNATIONAL PLUMBING CODE
2021 INTERNATIONAL BUILDLING CODE
2021 INTERNATIONAL ENERGY CODE

SHEET INDEX

P000	PLUMBING SYMBOLS, ABBREVIATIONS, NOTES, DETAILS, AND SCHEDULES	N/A
P001	PLUMBING SPECIFICATION	N/A
P002	PLUMBING DIAGRAMS	N/A
P101.1	LEVEL 01 UNDERGROUND PLUMBING PLAN - PHASE 1	1/4" = 1'-0"
P101.2	LEVEL 01 UNDERGROUND PLUMBING PLAN - PHASE 2	1/4" = 1'-0"
P101.3	LEVEL 01 UNDERGROUND PLUMBING PLAN - PHASE 3	1/4" = 1'-0"
P111.1	LEVEL 01 PLUMBING PLAN - PHASE 1	1/4" = 1'-0"
P111.2	LEVEL 01 PLUMBING PLAN - PHASE 2	1/4" = 1'-0"
P111.3	LEVEL 01 PLUMBING PLAN - PHASE 3	1/4" = 1'-0"

This work must also comply with **2021 IECC**.

Code violations that are found during inspections are required to be corrected. Permit issuance does not grant approval of a code violation.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: **rbrubake**
Date: **May 12, 2026**
2021 INTERNATIONAL CODES & 2023 NEC

PLUMBING GENERAL NOTES

1. A COMPLETE AND ACCURATE DESCRIPTION OF ALL ELECTRICAL, HVAC, PLUMBING AND FIRE PROTECTION SYSTEMS WITHIN THE AFFECTED AREAS CANNOT BE ACCOMPLISHED THROUGH THE MEDIA OF DRAWINGS AND SPECIFICATIONS. IN EVERY CASE WHERE SUCH EXISTING WORK PREVENTS THE PROPER CONSTRUCTION OF NEW WORK AS INDICATED, PERFORM NECESSARY WORK AND PROVIDE NECESSARY MATERIALS IN ORDER TO REMOVE, REROUTE, RELOCATE OR IN OTHER WAYS ALTER THAT EXISTING WORK. SUCH PERFORMANCE AS GENERALLY OUTLINED HEREIN AND IS FOUND NECESSARY UNDER FIELD CONDITIONS, SHALL BE CONSIDERED UNDER THE CONTRACT.
2. THE INFORMATION CONTAINED ON THE DRAWINGS IS IN ITSELF INCOMPLETE AND VOID UNLESS USED IN CONJUNCTION WITH ALL OF THE CONTRACT DOCUMENTS, SPECIFICATIONS, TRADE PRACTICES, APPLICABLE STANDARDS, CODES, ETC., INCORPORATED THEREIN BY THE REFERENCE WHICH THE CONTRACTOR CERTIFIES KNOWLEDGE OF BY SIGNING THE CONTRACT.
3. CONTRACTOR SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH THE DRAWINGS AND THE SPECIFICATIONS WHICH, IN TURN, MAY AFFECT THE COST OF THE PROPER COMPLETION OF THE WORK HEREIN SPECIFIED, AND CONTRACTOR SHALL INCLUDE EVERYTHING REQUISITE AND NECESSARY TO THE ENTIRE FINISHING OF THE WORK, NOTWITHSTANDING THAT EVERY ITEM NECESSARILY REQUIRED BY SUCH WORK IS NOT ESPECIALLY MENTIONED OR SHOWN. CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIAL NECESSARY FOR THE COMPLETE REMOVAL, MODIFICATION AND REPLACEMENT OF ALL WORK SHOWN.
4. ALL WORK SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE APPLICABLE BUILDING AND PLUMBING CODES AND/OR ALL OTHER CODES AND/OR REGULATIONS BY ANY OTHER AUTHORITIES HAVING JURISDICTION OVER THE WORK, DRAWINGS AND/OR SPECIFICATIONS NOTWITHSTANDING, AND THE CONTRACTOR SHALL MAKE SUCH ADJUSTMENTS AS REQUIRED TO CONFORM TO SUCH CODES AND/OR REGULATIONS AT NO ADDITIONAL COST TO OWNER.
5. CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY, UNRELIEVED BY PERIODIC OBSERVATION OF PLUMBING WORK BY THE ARCHITECT/ENGINEER FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS, FOR DIMENSIONS TO BE CONFIRMED AND CORRELATED ON THE JOB SITES, FOR REMOVAL OF ALL EQUIPMENT TO BE REPLACED FOR INSTALLATION OF NEW WORK, FOR COORDINATION OF THE VARIOUS TRADES, FOR SAFE CONDITIONS ON THE JOB SITE, AND FOR COMPLETE COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA).
6. CONTRACTOR SHALL STUDY THE DRAWINGS AND SPECIFICATIONS PRIOR TO SUBMITTING HIS PROPOSAL AND, IF LOCAL CODES OR LABOR CONDITIONS REQUIRE WORK IN ADDITION TO THAT SPECIFIED OR SHOWN, THE CONTRACTOR SHALL STATE IN HIS BID THE ITEMS INVOLVED AND THE ADDITIONAL AMOUNTS OF WORK REQUIRED FOR SUCH ITEMS. AFTER ENTERING INTO A CONTRACT, CONTRACTOR AGREES SUCH ITEMS ARE INCLUDED IN HIS BID AND WILL BE NO CAUSE FOR ADDITIONAL CHARGES TO THE BUILDING OWNER.
7. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTION FEES. CONTRACTOR SHALL INCLUDE IN HIS PROPOSAL THE COST OF ALL SUCH FEES AND ALL OTHER COSTS IN CONNECTION WITH THE PREPARATION, REPRODUCTION AND SUBMITTAL OF ANY DRAWINGS, DIAGRAMS, FORMS, OR OTHER MATERIALS THAT MAY BE REQUIRED BY THE INSPECTION AUTHORITIES.
8. VERIFY EXACT EXISTING CONDITIONS IN FIELD AND COORDINATE WITH STRUCTURE, DUCTWORK, CONDUITS, LIGHT FIXTURES, EXISTING PIPING, ETC., AS REQUIRED. REPORT ANY DISCREPANCIES TO ARCHITECT AND/OR ENGINEER PRIOR TO STARTING ANY WORK. ANY SUCH CONFLICTS SHALL BE INDICATED ON SHOP DRAWINGS.
9. ALL WORK PERFORMED BY THIS CONTRACTOR, INCLUDING ALL NECESSARY CUTTING OR DRILLING OPERATIONS, SHALL BE PERFORMED SO AS TO CAUSE A MINIMUM OF INTERFERENCE FOR TENANTS, STAFF AND BUILDING OPERATIONS. ANY INTERRUPTION OF FIRE ALARM SYSTEM FUNCTIONS SHALL NOT BE PERMITTED WITHOUT NOTIFICATION AND PERMISSION OF THE FIRE DEPARTMENT AND BUILDING OWNER. PENETRATIONS THROUGH STRUCTURAL BEAMS BY GENERAL CONTRACTOR WITH LOCATIONS COORDINATED BY PLUMBING CONTRACTOR.
10. PROVIDE AN APPROVED FIRE-STOP SYSTEM AT ALL PIPE PENETRATIONS THROUGH ALL FIRE RATED WALLS, FLOORS AND CEILINGS.
11. ALL PLUMBING FIXTURES SHALL BE INSTALLED BY PLUMBING CONTRACTOR WITH REQUIRED TRAPS, STOP VALVES, SUPPLY PIPES, VACUUM BREAKERS AND OTHER MISCELLANEOUS ITEMS REQUIRED TO MAKE ALL CONNECTIONS.
12. ALL EXISTING SYSTEMS SHALL BE KEPT IN OPERATION THROUGHOUT THE CONSTRUCTION PERIOD AND ONLY SHUTDOWNS WHICH HAVE BEEN REQUESTED IN WRITING TO THE BUILDING OWNER WILL BE PERMITTED AND SHALL BE PERFORMED AT A TIME AND IN A MANNER SO AS TO CAUSE A MINIMUM OF INCONVENIENCE FOR TENANTS.
13. ALL CUTTING AND DRILLING SHALL BE DONE BY THIS CONTRACTOR. UNDER NO CIRCUMSTANCES SHALL STRUCTURAL WORK BE CUT WITHOUT THE APPROVAL OF THE ARCHITECT AND BUILDING OWNER. ALL PATCHING SHALL BE DONE BY THE GENERAL CONTRACTOR.
14. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL OBTAIN AND TURN OVER TO THE BUILDING OWNER A CERTIFICATE OF INSPECTION INDICATING APPROVAL AND ACCEPTANCE OF THE WORK BY THE INSPECTION AUTHORITIES.
15. CONTRACTOR SHALL SUBMIT COMPLETE, COORDINATED, SHOP DRAWINGS INCLUDING ALL WORK AND MATERIALS, PIPE SIZES, LOCATIONS, AND ELEVATIONS, CORES THROUGH SLAB ETC., WHICH MUST BE APPROVED BY ARCHITECT AND ENGINEERS PRIOR TO STARTING WORK. ALL PENETRATIONS THROUGH STRUCTURAL BEAMS BY GENERAL CONTRACTOR WITH LOCATIONS COORDINATED BY PLUMBING CONTRACTOR. CONTRACTORS WHO FAIL TO SECURE PRIOR APPROVAL ASSUME FULL RESPONSIBILITY AND LIABILITY FOR SAID WORK AND/OR MATERIALS. ANY PROBLEMS WHICH ARISE AS A RESULT SHALL BE AT SAID CONTRACTORS EXPENSE.
16. ALL WORK SHALL CONFORM TO BUILDING OWNER'S AND TENANT'S STANDARDS AND PROCEDURES.
17. IN INSTANCES WHERE EXISTING PIPING INSULATION AT CONNECTION POINTS OR EXISTING AREAS IS DAMAGED DUE TO NEW WORK, THIS CONTRACTOR SHALL REPLACE SAME TO THE SATISFACTION OF THE BUILDING OWNER AND AS SPECIFIED FOR NEW WORK.
18. IN ALL CASES WHERE NEW EQUIPMENT IS INSTALLED AND HAS TO BE CONNECTED TO EXISTING FACILITIES, THE CONTRACTOR SHALL VERIFY THE CAPACITIES AT THE INDICATED POINT OF CONNECTION. SHOULD THE EXISTING CONDITIONS REQUIRE THE NEW BRANCH TO BE ROUTED TO ANOTHER LOCATION, THE CONTRACTOR SHALL PERFORM THIS WORK AS PART OF HIS CONTRACT.
19. WHERE EXISTING EQUIPMENT PREVENTS PROPER INSTALLATION OF PROPOSED EQUIPMENT, REROUTE OR ALTER EXISTING EQUIPMENT SO AS TO ACCOMMODATE PROPOSED WORK REQUIREMENTS.
20. PROTECT EXISTING BUILDING STRUCTURE AND GROUNDS FROM ANY DAMAGE WHICH MAY OCCUR DURING INSTALLATION OF NEW WORK. ANY DAMAGE TO EXISTING FACILITIES SHALL BE REPAIRED, REPLACED OR RESTORED TO THE ORIGINAL CONDITION AND SATISFACTION OF THE BUILDING OWNER.
21. ALL REMOVAL AND REPLACEMENT OF EXISTING CEILINGS REQUIRED FOR COMPLETION OF NEW PLUMBING WORK SHALL BE BY THE GENERAL CONTRACTOR. COORDINATE ALL SUCH WORK WITH THE GENERAL CONTRACTOR, BUILDING OWNER AND ARCHITECT PRIOR TO SUCH WORK.
22. EXPOSED EXISTING PIPING NOT TO REMAIN IN USE SHALL BE REMOVED. DISCONNECT ABANDONED WATER PIPING FROM DISTRIBUTION SYSTEM AND DRAIN DOWN. CAP OR PLUG ALL UNUSED OPENINGS.
23. UNDER NO CIRCUMSTANCES WILL THE CONTRACTOR BE GIVEN CONSIDERATION FOR ADDITIONAL COMPENSATION DUE TO HIS NEGLECT TO COMPLY WITH ALL OF THE FOREGOING REQUIREMENTS.

FIRE PROTECTION GENERAL NOTE

THE FIRE PROTECTION SCOPE IS DESIGN BUILD BY THE FIRE PROTECTION CONTRACTOR, AND THE FIRE PROTECTION CONTRACTOR SHALL BE THE ENGINEER OF RECORD.

MODIFY THE EXISTING SPRINKLER PIPING AND SPRINKLER COVERAGE TO SUPPORT PROPOSED WORK INCLUDING RELOCATION OF PIPING TO SUPPORT PROPOSED CEILING STRUCTURE AND SYSTEMS. IT IS THE RESPONSIBILITY OF THE FIRE PROTECTION CONTRACTOR TO VERIFY EXACT SCOPE IN FIELD, CONFIRM EXISTING BUILDING CONDITIONS, CONFIRM FACILITY STANDARDS AND COORDINATE WITH ARCHITECTURAL DRAWINGS AS IT PERTAINS TO PROPOSED WORK. SPRINKLER COVERAGE AND INSTALLATIONS SHALL BE IN STRICT ACCORDANCE TO NFPA 13 LOCAL AUTHORITY REQUIREMENTS AND ALL FACILITY STANDARDS.

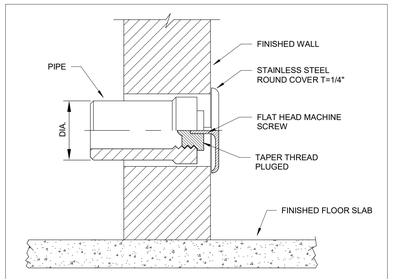
PROVIDE TEMPORARY SPRINKLER COVERAGE DURING CONSTRUCTION AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE LOCAL FIRE DEPARTMENT.

PROVIDE SPRINKLER HEADS TO MATCH BUILDING STANDARD.

PROVIDE FIRE EXTINGUISHERS AND FIRE EXTINGUISHER CABINETS WHERE IDENTIFIED ON THE ARCHITECTURAL DRAWINGS. COORDINATE STYLE WITH FACILITY STANDARD AND INSTALLATION WITH WALL DEPTH. WHERE FACILITY STANDARDS REQUIRE ADDITIONAL WALL DEPTH, COORDINATE LOCATIONS WITH THE ARCHITECT.

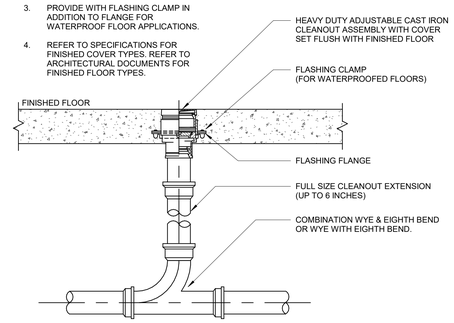
WHERE CEILING MODIFICATIONS ARE REQUIRED TO ACCESS THE SPRINKLER PIPING, COORDINATE REQUIREMENTS WITH ARCHITECT.

SEPARATE FIRE SPRINKLER PERMIT REQUIRED:
Due to the proposed work the general contractor is required to obtain the services of a fire sprinkler contractor to determine if a separate sprinkler permit is required. If it is determined that the spacing of the fire sprinkler heads is not incompliance, then a separate fire sprinkler permit is required. Approval of the documents is required prior to system installation or any requires for inspection. A Certificate of Occupancy or final approval cannot be issued by the Building Division without this fire protection system. 2021 IFC, Section 105.6.1

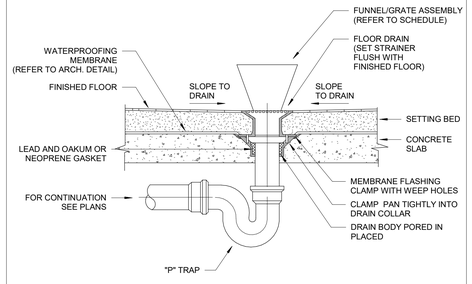


1 WALL CLEANOUT
NOT TO SCALE

GENERAL NOTES:
1. CLEANOUTS SHALL BE FULL SIZE OF DRAINAGE PIPING UP TO 6 INCHES.
2. PROVIDE CLEANOUT WITH CAST IRON SPIGOT FERRULE WITH CAST BRONZE TAPERED THREAD CLOSURE PLUG SEALED WITH NON-HARDENING PIPE JOINT COMPOUND.
3. PROVIDE WITH FLASHING CLAMP IN ADDITION TO FLANGE FOR WATERPROOF FLOOR APPLICATIONS.
4. REFER TO SPECIFICATIONS FOR FINISHED COVER TYPES. REFER TO ARCHITECTURAL DOCUMENTS FOR FINISHED FLOOR TYPES.



2 DIAGRAM OF FLOOR CLEANOUT
NOT TO SCALE



3 FLOOR DRAIN WITH FUNNEL DETAIL
NOT TO SCALE

COLORADO LICENSED
JONATHAN GRANT
48502
PROFESSIONAL ENGINEER
2/19/2026

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LAB ANALYZER
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Health ONE

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Issued For:	CONSTRUCTION DOCUMENTS
Date:	02/19/2026

REVISIONS

NO	DESCRIPTION	DATE

P000

PLUMBING SYMBOLS, ABBREVIATIONS, NOTES, DETAILS AND SCHEDULES

Treanor NO. Project Number

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PLUMBING SPECIFICATION

PART 1 - BASIC REQUIREMENT

1.01 RELATED REQUIREMENTS

A. THIS SPECIFICATION SHALL CONTROL ALL LABOR, SERVICES, MATERIALS, EQUIPMENT AND PERFORMANCE OF ALL WORK REQUIRED FOR THE INSTALLATION OF ALL PLUMBING, AS INDICATED WITHIN CONTRACT DOCUMENTS.

B. DEFINITIONS:

1. "PIPING" INCLUDES, IN ADDITION TO PIPE, ALL FITTINGS, VALVES, PIPE COVERING, HANGERS, AND OTHER SUPPORTS AND ACCESSORIES RELATED TO SUCH PIPING.
2. CONCEALED MEANS HIDDEN FROM SIGHT IN CHASES, FURRED SPACES, SHAFTS, HUNG CEILINGS, EMBEDDED IN CONSTRUCTION, IN CRAWL SPACES OR BURIED.
3. "EXPOSED" MEANS NOT INSTALLED UNDERGROUND OR "CONCEALED" AS DEFINED ABOVE.
4. "INVERT ELEVATIONS" MEANS THE ELEVATION OF THE INSIDE BOTTOM OF PIPE, OR RELATED DEVICE.
5. "PROVIDE" MEANS TO FURNISH AND INSTALL COMPLETE.

1.02 GENERAL REQUIREMENTS

A. ALL PLUMBING WORK SHALL BE INSTALLED IN STRICT CONFORMANCE TO CITY OF AURORA, INTERNATIONAL PLUMBING CODE AND ALL LOCAL AMENDMENTS.

B. CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING BID TO VERIFY CONDITIONS AND WORK REQUIRED.

C. PRODUCTS AND EXECUTION SHALL BE PROVIDED FOR A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM THROUGHOUT THE EXTENT OF THE PROJECT.

D. PROVIDE SHOP DRAWINGS AND PRODUCT SUBMITTALS FOR ARCHITECT/ENGINEER REVIEW AND APPROVAL PRIOR TO ANY WORK.

E. ALL PRODUCTS AND EQUIPMENT SHALL BE UL LISTED AND APPROVED BY THE LOCAL AUTHORITY.

F. ALL NEW PLUMBING FIXTURES AND TRIM SHALL COMPLY WITH RECOGNIZED ASME AND ANSI STANDARDS.

G. EACH MAJOR COMPONENT OR PIECE OF EQUIPMENT TO HAVE THE MANUFACTURER'S NAME, ADDRESS, MODEL NUMBER AND RATING ON A PLATE SECURELY AFFIXED IN A CONSPICUOUS PLACE.

H. CODE RATINGS, LABELS OR OTHER DATA WHICH ARE DIE-STAMPED OR OTHERWISE AFFIXED TO THE SURFACE OF THE EQUIPMENT SHALL BE IN VISIBLE LOCATION.

I. CONTRACTOR SHALL COORDINATE PROPOSED WORK WITH EXISTING FIELD CONDITIONS INCLUDING ARCHITECTURAL BUILDING ELEMENTS, STRUCTURAL CONDITIONS, AND EXISTING MECHANICAL AND ELECTRICAL CONDITIONS.

J. CONTRACTOR SHALL ADHERE TO ALL BASE BUILDING AND CURRENT FACILITY STANDARDS AND REQUIREMENTS. SHUT-DOWN OF EXISTING BUILDING SYSTEMS FOR NEW PLUMBING CONNECTIONS SHALL BE AUTHORIZED, SCHEDULED AND PERFORMED IN ACCORDANCE TO BUILDING MANAGEMENT REQUIREMENTS. BUILDING SHALL BE NOTIFIED NO LESS THAN 72 HOURS PRIOR TO ANY SHUT-DOWNS. ACCESS TO AREAS OUTSIDE WORKS SPACES, SUCH AS ADJOINING SPACES AND SPACES IMMEDIATELY BELOW, SHALL BE PERFORMED IN ACCORDANCE TO BUILDING MANAGEMENT REQUIREMENTS.

K. UNLESS SPECIFICALLY INDICATED, NO EXISTING PLUMBING EQUIPMENT, FIXTURE, TRIM, SUPPORT OR RELATED DEVICES SHALL BE REUSED.

1.03 WORK INCLUDED

A. INCLUDE ALL COSTS RELATED TO PROVIDE ALL PERMITS, LICENSES, INSPECTIONS, APPROVALS AND OTHER ARRANGEMENTS FOR WORK.

B. PROVIDE DEMOLITION OF EXISTING PLUMBING INCLUDING REMOVAL OF ALL DEBRIS. REMOVE ALL PIPING BACK TO ACTIVE SOURCE AND CAP LEAVING NO DEAD ENDS.

C. PRIOR TO DEMOLITION OF EQUIPMENT, FIXTURES OR TRIM, COORDINATE WITH OWNER AND/OR BUILDING MANAGEMENT ANY EXISTING EQUIPMENT, FIXTURES OR DEVICES THAT SHALL BE RETAINED. CAREFULLY REMOVE SUCH ITEMS AND TURN OVER TO OWNER OR BUILDING MANAGEMENT.

D. PROVIDE REMOVAL OF ALL CONSTRUCTION DEBRIS IN ACCORDANCE WITH APPLICABLE STANDARDS AND FACILITY REQUIREMENTS.

E. PROVIDE EXCAVATION, SPOILS REMOVAL AND BACKFILL FOR ALL BELOW GRADE WORK.

F. PROVIDE PLUMBING FIXTURES AS INDICATED ON PLUMBING AND ARCHITECTURAL DRAWINGS. FOR EXACT LOCATION OF PLUMBING FIXTURES, REFER TO ALL ARCHITECTURAL AND CONSULTANT PLANS AND ELEVATIONS.

G. MAKE NEW CONNECTIONS TO EXISTING SEWERS, STACKS, RISERS AND BRANCH PIPING AS INDICATED ON PLANS AND RISER DIAGRAMS, AND AS NECESSARY TO COMPLETE THE WORK. EXISTING DRAINAGE PIPING SHALL BE CLEANED AND INSPECTED IN ACCORDANCE TO CODE PRIOR TO REUSE. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL SERVICES RELATED TO CLEANING AND INSPECTIONS.

H. INSTALL PLUMBING WITH ADEQUATE PROVISIONS TO CONTROL EXPANSION AND CONTRACTION.

I. PROVIDE AND SET SLEEVES FOR ALL PIPING SYSTEMS PASSING THROUGH WALLS, FLOORS, PARTITIONS, ETC. SLEEVES SHALL BE SIZED AT LEAST TWO PIPE DIAMETERS LARGER THAN PIPING, OR OUTSIDE DIAMETER OF INSULATED PIPING.

J. PROVIDE ROUGH-IN AND FINAL CONNECTIONS TO ALL APPLIANCES AND EQUIPMENTS FURNISHED BY OTHERS, INCLUDING ALL REQUIRED DEVICES.

K. PROVIDE NEW FULL SIZE PLUMBING WASTE, VENT AND WATER SERVICE STUBS WHERE CONNECTIONS TO EXISTING BUILDING SERVICE STUBS ARE MADE.

L. PROVIDE INSULATION ON ALL DOMESTIC WATER PIPING, HORIZONTAL STORM DRAINAGE. INSULATION ON DOMESTIC WATER PIPING SHALL BE COMPLETE, INCLUDING THE INSULATION OF CONCEALED PIPING WITHIN WALLS AND CHASES.

M. PROVIDE ALL CUTTING AND PATCHING OF BUILDING ELEMENTS AS REQUIRED FOR INSTALLATION OF WORK HERE IN SPECIFIED, AND COORDINATE SCOPE WITH GENERAL CONTRACTOR. ALL WORK SHALL BE COORDINATED AND APPROVED BY BUILDING AND ARCHITECTURAL FIELD REPRESENTATIVE PRIOR TO ANY WORK BEING PERFORMED.

N. PROVIDE FIRE-STOP AT ALL FLOOR AND WALL PENETRATIONS AS REQUIRED BY PROJECT PARAMETERS AND LOCAL CODE AUTHORITY.

O. PROVIDE ALL ACCESS PANELS. PLUMBING CONTRACTOR TO GIVE ALL LOCATIONS AND DIMENSIONS OF ALL REQUIRED ACCESS PANELS TO GENERAL CONTRACTOR. GENERAL CONTRACTOR WILL SUBMIT TO ARCHITECT FOR APPROVAL AND FINISH REQUIREMENTS PRIOR TO INSTALLATION.

P. COORDINATE PROPOSED WORK WITH ADDITIONAL TRADES AND OTHERS INVOLVED PRIOR TO ANY INSTALLATION WORK.

Q. PROVIDE PIPING IDENTIFICATION MARKERS FOR ALL PIPING SYSTEMS WITH ANSI/ASME STANDARD COLORS AND LABELS. MARKERS SHALL BE INSTALLED 25 FEET ON CENTER.

R. PROVIDE VALVE TAGS OF BRASS OR STAINLESS STEEL HAVING A MINIMUM OF 1-1/2 INCH DIAMETER. PROVIDE COMPLETED VALVE CHART INDICATING VALVE SERVICE AND LOCATION.

S. PROVIDE AS-BUILT DRAWINGS IN AUTOCAD 2010 FORMAT AT COMPLETION OF PROJECT.

T. PROVIDE TWO COPIES OF OWNER'S OPERATION AND MAINTENANCE MANUALS WITH ALL PLUMBING EQUIPMENT, FIXTURES, TRIM AND DEVICES, MANUFACTURER'S MAINTENANCE INSTRUCTIONS AND MANUALS.

1.04 CLEANING

A. COORDINATE GENERAL CLEANUP WITH BUILDING MANAGEMENT.

B. PROVIDE CLEANING AND INSPECTION OF EXISTING DRAINAGE PIPING WHERE CONNECTIONS OF NEW PIPING WILL BE MADE.

C. PROVIDE ALL NECESSARY MEANS FOR ADEQUATE CLEANING, FLUSHING AND DRAINING TO PERMIT THOROUGH FLUSHING OF ALL THE PIPING SYSTEMS, INCLUDING BOTH WATER AND DRAINAGE.

D. PROVIDE DISINFECTION OF ALL DOMESTIC WATER PIPING IN ACCORDANCE WITH CODE, HEALTH DEPARTMENT AND APPLICABLE STANDARDS.

E. TESTING AND RESULTS SHALL BE PERFORMED AND DOCUMENTED BY A LABORATORY CERTIFIED IN ACCORDANCE TO PLUMBING CODE. IF RESULTS OBTAINED DO NOT MEET STANDARDS, DISINFECTION PROCEDURES SHALL BE REPEATED.

F. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR PERMIT THE USE OF ANY PORTION OF DOMESTIC WATER SYSTEMS UNTIL SUCH SYSTEM HAS BEEN PROPERLY DISINFECTED, FLUSHED AND CERTIFIED.

1.05 FIELD TESTING

A. TESTING SHALL BE IN STRICT COMPLIANCE TO THE PLUMBING CODE.

B. NO WORK SHALL BE ENCLOSED, CONCEALED, COVERED UP OR USED UNTIL THE SYSTEMS HAVE BEEN INSPECTED AND APPROVED BY THE CODE OFFICIALS AND ARCHITECTURAL FIELD REPRESENTATIVE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ALL NECESSARY ARRANGEMENTS FOR INSPECTIONS.

C. EACH SYSTEM SHALL BE TESTED FOR A MINIMUM OF 4 HOURS AT 1-1/2 TIMES IT'S DESIGN PRESSURE, OR GREATER WHERE INDICATED. WATER SYSTEMS SHALL BE TESTED AT 125 PSI MINIMUM FOR AT LEAST 4 HOURS. DRAINAGE WASTE AND VENT SYSTEMS SHALL BE TESTED AT 10 FOOT HEAD OF WATER OR 5 PSI AIR PRESSURE FOR AT LEAST 4 HOURS. SYSTEMS MAY BE TESTED IN SECTIONS.

D. LEAKING JOINTS DISCOVERED DURING TESTING SHALL BE REPLACED AND REMADE. ENTIRE SYSTEM OR PORTION SHALL BE RETESTED ACCORDINGLY.

E. FIXTURES AND EQUIPMENT SHALL BE TESTED IN ACCORDANCE TO MANUFACTURER'S INSTRUCTIONS.

PART 2 - BASIC MATERIALS

2.01 PIPES AND FITTINGS

A. ABOVE GROUND DRAINAGE AND VENT PIPING: SERVICE WEIGHT HUBLESS CAST IRON PIPE, THOROUGHLY COATED WITH COAL TAR INSIDE AND OUTSIDE, CONFORMING TO ASTM A74 AND CAST IRON SOIL INSTITUTE STANDARD 301. FITTINGS SHALL BE HUBLESS CAST-IRON SOIL FITTINGS OF THE SAME GRADE AND COATED IN THE SAME MANNER. MAKE ALL JUNCTIONS WITH COMBINATION "Y" AND 1/8 BEND FITTINGS. JOINTS SHALL BE MADE WITH EXTRA HEAVY DUTY HUBLESS COUPLINGS HAVING A STAINLESS STEEL CLAMPS AND SHIELD WITH A MINIMUM OF 4 CLAMPS FOR 4 INCH AND SMALLER PIPING AND 6 CLAMPS FOR 5 INCH AND LARGER PIPING SIMILAR TO HUSKY SERIES 4000 OR SHALL BE MADE WITH MG COUPLING AS MANUFACTURED BY MG PRINTED PRODUCTS CO. OR, WHICH IS A CAST IRON COUPLING CONSISTING OF TWO CAST IRON CLAMPS, A NEOPRENE GASKET AND STAINLESS STEEL BOLTS AND NUTS, CONFORMING TO ASTM C564.

B. UNDERGROUND WASTE AND VENT PIPING IN ALL SIZES SHALL BE SCHEDULE 40 PVC PIPE AND FITTINGS IN ACCORDANCE TO ANSI/ASTM 2665 AND ASTM D1785. JOINTS SHALL BE PRIMED AND SOLVENT WELDED IN ACCORDANCE TO ANSI/ASTM D2564. ALL PIPE, FITTINGS AND JOINING MATERIAL SHALL BE PROVIDED FROM ONE MANUFACTURER. HANGERS SHALL BE NON-ABRASIVE AND SPACED IN ACCORDANCE TO THE MANUFACTURER'S INSTRUCTIONS.

C. COPPER WATER PIPE AND FITTINGS - ALL SIZE: PIPE SHALL BE HARD TEMPERED, SEAMLESS COPPER TUBING, TYPE "L" CONFORMING TO ASTM STANDARD B-88. FITTINGS IN COPPER TUBING 2-1/2 INCH AND SMALLER SHALL BE WROUGHT SWEAT TYPE FITTINGS MANUFACTURED OF SEAMLESS TUBING FORGED BRONZE OR BRASS ROD TO MEET SAME STANDARD B16.22. ALL FITTINGS IN COPPER TUBING 3-INCH AND LARGER MAY BE CAST RED BRONZE SOLDER TYPE FITTINGS MEETING ASTM STANDARD B16.18. IN ALL CASES WHERE COPPER PIPE CONNECTIONS ARE MADE TO PIPING OR AN ITEM OF EQUIPMENT OF A DISSIMILAR METAL, PROVIDE SOLID BRASS THREADED TRANSITION PIECES IF CONNECTION WILL BE CONCEALED. IF NOT CONCEALED, USE DIELECTRIC UNIONS. ALL JOINTS SHALL BE SOLDERED IN ACCORDANCE WITH THE COPPER DEVELOPMENT ASSOCIATION COPPER TUBE HANDBOOK USING 'LEAD-FREE' SOLDER.

2.02 INSULATION

A. INSULATION FOR ALL SIZE PIPING: TYPE I GRADE A GLASS FIBER PREFORMED PIPE INSULATION IN ACCORDANCE TO ASTM C 547 WITH FACTORY APPLIED VAPOR BARRIER ALUMINUM BACKING IN ACCORDANCE TO ASTM C 1136. FITTINGS SHALL BE FIELD INSULATED AND COVERED WITH PREFORMED PVC JACKETS. SEALANT AND ADHESIVES SHALL BE IN ACCORDANCE TO MANUFACTURER'S INSTRUCTIONS.

B. INSULATION SHALL RUN UNINTERRUPTED. PROVIDE OVERSIZED HANGERS AND INSULATION SADDLES FOR ALL INSULATED PIPING.

C. INSULATION SHALL COMPLY WITH 2018 INTERNATIONAL ENERGY CODE WITH INSULATION ON PIPE COMPLYING WITH THE FOLLOWING TABLE:

MINIMUM INSULATION THICKNESS

TEMPERATURE (F)	CONDUCTIVITY (BTU-IN)/(H-FT2/-F)	PIPE SIZE (IN) <1"	1~1-1/4"	1-1/2"~3"	4"~8"
141-200	0.25-0.29	1.5"	1.5"	2.0"	2.0"
105-140	0.21-0.28	1.0"	1.0"	1.5"	1.5"
40-60	0.21-0.27	1.0"	1.0"	1.0"	1.0"

2.03 VALVES

A. PROVIDE VALVES FOR ALL PIPING SYSTEMS FOR PROPER CONTROL AND ISOLATION OF EQUIPMENT, FIXTURES AND DEVICES. PROVIDE VALVES FOR PROPER OPERATION OF EQUIPMENT.

B. ALL VALVES SHALL BE LISTED AS LEAD-FREE IN COMPLIANCE WITH NFS STANDARD 61.

C. APPROVED VALVES SHALL BE AS MANUFACTURED BY NIBCO, APOLLO-CONBRACO, MILWAUKEE, STOCKHAM OR WATTS. ALL VALVES SHALL BE LISTED FOR DOMESTIC PLUMBING APPLICATIONS.

D. SHUT OFF VALVES SHALL BE PROVIDED AT CONNECTION AND EXTENSION FROM EXISTING SYSTEMS, OUTSIDE EACH ROOM WHERE PLUMBING OCCURS, AND TO ISOLATE EACH ITEM OF EQUIPMENT, APPLIANCE AND FIXTURE.

E. BALL VALVES 2 INCH AND SMALLER: TWO-PIECE LEAD FREE DEZINCIFICATION RESISTANT BRONZE BODY ASTM B 584, FULL PORT, 600 PSIG CWP, BLOW-OUT PROOF STEM, CHROME PLATED BALL, LEVER HANDLE AND THREADED CONNECTIONS, EQUAL TO NIBCO MODEL NO. T-685-66-LF.

F. GATE VALVES 2 INCH AND SMALLER: CLASS 125, NON-RISING STEM, BRONZE BODY ASTM B 62, 200 PSIG CWP, SOLID WEDGE BRONZE, ASBESTOS FREE PACKING, THREADED CONNECTIONS AND MALLEABLE IRON HANDWHEEL, EQUAL TO NIBCO MODEL NO. T-113-LF.

G. GATE VALVES 2-1/2 INCH AND LARGER: CLASS 125, OS&Y, GRAY CAST IRON BODY ASTM A 126, 200 PSIG CWP, SOLID WEDGE BRONZE, ASBESTOS FREE PACKING, FLANGED CONNECTIONS AND MALLEABLE IRON HANDWHEEL, EQUAL TO NIBCO MODEL NO. F-617-O.

H. CHECK VALVES 2 INCH AND SMALLER SHALL BE: CLASS 125, BRONZE SWING CHECK VALVE WITH BRONZE DISC ASTM B 62, 200 PSIG CWP, Y-PATTERN HORIZONTAL FLOW, AND THREADED CONNECTIONS EQUAL TO NIBCO MODEL NO. T-413-Y-LF.

I. CIRCUIT SETTERS: BRONZE BODY BALL TYPE CALIBRATED BALANCING VALVES AS MANUFACTURED BY BELL & GOSSETT 'CIRCUIT SETTER PLUS', OR APPROVED EQUAL AS MANUFACTURES BY TACO OR ARMSTRONG.

2.04 SUPPORTS AND HANGERS

A. PROVIDE ALL NECESSARY HANGERS, SUPPORTS, BUILDING ATTACHMENTS, SUPPLEMENTAL STEEL, ANCHORS, INSERTS, ETC., AS REQUIRED TO INSTALL THE PLUMBING WORK. HANGERS AND SUPPORTS SHALL BE CAPABLE OF SUPPORTING PIPE LOADS AND FULL CONTENTS WITH ALL RELATED DEVICES, PUMPS, ETC.

B. PIPE SHALL BE SUPPORTED IN ACCORDANCE TO CODE, MANUFACTURER REQUIREMENTS, MSS STANDARDS AND CONTRACT DOCUMENTS.

C. HANGERS, SUPPORTS AND RELATED ITEMS SHALL HAVE FACTORY COATED FINISHES THAT WILL NOT PROMOTE GALVANIC OR CORROSION ACTION. RODS, NUTS AND MISCELLANEOUS FASTENERS SHALL BE GALVANIZED.

D. ADDITIONAL HANGERS MUST BE PROVIDED AT ALL VALVE ASSEMBLIES, AUTOMATIC VALVES, BY-PASSES, OR ELSEWHERE, WHERE REQUIRED TO PROPERLY SUPPORT ANY ADDITIONAL PIPE LOADINGS.

E. DRAINAGE PIPE SHALL BE ANCHORED TO RESTRAIN PIPING FROM AXIAL MOVEMENT.

F. ANCHORS, FASTENERS AND INSERTS SHALL BE UL LISTED HOT DIP GALVANIZED OF THE SIZES REQUIRED BY HANGER ROD SIZE, SUPPORTS AND THE IMPOSED LOADING.

G. MAXIMUM SPACING FOR HANGERS SHALL BE IN ACCORDANCE TO CODE. MSS STANDARDS AND PIPE MANUFACTURER INSTRUCTIONS. HANGERS SUPPORTING CAST IRON PIPE OF THE HUB AND SPIGOT TYPE IN 60 INCHES LENGTHS SHALL BE 60 INCHES O.C. HANGERS SHALL BE LOCATED AT THE PIPE HUB CONNECTIONS AND AT EACH FITTING.

H. REGARDLESS OF ANY OF THE ABOVE LISTED HANGER SPACING, PROVIDE A HANGER NOT MORE THAN 12 INCHES FROM EACH CHANGE IN DIRECTION OF PIPING.

2.05 SPECIALTIES

A. CLEANOUTS: PROVIDE CLEANOUTS IN ACCORDANCE TO CODE. EVERY HORIZONTAL SOIL OR WASTE PIPE SHALL BE PROVIDED WITH A READILY ACCESSIBLE CLEANOUT AT EVERY TURN, IN EACH JUNCTION AND AT THE END OF EACH BRANCH. ALL FLOOR AND WALL CONNECTIONS FOR FIXTURE TRAPS SHALL NOT BE CONSIDERED CLEANOUTS.

1. FLOOR CLEANOUTS IN ALL FINISH FLOORS, EXCEPT AS OTHERWISE NOTED, SHALL BE J.R. SMITH FIGURE 4026 (WADE, JOSAM OR ZURN) CAST IRON CLEANOUT WITH ROUND ADJUSTABLE MEDIUM DUTY NICKEL BRONZE TOP, INSIDE CAULK OUTLET, GASKET SEAL AND BRONZE PLUG.
2. FLOOR CLEANOUTS IN ALL UNFINISHED CONCRETE FLOORS SHALL BE J. R. SMITH FIGURE 4226 (WADE, JOSAM OR ZURN) CAST IRON CLEANOUT WITH ROUND ADJUSTABLE EXTRA HEAVY DUTY CAST IRON TOP.
3. FLOOR CLEANOUTS IN ALL TILE FLOORS SHALL BE J.R. SMITH SERIES 4186 (WADE, JOSAM OR ZURN) CAST IRON CLEANOUT WITH SQUARE ADJUSTABLE NICKEL BRONZE TOP WITH 1/8" TILE RECESS, INSIDE CAULK OUTLET, GASKET SEAL AND BRONZE PLUG.
4. FLOOR CLEANOUTS IN ALL TERRAZZO FLOORS SHALL BE J. R. SMITH SERIES 4186 (WADE, JOSAM OR ZURN) CAST IRON CLEANOUT WITH ROUND ADJUSTABLE NICKEL BRONZE TOP WITH 1/2" TERRAZZO RECESS, INSIDE CAULK OUTLET, GASKET SEAL AND BRONZE PLUG.
5. FLOOR CLEANOUTS IN CARPET AREAS SHALL BE J.R. SMITH SERIES 4026-Y (WADE, JOSAM, OR ZURN.) CAST IRON CLEANOUT WITH ROUND ADJUSTABLE MEDIUM DUTY NICKEL BRONZE TOP, INSIDE CAULK OUTLET, BRONZE PLUG AND CARPET MARKER.
6. CLEANOUTS EXTENDED TO GRADE SHALL BE J.R. SMITH SERIES 4256 (WADE, JOSAM OR ZURN) CAST IRON CLEANOUT WITH HEAVY DUTY COVER, INSIDE CAULK OUTLET, GASKET SEAL, BRONZE PLUG AND FLANGED CAST CLEANOUT HOUSING SET IN AN 18 INCH SQUARE BY 12 INCH DEEP CONCRETE PAD, PROVIDED BY THIS CONTRACTOR.
7. CLEANOUTS EXPOSED TO VIEW OR IN CEILING SPACE SHALL BE J.R. SMITH SERIES 4400C-BP (WADE, JOSAM OR ZURN) CAST IRON FERRULE, LESS COVER AND SCREW WITH CAST BRONZE PLUG.
8. CLEANOUTS AT CONCEALED RISERS SHALL BE J.R. SMITH FIGURE 4420 (WADE, JOSAM OR ZURN) CAST IRON FERRULE AND CAST BRONZE PLUG AND FIGURE 4725 ROUND FLUSH WITH STAINLESS STEEL OR NICKEL BRONZE COVER.

B. WATER HAMMER: PROVIDE ADEQUATE PROVISIONS TO AVOID HAMMER AND NOISE WITHIN WATER SUPPLY PIPING. FIXTURES SHALL BE PROVIDED WITH AIR CHAMBERS FULL SIZE OF THE SUPPLY PIPE. EQUIPMENT OR APPLIANCES WITH QUICK-CLOSING SOLENOID OPERATED VALVES SHALL HAVE A WATER HAMMER ARRESTOR INSTALLED ON THE SUPPLY SIDE.

C. GAUGES AND METERS: PROVIDE WHERE INDICATED ON DRAWINGS. PROVIDE TEMPERATURE GAUGE ON HOT WATER OUTLET AT ALL WATER HEATERS.

PART 3 - BASIC EXECUTION

3.01 DOMESTIC WATER

A. PROVIDE NEW DOMESTIC WATER PIPING SYSTEMS COMPLETE TO SUPPORT PROPOSED WORK.

B. PROVIDE ALL VALVES IN THE DOMESTIC WATER SYSTEMS WHERE REQUIRED BY CODE AND AS INDICATED ON THE PLANS FOR PROPER CONTROL AND SERVICING OF THE PIPING SYSTEMS.

C. PROVIDE EACH ITEM OF EQUIPMENT, APPLIANCE AND FIXTURE WITH A SHUT-OFF VALVE. FIXTURES SHALL BE PROVIDED WITH FIXTURE STOPS OR INTEGRAL CHECK-STOPS.

D. PROVIDE WATER HEATERS COMPLETE WITH EXPANSION TANKS, RELIEF VALVES, TRAP PRIMERS, PUMPS, SAFE PANS, FLOOR DRAINS AND ALL NECESSARY HARDWARE AND SUPPORTS. WHERE HEATERS ARE TO BE INSTALLED WITHIN CABINETS, HEATERS SHALL BE SET ON BUILDING FLOOR, NOT ON CABINET BASE.

E. MAKE HOT AND/OR COLD WATER CONNECTIONS TO EACH NEW FIXTURE, APPLIANCE OR ITEM OF EQUIPMENT.

F. INSTALL WATER PIPING WITHIN HEATED AREAS OF THE BUILDING ONLY AND NOT IN AREAS SUBJECT TO FREEZING.

G. PROVIDE MAKE UP WATER WITH CODE COMPLIANT BACKFLOW DEVICES FOR HVAC EQUIPMENT REQUIRING WATER CONNECTIONS.

H. INSTALL WATER PIPING WITH PITCH TO DRAIN TOWARDS FIXTURE OR EQUIPMENTS SERVED.

I. PROVIDE 12 INCH HIGH AIR CHAMBERS FULL SIZE OF SUPPLY PIPE ON WATER SUPPLY TO EACH INDIVIDUAL FIXTURE.

J. PROVIDE DI-ELECTRIC UNIONS OR FITTINGS WHERE CONNECTIONS OCCUR BETWEEN DISSIMILAR MATERIALS.

K. INSULATE ALL DOMESTIC WATER SYSTEMS INCLUDING CONCEALED PIPING WITHIN WALLS AND CHASES. INSULATION SHALL REMAIN UNINTERRUPTED AT HANGERS AND SUPPORTS.

L. PROVIDE BALANCING OF ALL CIRCULATED DOMESTIC HOT WATER SYSTEMS.

3.02 DRAIN, WASTE AND VENT

A. PROVIDE NEW DRAINAGE AND VENT PIPING SYSTEMS COMPLETE TO SUPPORT PROPOSED WORK. PROVIDE ROUGH-IN AND ALL FINAL CONNECTIONS OF WASTE AND VENT PIPING TO ALL PLUMBING FIXTURES AND EACH ITEM OF EQUIPMENT.

B. USE LONG RADIUS DRAINAGE PATTERN FITTINGS ON ALL DRAINAGE PIPING. FITTINGS SHALL BE IN ACCORDANCE WITH CODE. SANITARY TEES AND DOUBLE WYE OR DOUBLE COMBINATION WYES ARE PROHIBITED IN HORIZONTAL APPLICATIONS.

C. ALL HORIZONTAL SUSPENDED WASTE PIPING SHALL BE RUN AS CLOSE TO OVERHEAD CONSTRUCTION AS POSSIBLE AND SHALL BE SECURELY SUPPORTED BY HANGERS AS SPECIFIED. ANY CHANGE IN THE DIRECTION OF SUSPENDED WASTE PIPING SHALL BE MADE BY MEANS OF COMBINATION "Y" AND 1/8 BEND FITTINGS.

D. INSTALL SEPARATORS IN ACCORDANCE TO MANUFACTURER'S INSTRUCTIONS. UNITS SHALL REST ON BUILDING FLOOR, NOT ON CABINET BASE.

E. PROVIDE TRAP PRIMERS AND RELATED PIPING FOR ALL TRAPS SUBJECT TO EVAPORATION AND WHERE INDICATED ON PLANS.

F. NO HORIZONTAL WASTE LINE IN CONCEALED SPACES SHALL BE RUN LESS THAN 2 INCH IN DIAMETER.

G. DRAIN AND WASTE PIPING SHALL BE RUN AT ¼ INCH PER FOOT FOR 3 INCH AND SMALLER DIAMETER PIPING AND 1/8 INCH PER FOOT FOR 4 INCH AND LARGER DIAMETER PIPING. VENT PIPING SHALL BE PITCHED BACK TOWARDS THE DRAINAGE SYSTEM AND INCLUDE NO TRAPPED PORTIONS.

H. INSULATE SANITARY AND WASTE DRAINAGE PIPING, WHERE INDICATED ON PLANS, WITH 1 INCH THICK INSULATION.

PART 4 - PLUMBING EQUIPMENT AND FIXTURES

4.01 GENERAL

A. REFER TO PLUMBING EQUIPMENT SCHEDULE ON DRAWINGS FOR EQUIPMENT, FIXTURE AND TRIM MANUFACTURERS, MODEL NO'S, TYPES, FINISH, ETC.

B. INSTALL ALL EQUIPMENT IN ACCORDANCE TO MANUFACTURER'S INSTRUCTIONS. PROVIDE ALL REQUIRED START-UP SERVICES.

C. PROVIDE EQUIPMENT WITH NECESSARY SUPPORTS AND/OR HOUSEKEEPING PADS. EQUIPMENT SUPPORTED BY BUILDING STRUCTURE OR ELEMENTS SHALL BE DESIGNED TO HANDLE TWICE THE FULL OPERATING WEIGHTS, AND BE APPROVED BY ARCHITECT AND STRUCTURAL ENGINEER.

D. FIXTURES SHALL BE SET, LEVELED, FASTENED, CAULKED AND CONNECTED COMPLETE WITH ALL REQUIRED TRIM, SUPPORTS, TRAPS, STOPS, ETC. ALL FIXTURES SHALL BE PERFECT IN FINISH AND COLOR, SHALL BE SQUARE WITH RELATION TO FINISHED INTERIOR AND LOCATED AS INDICATED ON THE DRAWINGS.

E. ALL FIXTURES SHALL BE PROVIDED WITH PROPER SUPPORT, WALL HANGING TYPE FIXTURES SHALL BE PROVIDED WITH CONCEALED FLOOR MOUNTING TYPE CARRIERS AND SUPPORTS. PROVIDE AND ARRANGE FOR ALL NECESSARY WALL FRAMING AND BLOCKING.

F. HANDICAP ACCESSIBLE FIXTURES SHALL BE PROVIDED WITH PREFORMED CLOSED-CELL VINYL ADA INSULATORS ON ALL EXPOSED WASTES, TRAPS, STOPS AND SUPPLIES.

G. AFTER WORK HAS BEEN COMPLETED, ALL PLUMBING FIXTURES AND TRIM SHALL BE THOROUGHLY CLEANED.

H. PROVIDE ALL PLUMBING FIXTURES WITH COMMERCIAL GRADE CHROME PLATED FIXTURE STOPS AND SUPPLIES WITH LOOSE KEYS AND CHROME FINISH WALL ESCUTCHEONS. WHERE FIXTURE STOPS AND SUPPLIES ARE EXPOSED, SUCH AS FOR PEDESTAL LAVATORIES, PROVIDE CROSS HANDLES AND DEEP BELL PATTERN ESCUTCHEONS FOR EXPOSED FITTINGS.

I. PROVIDE ALL PLUMBING FIXTURES WITH COMMERCIAL GRADE CHROME PLATED WASTE ASSEMBLY, TRAPS, OFFSETS AND WALL ESCUTCHEONS. PROVIDE DEEP BELL PATTERN ESCUTCHEONS WHERE EXPOSED.

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PROFESSIONAL ENGINEER
2/19/2026

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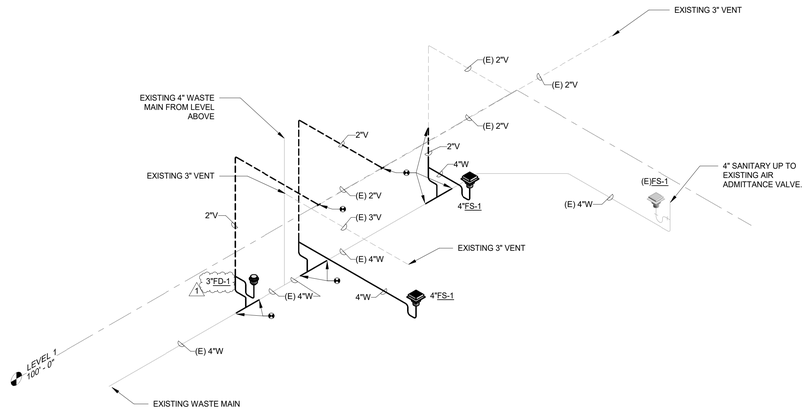
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P001

PLUMBING SPECIFICATIONS

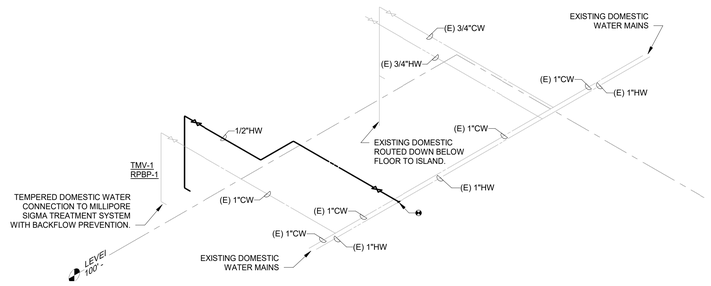
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1 PHASE 2 SANITARY AND VENT PIPING DIAGRAM

NOT TO SCALE



2 PHASE 2 DOMESTIC WATER PIPING DIAGRAM

NOT TO SCALE

The dry vent must rise 6" vertically above the flood level rim of the highest trapped fixture being vented.
2021 IPC 905.4

Provide drains no smaller than allowed by 2021 IPC 709.1 and 710.1(1)

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: **rbrubake**
Date: **Jun 02, 2026**
2021 INTERNATIONAL CODES & **2023** NEC

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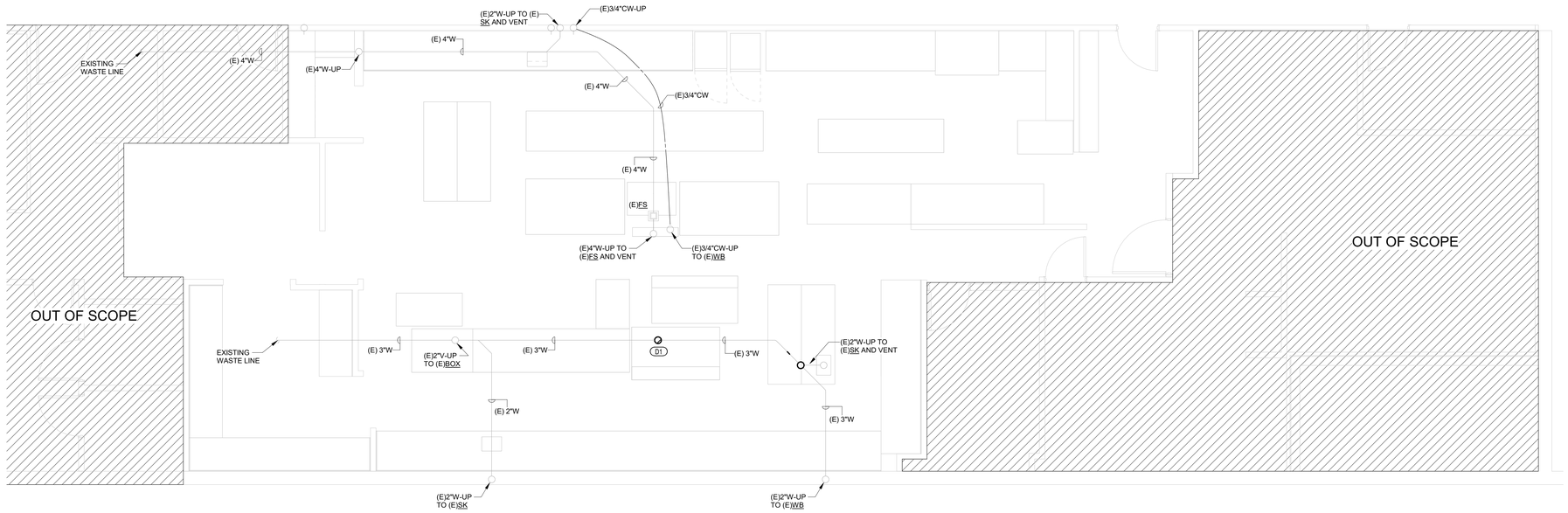
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1	City Comments	05/20/26

P002

PLUMBING DIAGRAMS

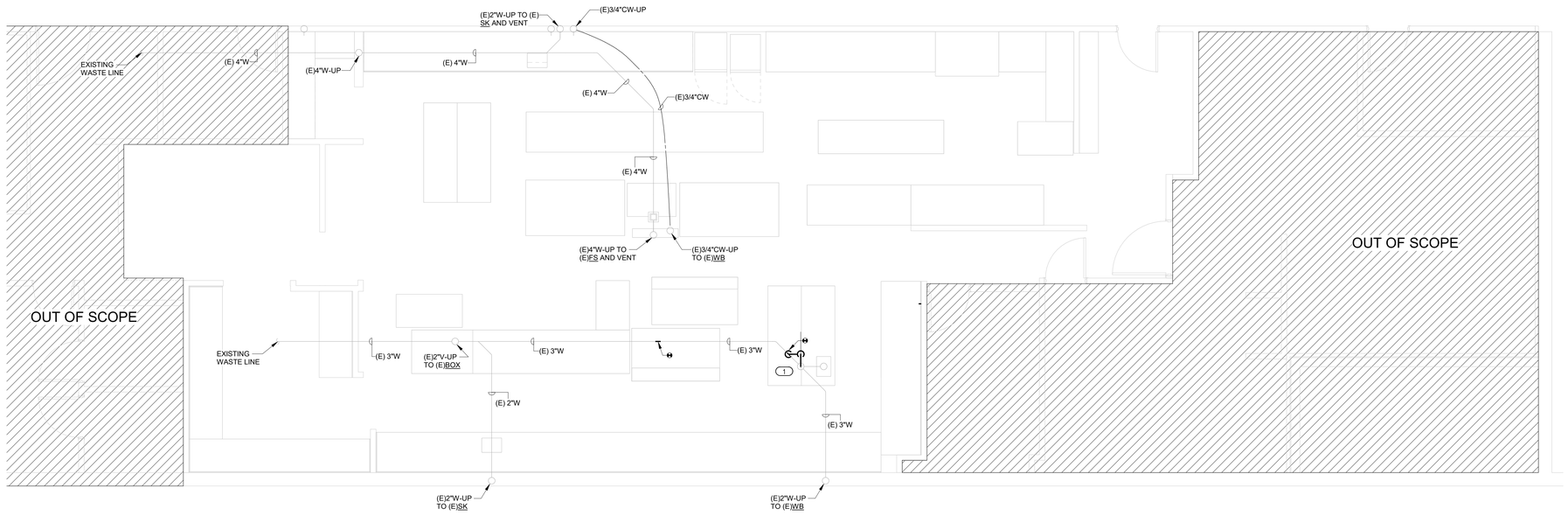
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1 LEVEL 1 PLUMBING BG DEMO - PHASE 1

1/4" = 1'-0"



2 LEVEL 1 PLUMBING BG - PHASE 1

1/4" = 1'-0"

GENERAL NOTES

A. ALL EXISTING PLUMBING IS TO BE VERIFIED IN FIELD.

B. CONTRACTORS TO CLEAN & FLUSH EXISTING DRAINAGE PIPING TO ASSURE DRAINAGE CONDITIONS. CONTRACTOR TO SCOPE OUT AND CAMERA EXISTING SYSTEM CONDITIONS.

C. ALL PLUMBING SYSTEMS ON PLAN ARE LOCATED WITHIN THE UNEXCAVATED AREA BELOW LEVEL 01.

KEYED NOTES

(1) - NEW VENT TO TIE INTO EXISTING SANITARY LINE. VENT TO BE ROUTED UP THROUGH CHASE AND TIED INTO EXISTING VENT RISER.

DEMOLITION KEY NOTES

(D1) - EXISTING VENT IN SANITARY LINE TO BE DEMOLISHED AND PREPARED FOR FUTURE WORK. PLEASE SEE NEW WORK FOR ADDITIONAL INFORMATION.

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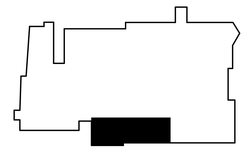
City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: rbrubake
Date: May 12, 2026
2021 INTERNATIONAL CODES & 2023 NEC

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KEY PLAN



P101.1

LEVEL 01 UNDERGROUND PLUMBING PLAN - PHASE 1

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GENERAL NOTES

A. ALL EXISTING PLUMBING IS TO BE VERIFIED IN FIELD.

B. CONTRACTORS TO CLEAN & FLUSH EXISTING DRAINAGE PIPING TO ASSURE DRAINAGE CONDITIONS. CONTRACTOR TO SCOPE OUT AND CAMERA EXISTING SYSTEM CONDITIONS.

C. ALL PLUMBING SYSTEMS ON PLAN ARE LOCATED WITHIN THE UNEXCAVATED AREA BELOW LEVEL 01.

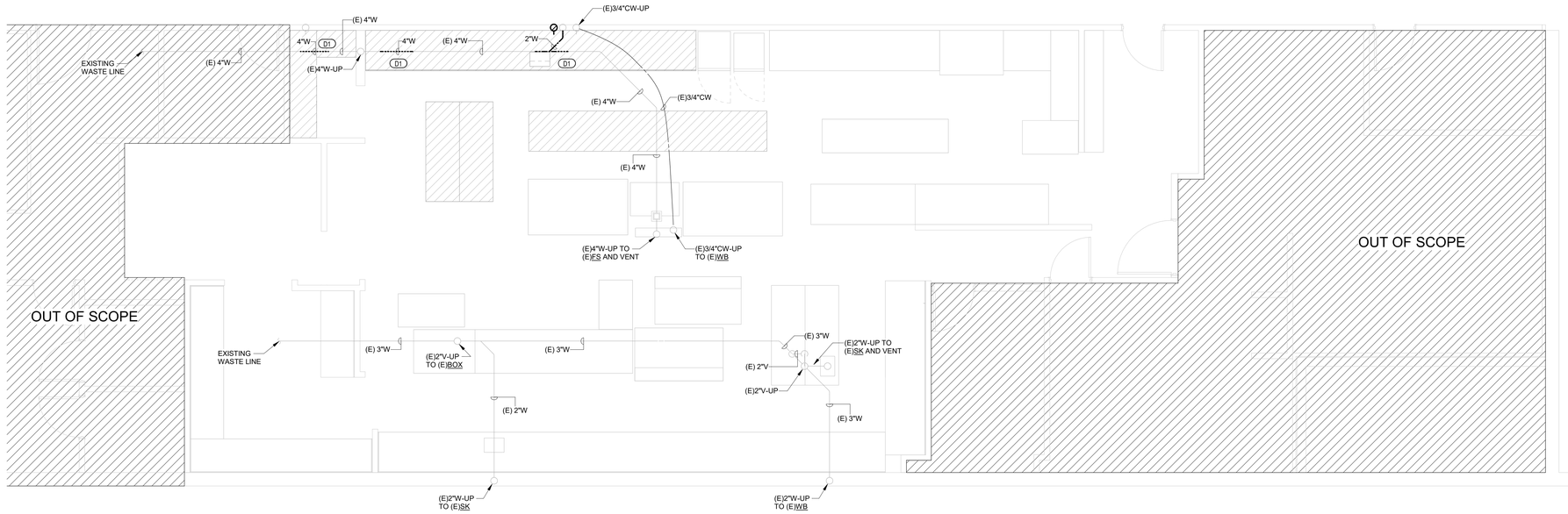
KEYED NOTES

(1) - NEW FS-1 AND SANITARY TO TIE INTO EXISTING SANITARY. PLEASE REFERENCE DEMOLITION WORK FOR ADDITIONAL INFORMATION.

(2) - NEW 3" SANITARY TO BE TIED INTO EXISTING 4" SANITARY MAIN. NEW LINE TO SERVE FD-1. NEW SANITARY LINE TO HAVE 4"FCO FOR ACCESS.

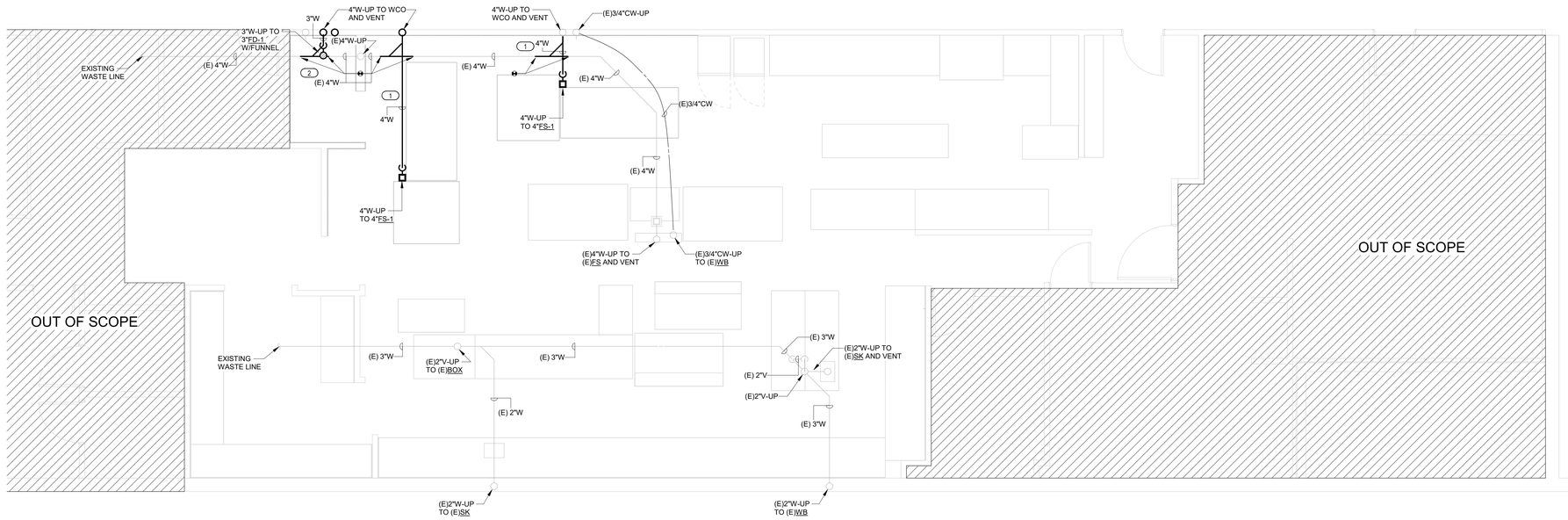
DEMOLITION KEY NOTES

(D1) - EXISTING SANITARY LINE TO BE PREPARED FOR NEW SANITARY LINE TIE-INS. PLEASE REFERENCE NEW WORK FOR ADDITIONAL INFORMATION.



1 LEVEL 1 PLUMBING BG DEMO - PHASE 2

1/4" = 1'-0"



2 LEVEL 1 PLUMBING BG - PHASE 2

1/4" = 1'-0"

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City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: rbrubake
Date: May 12, 2026
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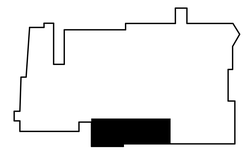
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REVISIONS

NO	DESCRIPTION	DATE

KEY PLAN

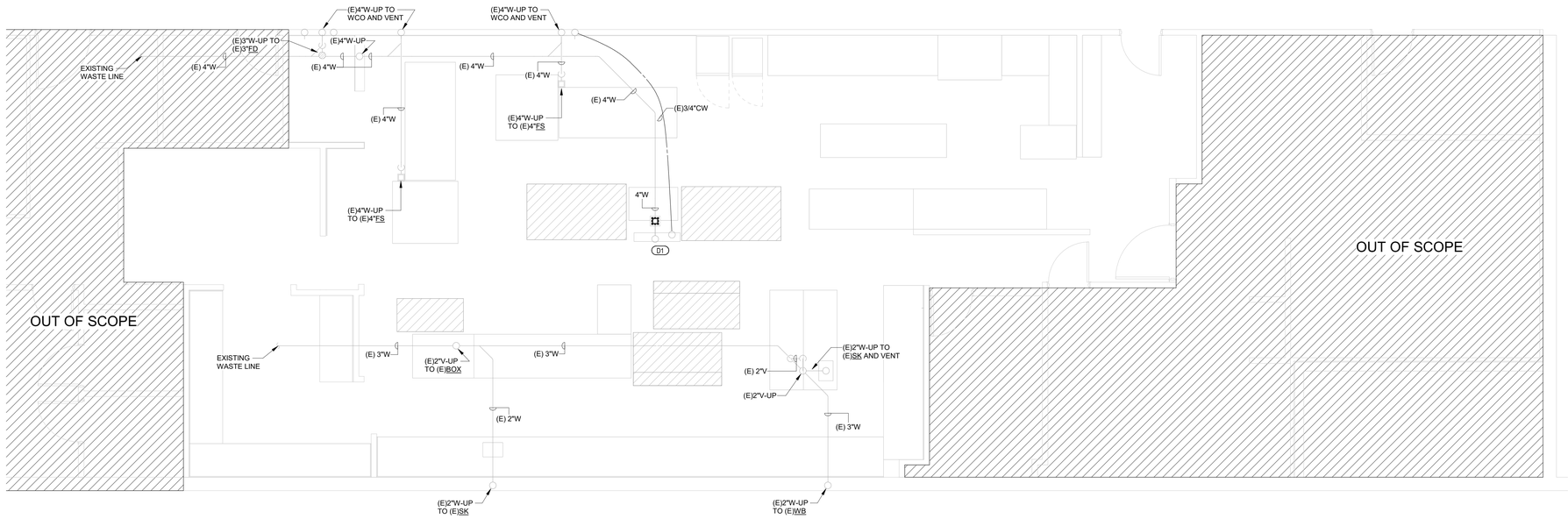


P101.2

LEVEL 01
UNDERGROUND
PLUMBING PLAN - PHASE 2

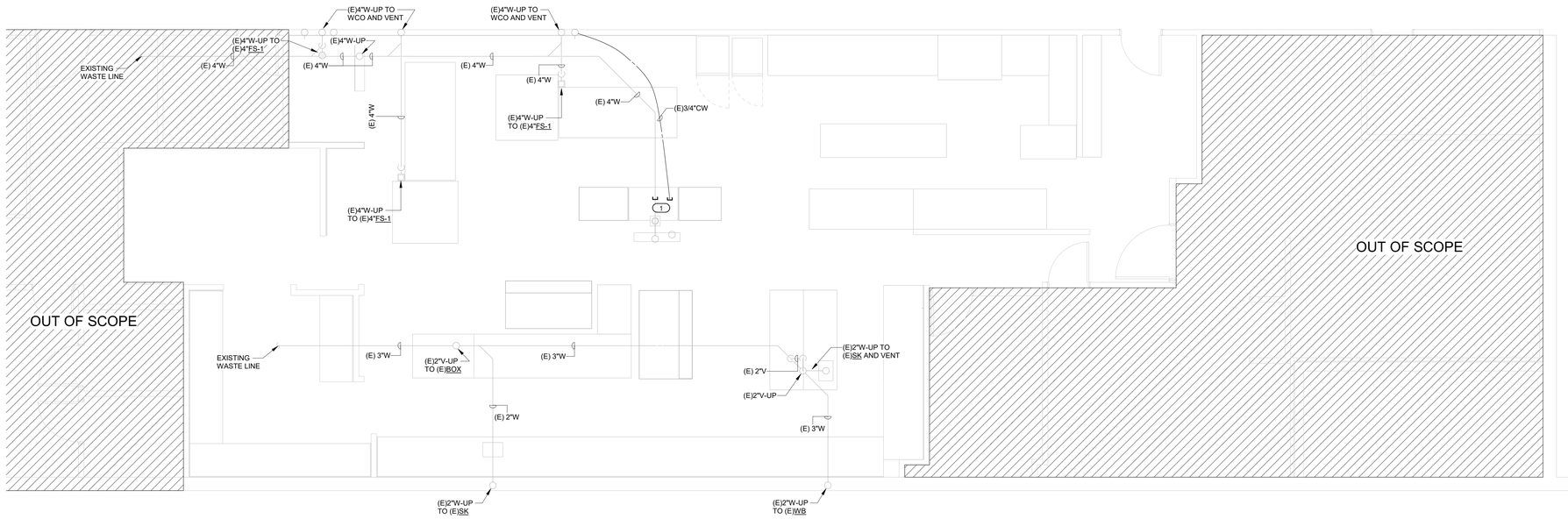
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1 LEVEL 1 PLUMBING BG DEMO - PHASE 3

1/4" = 1'-0"



2 LEVEL 1 PLUMBING BG - PHASE 3

1/4" = 1'-0"

GENERAL NOTES

A. ALL EXISTING PLUMBING IS TO BE VERIFIED IN FIELD.

B. CONTRACTORS TO CLEAN & FLUSH EXISTING DRAINAGE PIPING TO ASSURE DRAINAGE CONDITIONS. CONTRACTOR TO SCOPE OUT AND CAMERA EXISTING SYSTEM CONDITIONS.

C. ALL PLUMBING SYSTEMS ON PLAN ARE LOCATED WITHIN THE UNEXCAVATED AREA BELOW LEVEL 01.

KEYED NOTES

(1) - EXISTING DOMESTIC WATER LINE AND SANITARY PENETRATION TO BE CAPPED BELOW FLOOR, AND DISCONNECTED AT SOURCE. TO BE DEAD-LEGGED FOR NO FUTURE USE.

DEMOLITION KEY NOTES

(D1) - EXISTING SANITARY FLOOR SINK TO BE CAPPED AT FLOOR AND DEAD-LEGGED FOR NO FUTURE USE. DOMESTIC COLD WATER LINE TO BE SHUT OFF FOR NO FUTURE USE.

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Health ONE

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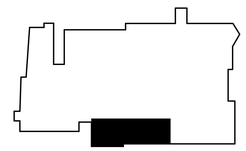
City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: rbrubake
Date: May 12, 2026
2021 INTERNATIONAL CODES & 2023 NEC

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KEY PLAN

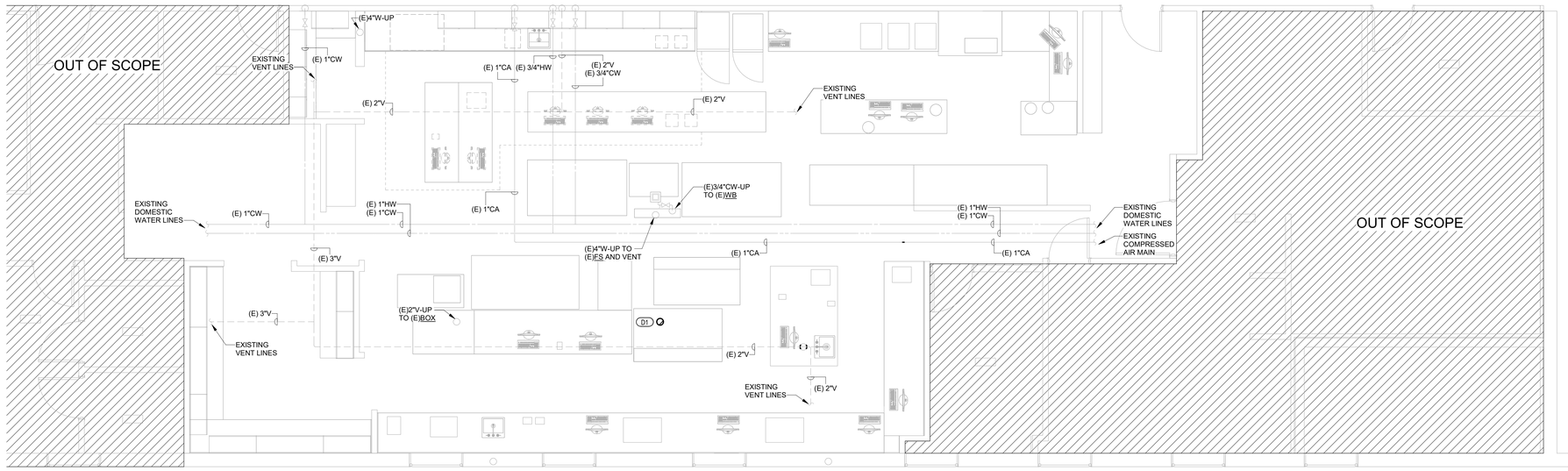


P101.3

LEVEL 01
UNDERGROUND
PLUMBING PLAN - PHASE 3

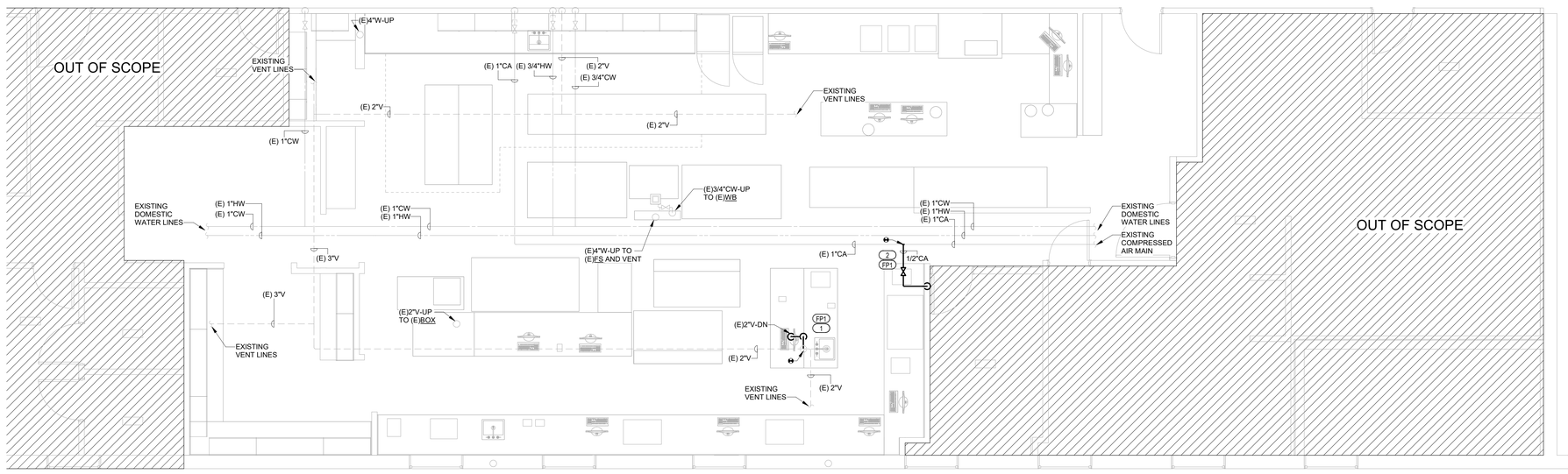
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1 LEVEL 1 PLUMBING DEMO - PHASE 1

1/4" = 1'-0"



2 LEVEL 1 PLUMBING - PHASE 1

1/4" = 1'-0"

GENERAL NOTES

A. ALL EXISTING PLUMBING IS TO BE VERIFIED IN FIELD.

B. CONTRACTORS TO CLEAN & FLUSH EXISTING DRAINAGE PIPING TO ASSURE DRAINAGE CONDITIONS. CONTRACTOR TO SCOPE OUT AND CAMERA EXISTING SYSTEM CONDITIONS.

C. ALL PLUMBING SYSTEMS ON PLAN ARE LOCATED WITHIN THE CEILING AREA OF LEVEL 01.

KEYED NOTES

(1) - NEW VENT TO TIE INTO EXISTING SANITARY LINE. VENT TO BE ROUTED UP THROUGH CHASE AND TIED INTO EXISTING VENT RISER.

(2) - NEW COMPRESSED AIR TO BE ROUTED DOWN WALL TO NEW CENTRAFUGE WALL OUTLET LOCATION.

DEMOLITION KEY NOTES

(D1) - EXISTING VENT IN SANITARY LINE TO BE DEMOLISHED AND PREPARED FOR FUTURE WORK. PLEASE SEE NEW WORK FOR ADDITIONAL INFORMATION.

FIRE PROTECTION KEY NOTES

(FP1) - PROVIDE RELOCATION OF SPRINKLER BRANCH PIPING TO SUPPORT PROPOSED WORK. NEW SPRINKLER HEADS TO BE OF RECESSED TYPE. NEW WORK AND SPRINKLER SPACING SHALL BE IN COMPLIANCE WITH NFPA STANDARDS AND APPLICABLE CODES. NEW SPRINKLER LOCATIONS TO BE COORDINATED WITH OTHER CEILING ELEMENTS AND DEVICES, AND BE CENTERED WITHIN CEILING TILES. SPRINKLER RELOCATIONS TO TAKE INTO ACCOUNT ABOVE CEILING WORK INCLUDING NEW EQUIPMENT, STRUCTURAL ELEMENTS, AND MODIFICATIONS FOR OTHER MEP SYSTEMS AS RELATED TO PROJECT SCOPE. COORDINATE FINAL PLACEMENT WITH ARCHITECT. PROVIDE INTERIM FIRE SUPPRESSION MEASURES AND COORDINATE WITH FACILITY FOR TURNING UP OF HEADS.

SEPARATE FIRE SPRINKLER PERMIT REQUIRED: Due to the proposed work the general contractor is required to obtain the services of a fire sprinkler contractor to determine if a separate sprinkler permit is required. If it is determined that the spacing of the fire sprinkler heads is not incompliance, then a separate fire sprinkler permit is required. Approval of the documents is required prior to system installation or any requires for inspection. A Certificate of Occupancy or final approval cannot be issued by the Building Division without this fire protection system. 2021 IFC, Section 105.6.1

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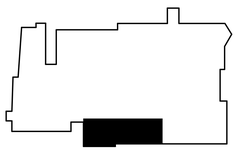
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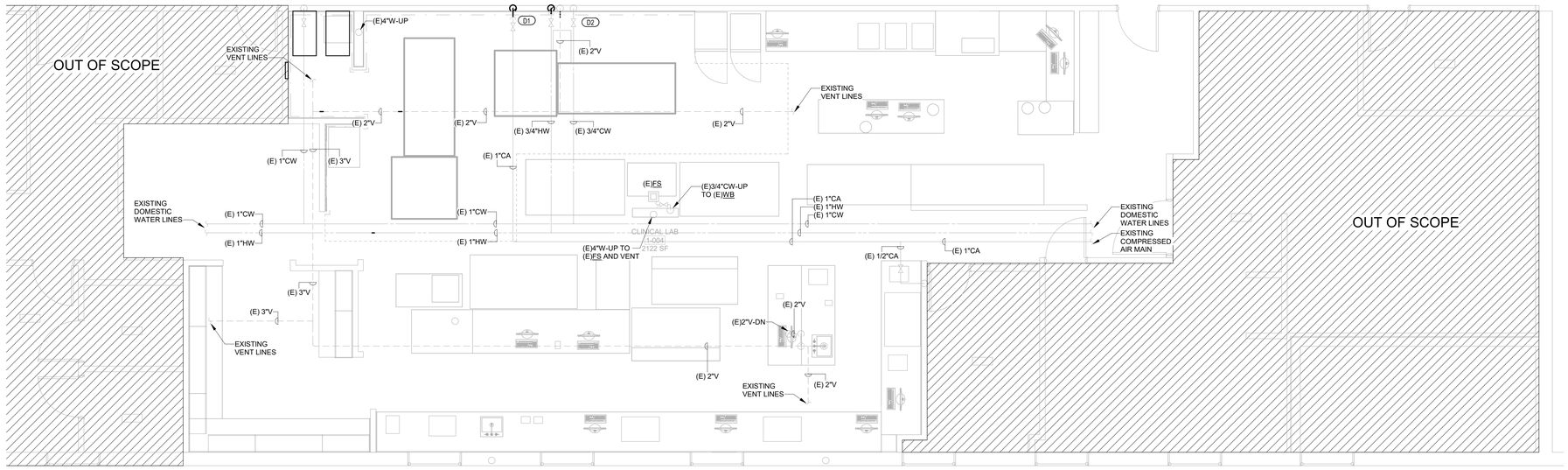


P111.1

LEVEL 01 PLUMBING PLAN - PHASE 1

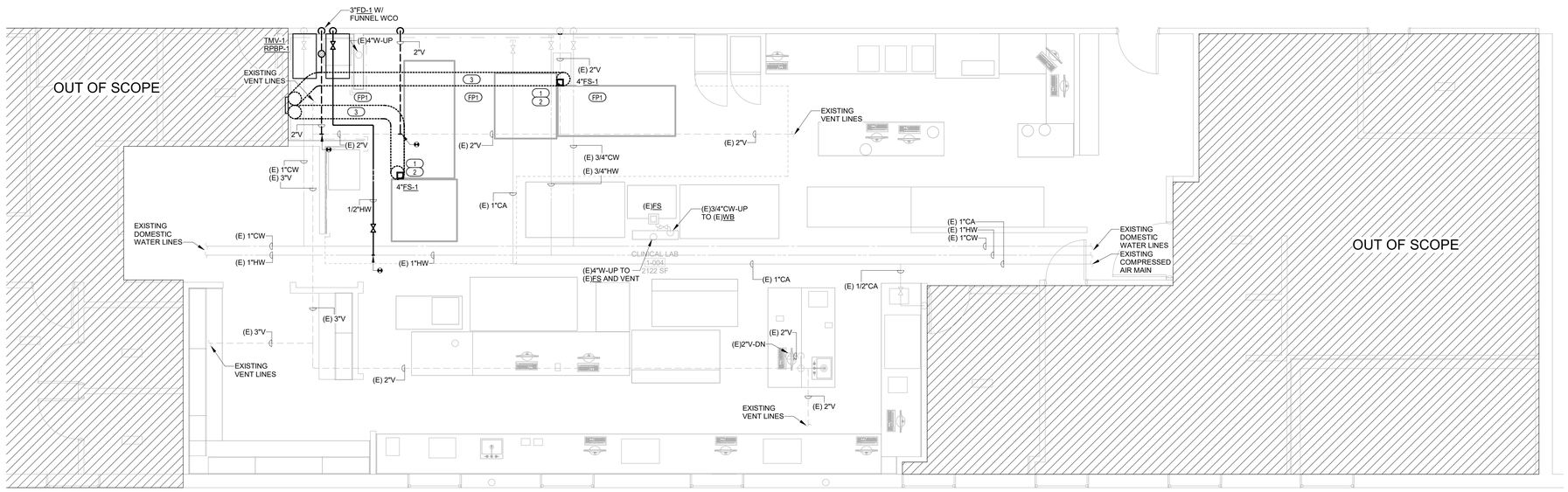
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1 LEVEL 1 PLUMBING DEMO - PHASE 2

1/4" = 1'-0"



2 LEVEL 1 PLUMBING - PHASE 2

1/4" = 1'-0"

GENERAL NOTES

A. ALL EXISTING PLUMBING IS TO BE VERIFIED IN FIELD.

B. CONTRACTORS TO CLEAN & FLUSH EXISTING DRAINAGE PIPING TO ASSURE DRAINAGE CONDITIONS. CONTRACTOR TO SCOPE OUT AND CAMERA EXISTING SYSTEM CONDITIONS.

C. ALL PLUMBING SYSTEMS ON PLAN ARE LOCATED WITHIN THE CEILING AREA OF LEVEL 01.

KEYED NOTES

1 - NEW FS-1 SERVING THE NEW CHEMISTRY UNIT EQUIPMENT. PLEASE REFERENCE P101.2 FOR ADDITIONAL ROUTING INFORMATION.

2 - NEW RO TO BE ROUTED DOWN FROM CEILING, AND CONNECTED TO CHEMISTRY UNITS WITH 1/2" SHUT-OFF VALVE.

3 - NEW RO MILLIPORE SIGMA TREATMENT CLOSET TO BE ROUTED ABOVE ' CEILING IN 3" PVC CONDUIT TO CHEMISTRY UNIT LOCATIONS WITHIN SEPARATE CONDUIT.

DEMOLITION KEY NOTES

D1 - EXISTING COMPRESSED AIR AND OUTLET TO BE DEMOLISHED AND CAPPED ABOVE CEILING. PLEASE REFERENCE NEW WORK FOR MORE INFORMATION.

D2 - EXISTING DOMESTIC HW, CW TO BE DEMOLISHED AND CAPPED IN WALL. SANITARY VENT TO BE PRESERVED FOR NEW SANITARY LINE SERVING CHEMESTRY UNIT.

FIRE PROTECTION KEY NOTES

FP1 - PROVIDE RELOCATION OF SPRINKLER BRANCH PIPING TO SUPPORT PROPOSED WORK. NEW SPRINKLER HEADS TO BE OF RECESSED TYPE. NEW WORK AND SPRINKLER SPACING SHALL BE IN COMPLIANCE WITH NFPA STANDARDS AND APPLICABLE CODES. NEW SPRINKLER LOCATIONS TO BE COORDINATED WITH OTHER CEILING ELEMENTS AND DEVICES, AND BE CENTERED WITHIN CEILING TILES. SPRINKLER RELOCATIONS TO TAKE INTO ACCOUNT ABOVE CEILING WORK INCLUDING NEW EQUIPMENT, STRUCTURAL ELEMENTS, AND MODIFICATIONS FOR OTHER MEP SYSTEMS AS RELATED TO PROJECT SCOPE. COORDINATE FINAL PLACEMENT WITH ARCHITECT. PROVIDE INTERIM FIRE SUPPRESSION MEASURES AND COORDINATE WITH FACILITY FOR TURNING UP OF HEADS.

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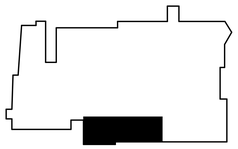
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KEY PLAN



P111.2

LEVEL 01 PLUMBING PLAN - PHASE 2

Treanor NO. Project Number

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GENERAL NOTES

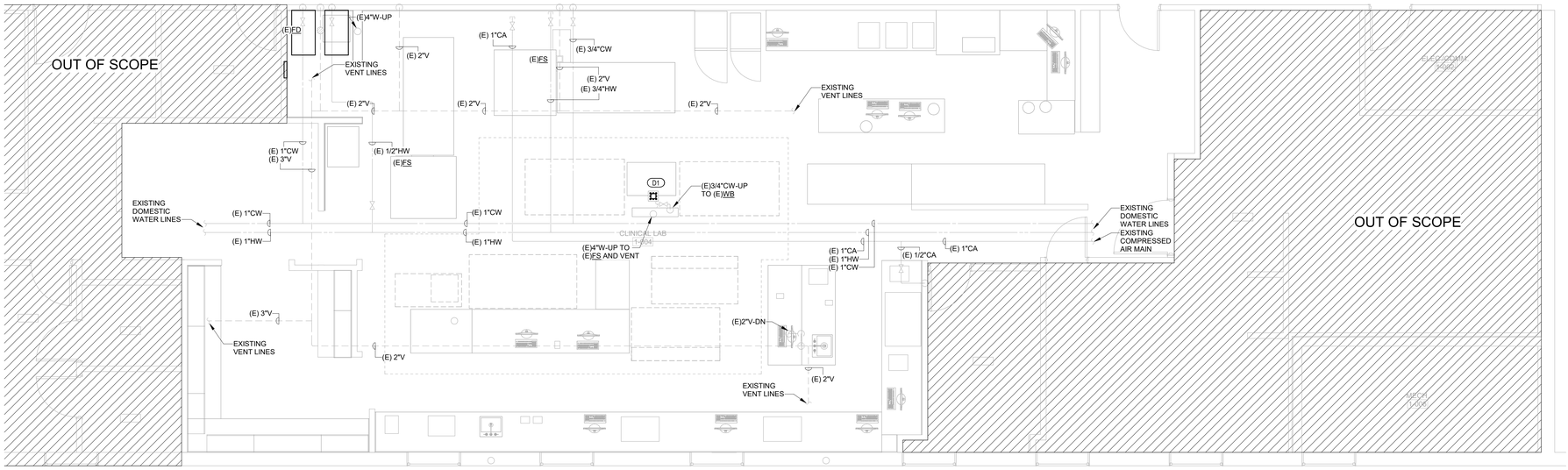
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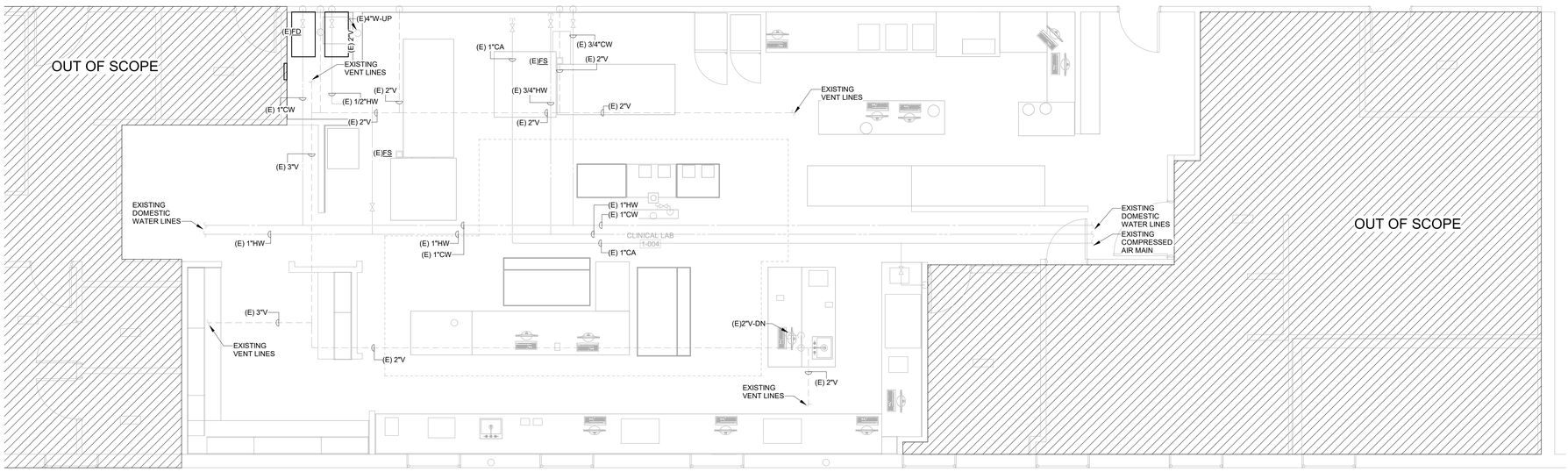
DEMOLITION KEY NOTES

D1 - EXISTING SANITARY FLOOR SINK TO BE CAPPED AT FLOOR AND DEAD-LEGGED FOR NO FUTURE USE. DOMESTIC COLD WATER LINE TO BE SHUT OFF FOR NO FUTURE USE.



1 LEVEL 1 PLUMBING DEMO - PHASE 3

1/4" = 1'-0"



2 LEVEL 1 PLUMBING - PHASE 3

1/4" = 1'-0"

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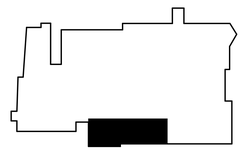
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KEY PLAN



P111.3

LEVEL 01 PLUMBING PLAN - PHASE 3

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MECHANICAL ABBREVIATIONS

AC	AIR CONDITIONING UNIT OR AIR COMPRESSOR
ACH	AIR CHANGES PER HOUR
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
ALUM	ALUMINUM
AMP	AMPERE
AMS	AIR FLOW MEASURING STATION
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
ARCH	ARCHITECT/ARCHITECTURAL
AVG	AVERAGE
BAS	BUILDING AUTOMATION SYSTEM
BD	BALANCING DAMPER
BDD	BACK-DRAFT DAMPER
BI	BLACK IRON (KITCHEN GREASE DUCTWORK)
BHP	BRAKE HORSEPOWER
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BTUH	BRITISH THERMAL UNIT PER HOUR
CC	COOLING COIL
CF	CUBIC FEET
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CO	CLEAN OUT OR CARBON MONOXIDE
CONT	CONTINUOUS, CONTINUATION
CU	CONDENSING/ER UNIT
CU FT	CUBIC FEET
CV	CONSTANT AIR VOLUME
CW	COLD WATER
D	DEMO
DB	DRY BULB TEMPERATURE
DBA	DECIBEL LEVEL
DDC	DIRECT DIGITAL CONTROL
DE	DRYER EXHAUST
DEG.F	DEGREE FAHRENHEIGHT
DG	DOOR GRILLE
DIA	DIAMETER
DN	DOWN
DP	DIFFERENTIAL PRESSURE
DWG	DRAWING
DX	DIRECT EXPANSION
E	EXHAUST
(E)	EXISTING
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EAH	ELECTRIC AIR HANDLER
EC	ELECTRICAL CONTRACTOR
ECM	ELECTRONICALLY COMMUTATED MOTOR
EER	ENERGY EFFICIENCY RATIO
EFF	EFFICIENCY
EG	ETHYLENE GLYCOL SOLUTION (% BY VOLUME)
EL/ELEV	ELEVATION
ELEC	ELECTRIC/ELECTRICAL
ENT	ENTERING
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
EXT'G	EXISTING
°F	DEGREE FAHRENHEIGHT
FA	FREE AREA
FB	FILTER BOX
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FP	FIRE PROTECTION
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FEET OR FLASH TANK
FV	FACE VELOCITY
GA	GAUGE
GAL	GALLON
GC	GENERAL CONTRACTOR
GD	GRAVITY DAMPER
GE	GENERAL EXHAUST
GEN	GENERAL
GER	GENERAL EXHAUST RISER
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HC	HEATING COIL
HORIZ	HORIZONTAL
HP	HORSEPOWER OR HEAT PUMP
HR	HOUR
HTG	HEATING
HVAC	HEATING, VENTILATION & AIR CONDITIONING
HZ	HERTZ

ID	INSIDE DIAMETER
IN OR "	INCH
IN W.C.	INCHES IN WATER COLUMN
IN W.G.	INCHES IN WATER GAUGE
KE	KITCHEN EXHAUST
KW	KILOWATT
KWH	KILOWATT HOUR
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LL	LOW LIMIT OR LANDLORD
LRA	LOCKED ROTOR AMPERES
LVG	LEAVING
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MD	MOTORIZED DAMPER
MIN	MINIMUM OR MINUTE(S)
NC	NORMALLY CLOSE OR NOISE CRITERIA
NIC	NOT IN CONTACT
NK	NECK
NO	NORMALLY OPEN
NO OR #	NUMBER
NR	NOT REQUIRED
NTS	NOT TO SCALE
NV	NATURAL VENTILATION
OA	OUTSIDE AIR
OAI	OUTSIDE AIR INTAKE
OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIAMETER
P	PUMP
PBLG	PLUMBING
PC	PLUMBING CONTRACTOR
PG	PROPYLENE GLYCOL SOLUTION (% BY VOLUME)
PRV	PRESSURE REDUCING VALVE
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE
R	RETURN
RA	RETURN AIR
REQ'D	REQUIRED
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
RO	RELIEF OPENING
RPM	REVOLUTIONS PER MINUTE
S	SUPPLY
SA	SOUND ATTENUATOR
SF	SUPPLY FAN OR SQUARE FEET
SL	SENSIBLE LOAD
SP	STATIC PRESSURE
SPECS	SPECIFICATIONS
SQ	SQUARE
SQ.FT.	SQUARE FEET
SS	STAINLESS STEEL
STD	STANDARD
STRUCT	STRUCTURE/STRUCTURAL
TD	TEMPERATURE DIFFERENCE OR TRANSFER DUCT
TE	TOILET EXHAUST
TEMP	TEMPERATURE
THRU	THROUGH
TO	TRANSFER OPENING
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UC	UNDER-CUT (DOOR)
UON	UNLESS OTHERWISE NOTED
V	VENT
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
W	WATT
W/	WITH
WC	WATER COLUMN
WPD	WATER PRESSURE DROP
WMS	WIRE MESH SCREEN
WT	WEIGHT

GRAPHIC LINESTYLES

- THICK, DARK SOLID LINES INDICATE NEW OR RELOCATED ITEMS
- THIN, LIGHT SOLID LINES INDICATE EXISTING ITEMS TO REMAIN IN PLACE AND BE REUSED
- THICK, SHORT DASHED LINES INDICATE EXISTING ITEMS TO BE REMOVED
- THICK, SHORT DASHED LINES WITH DIAGONAL PATTERN INDICATE EXISTING ITEMS TO BE REMOVED

IDENTIFICATION SYMBOLS

- POINT OF NEW TO EXISTING CONNECTION
- POINT OF DISCONNECT FROM EXISTING TO DEMOLISHED ITEM
- (X) KEYED NOTE TAG
- X / X EQUIPMENT TAG / EQUIPMENT TAG NO.
- X / M-X SECTION NUMBER / DRAWING ON WHICH SECTION IS SHOWN

AIR DEVICES DATA TAG

SENSOR SYMBOLS

- (T) THERMOSTAT
- (TC) COMBINATION; THERMOSTAT, HUMIDISTAT, CO2
- (H) HUMIDISTAT
- (CO) CARBON MONOXIDE DETECTOR
- (CO2) CARBON DIOXIDE DETECTOR
- SD DUCT SMOKE DETECTOR

PIPING SYSTEMS

HWS	HEATING HOT WATER SUPPLY
HWR	HEATING HOT WATER RETURN
CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
RS	REFRIGERANT SUCTION
RL	REFRIGERANT LIQUID
CD	COOLING COIL CONDENSATE

DUCTWORK SYMBOLS

- SUPPLY AIR DUCT
- RETURN AIR DUCT
- EXHAUST AIR DUCT
- 24X12 RECTANGULAR DUCT SIZE
- 24Ø ROUND DUCT SIZE
- 24/12 FLAT OVAL DUCT SIZE
- ELBOW TURNED DOWN
- ELBOW TURNED UP
- DUCT TRANSITION
- DUCT END CAP
- CEILING SUPPLY DIFFUSERS
- CEILING RETURN / EXHAUST DIFFUSER
- FLEXIBLE DUCT
- FD FIRE DAMPER
- SD SMOKE DAMPER
- FSD COMBINATION FIRE/SMOKE DAMPER
- MD MOTORIZED DAMPER
- MANUAL BALANCING DAMPER
- CLEAN OUT
- FLEXIBLE DUCT CONNECTION
- UC/DG DG: DOOR GRILLE; UC: DOOR UNDERCUT

PIPING SYMBOLS

- ELBOW TURNED UP
- ELBOW TURNED DOWN
- TEE TURNED UP
- TEE TURNED DOWN
- DIRECTION OF FLOW ARROW
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER, FLAT ON BOTTOM
- ECCENTRIC REDUCER, FLAT ON TOP
- FLANGE
- FLEXIBLE CONNECTOR
- EXPANSION COMPENSATOR
- ANCHOR
- GUIDE
- CAPPED END
- CONTINUATION
- FM FLOW METER (REFER TO SPECS FOR TYPE)
- M METER
- SIGHT GLASS
- PIPE UNION
- T STEAM TRAP (REFER TO SPECS FOR TYPE)
- STRAINER
- STRAINER WITH BLOWDOWN
- AUTOMATIC AIR VENT
- MANUAL AIR VENT
- FLOW SWITCH
- DP DIFFERENTIAL PRESSURE SWITCH
- INSTRUMENT WELL
- TEMPERATURE/PRESSURE PORT (PETE'S PLUG)
- PRESSURE GAUGE WITH SHUTOFF
- THERMOMETER
- VACUUM BREAKER
- PRESSURE RELIEF VALVE
- PIPE PITCH DIRECTION
- ISOLATION VALVE (REFER TO SPECS FOR TYPE)
- BALL VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- GLOBE VALVE
- TRIPLE DUTY VALVE
- BALANCING VALVE
- PRESSURE REDUCING VALVE
- DRAIN VALVE
- M MOTORIZED, 2-WAY VALVE
- M MOTORIZED, 3-WAY VALVE
- PNEUMATIC, 2-WAY VALVE
- S SOLENOID, 2-WAY VALVE

GENERAL SCOPE OF WORK

THE GENERAL INTENT IS TO PERFORM THE FOLLOWING:
- REPLACEMENT OF (2) CHEMISTRY LAB ANALYZER
- REBALANCING OF EXISTING ABOVE CEILING AHUS AND VAVS FOR SUPPLEMENTAL COOLING

THE MECHANICAL SCOPE OF WORK INCLUDES:
- REPLACEMENT OF EXISTING GRDS AS NEEDED FOR REBALANCE OF THE SPACE
- MODIFICATION OF EXISTING LOW AND MEDIUM PRESSURE DUCTWORK
- PRE-TAB ALL GRDS IN OPEN LAB FOR REBALANCING AND PRESSURIZATION

DESIGN CONDITIONS

PROJECT ELEVATION:	5,604 FT
SUMMER DRY BULB TEMP:	93.6 F
SUMMER MEAN COINCIDENT WET BULB TEMP:	60.3 F
SUMMER WET BULB TEMP:	64.5 F
WINTER DRY BULB TEMP:	3.6 F

CODES AND STANDARDS

- 2021 INTERNATIONAL BUILDING CODE (IBC)
- 2021 INTERNATIONAL EXISTING BUILDING CODE (IEBC)
- 2021 INTERNATIONAL MECHANICAL CODE (IMC)
- 2021 INTERNATIONAL PLUMBING CODE (IPC)
- 2021 INTERNATIONAL FIRE CODE (IFC)
- 2021 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
- 2018 FACILITIES GUIDELINES INSTITUTE (FGI)
- LOCAL AMENDMENTS BY THE CITY OF AURORA, CO

MECHANICAL SHEET LIST

MECHANICAL SYMBOLS , ABBREVIATIONS & NOTES	M000
MECHANICAL DETAILS AND SCHEDULES	M001
MECHANICAL SPECIFICATIONS	M002
LEVEL 01 MECHANICAL PLAN PHASE 2	M101.1

PHASING INFORMATION

PHASE 1: PREP THE AREA FOR ATELLICA INSTALL, NO MECHANICAL SCOPE. SEE ARCH PHASING PLAN FOR MORE DETAILS.

PHASE 2: REMOVE CASEWORK AND PERFORM MEP SCOPE BY GC. INSTALL OF ATELLICAS BY EQUIPMENT MANUFACTURER.

PHASE 3: REMOVE VISTA LAB ANALYZERS AND CENTAUR BY GC. NO MECHANICAL SCOPE. SEE ARCH PHASING PLAN FOR DETAILS.

Code violations that are found during inspections are required to be corrected. Permit issuance does not grant approval of a code violation.

This work must also comply with **2021 IECC**.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: ymunoz
Date: May 12, 2026
2021 INTERNATIONAL CODES & 2023 NEC

COLORADO LICENSED
JONATHAN GRANT
48502
PROFESSIONAL ENGINEER
2/19/2026

TREANOR
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THE MEDICAL CENTER OF AURORA
LAB ANALYZER
1501 S POTOMAC ST., AURORA, CO, 80012

Health ONE

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Issued For:	CONSTRUCTION DOCUMENTS
Date:	02/19/2026

REVISIONS

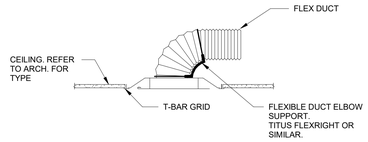
NO	DESCRIPTION	DATE

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MECHANICAL SYMBOLS , ABBREVIATIONS & NOTES

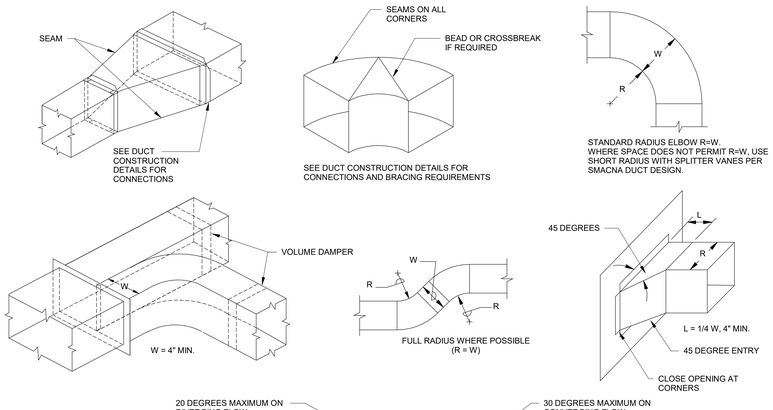
Treanor NO. Project Number

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1 TYPICAL DIFFUSER INSTALLATION DETAIL

NTS



2 DUCT CONSTRUCTION DETAILS

NOT TO SCALE

GRILLE, REGISTER, AND DIFFUSER SCHEDULE

TAG	SERVICE	TYPE	INLET SIZE (IN.)	FACE SIZE	INTEGRAL DAMPER	MATERIAL / FINISH	MANUFACTURER	MODEL	REMARKS
SD-1	SUPPLY	SQUARE PLAQUE DIFFUSER	SEE DRAWINGS	24"X24"	NO	STEEL/WHITE	PRICE	SPD	ALL
RG-1	RETURN	DOUBLE BLADE GRILLE	SEE DRAWINGS	12"X24"	NO	STEEL/WHITE	PRICE	530	ALL

REMARKS:

1. PROVIDE MANUAL BALANCING DAMPER FOR BRANCH SERVING EACH DIFFUSER / GRILLE. DAMPER TO BE INSTALLED AS CLOSE TO MAIN AS POSSIBLE.
2. MATCH EXISTING GRILLES AND DIFFUSERS IN SPACE. COORDINATE WITH ARCHITECT FOR FINISH.

HCA HEALTHONE AURORA - ASHRAE 170 SCHEDULE

ROOM NAME	AHU SERVING SPACE	ROOM CLASSIFICATION	FLOOR AREA SQ. FT.	CELING HEIGHT FT.	SPACE VOLUME CU FT	GOVERNING TABLE	ASHRAE 170								DESIGN DATA						
							PRESSURE RELATION	MINIMUM OUTSIDE ACH	MINIMUM TOTAL ACH	ALL ROOM AIR EXHAUSTED	RM UNIT RECIRC. ALLOWED	REQ DESIGN RH (%)	REQ DESIGN TEMP. (°F)	REQUIRED TOTAL AIR CFM	REQUIRED OUTSIDE AIR CFM	DESIGN MINIMUM SUPPLY AIR CFM	DESIGN MINIMUM RETURN AIR CFM	DESIGN OUTDOOR AIR CFM	DESIGN EXHAUST AIR CFM	MINIMUM TRANSFER AIR CFM	DESIGN OA ACH	DESIGN MINIMUM TOTAL ACH
CLINICAL LAB	MOB AHU	LABORATORY WORK AREA, GENERAL	2122	8.33	17676	ASHRAE 170	NEGATIVE	2	6	NO	NR	NR	NR	1768	589	6455	6060	609	400	-5	2.1	21.9
DIRECTOR OFFICE	MOB AHU	LABORATORY WORK AREA, GENERAL	114	8.33	950	ASHRAE 170	NEGATIVE	2	6	NO	NR	NR	NR	95	32	175	175	53	0	0	3.3	11.1

REMARKS:

1. ASSUMED OA% AT MOB AHU TO BE 30%

City of Aurora Building Division
Reviewed for Code Compliance
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REVISIONS

NO	DESCRIPTION	DATE

M001

MECHANICAL DETAILS AND SCHEDULES

Treanor NO. Project Number

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MECHANICAL SPECIFICATIONS

GENERAL SPECIFICATIONS:

1. WORK UNDER THIS SECTION IS SUBJECT TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
2. THE DRAWINGS AND SPECIFICATIONS SHALL BE UNDERSTOOD TO COVER SYSTEMS OF HEATING, VENTILATION AND AIR CONDITIONING, INSULATION, BUILDING AUTOMATION SYSTEMS, AND TESTING AND BALANCING. THE DRAWINGS AND SPECIFICATIONS ARE TO BE TAKEN TOGETHER. WORK SPECIFIED AND NOT SHOWN, OR WORK SHOWN AND NOT SPECIFIED, SHALL BE AS BINDING AS THOUGH REQUIRED BY BOTH THE DRAWINGS AND SPECIFICATIONS.
3. MINOR ITEMS AND ACCESSORIES OR DEVICES REASONABLY INFERABLE AS NECESSARY TO THE COMPLETE AND PROPER OPERATION OF ANY SYSTEM SHALL BE PROVIDED FOR SUCH SYSTEMS, WHETHER OR NOT THEY ARE SPECIFICALLY CALLED FOR BY THE SPECIFICATIONS OR THE DRAWINGS.
4. THE CONTRACTOR SHALL PROCURE AND PAY FOR ALL NECESSARY PERMITS AND LICENSE FEES, MAKE ARRANGEMENTS FOR INSPECTIONS, PAY ALL FEES IN CONNECTION, AND PAY ALL APPLICABLE FEDERAL, STATE AND LOCAL TAXES, WITH THE EXCEPTION OF PLAN REVIEW FEES.
5. THE CONTRACTOR SHALL GUARANTEE ALL WORK TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR IN ACCORDANCE WITH THE GENERAL CONDITIONS. UNLESS A LONGER PERIOD IS STIPULATED UNDER SPECIFIED HEADINGS, HE OR SHE SHALL REPAIR OR REPLACE, AT NO ADDITIONAL COST TO THE OWNER, ANY MATERIAL OR EQUIPMENT DEVELOPING DEFECTS. REPAIRS OR REPLACEMENTS SHALL BEAR AN ADDITIONAL TWELVE (12) MONTHS GUARANTEE FROM THE TIME THE REPAIR OR REPLACEMENT IS COMPLETE. THIS REQUIREMENT SHALL BE BINDING, EVEN THOUGH IT WILL EXCEED PRODUCT GUARANTEES NORMALLY FURNISHED BY SOME MANUFACTURERS.
6. ALL WORK SHALL BE INSTALLED IN CONFORMITY WITH ALL GOVERNMENTAL JURISDICTIONAL AUTHORITIES REGULATIONS, LAWS, RULES, OR ORDINANCES IN EFFECT AND GOVERNING SAME; SUCH RULES AND REGULATIONS AND LOCAL ORDINANCES ARE TO BE CONSIDERED PART OF SPECIFICATIONS. MECHANICAL CONTRACTOR SHALL BE HELD STRICTLY RESPONSIBLE FOR ANY VIOLATION AND SHALL CHANGE HIS WORK TO CONFORM WITHOUT ADDITIONAL COST TO OWNER.
7. ALL WORK SHALL ALSO CONFORM TO THE PUBLISHED STANDARDS OF THE NATIONAL FIRE PROTECTION ASSOCIATION, AND ELECTRICAL WORK AND EQUIPMENT SHALL CONFORM TO REQUIREMENTS OF THE CURRENT ISSUE OF THE NATIONAL ELECTRICAL CODE. ALL MATERIALS, IN GENERAL, SHALL BE UNDERWRITERS' LABORATORIES LISTED AND SHALL BEAR UL LABEL WHERE LABELING SERVICE IS AVAILABLE.
8. WHERE JURISDICTIONAL RULES REQUIRE ASSISTANCE OF MECHANICS OF TRADES OTHER THAN THOSE ORDINARILY EMPLOYED BY A PARTICULAR MECHANICAL CONTRACTOR IN THE HANDLING, STORAGE OR SETTING OF SPECIAL EQUIPMENT, THE MECHANICAL CONTRACTOR SHALL EMPLOY SUCH TRADESMEN SO AS TO BE IN CONFORMANCE WITH LOCAL JURISDICTIONAL AGREEMENTS.
9. THE ENGINEER HAS NO CONTRACTUAL RESPONSIBILITY IN CONNECTION WITH JOB SITE SAFETY MEASURES OR PRECAUTIONS AS RELATED TO MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES IN THAT REGARD. THE MECHANICAL CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE ARCHITECT/ENGINEER'S OBSERVATIONS OF THE MECHANICAL CONTRACTOR'S PERFORMANCE ARE NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE MECHANICAL CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE. IT SHALL BE THE MECHANICAL CONTRACTORS RESPONSIBILITY TO COMPLY WITH "SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION", VOLUME 36, NO.75, PART II OF THE FEDERAL REGISTER BY THE U.S. DEPARTMENT OF LABOR. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL SUCH SAFETY MEASURES AND SHALL CONSULT WITH THE STATE OR FEDERAL SAFETY INSPECTOR FOR INTERPRETATION WHENEVER IN DOUBT AS TO WHETHER SAFE CONDITIONS DO OR DO NOT EXIST, OR WHETHER HE OR SHE IS OR IS NOT IN COMPLIANCE WITH STATE OR FEDERAL REGULATIONS.
10. THE OWNER, ENGINEER, OR OTHERS WHO THEY DESIGNATE SHALL BE PRIVILEGED TO ENTER AND OCCUPY THE BUILDING OR PORTIONS THEREOF, AT ANY TIME PRIOR TO COMPLETION OF THE MECHANICAL WORK WITHOUT PREJUDICE.

PROCUREMENT:

1. HCA MAINTAINS PURCHASING AGREEMENTS FOR SELECT EQUIPMENT AND MATERIALS WHICH ARE OUTLINED IN THE HCA INNOVATION MEMORANDUMS. ALL MATERIALS AND EQUIPMENT PURCHASED UNDER THIS CONTRACT SHALL COMPLY WITH THE INNOVATION MEMORANDUMS. ALL PIPING RELATED ITEMS ARE TO BE PURCHASED THROUGH FERGUSON ENTERPRISE (ALTON LASSITER - 615-316-1848, ALTON.LASSITER@FERGUSON.COM).
2. MATERIALS SHALL BE MANUFACTURED BY REPUTABLE MANUFACTURERS WHO HAVE BEEN PRODUCING THIS TYPE OF MATERIAL TO BE SOLD IN MAJOR CITIES IN THE UNITED STATES FOR A PERIOD OF AT LEAST FIVE (5) YEARS, UNLESS OTHERWISE NOTED.
3. CERTAIN EQUIPMENT IS SPECIFIED ON THE DRAWINGS AS THE PRODUCT OF A SPECIFIC MANUFACTURER. THIS IS TO ESTABLISH A STANDARD OF QUALITY AND TO MAKE PROVISIONS FOR POWER, SPACE ALLOWANCE, AND CONNECTIONS BY OTHER TRADES.
4. IF A BIDDER WISHES TO PROCURE EQUIPMENT FROM ALTERNATE MANUFACTURERS OTHER THAN THOSE NAMED IN THE CONTRACT DOCUMENTS, THE BIDDER SHALL PROVIDE RELEVANT SUBMITTALS ALONG WITH ANY COST ADDITIONS OR DEDUCTIONS FROM THE BASE BID PROPOSAL DURING THE BID PROCESS. IF THE OWNER AND ENGINEER ACCEPT THE ALTERNATE MANUFACTURERS, THE CONTRACTOR SHALL PROCURE EQUIPMENT ONLY FROM MANUFACTURERS NAMED IN THE DRAWINGS AND SPECIFICATIONS.
5. IF THE MECHANICAL CONTRACTOR PROPOSES TO USE THE PRODUCT OF A MANUFACTURER OTHER THAN THE ONE NAMED AS BASIS OF DESIGN IN THE DOCUMENTS, HE SHALL BE RESPONSIBLE FOR THAT ITEM OF EQUIPMENT FITTING IN PLACE WITH ADEQUATE CLEARANCES. FURTHER, IF DIFFERENT CONNECTIONS OR PROVISIONS ARE REQUIRED TO BE FURNISHED BY OTHER TRADES FROM THE PRODUCT NAMED IN THE DOCUMENTS, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OTHER TRADES OF ANY CHANGES, AND IF ADDITIONAL COSTS ARE REQUIRED BY THE OTHER TRADES, HE SHALL PAY SUCH COSTS.

DOCUMENTATION AND INSTRUCTION:

1. THE CONTRACTOR SHALL SUBMIT HIS OWN AND EACH MANUFACTURERS' WRITTEN CERTIFICATES AND WARRANTIES WHICH INDICATE THAT EACH ITEM OF EQUIPMENT FURNISHED COMPLIES WITH ALL REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. GUARANTEES AND WARRANTIES SHALL COMMENCE FROM THE DATE OF THE SIGNED ACCEPTANCE BY THE OWNER OF A PARTICULAR ITEM OF EQUIPMENT OR A PARTICULAR DEFINED PORTION OF THE WORK.
2. ANY SHUTDOWNS OF MECHANICAL SYSTEMS SHALL BE APPROVED IN WRITING BY THE OWNER AND ASSUMED TO TAKE PLACE OVER NIGHTS AND WEEKENDS. THE ADDITIONAL COST FOR ANY OVERTIME OR AFTER-HOURS WORK SHALL BE INCLUDED AS PART OF THE BASE BID PROPOSAL.
3. FURNISH DIGITAL SHOP DRAWINGS SHOWING ALL DETAILS OF CONSTRUCTION FOR THE FOLLOWING:
   A. GRILLES, REGISTERS, AND DIFFUSERS
   B. PIPING INSULATION
   C. DUCTWORK INSULATION
   D. CONTROLS
   E. PRE-BALANCE REPORT
   F. FINAL TEST AND BALANCE REPORT
4. REVIEW OF THE SHOP DRAWINGS IS RENDERED AS A SERVICE ONLY AND SHALL NOT BE CONSIDERED AS A GUARANTEE OF MEASUREMENTS OR OF BUILDING CONDITIONS; NOR SHALL IT BE CONSTRUED AS RELIEVING THE MECHANICAL CONTRACTORS OF BASIC RESPONSIBILITIES UNDER HIS CONTRACT.
5. ALL EQUIPMENT SUBMITTED AS SHOP DRAWINGS SHALL BE APPROVED BY THE GOVERNING JURISDICTIONAL AUTHORITIES PREVIOUS TO SUBMITTAL. SUBMISSION OF A SHOP DRAWING SHALL MEAN THAT APPROVAL HAS BEEN OBTAINED FOR INSTALLATION OF THE EQUIPMENT SUBMITTED FOR REVIEW.
6. AT COMPLETION OF THE PROJECT, ALL CHANGES AND DEVIATIONS FROM THE CONTRACT DOCUMENTS SHALL BE RECORDED BY THE MECHANICAL CONTRACTOR ON AS-BUILT DRAWINGS. SUPPLY A DIGITAL COPY TO THE ENGINEER.
7. FURNISH COMPLETE DIGITAL PORTFOLIOS TO THE OWNER, CONTAINING AS-BUILT SHOP DRAWINGS, TEST AND BALANCE REPORTS, OPERATING AND MAINTENANCE INSTRUCTIONS, WARRANTIES, PARTS LISTS, WIRING DIAGRAMS, ETC., ON ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT. COPY THE ENGINEER ON THE PROVISION OF SUCH DIGITAL PORTFOLIOS TO THE OWNER.
8. THE CONTRACTOR SHALL FURNISH A COMPETENT INSTRUCTOR TO ADVISE THE OWNER'S OPERATING PERSONNEL AS TO THE PROPER OPERATION, SERVICING, ETC., OF ALL EQUIPMENT AND SYSTEMS INSTALLED.

COORDINATION WITH OTHER TRADES:

1. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY INTERFERENCE WITH OR DAMAGE TO ANY EXISTING UTILITIES AND SHALL REPAIR OR REPLACE ANY DAMAGED UTILITIES WITH THE LEAST POSSIBLE DELAY AND HOLD THE OWNER HARMLESS IN THE EVENT THAT THERE IS ANY DAMAGE.
2. THE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND SHOW GENERAL ARRANGEMENT OF ALL EQUIPMENT, PIPING, DUCTWORK, SERVICES, ETC. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO SHOW ALL OFFSETS, FITTINGS, AND ACCESSORIES WHICH MAY BE REQUIRED. FURNISH ALL FITTINGS AND ACCESSORIES THAT MAY BE REQUIRED TO MEET SUCH CONDITIONS AND TO FIT THE WORK OF OTHER TRADES.
3. BEFORE MAKING ANY INSTALLATION, THE MECHANICAL CONTRACTOR SHALL CONFER WITH ALL OTHER CONTRACTORS WHOSE WORK MAY AFFECT THE WORK UNDER THEIR SECTIONS AND MAKE THE NECESSARY CHANGES TO AVOID INTERFERENCES OR IMPROPER EFFECT ON WORK TO BE PERFORMED BY ALL OTHER TRADES. PROVIDE COORDINATED SHOP DRAWINGS TO ALL OTHER CONTRACTORS. IN THE EVENT THAT INTERFERENCES DEVELOP, THE ENGINEER'S DECISION WILL BE FINAL AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR MOVING OF MISPLACED PIPING, DUCTS, CONDUIT AND/OR EQUIPMENT.
4. SHOULD DAMAGE TO ANY NON-MECHANICAL PART OF THE BUILDING OCCUR, PAY ALL COSTS TO THE RESPECTIVE CONTRACTORS AFFECTED ON THE JOB TO MAKE REQUIRED REPAIRS AND/OR TEMPORARY CONNECTIONS.
5. COORDINATE ALL WALL, ROOF, CEILING, AND FLOOR PENETRATIONS WITH GENERAL CONTRACTOR.

QUALITY OF MATERIALS, EQUIPMENT, AND WORKMANSHIP:

1. ALL MATERIALS AND/OR EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.
2. USE ONLY NEW MATERIALS OF THE BEST QUALITY OF THEIR RESPECTIVE KINDS; LABOR SHALL BE DONE IN A THOROUGH, WORKMANLIKE MANNER TO THE SATISFACTION OF THE OWNER AND ENGINEER.
3. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND OF THE MAKE AND QUALITY SPECIFIED IN THE CONTRACT DOCUMENTS.
4. ALL WORKMANSHIP SHALL BE FIRST CLASS IN EVERY RESPECT AND SHALL BE PERFORMED ONLY BY SKILLED MECHANICS, RECOGNIZED AS SUCH IN THEIR RESPECTIVE TRADES.
5. EXERCISE CARE IN TRANSPORTING AND HANDLING MATERIALS AND EQUIPMENT TO AVOID DAMAGE.
6. STORE MATERIALS AND EQUIPMENT ON SITE SUCH THAT DAMAGE IS PREVENTED.
7. KEEP EQUIPMENT AND MATERIALS CLEAN, DRY, AND FREE FROM DELETERIOUS CONDITIONS.

OTHER RESPONSIBILITIES:

1. EACH MAJOR PIECE OF EQUIPMENT SHALL HAVE THE MANUFACTURER'S NAME, ADDRESS, CONTACT INFORMATION, MODEL NUMBER, AND RATING ON A PLATE SECURELY AFFIXED IN A CONSPICUOUS PLACE. THE NAMEPLATE OF A DISTRIBUTING AGENT IS NOT ACCEPTABLE. ASME CODE RATINGS OR OTHER DATA WHICH IS DIE-STAMPED INTO THE SURFACE OF THE EQUIPMENT SHALL BE IN A VISIBLE LOCATION.
2. FIRE STOPPING SHALL BE REQUIRED AT ALL FLOOR AND FIRE RATED WALL/PARTITION PENETRATIONS.
3. FURNISH ALL NECESSARY SCAFFOLDING, STAGING, AND CRIBBING REQUIRED FOR THE COMPLETION OF THE WORK. SUCH SCAFFOLDING, ETC., SHALL BE REMOVED FROM THE PREMISES WHEN ITS USE IS NO LONGER REQUIRED ON THE JOB.
4. OPENINGS MADE IN A FIRE RATED WALL, CEILING, OR FLOOR SHALL BE EFFECTIVELY CLOSED AND REPAIRED SO THE FIRE RATING IS NOT REDUCED BELOW ORIGINAL FIRE RATING REQUIREMENTS.
5. AT THE COMPLETION OF THE WORK, THE CONTRACTOR SHALL CLEAN ALL EQUIPMENT AND MATERIALS, LEAVING THEM FREE OF DUST AND IN GOOD HOUSEKEEPING FASHION IN A MANNER ACCEPTABLE TO THE OWNER.
6. THE CONTRACTOR SHALL PROVIDE TEMPORARY HEAT AS REQUIRED. THE CONTRACTOR SHALL PROVIDE TEMPORARY FREEZE PROTECTION OF PIPING AS REQUIRED.
7. FURNISH CUTTING AND CORING AS REQUIRED FOR INSTALLATION OF PIPING AND EQUIPMENT.

SYSTEMS:

1. THESE SPECIFICATIONS AND ACCOMPANYING DRAWINGS ARE TO COVER THE FURNISHINGS OF ALL LABOR, MATERIALS, EQUIPMENT, APPARATUS, AND SERVICE, AS WELL AS PERMANENT AND TEMPORARY FACILITIES AS NECESSARY TO PLACE INTO APPROVED SATISFACTORY OPERATION THE COMPLETE RESPECTIVE SYSTEMS AS SHOWN ON THE DRAWINGS, CALLED FOR IN THE SPECIFICATIONS, AND AS REQUIRED BY THE JOB CONDITIONS.
2. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING SYSTEMS. INDICATED LOCATIONS AND ARRANGEMENTS ARE USED TO SIZE PIPE AND CALCULATE FRICTION LOSS, EXPANSION, AND OTHER DESIGN CONSIDERATIONS. INSTALL PIPING AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED BY ENGINEER.
3. INSTALL PIPING AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED UNLESS SPECIFICALLY INDICATED OTHERWISE.
4. PIPE AND FITTING MATERIALS:
   A. ALL PIPING, ACCESSORIES, AND FITTINGS SHALL CONFORM TO ASME OR ASTM STANDARDS
   B. CHILLED/HEATING WATER PIPING 2" OR SMALLER SHALL BE:
      a. HARD-DRAWN TYPE L COPPER PIPE WITH SOLDER JOINTS.
         - PROVIDE WROUGHT COPPER FITTINGS
         - PROVIDE ASTM B32 LEAD FREE SOLDER FILLER
5. UNDER HCA STANDARDS, VICTUALIC, PRESS FIT (INCLUDING PROPRESS), PRESSURE, AND GROOVED FITTINGS ARE NOT ALLOWED.
6. DIELECTRIC FITTINGS SHALL BE USED BETWEEN STEEL AND COPPER PIPES, VALVES, FITTINGS, AND OTHER PIPE ACCESSORIES.
7. INSTALL PIPING TO PERMIT VALVE SERVICING
8. INSTALL FITTINGS FOR CHANGES OF DIRECTION.
9. INSTALL MANUAL BALL AIR VENTS AT ALL HIGH POINTS.
10. INSTALL 3/4" MANUAL DRAIN BALL VALVES WITH THREADED NIPPLE AND CAP AT ALL LOW POINTS.

DUCTWORK INSULATION:

1. APPLICATION
   A. LINED DUCTWORK IS NOT ALLOWED.
   B. RETURN DUCTWORK: NONE
   C. EXHAUST DUCTWORK (OUTSIDE OF 10FT IN LENGTH FROM EXTERIOR PENETRATION): NONE
   D. SUPPLY DUCTWORK AND EXHAUST DUCTWORK (WITHIN 10FT IN LENGTH FROM EXTERIOR PENETRATION):
      a. MATERIAL: 1 1/2" THICK FIBERGLASS
      b. DENSITY: 1 LB/CU FT MINIMUM
      c. MAXIMUM CONDUCTIVITY: 0.26 W/mK OUT OF PACKAGE
      d. FACTORY APPLIED FSK JACKET
      e. ASTM E84 PLENUM RATING
   E. INSULATE ALL UNINSULATED PORTIONS OF VAV BOXES INCLUDING:
      a. EXTEND DOWNSTREAM INSULATION OVER REHEAT COILS
      b. INLETS
2. INSTALLATION:
   A. OVERLAP ALL SEAMS AND JOINTS AND SECURE WITH MANUFACTURER APPROVED ADHESIVE TO PROVIDE CONTINUITY OF VAPOR BARRIER.
3. APPROVED MANUFACTURERS:
   A. OWENS-CORNING
   B. CERTAINTEED
   C. ARMSTRONG
   D. GUSTIN-BACON

DUCTWORK & ACCESSORIES:

1. APPLICATION
   A. MATERIAL: G60 GALVANIZED SHEET METAL
   B. THICKNESS:
      a. AS INDICATED IN SMACNA
      b. MINIMUM THICKNESSES:
         - WHERE WELDING IS PERFORMED: 18 GAUGE
         - OTHERWISE: 22 GAUGE
   C. REINFORCING:
      a. AS INDICATED IN SMACNA
   D. SMACNA SEAL CLASS: A
   E. SMACNA LEAKAGE CLASS:
      a. RECTANGULAR: 4
      b. ROUND: 2
   F. SEAMS:
      a. SNAPLOCK SEAMS ARE NOT PERMITTED.
      b. TRANSVERSE (GIRTH) JOINTS T-4, 9, 17, 18, 20, AND 23 ARE NOT PERMITTED.
      c. CRIMP JOINTS ARE NOT PERMITTED.
   G. PRESSURE CLASS:
      a. SUPPLY DUCTWORK UPSTREAM OF VAV BOXES: +4"
      b. SUPPLY DUCTWORK DOWNSTREAM OF VAV BOXES: +2"
      c. EXHAUST DUCTWORK: -2"
      d. RETURN DUCTWORK: -2"
2. FLEXIBLE DUCTWORK:
   A. MAXIMUM LENGTH: 4'-0"
   B. MATERIAL: UL LISTED WITH 1" THICK FIBERGLASS AND VAPOR BARRIER.
   C. MAXIMUM CHANGE IN DIRECTION: 90°
   D. USE GENERAL RADIUS TURNS AND SUPPORT AS REQUIRED TO PREVENT EXCESSIVE SAGGING.
3. REMOVE ALL SLAG, SCALE, DIRT, AND DEBRIS FROM THE PIPING BEFORE ASSEMBLY.
4. FLUSH ALL PIPING WITH A MINIMUM VELOCITY OF 5 FPS FOR 30 MINUTES. ADD CLEANING MATERIALS AS RECOMMENDED BY CHEMAQUA AND BLOWDOWN STRAINER SCREENS. DRAIN THE SYSTEM AFTER CIRCULATING CHEMICAL CLEANER FOR 12 HOURS. AFTER SYSTEM IS DRAINED, REFILL WITH WATER AND SYSTEM CHEMICALS AS RECOMMENDED BY CHEMAQUA.
5. TEST THE PIPING WITH WATER AT 1.5 TIMES THE OPERATING PRESSURE FOR A MINIMUM OF 10 MINUTES AND EXAMINE FOR LEAKS. ELIMINATE ALL LEAKS.

SEQUENCE OF OPERATION:

1. MODIFY EXISTING JOHNSON CONTROLS TO PROVIDE THE FOLLOWING SEQUENCE:
2. FAN COIL UNIT (COOLING ONLY)
   A. SYSTEM DESCRIPTION: DAN COIL UNITS TO COOL ASSOCIATED SPACES USING ROOM THERMOSTAT. FCU SHALL ONLY OPERATE WHEN ASSOCIATED SUPPLY VAV BOX CANNOT MAINTAIN SPACE TEMPERATURE. TEMPERATURE SETPOINT FOR FCU OPERATION SHALL BE 72F. FIRST STAGE SHALL BE TO MODULATE THE CHILLED WATER CONTROL VALVE. SECOND STAGE SHALL BE TO MODULATE FAN AS NEEDED BASED ON LOAD.
3. VAV AIR TERMINAL UNITS WITH HYDRONIC COILS
   A. SYSTEM DESCRIPTION: ROOM THERMOSTAT MODULATES AIR DAMPER AND HEATING WATER COIL CONTROL VALVE TO MAINTAIN SETPOINT. VAVS SHALL HAVE MINIMUM AND MAXIMUM SETTINGS - INDICATED ON SCHEDULE. ALL DAMPERS SHALL BE CAPABLE OF MODULATING BETWEEN MINIMUM AND MAXIMUM SETTINGS FOR VARIABLE VOLUME CONTROL FLEXIBILITY. VAVS SHALL HAVE OCCUPIED/UNOCCUPIED SETTINGS BASED ON A TIME SCHEDULE PROGRAMMED IN THE BAS.
4. VAV AIR TERMINAL UNITS WITH HYDRONIC COILS - SET AT CONSTANT VOLUME.
   A. SYSTEM DESCRIPTION: VAV UNIT WITH AIR DAMPER SET AT A CONSTANT VOLUME INDICATED IN SCHEDULE. ROOM THERMOSTAT MODULATES HEATING WATER COIL CONTROL VALVE TO MAINTAIN A HEATING SETPOINT OF 68F (ADJUSTABLE.)

TESTING AND BALANCING:

1. TESTING AND BALANCING SHALL NOT BEGIN UNTIL EACH SYSTEM HAS BEEN COMPLETED AND IS IN FULL WORKING ORDER. CONTRACTORS SHALL PUT ALL THEIR EQUIPMENT INTO FULL OPERATION AND SHALL CONTINUE THE OPERATION OF SAME DURING EACH WORKING DAY OF TESTING AND BALANCING.
2. THE TESTING AND BALANCING CONTRACTOR SHALL REPORT ALL VISITS, IN WRITING, TO THE ENGINEER AND TO THE OWNER.
3. UPON COMPLETION OF THE WORK, THE TESTING AND BALANCING CONTRACTOR SHALL COMPILE ALL TEST DATA AND SUBMIT DIGITAL COPIES OF THE COMPLETE TEST DATA TO THE ENGINEER FOR EVALUATION AND APPROVAL. ALL REPORTS SHALL BE MADE ON FORMS AS RECOMMENDED BY THE ASSOCIATED AIR BALANCE COUNCIL.
4. THE TESTING AND BALANCING CONTRACTOR SHALL BE AN ACTIVE PARTICIPANT IN THE COMMISSIONING PROCESS AND SHALL WORK WITH THE ENGINEER FOR PERIODIC ADJUSTMENTS NECESSARY DURING THE COMMISSIONING PROCESS.
5. ENSURE STRAINERS ARE PULLED AND CLEANED PRIOR TO TESTING.
6. ENSURE CONTROL VALVES ARE FUNCTIONING IN ACCORDANCE WITH THE SEQUENCE OF OPERATIONS PRIOR TO TESTING.
7. THE TESTING AND BALANCING CONTRACTOR SHALL BALANCE EQUIPMENT IN ACCORDANCE WITH THE FOLLOWING TOLERANCES:
   A. WATER FLOWRATES: 0 TO +5% OF DESIGN
   B. AIR FLOWRATES: 0 TO +5% OF DESIGN
8. PERFORM A PRE-BALANCE PRIOR TO ANY DEMOLITION OCCURRING ON THE FOLLOWING:
   A. VAV BOX
      a. TAG NAME
      b. SERVICE
      c. MANUFACTURER
      d. MODEL
      e. ACTUAL COOLING AIRFLOW
      f. ACTUAL HEATING AIRFLOW
      g. INLET SIZE
      h. INLET AIR PRESSURE (IN W.C.)
      i. OUTLET AIR PRESSURE (IN W.C.)
      j. HEATING COIL GPM.
      k. WATER PRESSURE DROP (FT HD)
      l. ACTUAL MINIMUM AIRFLOW RATE (CFM)
      m. ENTERING AIR TEMPERATURE AT MAX HEATING (°F)
      n. LEAVING AIR TEMPERATURE AT MAX HEATING (°F)
      o. ENTERING WATER TEMPERATURE (°F)
      p. LEAVING WATER TEMPERATURE (°F)
      q. DESIGN HEATING WATER FLOWRATE (GPM)
      r. ACTUAL HEATING WATER FLOWRATE (GPM)
   B. AIR HANDLING UNIT (EAH)
      a. TAG NAME
      b. SERVICE
      c. MANUFACTURER
      d. MODEL
      e. ACTUAL COOLING AIRFLOW (CFM)
      f. OUTLET AIR PRESSURE (IN W.C.)
      g. COOLING COIL FLOWRATE (GPM)
      h. CHILLED WATER PRESSURE DROP (FT HD)
      i. ENTERING AIR TEMPERATURE AT MAX COOLING (°F)
      j. LEAVING AIR TEMPERATURE AT MAX COOLING (°F)
      k. ENTERING WATER TEMPERATURE (°F)
      l. LEAVING WATER TEMPERATURE (°F)
   C. GRILLES, REGISTERS, AND DIFFUSERS
      a. SYSTEM TYPE
      b. MANUFACTURER
      c. MODEL
      d. FRAME SIZE
      e. NECK SIZE
      f. AIRFLOW (CFM)
9. UPON COMPLETION OF THE PROJECT, TEST AND BALANCE THE FOLLOWING EQUIPMENT AND PROVIDE THE FOLLOWING IN A FINAL WRITTEN REPORT.
   A. GENERAL REPORT INFORMATION
      a. TITLE PAGE
      b. PROJECT NAME
      c. OWNER'S NAME
      d. ENGINEER'S NAME
      e. DATES TESTED
      f. TEST AND BALANCE CERTIFICATION
      g. SUMMARY OF THE REPORT'S CONTENTS
      h. GENERAL CONDITIONS AT THE TIME OF TESTING
   B. VAV BOXES
      a. IDENTIFICATION
      b. MANUFACTURER AND MODEL
      c. LOCATION AND ZONE
      d. AIR HANDLING UNIT SERVING VAV BOX
      e. INLET SIZE
      f. DESIGN MAXIMUM AIRFLOW RATE (CFM)
      g. ACTUAL MAXIMUM AIRFLOW RATE (CFM)
      h. DESIGN MINIMUM OCCUPIED AIRFLOW RATE (CFM)
      i. ACTUAL MINIMUM OCCUPIED AIRFLOW RATE (CFM)
      j. DESIGN MINIMUM UNOCCUPIED AIRFLOW RATE (CFM)
      k. ACTUAL MINIMUM UNOCCUPIED AIRFLOW RATE (CFM)
      l. ENTERING AIR TEMPERATURE AT MAX HEATING (°F)
      m. LEAVING AIR TEMPERATURE AT MAX HEATING (°F)
      n. SPACE TEMPERATURE (°F)
      o. ENTERING WATER TEMPERATURE (°F)
      p. LEAVING WATER TEMPERATURE (°F)
      q. DESIGN HEATING WATER FLOWRATE (GPM)
      r. ACTUAL HEATING WATER FLOWRATE (GPM)
      s. WATER PRESSURE DROP (FT HD)
      t. ENTERING AIR PRESSURE (IN. W.C.)
      u. LEAVING AIR PRESSURE (IN. W.C.)
   C. AIR HANDLING UNIT (EAH)
      a. TAG NAME
      b. SERVICE
      c. MANUFACTURER
      d. MODEL
      e. ACTUAL COOLING AIRFLOW (CFM)
      f. OUTLET AIR PRESSURE (IN W.C.)
      g. COOLING COIL FLOWRATE (GPM)
      h. CHILLED WATER PRESSURE DROP (FT HD)
      i. ENTERING AIR TEMPERATURE AT MAX COOLING (°F)
      j. LEAVING AIR TEMPERATURE AT MAX COOLING (°F)
      k. ENTERING WATER TEMPERATURE (°F)
      l. LEAVING WATER TEMPERATURE (°F)
   D. GRILLES, REGISTERS, AND DIFFUSERS
      a. SYSTEM TYPE
      b. MANUFACTURER
      c. MODEL
      d. FRAME SIZE
      e. NECK SIZE
      f. AIRFLOW (CFM)

This sheet of drawings has not been reviewed for code compliance.

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PROFESSIONAL ENGINEER
2/19/2026

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Health ONE®

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Issued For:	CONSTRUCTION DOCUMENTS
Date:	2/19/2026

REVISIONS

NO	DESCRIPTION	DATE

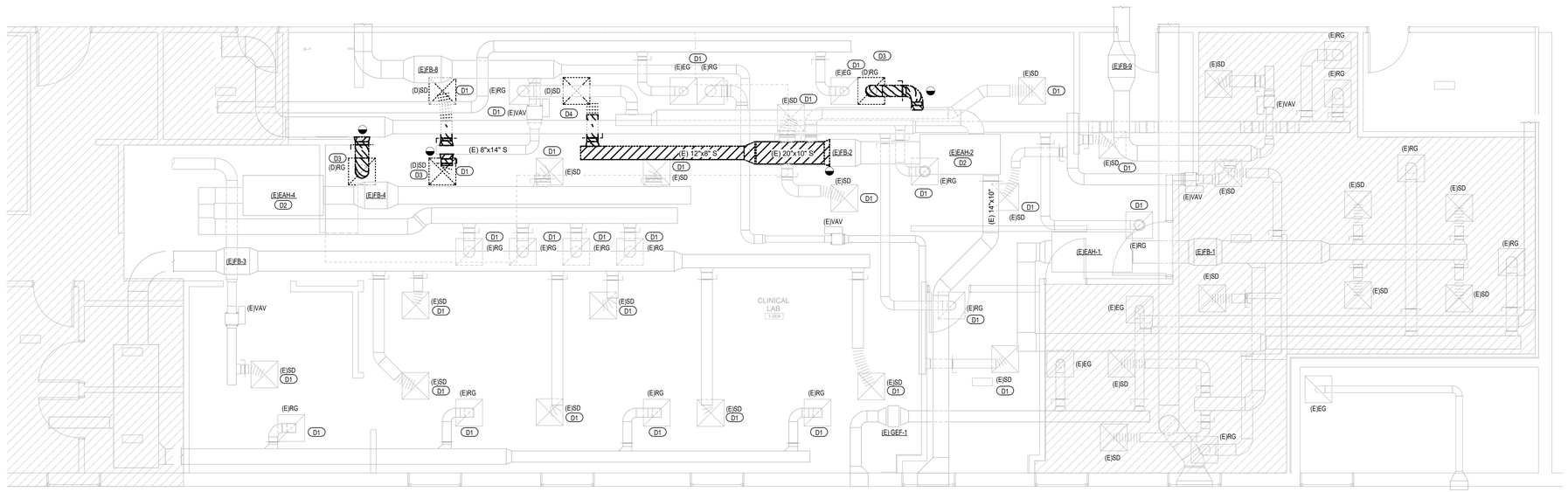
M002

MECHANICAL SPECIFICATIONS

Treanor NO. Project Number

Autodesk Docs://HC16222.2401.00 TMCA Lab Analyzer/ISO_2561-00064-00_TMCA Lab Analyzer_MEP_R23.rvt
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RSN 1972129 Permit # 2026-2623561-LT Page 21 of 28



1 LEVEL 1 MECHANICAL DEMOLITION PLAN - PHASE 2

1/4" = 1'-0"

2 LEVEL 1 MECHANICAL PLAN - PHASE 2

1/4" = 1'-0"

GENERAL KEYNOTES

1. DRAWINGS ARE DIAGRAMMATICAL IN NATURE. CONTRACTOR IS RESPONSIBLE FOR EXISTING SITE SURVEY, COORDINATION OF UTILITIES SHUTDOWN, AND COORDINATION WITH OTHER TRADES.
2. FIELD ORGANIZE AND INSTALL ALL EQUIPMENT, PIPING, CONDUIT, ETC FOR MAXIMUM CLEARANCE AND MAINTENANCE ACCESSIBILITY. PLAN OFFSETS ARE REQUIRED TO AVOID CONFLICTS WITH PIPING AND/OR STRUCTURE.

(DM) MECHANICAL DEMO KEYNOTES

1. PRE-BALANCE VAV AND ASSOCIATED AIR INLETS/OUTLETS CFM PRIOR TO ANY DEMOLITION. CREATE TAB REPORT AND SEND TO OWNER/ENGINEER.
2. PRE-BALANCE AIR HANDLING UNIT LOCATED IN THE INTERSTITIAL SPACE AND ASSOCIATED AIR INLETS/OUTLETS AND OUTSIDE AIR CFM PRIOR TO ANY DEMOLITION. CREATE TAB REPORT AND SEND TO OWNER/ENGINEER.
3. REMOVE AIR INLET/OUTLET AND ASSOCIATED DUCTWORK BACK TO MAIN. PROTECT DUCTWORK OPENING FROM CONSTRUCTION DEBRIS.
4. REMOVE AIR OUTLET AND ASSOCIATED DUCTWORK BACK TO POINT OF DISCONNECT. PROTECT DUCTWORK OPENING FROM CONSTRUCTION DEBRIS.

(NM) MECHANICAL NEW WORK KEYNOTES

1. REBALANCE EXISTING AIR HANDING UNIT TO MAXIMUM SUPPLY AIR CFM, PER MFR.
2. REBALANCE EXISTING AIR INLET/OUTLET CFM TO SUPPLY AIR INDICATED ON PLAN.
3. REBALANCE EXISTING OUTSIDE AIR TO 165 CFM.
4. REBALANCE EXISTING AIR INLET/OUTLET CFM TO PRE-CONSTRUCTION TAB REPORT WITH ENGINEER'S INSTRUCTIONS. COORDINATE WITH ENGINEER PRIOR TO REBALANCE.
5. REBALANCE EXISTING AIR HANDLING UNIT (E)EAH-3 TO CFM INDICATED ON PLAN. CLOSE OA DAMPER FOR LAB PRESSURIZATION - OA REQUIREMENTS ARE MET PER ASHRAE 170.

Provide proof of a flame spread less than 26 and a smoke development less than 50 for any material used in a plenum. 2021 IMC 602.2.1

Plastic fire sprinkler piping exposed within a plenum shall be used only in wet pipe systems and shall have a maximum; peak optical density of 0.50; average optical density of 0.15; flame spread of 5 feet in accordance with UL 1887. Piping shall be listed and labeled. 2021 IMC 602.2.1.2

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *ymunoz*
Date: *Jun 03, 2026*
2021 INTERNATIONAL CODES & 2023 NEC

KEY PLAN

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REVISIONS

NO	DESCRIPTION	DATE
1	City Comments	05/20/26

M101.1

LEVEL 01 MECHANICAL PLAN PHASE 2

Treanor NO. Project Number

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CONTRACTOR ABBREVIATIONS

AVC	AUDIO / VISUAL CONTRACTOR	GC	GENERAL CONTRACTOR
ACC	ACCESS CONTROL CONTRACTOR	MC	MECHANICAL CONTRACTOR
CC	CONTROLS CONTRACTOR	PC	PLUMBING CONTRACTOR
CM	CONSTRUCTION MANAGER	SC	SECURITY CONTRACTOR
DHC	DOOR HARDWARE CONTRACTOR	TC	TECHNOLOGY CONTRACTOR
EC	ELECTRICAL CONTRACTOR	TCC	TEMPERATURE CONTROLS CONTRACTOR
FC	FURNITURE CONTRACTOR		
FPC	FIRE PROTECTION CONTRACTOR		

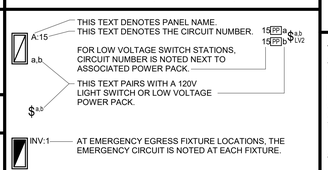
ELECTRICAL ABBREVIATIONS

A	AMPERE	LTG	LIGHTING
AC	ALTERNATING CURRENT	LV	LOW VOLTAGE
AMP	AMPERE		
AF	AMP FRAME	MAX	MAXIMUM
AT	AMP TRIP	MCA	MINIMUM CIRCUIT AMPS
AFC	AVAILABLE FAULT CURRENT	MCB	MAIN CIRCUIT BREAKER
AFF	ABOVE FINISHED FLOOR	MCC	MOTOR CONTROL CENTER
AFG	ABOVE FINISHED GRADE	MDF	MAIN DISTRIBUTION FRAME
AHJ	AUTHORITY HAVING JURISDICTION	MDP	MAIN DISTRIBUTION PANEL
AIC	AMPS INTERRUPTING CAPACITY	MFR	MANUFACTURER
AL	ALUMINUM	MH	MANHOLE
ALM	ALARM	MIN	MINIMUM
ARCH	ARCHITECT	MISC	MISCELLANEOUS
ATS	AUTOMATIC TRANSFER SWITCH	MLO	MAIN LUGS ONLY
A/V	AUDIO VISUAL	MTD	MOUNTED
AWG	AMERICAN WIRE GAUGE	MTG	MOUNTING
		MTR	MOTOR
BAS	BUILDING AUTOMATION SYSTEM	MV	MEDIUM VOLTAGE
BATT	BATTERY	MW	MEGA WATTS
BF	BELOW FLOOR		
BKR	BREAKER	NC	NORMALLY CLOSED
BLDG	BUILDING	NEC	NATIONAL ELECTRIC CODE (NFPA 70)
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
C	CONDUIT	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
CAB	CABINET	NF	NON-FUSED
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CC	CONTROLS CONTRACTOR	NL	NIGHT LIGHT
CCT	COLOR CORRECTED TEMPERATURE	NO	NORMALLY OPENED
CKT	CIRCUIT	NTS	NOT TO SCALE
CLG	CEILING		
CONN	CONNECTION	OH	OVERHEAD
CONT	CONTINUED		
CPT	CONTROL POWER TRANSFORMER	PB	PULL BOX
CT	CURRENT TRANSFORMER	PC	PHOTOCELL
CU	COPPER	PF	POWER FACTOR
CUH	CABINET UNIT HEATER	PH	PHASE – ø
		PNL	PANELBOARD
dB	DECIBEL	PRI	PRIMARY
DC	DIRECT CURRENT	PROT	PROTECTION OR PROTECTIVE
DISB	DISTRIBUTION	PT	POTENTIAL TRANSFORMER
DIV	DIVISION	PoE	POWER OVER ETHERNET
DISC	DISCONNECT SWITCH	PP	POWER POLE
DN	DOWN	PV	PHOTOVOLTAIC
DO	DOOR OPERATOR	PVC	POLYVINYL CHLORIDE
DPDT	DOUBLE POLE DOUBLE THROW		
DPST	DOUBLE POLE SINGLE THROW	REC	RECEPTACLE
DWG	DRAWINGS	REF	REFRIGERATOR
		REL	RELOCATE
EA	EACH	RM	ROOM
ELEC	ELECTRICAL		
EM	EMERGENCY	SC	SHORT CIRCUIT
EMT	ELECTRICAL METALLIC TUBING	SEC	SECONDARY
EQUIP	EQUIPMENT	SIM	SIMILAR
EV	ELECTRIC VEHICLE CHARGING STATION	SP	SINGLE POLE
EWC	ELECTRIC WATER COOLER	SPDT	SINGLE POLE DOUBLE THROW
EX	EXISTING	SPKR	SPEAKER
EXP	EXPLOSION PROOF	SPST	SINGLE POLE SINGLE THROW
		SPD	SURGE PROTECTIVE DEVICE
F	FUSE	SS	STAINLESS STEEL
FA	FIRE ALARM	SW	SWITCH
FAAP	FIRE ALARM ANNUNCIATOR PANEL	SWBD	SWITCHBOARD
FACP	FIRE ALARM CONTROL PANEL	SWGR	SWITCHGEAR
FB	FLOORBOX		
FDC	FIRE DEPARTMENT CONNECTION	TC	TIME CLOCK
FLA	FULL LOAD AMPS	TE	TOTALLY ENCLOSED
FLC	FULL LOAD CURRENT	TEFC	TOTALLY ENCLOSED FAN COOLED
FMC	FLEXIBLE METALLIC CONDUIT	TERM	TERMINAL
FS	FUSED SWITCH	TR	TAMPER RESISTIANT
FT	FEET	TV	TELEVISION
FUT	FUTURE	TYP	TYPICAL
GEC	GROUNDING ELECTRODE CONDUCTOR	UE	UNDERGROUND ELECTRICAL
GEN	GENERATOR	UF	UNDERGROUND FEEDER AND BRANCH CIRCUIT CABLE
GFCB	GROUND FAULT CIRCUIT BREAKER	UG	UNDERGROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	UL	UNDERWRITER'S LABORATORY
GFPE	GROUND FAULT PROTECTION OF EQUIPMENT	UPS	UNINTERRUPTIBLE POWER SUPPLY
GND	GROUND	USB	UNIVERSAL SERIAL BUS
HP	HORSE POWER	V	VOLTS
HR	HOUR	VA	VOLT-AMPERE
HTG	HEATING	VAR	VOLT-AMPERES REACTIVE
HZ	HERTZ	VP	VAPORPROOF
		VT	VAPORTIGHT
IBC	INTERNATIONAL BUILDING CODE	VFD	VARIABLE FREQUENCY DRIVE
IC	INTERRUPTING CAPACITY		
IDF	INTERMEDIATE DISTRIBUTION FRAME	W	WATT
IG	ISOLATED GROUND	WP	WEATHERPROOF
IN	INCH		
		XFMR	TRANSFORMER
JB	JUNCTION BOX		
		20A	20 AMP
KV	KILOVOLT	3W	3 WIRE
KVA	KILOVOLT AMPERE	4W	4 WIRE
KVAR	KILOVOLT AMPERE REACTIVE	20A/1P	20 AMP 1-POLE
KW	KILOWATT	100A/3P	100 AMP 3-POLE
KWH	KILOWATT HOUR		
LED	LIGHT EMITTING DIODE		

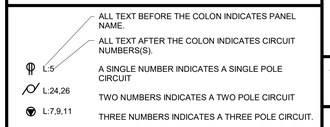
TECHNOLOGY ABBREVIATIONS

CATV	CABLE TELEVISION	RBB	RACK BONDING BUSBAR
CCTV	CLOSED CIRCUIT TELEVISION		
COAX	COAXIAL	TBB	TELECOMMUNICATIONS BONDING BACKBONE
		TBC	TELECOMMUNICATIONS BONDING CONDUCTOR
IT	INFORMATION TECHNOLOGY	TCP/IP	TRANSMISSION CONTROL PROTOCOL/INTERNET PROTOCOL
		TEL	TELEPHONE
LAN	LOCAL AREA NETWORK	TTC	TELEPHONE TERMINAL CABINET
		TTB	TELEPHONE TERMINAL BOARD
PA	PUBLIC ADDRESS		
		WAP	WIRELESS ACCESS POINT

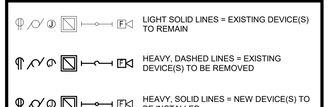
CIRCUITING (LIGHTING)



CIRCUITING (POWER)



SYMBOL LINEWEIGHT LEGEND

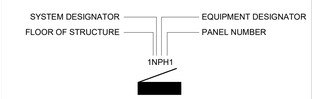


EX	SUB LETTERS "EX" INDICATE EXISTING EQUIPMENT TO REMIAN INTACT
RE	SUB LETTERS "RE" INDICATE EXISTING EQUIPMENT TO BE DISCONNECTED AND REMOVED
RL	SUB LETTERS "RL" INDICATE EXISTING EQUIPMENT TO BE DISCONNECTED, REMOVED, AND RELOCATED
NL	SUB LETTERS "NL" INDICATE NEW LOCATION OF RELOCATED EQUIPMENT
NR	SUB LETTERS "NR" INDICATE NEW EQUIPMENT TO REPLACE EXISTING
RR	SUB LETTERS "RR" INDICATE REMOVE EQUIPMENT AND REPLACE ON NEW SURFACE
*	* = a, b, clg, AF, GF, IG, OR TP. WHEN TAGGED IN THE ELECTRICAL SYMBOL LIST, REFER TO THE ABBREVIATION LIST

ELECTRICAL EQUIPMENT IDENTIFICATION

EQUIPMENT DESIGNATION	CODE
AUTOMATIC TRANSFER SWITCH	ATS
DISTRIBUTION PANEL 120/208V	DPL
DISTRIBUTION PANEL 277/480V	DPH
PANELBOARD 120/208V	PL
PANELBOARD 277/480V	PH
SWITCHBOARD	SWBD
SWITCHGEAR	SWGR
TRANSFORMER	T

SYSTEM DESIGNATION	CODE
LIFE SAFETY (NEC 517)	LS
CRITICAL (NEC 517)	C
EQUIPMENT (NEC 517)	EQ
EMERGENCY (NEC 700)	G0
LEGALLY REQUIRED (NEC 701)	G1
OPTIONAL STANDBY (NEC 702)	G2
NORMAL	N



NOTES:
1. AN ADDITIONAL BUILDING SERVICE DESIGNATOR WILL BE ADDED AFTER THE SYSTEM DESIGNATOR IN CASES WITH MULTIPLE SERVICES WITHIN A BUILDING.

DELEGATED DESIGN AND DEFERRED SUBMITTALS

1. THIS PROJECT INCLUDES SYSTEMS AND ELEMENTS REQUIRING DESIGN AND SUBMITTAL BY A PROFESSIONAL ENGINEER OR QUALIFIED PROFESSIONAL AS PART OF THE CONTRACTOR'S SCOPE OF WORK. THE PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA FOR THESE DELEGATED DESIGN ITEMS ARE INDICATED IN THE SPECIFICATIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE SUBMISSION OF DELEGATED DESIGN SUBMITTALS TO THE AUTHORITY HAVING JURISDICTION FOR APPROVAL.
3. THE FOLLOWING SYSTEMS, OR PORTIONS THEREOF, REQUIRE A DEFERRED SUBMITTAL. REFER TO THE SPECIFICATIONS FOR REQUIREMENTS. ADDITIONAL SYSTEMS MAY REQUIRE DEFERRED SUBMITTALS WHERE INDICATED IN THE SPECIFICATIONS. THIS LIST IS NOT INTENDED TO BE A COMPREHENSIVE LIST OF ALL SYSTEMS REQUIRING A DELEGATED DESIGN, THE CONTRACTOR IS RESPONSIBLE FOR ALL DELEGATED DESIGN REQUIREMENTS INDICATED IN THE CONTRACT DOCUMENTS.
   - A. FIRE PROTECTION SYSTEMS
   - B. HANGERS AND SUPPORTS
   - C. EXPANSION COMPENSATION
   - D. VIBRATION CONTROL SYSTEMS
   - E. SEISMIC AND WIND RESTRAINT SYSTEMS
   - F. METAL DUCT CONSTRUCTION
   - G. ELECTRICAL SHORT CIRCUIT AND COORDINATION STUDIES AND ARC FLASH HAZARD ANALYSIS
   - H. LIGHTNING PROTECTION SYSTEMS
   - I. FIRE ALARM SYSTEMS
   - J. VAV SYSTEMS
   - K. VRF SYSTEMS REFRIGERANT PIPING

ELECTRICAL MOUNTING HEIGHTS

MOUNTING HEIGHTS OF ELECTRICAL ITEMS LISTED BELOW SHALL MEASURED FROM FINISHED FLOOR TO CENTERLINE, UNLESS NOTED OTHERWISE OR CODE REQUIRED.

ITEM	HEIGHT ABOVE FINISHED FLOOR
AREA OF RESCUE CALL STATION	48" MAX TO CALL BUTTON
AREA OF RESCUE BASE STATION	48"
FIRE ALARM CONTROL PANEL	60" MAX TO TOP OF DISPLAY
FIRE ALARM ANNUNCIATOR PANEL	60" MAX TO TOP OF DISPLAY
FIRE ALARM PULL STATION	48" TO OPERATING HANDLE
FIRE ALARM AUDIO/VISUAL DEVICE	80" TO BOTTOM OF DEVICE
FIRE ALARM VISUAL DEVICE	80" TO BOTTOM OF DEVICE
FIRE ALARM SMOKE DETECTOR	(NOTE #1)
FIRE ALARM HEAT DETECTOR	(NOTE #2)
OVERCURRENT PROTECTION DEVICES	79" MAX TO OPERATING HANDLE
INDIVIDUAL STARTER / DISCONNECT	72" TO TOP OF ENCLOSURE
GROUPED STARTER / DISCONNECT	> 12" TO BOT. OF ENCLOSURE, < 72" TO TOP OF ENCLOSURE
VARIABLE FREQUENCY DRIVE	72" TO TOP OF ENCLOSURE
GENERAL LIGHTING CONTROLS	46"
GENERAL RECEPTACLES - INTERIOR	18"
GENERAL RECEPTACLES - EXTERIOR	24"
TV / MONITOR RECEPTACLES & OUTLETS	66"
TOILET ROOM RECEPTACLES - ELEVATED	46" - NO COUNTERTOP
RANGE RECEPTACLE	6"
EXTERIOR CONVEINENCE RECEPTACLES	24"
GENERAL VOICE / DATA OUTLETS	18"
ABOVE COUNTER RECEPTACLES	6" FROM TOP OF COUNTER
ABOVE COUNTER RECEPTACLES	6" FROM TOP OF BACKSPLASH
ABOVE COUNTER VOICE / DATA OUTLETS	6" FROM TOP OF COUNTER
ABOVE COUNTER VOICE / DATA OUTLETS	6" FROM TOP OF BACKSPLASH
NURSE CALL STATION	48"
WALL TELEPHONE	48"
VIDEO / INTERCOM STATION	48"
CARD READER	48"
ADA PUSH BUTTON	48"
WALL MOUNTED VIDEO SURVEILLANCE CAMERA	108"
WALL CLOCK	80"
WALL SPEAKER	80"
MAGNETIC HOLD OPEN	6" BELOW TOP OF DOOR SLAB
EXIT SIGN	12" ABOVE TOP OF DOOR FRAME
OVERHEAD DOOR CONTROL STATION	48"
GROUPED UTILITY REVENUE METERING	>30"
-	-

NOTES:
1. CEILING MOUNTED SMOKE DETECTORS SHALL BE INSTALLED 3'-0" MINIMUM TO HVAC SUPPLY DIFFUSER OR EXHAUST GRILLE.
2. CEILING MOUNTED HEAT DETECTORS USED FOR ELEVATOR SHUNT-TRIP SHALL BE INSTALLED 2'-0" MAXIMUM FROM SPRINKLER HEAD.

ELECTRICAL SYMBOLS LEGEND

NURSE CALL
- NURSECALL - PATIENT BEDSIDE STATION
- NURSECALL - EMERGENCY STATION W/PULL CORD
- NURSECALL - CORRIDOR LIGHT
- NURSECALL - DUTY STATION
- NURSECALL - MAIN CONTROLLER
- NURSECALL - CODE BLUE

LIGHTING
- 2' X 4' RECESSED FIXTURE
- 2' X 4' RECESSED FIXTURE (DESIGNATED AS EMERGENCY OR NL)
- 2' X 2' RECESSED FIXTURE
- 2' X 2' RECESSED (DESIGNATED AS EMERGENCY OR NL)
- 1' X 4' OR 8' RECESSED FIXTURE
- SUSPENDED LINEAR FIXTURE
- WALL MOUNTED OR RECESSED LINEAR FIXTURE (DESIGNATED AS EMERGENCY OR NL)
- EXIT SIGN (ARROWS INDICATED AS SHOWN) - (SHADING INDICATES # OF FACES)
- AREA OF REFUGE SIGN
- EMERGENCY BATTERY UNIT
- WALL BRACKET VANITY OR LINEAR FIXTURE
- 2' X 4' SURFACE MOUNTED FIXTURE
- 2' X 2' SURFACE MOUNTED FIXTURE
- 1' X 4' OR 8' SURFACE MOUNTED FIXTURE
- 4' OR 8' SUSPENDED STRIP FIXTURE
- RECESSED DOWNLIGHT FIXTURE (ROUND OR SQUARE)
- WALL MOUNTED SCONCE OR WALL PACK
- KEYLESS LIGHT FIXTURE
- PENDANT MOUNTED FIXTURE
- PARKING AREA FIXTURE

SECURITY
- VIDEO SURVEILLANCE CAMERA (INTERIOR)
- VIDEO SURVEILLANCE CAMERA (EXTERIOR)
- DOOR CONTACT
- CARD READER
- WINDOW CONTACT
- ELECTRIC LATCH RETRACTION
- ELECTRIC STRIKE
- POWER TRANSFER DEVICE
- REQUEST TO EXIT
- INTERCOM STATION

MISCELLANEOUS
- EQUIPMENT CALLOUT TAG

SWITCHING
- 20A, 120/277V SPST SWITCH — INDICATES SWITCH LEG
- 3-WAY SWITCH
- 4-WAY SWITCH
- KEYED SWITCH
- SWITCH WITH PILOT LIGHT
- MOTOR RATED SWITCH (TOGGLE TYPE)
- MANUAL STARTER SWITCH (TOGGLE TYPE)
- SPEED CONTROLLER SWITCH
- DIMMER SWITCH
- LOW VOLTAGE SWITCH STATION — 'X' DENOTES SWITCH QTY
- LOW VOLTAGE SWITCH STATION (DIMMING) — 'X' DENOTES SWITCH QTY
- LOW VOLTAGE SWITCH STATION (2 HOUR OVERRIDE) — 'X' DENOTES SWITCH QTY
- OCCUPANCY SENSOR SWITCH
- CEILING MTD OCCUPANCY SENSOR
- CEILING MTD VACANCY SENSOR
- CEILING MTD DAYLIGHT LEVEL SENSOR
- EXTERIOR MOUNTED PHOTOCELL
- DIMMING LOW VOLTAGE POWER PACK
- DIMMING LOW VOLTAGE EMERGENCY POWER PACK (UL-924)
- EMERGENCY TRANSFER DEVICE (UL-924), RATED FOR 0-10V DIMMING APPLICATIONS
- WIRELESS SWITCH STATION — 'X' DENOTES SWITCH QTY
- WIRELESS SWITCH STATION (DIMMING) — 'X' DENOTES SWITCH QTY
- OCCUPANCY SENSOR INTEGRAL TO FIXTURE
- VACANCY SENSOR INTEGRAL TO FIXTURE
- DAYLIGHT LEVEL SENSOR INTEGRAL TO FIXTURE
- WIRELESS POWER PACK (NON-DIMMING)
- WIRELESS POWER PACK (DIMMING)
- WIRELESS LIGHTING INTERFACE MODULE
- CONTROL PANEL DISPLAY
- DIGITAL MULTIPLEXOR
- POWER SUPPLY
- LIGHTING CONTROL PANEL

FIRE ALARM
- FIRE ALARM CONTROL PANEL
- FIRE ALARM ANNUNCIATOR PANEL
- FIRE ALARM NOTIFICATION APPLIANCE CIRCUIT POWER SUPPLY
- FIRE ALARM AUDIO AMPLIFIER
- FIRE ALARM BATTERY BACKUP
- FIRE ALARM PULL STATION 48" A.F.F. TO CENTER
- HEAT DETECTOR
- SMOKE DETECTOR — INDICATES ELEVATOR RECALL
- DUCT DETECTOR WITH SAMPLING TUBES AND REMOTE TEST SWITCH-INDICATOR
- FIRE ALARM DOOR HOLD OPEN DEVICE
- FIRE ALARM CONTROL MODULE
- FIRE ALARM MONITOR MODULE
- WALL MOUNTED HORN/STROBE 82" A.F.F. TO CENTER — 15CD, 30CD, 75CD, 110CD, 135CD; INDICATES WEATHER PROOF RATING
- WALL MOUNTED STROBE 82" A.F.F. TO CENTER — 15CD, 30CD, 75CD, 110CD, 135CD
- WALL MOUNTED HORN 82" A.F.F. TO CENTER — INDICATES WEATHER PROOF RATING
- STROBE ONLY, HORN ONLY, AND HORN/STROBE DEVICES WITHIN A CIRCLE SHALL BE CEILING MOUNTED
- FLOW SWITCH
- TAMPER SWITCH

RECEPTACLES
- 20A, 120V, 2P, 3W GROUNDING DUPLEX RECEPTACLE — DESIGNATED AS EMERGENCY
- QUADPLEX RECEPTACLE
- GFCI RECEPTACLE
- WEATHER-PROOF GFCI RECEPTACLE
- SINGLE-PLEX RECEPTACLE
- MULTIPHASE RECEPTACLE (TYPE AS NOTED)
- RECEPTACLE MTD. 6" ABOVE SURFACE (OR AT HEIGHT NOTED)
- CEILING MOUNTED RECEPTACLE — CR = CORD REEL DC = DROP CORD
- FLOOR BOX (DUPLEX)
- FLOOR BOX (QUADPLEX)
- SURFACE RACEWAY

POWER
- PANEL BOARD
- DISTRIBUTION PANEL BOARD
- UTILITY METER
- DISCONNECT
- FUSED DISCONNECT SWITCH
- COMBINATION STARTER
- SEPARATE CIRCUIT BREAKER
- PUSH BUTTON
- J-BOX (CEILING OR WALL MOUNTED)
- ELECTRICAL EQUIPMENT CONNECTION
- MOTOR CONNECTION
- ELECTRIC VEHICLE CHARGING STATION
- SURGE PROTECTION DEVICE
- DIGITAL POWER METER
- TERMINAL GROUND BAR
- VARIABLE FREQUENCY DRIVE
- TRANSFER SWITCH ANNUNCIATOR PANEL
- GENERATOR ANNUNCIATOR PANEL

COMMUNICATIONS
- DATA OUTLET — "#" NUMBER INDICATES QUANTITY OF DATA; "RO" ROUGH-IN ONLY
- COMMUNICATION DEVICE — 6" ABOVE SURFACE (OR HEIGHT NOTED)
- COMBINATION SPEAKER / CLOCK
- INTERCOM CALL / VIDEO STATION
- WALL MTD CLOCK — DENOTES FACES OF CLOCK
- BELL (WALL MTD)
- BELL (RECESSED)
- WALL MTD SPEAKER — DENOTES LOUD SPEAKER
- CEILING MOUNTED SPEAKER
- CEILING MOUNTED IP SPEAKER
- WIRELESS ACCESS POINT
- AREA OF RESCUE ASSISTANCE ANNUNCIATOR PANEL
- AREA OF RESCUE ASSISTANCE CALL STATION
- TV OUTLET (COAXIAL)
- COMMAND MODULE

Code violations that are found during inspection are required to be corrected. Permit issuance does not grant approval of a code violation.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: nmartine
Date: May 14, 2026
2021 INTERNATIONAL CODES & 2023 NEC

CODES AND STANDARDS
- 2021 INTERNATIONAL BUILDING CODE (IBC)
- 2021 INTERNATIONAL MECHANICAL CODE (IMC)
- 2021 INTERNATIONAL PLUMBING CODE (IPC)
- 2021 INTERNATIONAL FIRE CODE (IFC)
- 2021 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
- 2023 NATIONAL ELECTRIC CODE (NEC)
- 2018 FGI GUIDELINES (FGI)

ELECTRICAL SHEET INDEX

Sheet Number	Sheet Name
E000	ELECTRICAL SYMBOLS , ABBREVIATIONS & NOTES
E001	ELECTRICAL SYMBOLS , ABBREVIATIONS & NOTES
E002	ELECTRICAL SPECIFICATIONS
E101.2	LEVEL 01 ELECTRICAL POWER & SYSTEMS PLAN - PHASE 2
E101.3	LEVEL 01 ELECTRICAL POWER & SYSTEMS PLAN - PHASE 3
E102.1	LEVEL 01 ELECTRICAL LIGHTING PLAN - ALL PHASES
E600	ELECTRICAL SCHEDULES

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Health ONE

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Issued For:	CONSTRUCTION DOCUMENTS
Date:	02/19/25

REVISIONS

NO	DESCRIPTION	DATE

E000

ELECTRICAL SYMBOLS , ABBREVIATIONS & NOTES

Treanor NO. Project Number

Autodesk Docs://HC16222.2401.00 TMCA Lab Analyzer/SO_2581-00684-00_TMCA Lab Analyzer_MEP_R23.rvt
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GENERAL NOTES

1. THE INTENT OF THESE DOCUMENTS IS FOR THE TRADES TO FURNISH AND INSTALL COMPLETE MECHANICAL AND ELECTRICAL SYSTEMS. THE SPECIFIED FIRE PROTECTION, PLUMBING, HVAC, ELECTRICAL, TECHNOLOGY, AND SPECIAL SYSTEMS SHALL BE COMPLETE IN ALL RESPECTS (OPERATIONAL, TESTED, ADJUSTED, CALIBRATED, AND APPROVED BY THE AUTHORITIES HAVING JURISDICTION AND READY FOR BENEFICIAL USE BY THE OWNER).
2. OBTAIN AND REVIEW ALL CONTRACT DOCUMENTS BEFORE SUBMITTING A BID. INFORMATION IS PROVIDED ON THE VARIOUS DRAWINGS, SCHEDULES, SPECIFICATIONS AND ALL OF THE DOCUMENTS MAKE UP THE BIDDING PACKAGE. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND FORM A TOTAL PROJECT DESIGN AND INFORMATION SOURCE FOR CONSTRUCTION PURPOSES.
3. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT. IN ORDER TO INDICATE THE SCOPE OF WORK, THE PLANS ARE ARRANGED FOR CLARITY IN TWO DIMENSIONS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF THE ACTUAL LAYOUT OF SYSTEMS AND COORDINATION WITH OTHER SYSTEMS AND BUILDING ELEMENTS. COORDINATE LOCATIONS OF UTILITIES AND EQUIPMENT WITH OTHER TRADES BEFORE AND DURING CONSTRUCTION. ANY MODIFICATIONS TO THE EQUIPMENT AND UTILITY LAYOUTS REQUIRED FOR INSTALLATION ARE TO BE PERFORMED UNDER THE CONTRACT AGREEMENT AT NO ADDITIONAL COST. PROVIDE ADDITIONAL TRANSITIONS AND OFFSETS IN ALL PIPING, DUCTWORK OR CONDUIT FOR COORDINATION WITH OTHER TRADES AND BUILDING ELEMENTS AND STRUCTURE.
4. REFER TO THE ARCHITECTURAL DRAWINGS FOR THE EXACT LOCATION AND MOUNTING HEIGHTS OF EQUIPMENT, FIXTURES, AND DEVICES IN FINISHED SPACES. COORDINATE EQUIPMENT, FIXTURE, AND DEVICE COLORS AND FINISHES WITH THE ARCHITECT. MOUNTING HEIGHTS SHALL BE APPROVED BY THE ARCHITECT.
5. PERFORM ALL WORK IN COMPLIANCE WITH THE SPECIFICATIONS, APPLICABLE CODES, ORDINANCES AND THE REGULATORY AGENCIES HAVING JURISDICTION. WHERE THE CONTRACT DOCUMENTS EXCEED CODE REQUIREMENTS, THE CONTRACT DOCUMENTS MUST BE FOLLOWED.
6. INSTALL ALL EQUIPMENT IN ACCESSIBLE LOCATIONS. WHERE EQUIPMENT MUST BE INSTALLED ABOVE AN INACCESSIBLE CEILING OR BEHIND A WALL, PROVIDE AN APPROPRIATE ACCESS DOOR RATED TO MATCH THE CEILING OR WALL RATING. COORDINATE THE LOCATION WITH THE ARCHITECT PRIOR TO INSTALLATION.
7. COORDINATE ALL UTILITIES ENTERING OR LEAVING THE BUILDING WITH THE SITE CONTRACTOR(S) BEFORE INSTALLATION. COORDINATE INVERTS WITH THE STRUCTURE AND SYSTEM REQUIREMENTS PRIOR TO INSTALLATION.
8. NOTIFY THE ARCHITECT IMMEDIATELY OF ANY CONFLICTS DISCOVERED BETWEEN DOCUMENTS. IF THE CONFLICT IS NOT RESOLVED PRIOR TO SUBMITTING A BID, CARRY THE LARGER QUANTITY AND/OR MORE EXPENSIVE ITEM(S).
9. BEFORE INSTALLATION, COORDINATE REQUIRED SERVICE CONNECTIONS, FACTORY START UPS AND INSTALLATION OF FIELD DEVICES ASSOCIATED WITH OWNER-FURNISHED EQUIPMENT.
10. PROVIDE A CONCRETE HOUSEKEEPING PAD FOR ALL FLOOR-MOUNTED EQUIPMENT.
11. ENCLOSED CONTROLLERS SHALL BE PROVIDED BY THE CONTRACTOR PROVIDING THE EQUIPMENT REQUIRING AN ENCLOSED CONTROLLER. REQUIREMENTS ARE SPECIFIED UNDER DIVISION 26: "ENCLOSED CONTROLLERS".
12. DO NOT INSTALL PIPING OR DUCTWORK OVER ELECTRICAL PANELS, TRANSFORMERS, OR SPECIAL EQUIPMENT.
13. DO NOT INSTALL ANY SYSTEMS IN OR THROUGH ELEVATOR MACHINE ROOMS OR ELEVATOR SHAFTS THAT DO NOT SERVE THE ROOM OR SHAFT. MAINTAIN A MINIMUM OF SEVEN (7) FOOT HEAD CLEARANCE IN THE ELEVATOR MACHINE ROOM.
14. DO NOT INSTALL ANY SYSTEMS IN STAIRS NOT ASSOCIATED WITH OR SERVING THAT STAIR.
15. NO SYSTEM COMPONENTS MAY BE SUPPORTED FROM STRUCTURAL BRACED FRAMES.
16. NO SYSTEMS OR COMPONENTS MAY REST ON OR MAKE CONTACT WITH PIPING AND EQUIPMENT REQUIRED BY CODE TO BE INDEPENDENTLY SUPPORTED, SUCH AS FIRE PROTECTION PIPING AND MEDICAL GAS PIPING.
17. NO SHARED NEUTRALS.

GENERAL ELECTRICAL NOTES

1. THIS IS AN OFFICE STANDARD SYMBOL LIST. ALL SYMBOLS DO NOT NECESSARILY APPEAR ON THIS PROJECT.
2. COORDINATE ALL WORK WITH OTHER TRADES TO PREVENT DISRUPTION TO THE OWNER AND MINIMIZE THE DOWNTIME.
3. REFER TO ARCHITECTURAL, MECHANICAL, & PLUMBING DRAWINGS FOR ADDITIONAL REQUIREMENTS.
4. PROVIDE UPDATED, TYPEWRITTEN DIRECTORIES FOR PANELBOARDS AFFECTED BY CONSTRUCTION INCORPORATING CHANGES RESULTING FROM THIS PROJECT.
5. UPON COMPLETION OF THE ELECTRICAL WORK, THE INSTALLATION SHALL BE TESTED FOR CONTINUITY, GROUNDS, AND SHORT CIRCUITS. THE ELECTRICAL CONTRACTOR SHALL DEMONSTRATE PROPER PERFORMANCE OF ALL SYSTEMS. ALL DEFECTIVE WORK OR MATERIALS SHALL BE REPLACED OR REPAIRED AS NECESSARY AND RETESTED.
6. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASSOCIATED COSTS AND SCHEDULING OF REQUIRED ELECTRICAL INSPECTIONS.
7. CONCEAL ALL CONDUIT IN WALLS, PARTITIONS, ABOVE CEILING, IN FLOOR SLAB, ETC. UNLESS OTHERWISE INDICATED ON THE PLANS OR IN THE SPECIFICATIONS. CONDUIT IN MECHANICAL ROOMS AND STORAGE ROOMS WITHOUT CEILINGS MAY BE EXPOSED ON BUILDING STRUCTURE.
8. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENINGS SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS.
9. ELECTRICAL CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CEILING MOUNTED ELECTRICAL AND TECHNOLOGY DEVICES AND EQUIPMENT WITH LUMINAIRES, SPRINKLER, AND CEILING GRILLES AND DIFFUSERS. CENTER ALL DEVICES IN CEILING TILE PATTERN. SMOKE DETECTORS AND OCCUPANCY AND VACANCY SENSORS SHALL BE LOCATED NO CLOSER THAN 3 FEET TO AN AIR SUPPLY DIFFUSER OR RETURN GRILLE.
10. ELECTRICAL CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE, AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS, AND REVIEWED SHOP DRAWINGS PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION. THIS CONTRACTOR SHALL ADJUST RECEPTACLES, OUTLETS, OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
11. ELECTRICAL CONTRACTOR SHALL PROVIDE A TEMPORARY ELECTRICAL SYSTEM FOR THE PROJECT. AT LEAST ONE 120 VOLT SINGLE PHASE RECEPTACLE SHALL BE PROVIDED FOR EACH 500 SQUARE FEET OF FLOOR SPACE. SUFFICIENT TEMPORARY LIGHTING SHALL BE PROVIDED TO ALLOW ALL CONTRACTORS TO COMPLETE THEIR WORK. TEMPORARY ELECTRICAL CIRCUITS SHALL BE EQUIPPED WITH COMBINATION GROUND FAULT INTERRUPTER AND CIRCUIT BREAKER PER NEC. TEMPORARY ELECTRICAL SYSTEM SHALL BE INCLUDED IN THIS BID. USAGE CHARGES SHALL BE PAID FOR BY THE GENERAL CONTRACTOR.
12. CIRCUIT NUMBERS ARE SHOWN FOR CIRCUIT IDENTIFICATION. CIRCUITING SHALL AGREE WITH NUMBERING ON THE PANEL PROVIDED. COMMON NEUTRALS MAY NOT BE USED FOR BRANCH CIRCUITS. BALANCE THE LOAD ON PANEL AS EVENLY AS POSSIBLE BETWEEN EACH PHASE.
13. BOXES LOCATED ON OPPOSITE SIDES OF NON-RATED WALLS SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY. BOXES ON OPPOSITE SIDES OF FIRE RATED WALLS SHALL BE OFFSET A MINIMUM OF 24" HORIZONTALLY. "THRU-THE-WALL" BOXES SHALL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
14. CONNECTION FOR ELECTRIC WATER COOLERS (EWC) SHALL BE A RECEPTACLE INSTALLED CONCEALED BEHIND WATER COOLER ACCESS PLATE WITH A REMOTE GFCI DEVICE OR CIRCUIT BREAKER, OR BE A GFI RECEPTACLE LOCATED DIRECTLY BELOW AND CENTERED ON EWC WITH 20AMP RATED APPLIANCE CORD. CONTRACTOR SHALL VERIFY TYPE OF EWC TO BE INSTALLED.
15. ELECTRICAL AND TECHNOLOGY EQUIPMENT SHALL BE INSTALLED TO AVOID IMPEDANCE OF, OPERATION OF, AND/OR ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF ELECTRICAL AND TELECOMMUNICATIONS EQUIPMENT, ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR, SHALL BE APPROVED IN ADVANCE BY THE OTHER CONTRACTOR.
16. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL (1) 120V, 20A BRANCH CIRCUIT TO THE NEAREST ELECTRICAL PANEL FOR EACH TEMPERATURE CONTROL PANEL, UNLESS NOTED OTHERWISE. COORDINATE LOCATIONS WITH TEMPERATURE CONTROLS CONTRACTOR.
17. INSTALL LIGHTING FIXTURES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PROVIDE SUPPORTING DEVICES FOR ADEQUATE SUPPORT OF FIXTURES FROM STRUCTURE.
18. ALL MATERIALS USED TO SEAL PENETRATIONS OF FIRE RATED WALLS AND FLOORS SHALL BE TESTED AND CERTIFIED AS A SYSTEM PER ASTM E814 STANDARDS FOR FIRE TESTS OF THROUGH-PENETRATION FIRESTOPS.
19. ELECTRICAL EQUIPMENT SHALL BE INSTALLED TO AVOID IMPEDANCE OF, OPERATION OF, AND/OR ACCESS MECHANICAL EQUIPMENT. ALL MOUNTING OF ELECTRICAL EQUIPMENT, ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR, SHALL BE APPROVED IN ADVANCE BY THAT CONTRACTOR.
20. DO NOT INSTALL CONDUIT IN CONCRETE SLABS UNLESS SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER, ARCHITECT AND ELECTRICAL ENGINEER.
21. EACH INDIVIDUAL ELECTRICAL HOMERUN SHOWN ON FLOOR PLANS, DETAILS, OR SCHEDULES SHALL BE PROVIDED IN A DEDICATED RACEWAY.
22. SERIES RATING OF PROTECTIVE/ISOLATION DEVICES AND/OR ELECTRICAL EQUIPMENT IS UNACCEPTABLE. ALL ELECTRICAL EQUIPMENT AND PROTECTIVE DEVICES SHALL BE "FULLY" RATED.
23. PROVIDE POWER TO MECHANICAL EQUIPMENT SHOWN ON MECHANICAL PLANS, RISERS, SCHEDULES, OR IN SPECIFICATIONS. NOT ALL MECHANICAL EQUIPMENT IS NECESSARILY SHOWN ON ELECTRICAL PLANS. REFER TO MECHANICAL PLANS AND SCHEDULES FOR LOCATIONS AND SPECIFIC ELECTRICAL REQUIREMENTS. COORDINATE EXACT LOCATION AND ORIENTATION OF EQUIPMENT WITH OTHER TRADES.
24. PROVIDE INTERFACE CONNECTIONS TO THE FIRE ALARM SYSTEM AND FIRE PROTECTION SYSTEM EQUIPMENT SHOWN ON PLANS, SCHEDULES, RISERS, OR IN SPECIFICATIONS. NOT ALL EQUIPMENT IS NECESSARILY SHOWN ON ELECTRICAL PLANS. COORDINATE EXACT LOCATION AND QUANTITY WITH THE FIRE PROTECTION CONTRACTOR.
25. FURNISH AND COORDINATE THE LOCATION OF DUCT SMOKE DETECTORS. PROVIDE AND WIRE DEVICES TO THE FIRE ALARM SYSTEM; INSTALL DETECTORS WITH THE ASSISTANCE OF THE MECHANICAL CONTRACTOR.
26. INSTALL WIRING FROM AN EMERGENCY SOURCE OR EMERGENCY DISTRIBUTION OVERCURRENT PROTECTION TO EMERGENCY LOADS ENTIRELY INDEPENDENT OF ALL OTHER WIRING AND EQUIPMENT EXCEPT WITHIN THE EQUIPMENT, EXIT SIGNS, AND EMERGENCY LUMINAIRES.
27. REFER TO THE ARCHITECTURAL REFLECTED CEILING PLANS FOR THE EXACT LOCATION OF ALL CEILING MOUNTED LUMINAIRES SHOWN ON ELECTRICAL PLANS.
28. BOND ALL OF THE FOLLOWING SERVICES TOGETHER PER THE NEC: POWER, TELECOMMUNICATIONS, CATV, WATER AND LIGHTNING PROTECTION.
29. PROVIDE GROUND FAULT RECEPTACLES WITHIN SIX FEET (6') OF SINK OR OTHER WATER SOURCE; PROVIDE GROUND FAULT WEATHERPROOF RECEPTACLES AT ALL EXTERIOR LOCATIONS.
30. PARTIAL CONDUIT ROUTING INDICATED ARE INTENDED TO REPRESENT A PROPOSED GENERAL PATHWAY SHOWN FOR DESIGN INTENT ONLY. NOT ALL CONDUITS, PULL BOXES AND JUNCTION BOXES ARE SHOWN.
31. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND SIZING OF ALL PULL BOXES, SPLICE BOXES, FITTINGS, RACEWAYS AND TRANSITIONS ETC. FOR ALL ELECTRICAL WORK AS INDICATED BY SCHEDULE, RISERS, SEQUENCES, SPECIFICATIONS AND DRAWINGS.
32. UNDERGROUND CONDUITS SHALL TRANSITION TO METALLIC CONDUIT PRIOR TO EXITING CONCRETE SLAB.
33. EXIT SIGNS ARE NOT NECESSARILY SHOWN WIRED ON THE DRAWINGS. PROVIDE SINGLE CIRCUIT EXIT SIGNS WITH BATTERY BACKUP; CONNECT POWER TO THE UN-SWITCHED LIFE SAFETY CIRCUIT IN THE AREA SERVED BY THE EXIT SIGN.

GENERAL DEMOLITION NOTES

1. THIS DEMOLITION PLAN HAS BEEN PREPARED TO GENERALLY ASSIST THE CONTRACTOR IN DETERMINING THE SCOPE OF DEMOLITION WORK TO BE INCLUDED IN THIS PROJECT. THIS DRAWING IS NOT INTENDED TO BE A COMPLETE INDICATION OF ALL DEMOLITION WORK REQUIRED TO COMPLETE THE PROJECT.
2. IT IS NOT THE INTENT OF THESE DOCUMENTS TO SHOW EVERY DEVICE, APPURTENANCE, PIPE, WIRE OR CONDUIT TO BE REMOVED. COMPLETELY REMOVE EQUIPMENT AND SYSTEMS NOT BEING REUSED, INCLUDING ASSOCIATED HANGERS, SUPPORTS, BASES, PADS, PIPES, DUCTS, CONDUITS, WIRES, INSULATION, AND CONTROLS BACK TO THE ACTIVE POINT OF ORIGIN.
3. REVIEW ALL DRAWINGS AND SPECIFICATIONS, INCLUDING DEMOLITION SHOWN FOR OTHER TRADES, AND BECOME FAMILIAR WITH EXISTING CONDITIONS, IN ORDER TO DETERMINE THE SCOPE OF DEMOLITION WORK. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING A BID AND VERIFY EXISTING CONDITIONS.
4. ELECTRICAL ITEMS (i.e., LIGHTING FIXTURES, RECEPTACLES, SWITCHES, ETC.) REMOVED AND NOT RELOCATED REMAIN THE PROPERTY OF THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF MATERIAL THE OWNER DOES NOT WANT TO REUSE OR RETAIN (i.e., FOR MAINTENANCE REASONS).
5. UNLESS NOTED OTHERWISE, ALL COMMUNICATIONS SYSTEMS, FIRE ALARM, PUBLIC ADDRESS, PAGING, ETC. SHALL BE MAINTAINED, TEMPORARILY SUPPORTED, AND REMAIN OPERATIONAL UNTIL COMPLETION OF CONSTRUCTION.
6. ALL ITEMS SHOWN AS REMOVED SHALL HAVE THE ITEM AND CIRCUIT REMOVED BACK TO THE PANELBOARD OR THE LAST ACTIVE DEVICE REMAINING.
7. NO ITEM THAT IS INTENDED TO REMAIN SHALL BE LEFT WITH LOSS OF POWER OR COMMUNICATIONS DUE TO REMOVAL OF OTHER ITEMS CONNECTED TO THE SAME CIRCUIT. EXTEND ALL EXISTING CIRCUITS TO EQUIPMENT/DEVICES THAT ARE TO REMAIN.
8. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE OWNER BEFORE TURNING OFF POWER TO CIRCUITS, FEEDERS, PANELS, ETC. COORDINATE ALL OUTAGES WITH OWNER.
9. WHERE LIGHTS, SWITCHES, RECEPTACLES, ETC., ARE BEING REMOVED ALL ASSOCIATED CONDUIT AND WIRE BACK TO THE PANELBOARD OR FEEDER JUNCTION BOX SERVING THE DEVICE SHALL ALSO BE REMOVED.
10. ALL CONDUIT SHALL BE REMOVED WHERE WALLS ARE BEING REMOVED. WHERE CONDUIT IS IN THE CONCRETE SLAB, CUT OFF FLUSH, PULL OUT WIRE, AND PLUG. WHERE CONDUIT IS RUN EXPOSED, ALL ASSOCIATED CLAMPS, SUPPORTS, HANGERS, ETC., SHALL ALSO BE REMOVED.
11. CONTRACTOR SHALL REMOVE AND INSTALL ALL CEILING TILES AS REQUIRED FOR THE EXECUTION OF ELECTRICAL WORK THAT IS OUTSIDE THE CONTRACT LIMITS OF CONSTRUCTION. CONTRACTOR SHALL REPLACE CEILING TILES WITH IDENTICAL MATERIAL WHERE DAMAGED BY THIS CONTRACTOR.
12. DEMOLISH ELECTRICAL CONNECTION, ELECTRICAL DISCONNECT, AND CONTROLS OF EXISTING EQUIPMENT NOTED FOR REMOVAL. WHERE CIRCUITS ARE NOT BEING RETAINED FOR REUSE, REMOVE CONDUIT AND WIRING BACK TO SOURCE PANEL AND LABEL EXISTING CIRCUIT BREAKER AS SPARE.
13. PROVIDE PROPER SUPPORT FOR EXISTING CABLES THAT REMAIN UPON COMPLETION OF DEMOLITION.
14. EXISTING CIRCUIT NUMBERS SHOWN FOR DESIGN INTENT ONLY. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ACTUAL CIRCUIT NUMBERING.
15. DEMOLISH AND REMOVE ALL EXISTING ELECTRICAL SYSTEMS WHERE SCHEDULED FOR DEMOLITION. NO PORTION OF ELECTRICAL SYSTEMS SCHEDULED FOR DEMOLITION SHALL BE ABANDONED IN PLACE.
16. EXISTING CEILINGS TO BE REMOVED SHALL INCLUDE DEMOLITION OF ALL FIXTURES, EQUIPMENT, SPEAKERS, RACEWAY, AND WIRE, INCLUDING ANY OBSOLETE OR PREVIOUSLY ABANDONED PRODUCTS. REMAINING AREAS SHALL ONLY BE ALTERED AS REQUIRED AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
17. EXISTING PARTITIONS TO REMAIN SHALL NOT BE ALTERED EXCEPT WHERE REMOVAL AND REPLACEMENT OF SURFACES IS REQUIRED TO MODIFY SYSTEMS WITHIN PARTITIONS.
18. EXISTING PARTITIONS TO BE REMOVED SHALL INCLUDE DEMOLITION OF ALL DEVICES, RACEWAY AND WIRE INCLUDING ANY OBSOLETE OR PREVIOUSLY ABANDONED PRODUCTS. RACEWAY AND WIRING SYSTEMS WITHIN REMAINING AREAS SHALL ONLY BE ALTERED AS REQUIRED AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
19. EQUIPMENT, PIPING, OR CONDUIT SHALL NOT BE ABANDONED IN PLACE UNLESS SPECIFICALLY NOTED.
20. PROPERLY DISPOSE OF REMOVED EQUIPMENT IN COMPLIANCE WITH CODES, REGULATIONS, AND ENVIRONMENTAL PROTECTION STANDARDS.
21. PROTECT ALL SYSTEMS SCHEDULED TO REMAIN DURING CONSTRUCTION.
22. PROVIDE TEMPORARY SERVICES REQUIRED TO ACCOMMODATE PHASING IN ORDER TO MAINTAIN EXISTING SERVICES TO ACTIVE AREAS.
23. BALLASTS MANUFACTURED PRIOR TO 1980 CONTAIN PCBs AND HID AND FLUORESCENT LAMPS CONTAIN MERCURY. THESE ITEMS SHALL BE DISPOSED OF BY A FEDERAL OR STATE E.P.A. APPROVED METHOD AND IN ACCORDANCE WITH SPECIFICATIONS.

This sheet of drawings has not been reviewed for code compliance.

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Health ONE®

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ELECTRICAL SYMBOLS , ABBREVIATIONS & NOTES

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SECTION 26 05 00 - COMMON WORK RESULTS FOR ELECTRICAL
PART 1 - GENERAL

1.1 REGULATORY REQUIREMENTS
A. ALL WORK AND MATERIALS ARE TO CONFORM IN EVERY DETAIL TO APPLICABLE RULES AND REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (ANSI/NFPA 70) ADOPTED BY THE STATE OR LOCAL JURISDICTION, OTHER APPLICABLE NATIONAL FIRE PROTECTION ASSOCIATION CODES, THE NATIONAL ELECTRICAL SAFETY CODE, AND PRESENT MANUFACTURING STANDARDS (INCLUDING NEMA). ALL MATERIALS SHALL BE MARKED FOR INTENDED LOCATION AND USE.
B. ALL DIVISION 26 WORK SHALL BE DONE UNDER THE DIRECTION OF A CURRENTLY CERTIFIED MASTER ELECTRICIAN.

1.2 QUALITY ASSURANCE
A. WHERE EQUIPMENT OR ACCESSORIES ARE USED WHICH DIFFER IN ARRANGEMENT, CONFIGURATION, DIMENSIONS, RATINGS, OR ENGINEERING PARAMETERS FROM THOSE INDICATED ON THE CONTRACT DOCUMENTS, THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS INVOLVED IN INTEGRATING THE EQUIPMENT OR ACCESSORIES INTO THE SYSTEM AND THE ASSIGNED SPACE AND FOR OBTAINING THE PERFORMANCE FROM THE SYSTEM INTO WHICH THESE ITEMS ARE PLACED.
B. ALL MATERIALS SHALL BE LISTED BY AND SHALL BEAR THE LABEL OF AN APPROVED ELECTRICAL TESTING LABORATORY. APPROVED ELECTRICAL TESTING LABORATORIES ARE UNDERWRITERS LABORATORIES INC., ELECTRICAL TESTING LABORATORIES, INC., OR OTHER TESTING LABS ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION. IF NONE OF THE APPROVED ELECTRICAL TESTING LABORATORIES HAS PUBLISHED STANDARDS FOR A PARTICULAR ITEM, THEN OTHER NATIONAL INDEPENDENT TESTING STANDARDS, IF AVAILABLE, APPLICABLE, AND APPROVED BY OWNER, SHALL APPLY AND SUCH ITEMS SHALL BEAR THOSE LABELS. WHERE ONE OF THE APPROVED ELECTRICAL TESTING LABORATORIES HAS AN APPLICABLE SYSTEM LISTING AND LABEL, THE ENTIRE SYSTEM SHALL BE SO LABELED.

1.3 SLEEVES AND OPENINGS
A. BELOW GRADE WALL PENETRATIONS.
B. CONDUIT PENETRATIONS.

1.4 SEALING AND FIRESTOPPING
A. SEALING AND FIRESTOPPING OF SLEEVES/OPENINGS BETWEEN CONDUITS, WIREWAYS, TROUGHS, ETC. AND THE STRUCTURAL OR PARTITION OPENING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WHOSE WORK PENETRATES THE OPENING. THE CONTRACTOR RESPONSIBLE SHALL HIRE INDIVIDUALS SKILLED IN SUCH WORK TO DO THE SEALING AND FIRESTOPPING. THESE INDIVIDUALS HIRED SHALL NORMALLY AND ROUTINELY BE EMPLOYED IN THE SEALING AND FIREPROOFING OCCUPATION.

1.5 INTENT
A. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL THE NECESSARY MATERIALS, APPARATUS, AND DEVICES TO COMPLETE THE ELECTRICAL EQUIPMENT AND SYSTEMS INSTALLATION HEREIN SPECIFIED, EXCEPT SUCH PARTS AS ARE SPECIFICALLY EXEMPTED HEREIN.
B. IT MUST BE UNDERSTOOD THAT THE DETAILS AND DRAWINGS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AT THE SITE AND BE RESPONSIBLE FOR THEIR ACCURACY. ALL SIZES AS GIVEN ARE MINIMUM EXCEPT AS NOTED.
C. MATERIALS AND LABOR SHALL BE NEW, FIRST CLASS, AND WORKMANLIKE, AND SHALL BE SUBJECT AT ALL TIMES TO THE OWNER'S AND/OR ARCHITECT/ENGINEER'S INSPECTIONS, TESTS AND APPROVAL FROM THE COMMENCEMENT UNTIL THE ACCEPTANCE OF THE COMPLETED WORK.
D. THIS CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF OWNER ELECTRICAL INSPECTION. INSPECTION REQUIREMENTS WILL BE ISSUED AT A PRE-INSTALLATION MEETING, ARRANGED BY THIS CONTRACTOR AND THE ELECTRICAL INSPECTOR HAVING JURISDICTION.

1.7 SUBMITTALS
A. SUBMIT PRODUCT DATA FOR ALL EQUIPMENT AND SYSTEMS, MARKING EACH SUBMITTAL WITH THAT SPECIFICATION SECTION NUMBER. SUBMIT SHOP DRAWINGS, INCLUDING FLOOR PLANS AND WIRING DIAGRAMS, FOR SYSTEMS SUCH AS LIGHTING CONTROL. MARK GENERAL CATALOG SHEETS AND DRAWINGS TO INDICATE SPECIFIC ITEMS BEING SUBMITTED AND PROPER IDENTIFICATION OF EQUIPMENT BY NAME AND/OR NUMBER, AS INDICATED IN THE CONTRACT DOCUMENTS. FAILURE TO DO THIS MAY RESULT IN THE SUBMITTAL(S) BEING RETURNED TO THE CONTRACTOR FOR CORRECTION AND RESUBMISSION. FAILING TO FOLLOW THESE INSTRUCTIONS DOES NOT RELIEVE THE CONTRACTOR FROM THE REQUIREMENT OF MEETING THE PROJECT SCHEDULE.

1.8RECORD DRAWINGS
A. THE CONTRACTOR SHALL MAINTAIN AT LEAST ONE COPY EACH OF THE SPECIFICATIONS AND DRAWINGS ON THE JOB SITE AT ALL TIMES, ON WHICH A DAILY RECORD OF CHANGES AND DEVIATIONS FROM CONTRACT SHALL BE RECORDED. AT COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT THE MARKED-UP RECORD DRAWINGS TO THE OWNER PRIOR TO FINAL PAYMENT.

PART 2 - PRODUCTS
2.1 SEALING AND FIRESTOPPING
A. WHENEVER POSSIBLE, AVOID PENETRATIONS OF FIRE AND SMOKE RATED PARTITIONS. WHEN THEY CANNOT BE AVOIDED, VERIFY THAT SUFFICIENT SPACE IS AVAILABLE FOR THE PENETRATION TO BE EFFECTIVELY FIRE AND SMOKE STOPPED.
B. ALL FIRESTOPPING SYSTEMS SHALL BE BY THE SAME MANUFACTURER. APPROVED MANUFACTURERS ARE AS FOLLOWS:
1. 3M: WWW.3M.COM.
2. STI/SPECSEAL: WWW.STIFIRESTOP.COM.
3. TREMCO: WWW.TREMCOSEALANTS.COM.
4. HILTI: WWW.HILTI.COM.
C. CONTRACTOR SHALL USE FIRESTOP PUTTY, CAULK SEALANT, INTUMESCENT WRAPSTRIPS, INTUMESCENT FIRESTOP COLLARS, FIRESTOP MORTAR OR A COMBINATION OF THESE PRODUCTS TO PROVIDE A UL LISTED SYSTEM FOR EACH APPLICATION REQUIRED FOR THIS PROJECT. PROVIDE MINERAL WOOL BACKING WHERE SPECIFIED IN MANUFACTURER'S APPLICATION DETAIL. USE A PRODUCT THAT HAS A RATING NOT LESS THAN THE RATING OF THE WALL OR FLOOR BEING PENETRATED.
D. NON-RATED PENETRATIONS:
1. IN EXTERIOR WALL OPENINGS BELOW GRADE, USE A MODULAR MECHANICAL TYPE SEAL CONSISTING OF INTERLOCKING SYNTHETIC RUBBER LINKS SHAPED TO CONTINUOUSLY FILL THE ANNULAR SPACE BETWEEN THE UNINSULATED CONDUIT AND THE CORED OPENING OR A WATER-STOP TYPE WALL SLEEVE.
2. AT CONDUIT AND CABLE TRAY PENETRATIONS OF NON-RATED INTERIOR PARTITIONS, FLOORS AND EXTERIOR WALLS ABOVE GRADE, USE URETHANE CAULK IN ANNULAR SPACE BETWEEN CONDUIT AND SLEEVE, OR THE CORE DRILLED OPENING.

PART 3 - EXECUTION
3.1 EXCAVATION AND BACKFILL
A. PERFORM ALL EXCAVATION AND BACKFILL WORK TO ACCOMPLISH INDICATED ELECTRICAL SYSTEMS INSTALLATION. BLASTING WILL NOT BE ALLOWED WITHOUT WRITTEN PERMISSION OF THE OWNER.

3.2 CONCRETE WORK
A. CONTRACTOR WILL PERFORM ALL CAST-IN-PLACE CONCRETE UNLESS NOTED OTHERWISE ELSEWHERE. PROVIDE ALL LAYOUT DRAWINGS, ANCHOR BOLTS, METAL SHAPES, AND/OR TEMPLATES REQUIRED TO BE CAST INTO CONCRETE OR USED TO FORM CONCRETE FOR THE SUPPORT OF ELECTRICAL EQUIPMENT.

3.3 BUILDING ACCESS
A. ARRANGE FOR THE NECESSARY OPENINGS IN THE BUILDING TO ALLOW FOR ADMITTANCE OF ALL APPARATUS. WHEN THE BUILDING ACCESS WAS NOT PREVIOUSLY ARRANGED AND MUST BE PROVIDED BY THIS CONTRACTOR, RESTORE ANY OPENING TO ITS ORIGINAL CONDITION AFTER THE APPARATUS HAS BEEN BROUGHT INTO THE BUILDING.

3.4 COORDINATION
A. THE CONTRACTOR SHALL COOPERATE WITH OTHER TRADES AND OWNER'S PERSONNEL IN LOCATING WORK IN A PROPER MANNER. SHOULD IT BE NECESSARY TO RAISE OR LOWER OR MOVE LONGITUDINALLY ANY PART OF THE ELECTRICAL WORK TO BETTER FIT THE GENERAL INSTALLATION, SUCH WORK SHALL BE DONE AT NO EXTRA COST TO THE OWNER, PROVIDED SUCH DECISION IS REACHED PRIOR TO ACTUAL INSTALLATION. THE CONTRACTOR SHALL CHECK LOCATION OF ELECTRICAL OUTLETS WITH RESPECT TO OTHER INSTALLATIONS BEFORE INSTALLING.
B. THE CONTRACTOR SHALL VERIFY THAT ALL DEVICES ARE COMPATIBLE FOR THE SURFACES ON WHICH THEY WILL BE USED. THIS INCLUDES, BUT IS NOT LIMITED TO LIGHT FIXTURES, PANELBOARDS, DEVICES, ETC. AND RECESSED OR SEMI-RECESSED HEATING UNITS INSTALLED INON ARCHITECTURAL SURFACES.
C. COORDINATE ALL WORK WITH OTHER CONTRACTORS PRIOR TO INSTALLATION. ANY INSTALLED WORK THAT IS NOT COORDINATED AND THAT INTERFERES WITH OTHER CONTRACTOR'S WORK SHALL BE REMOVED OR RELOCATED AT THE INSTALLING CONTRACTOR'S EXPENSE.

3.5 SLEEVES
A. PIPE SLEEVES FOR CONDUITS 6" IN DIAMETER AND SMALLER, IN NEW POURED CONCRETE CONSTRUCTION, SHALL BE SCHEDULE 40 STEEL PIPE, PLASTIC REMOVABLE SLEEVE OR SHEET METAL SLEEVE, ALL CAST IN PLACE.
B. IN WET AREA FLOOR PENETRATIONS, TOP OF SLEEVE TO BE 2 INCHES ABOVE THE ADJACENT FLOOR. IF A PIPE CLAMP RESTING ON THE SLEEVE SUPPORTS THE PIPE PENETRATING THE SLEEVE, WELD A COLLAR OR STRUTS TO THE SLEEVE THAT WILL TRANSFER WEIGHT TO THE EXISTING FLOOR STRUCTURE. WET AREAS FOR THIS PARAGRAPH ARE ROOMS OR SPACES CONTAINING AIR HANDLING UNIT COILS, CONVERTERS, PUMPS, CHILLERS, BOILERS, AND SIMILAR WATERSIDE EQUIPMENT.

3.6 SEALING AND FIRESTOPPING
A. FIRE AND/OR SMOKE PENETRATIONS: INSTALL APPROVED PRODUCT IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS WHERE A PIPE (I.E. CABLE TRAY, BUS, CABLE BUS, CONDUIT, WIREWAY, TROUGH, ETC.) PENETRATES A FIRE RATED SURFACE.
B. NON-RATED SURFACES: WHEN THE OPENING IS THROUGH A NON-FIRE RATED WALL, FLOOR, CEILING OR ROOF THE OPENING MUST BE SEALED USING AN APPROVED TYPE OF MATERIAL.
1. INSTALL ESCUTCHEONS OR FLOOR/CEILING PLATES WHERE CONDUIT, PENETRATES NON-FIRE RATED SURFACES IN OCCUPIED SPACES. OCCUPIED SPACES FOR THIS PARAGRAPH INCLUDE ONLY THOSE ROOMS WITH FINISHED CEILINGS AND THE PENETRATION OCCURS BELOW THE CEILING.
2. IN EXTERIOR WALL OPENINGS BELOW GRADE, ASSEMBLE RUBBER LINKS OF MECHANICAL SEAL TO THE PROPER SIZE FOR THE CONDUIT AND TIGHTEN IN PLACE, IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. INSTALL SO THAT THE BOLTS USED TO TIGHTEN THE SEAL ARE ACCESSIBLE FROM THE INTERIOR OF THE BUILDING OR VAULT.
3. AT INTERIOR PARTITIONS, CONDUIT PENETRATIONS ARE REQUIRED TO BE SEALED FOR ALL SPACES WHERE THE ROOM PRESSURE OR ODOR TRANSMISSION MUST BE CONTROLLED. APPLY SEALANT TO BOTH SIDES OF THE PENETRATION IN SUCH A MANNER THAT THE ANNULAR SPACE BETWEEN THE CONDUIT SLEEVE AND THE CONDUIT IS COMPLETELY FILLED.

3.7 HOUSEKEEPING AND CLEAN UP
A. THE CONTRACTOR SHALL CLEAN UP AND REMOVE FROM THE PREMISES, ON A DAILY BASIS, ALL DEBRIS AND RUBBISH RESULTING FROM ITS WORK AND SHALL REPAIR ALL DAMAGE TO NEW AND EXISTING EQUIPMENT RESULTING FROM ITS WORK. WHEN JOB IS COMPLETE, THIS CONTRACTOR SHALL REMOVE ALL TOOLS, EXCESS MATERIAL AND EQUIPMENT, ETC., FROM THE SITE.

3.8 OWNER TRAINING
A. ALL TRAINING PROVIDED FOR THE OWNER SHALL COMPLY WITH THE FORMAT, GENERAL CONTENT REQUIREMENTS AND SUBMISSION GUIDELINES SPECIFIED UNDER GENERAL CONDITIONS.
B. CONTRACTOR TO PROVIDE FACTORY AUTHORIZED REPRESENTATIVE AND/OR FIELD PERSONNEL KNOWLEDGEABLE WITH THE OPERATIONS, MAINTENANCE AND TROUBLESHOOTING OF THE SYSTEM AND/OR COMPONENTS DEFINED WITHIN THIS DIVISION FOR A MINIMUM PERIOD OF 10 HOURS.
END OF SECTION

SECTION 26 05 19
LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES
PART 1 GENERAL

1.1 SCOPE
A. THE WORK UNDER THIS SECTION INCLUDES FURNISHING AND INSTALLING REQUIRED WIRING AND CABLING SYSTEMS INCLUDING PULLING, TERMINATING AND SPLICING.

1.3 REFERENCES
A. NFPA 70 _ NATIONAL ELECTRICAL CODE.

1.54 PROJECT CONDITIONS
A. CONDUCTOR SIZES ARE BASED ON COPPER.
B. WHERE WIRE AND CABLE ROUTING IS NOT SHOWN, AND DESTINATION ONLY IS INDICATED, DETERMINE EXACT ROUTING AND LENGTHS REQUIRED.

PART 2 PRODUCTS
2.1 GENERAL
A. ALL WIRE SHALL BE NEW, DELIVERED TO THE SITE IN UNBROKEN CARTONS.
B. ALL CONDUCTORS SHALL BE COPPER. INSULATION SHALL HAVE A 600 VOLT RATING.
C. ALL CONDUCTORS SHALL BE STRANDED, SOLID FOR #10 AND LARGER.
1. STRANDED CONDUCTORS MAY ONLY BE TERMINATED WITH UL OR ETL LISTED TYPE TERMINATIONS OR METHODS: E.G. STRANDED CONDUCTORS MAY NOT BE WRAPPED AROUND A TERMINAL SCREW BUT MUST BE TERMINATED WITH A CRIMP TYPE DEVICE OR MUST BE TERMINATED IN AN APPROVED BACK WIRED METHOD.

2.2 BUILDING WIRE
A. DESCRIPTION: SINGLE CONDUCTOR INSULATED WIRE.
B. INSULATION: TYPE THHN/THWN, XHHW-2 INSULATION FOR FEEDERS AND BRANCH CIRCUITS.

2.3 WIRING CONNECTORS
A. SPLIT BOLT CONNECTORS: NOT ACCEPTABLE.
B. SOLDERLESS PRESSURE CONNECTORS: HIGH COPPER ALLOY TERMINAL. MAY BE USED ONLY FOR CABLE TERMINATION TO EQUIPMENT PADS OR TERMINALS. NOT APPROVED FOR SPLICING.
C. SPRING WIRE CONNECTORS: SOLDERLESS SPRING TYPE PRESSURE CONNECTOR WITH INSULATING COVERS FOR COPPER WIRE SPLICES AND TAPS. USE FOR CONDUCTOR SIZES 10 AWG AND SMALLER.
D. ALL WIRE CONNECTORS USED IN UNDERGROUND OR EXTERIOR PULL BOXES SHALL BE GEL FILLED TWIST CONNECTORS OR A CONNECTOR DESIGNED FOR DAMP AND WET LOCATIONS.
E. MECHANICAL CONNECTORS: BOLTED TYPE TIN-PLATED; HIGH CONDUCTIVITY COPPER ALLOY; SPACER BETWEEN CONDUCTORS; BEVELED CABLE ENTRANCES.
F. COMPRESSION (CRIMP) CONNECTORS: LONG BARREL; SEAMLESS; TIN-PLATED ELECTROLYTIC COPPER TUBING; INTERNALLY BEVELED BARREL ENDS. CONNECTOR SHALL BE CLEARLY MARKED WITH THE WIRE SIZE AND TYPE AND PROPER NUMBER AND LOCATION OF CRIMPS. CONNECTOR SHALL BE IRREVERSIBLE TYPE MEETING IEEE STANDARD 837-2002, UL LISTED.

PART 3 EXECUTION
3.1 GENERAL WIRING METHODS
A. ALL WIRE AND CABLE SHALL BE INSTALLED IN CONDUIT.
B. DO NOT USE WIRE SMALLER THAN 12 AWG FOR POWER AND LIGHTING CIRCUITS.
C. SPLICE ONLY IN JUNCTION OR OUTLET BOXES.
D. NEATLY TRAIN AND LACE WIRING INSIDE BOXES, EQUIPMENT, AND PANELBOARDS.

3.2 WIRE COLOR
A. GENERAL:
1. IN EXISTING FACILITIES, USE EXISTING COLOR SCHEME.
2. ALL SWITCH LEGS SHALL BE THE SAME COLOR AS THEIR ASSOCIATED CIRCUIT. TRAVELER CONDUCTORS RUN BETWEEN 3 AND 4 WAY SWITCHES SHALL BE COLORED PINK OR PURPLE.
B. NEUTRAL CONDUCTORS: WHITE FOR 120/208V AND 120/240V SYSTEMS. WHERE THERE ARE TWO OR MORE NEUTRALS IN ONE CONDUIT, EACH SHALL BE INDIVIDUALLY IDENTIFIED WITH A DIFFERENT STRIPE.
C. BRANCH CIRCUIT CONDUCTORS: THREE OR FOUR WIRE HOME RUNS SHALL HAVE EACH PHASE UNIQUELY COLOR CODED.

3.3 BRANCH CIRCUITS
A. THE USE OF SINGLE-PHASE, MULTI-WIRE BRANCH CIRCUITS WITH A COMMON NEUTRAL IS NOT PERMITTED. ALL BRANCH CIRCUITS SHALL BE FURNISHED AND INSTALLED WITH AN INDIVIDUAL ACCOMPANYING NEUTRAL, SIZED THE SAME AS THE PHASE CONDUCTORS.
END OF SECTION

SECTION 26 05 26 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS
PART 1 - PRODUCTS
1.1 SYSTEM DESCRIPTION
A. COMPLY WITH UL 467 FOR GROUNDING AND BONDING MATERIALS AND EQUIPMENT.

1.2 MANUFACTURERS
A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
1. BURNDY; PART OF HUBBELL ELECTRICAL SYSTEMS.
2. O-Z/GEDNEY; A BRAND OF EMERSON INDUSTRIAL AUTOMATION.
3. THOMAS & BETTS CORPORATION; A MEMBER OF THE ABB GROUP.

1.3 CONDUCTORS
A. INSULATED CONDUCTORS: COPPER WIRE OR CABLE INSULATED FOR 600 V UNLESS OTHERWISE REQUIRED BY APPLICABLE CODE OR AUTHORITIES HAVING JURISDICTION.

1.4 CONNECTORS
A. WELDED CONNECTORS: EXOTHERMIC-WELDING KITS OF TYPES RECOMMENDED BY KIT MANUFACTURER FOR MATERIALS BEING JOINED AND INSTALLATION CONDITIONS.
B. BUS-BAR CONNECTORS: COMPRESSION TYPE, COPPER OR COPPER ALLOY, WITH TWO WIRE TERMINALS.
C. BEAM CLAMPS: MECHANICAL TYPE, TERMINAL, GROUND WIRE ACCESS FROM FOUR DIRECTIONS, WITH DUAL, TIN-PLATED OR SILICON BRONZE BOLTS.
D. CABLE-TO-CABLE CONNECTORS: COMPRESSION TYPE, COPPER OR COPPER ALLOY.
E. GROUND ROD CLAMPS: MECHANICAL TYPE, COPPER OR COPPER ALLOY, TERMINAL WITH HEX HEAD BOLT.
F. WATER PIPE CLAMPS:
1. U-BOLT TYPE WITH MALLEABLE-IRON CLAMP AND COPPER GROUND CONNECTOR.

1.5 GROUNDING ELECTRODES
A. GROUND RODS: COPPER-CLAD STEEL; 3/4 INCH BY 10 FEET.

PART 2 - EXECUTION
2.1 INSTALLATION
A. CONDUCTORS: INSTALL SOLID CONDUCTOR FOR NO. 8 AWG AND SMALLER, AND STRANDED CONDUCTORS FOR NO. 6 AWG AND LARGER UNLESS OTHERWISE INDICATED.
B. GROUNDING CONDUCTORS: ROUTE ALONG SHORTEST AND STRAIGHTEST PATHS POSSIBLE UNLESS OTHERWISE INDICATED OR REQUIRED BY CODE. AVOID OBSTRUCTING ACCESS OR PLACING CONDUCTORS WHERE THEY MAY BE SUBJECTED TO STRAIN, IMPACT, OR DAMAGE.
C. UNDERGROUND GROUNDING CONDUCTORS: INSTALL BARE COPPER CONDUCTOR, NO. 2/0 AWG MINIMUM.
1. BURY AT LEAST 30 INCHES BELOW GRADE.
D. CONDUCTOR TERMINATIONS AND CONNECTIONS:
1. PIPE AND EQUIPMENT GROUNDING CONDUCTOR TERMINATIONS: BOLTED CONNECTORS.
2. UNDERGROUND CONNECTIONS: WELDED CONNECTORS EXCEPT AT TEST WELLS AND AS OTHERWISE INDICATED.
3. CONNECTIONS TO GROUND RODS AT TEST WELLS: BOLTED CONNECTORS.
4. CONNECTIONS TO STRUCTURAL STEEL: WELDED CONNECTORS.

2.5 EQUIPMENT GROUNDING
A. INSTALL INSULATED EQUIPMENT GROUNDING CONDUCTORS WITH ALL FEEDERS AND BRANCH CIRCUITS.
B. AIR-DUCT EQUIPMENT CIRCUITS: INSTALL INSULATED EQUIPMENT GROUNDING CONDUCTOR TO DUCT-MOUNTED ELECTRICAL DEVICES OPERATING AT 120 V AND MORE, INCLUDING HEATERS, DAMPERS, AND OTHER DUCT ELECTRICAL EQUIPMENT. BOND CONDUCTOR TO EACH UNIT AND TO AIR DUCT AND CONNECTED METALLIC PIPING.
C. WATER HEATER AND HEAT-TRACING CABLES: INSTALL A SEPARATE INSULATED EQUIPMENT GROUNDING CONDUCTOR TO EACH ELECTRIC WATER HEATER AND HEAT-TRACING CABLE. BOND CONDUCTOR TO HEATER UNITS, PIPING, CONNECTED EQUIPMENT, AND COMPONENTS.
D. POLES SUPPORTING OUTDOOR LIGHTING FIXTURES: INSTALL GROUNDING ELECTRODE AND A SEPARATE INSULATED EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO GROUNDING CONDUCTOR INSTALLED WITH BRANCH-CIRCUIT CONDUCTORS.
E. GROUND RODS: DRIVE RODS UNTIL TOPS ARE 2 INCHES BELOW FINISHED FLOOR OR FINAL GRADE UNLESS OTHERWISE INDICATED. INTERCONNECT GROUND RODS WITH GROUNDING ELECTRODE CONDUCTOR BELOW GRADE AND AS OTHERWISE INDICATED. MAKE CONNECTIONS WITHOUT EXPOSING STEEL OR DAMAGING COATING IF ANY.
F. BONDING STRAPS AND JUMPERS: INSTALL IN LOCATIONS ACCESSIBLE FOR INSPECTION AND MAINTENANCE EXCEPT WHERE ROUTED THROUGH SHORT LENGTHS OF CONDUIT.
1. BONDING TO STRUCTURE: BOND STRAPS DIRECTLY TO BASIC STRUCTURE, TAKING CARE NOT TO PENETRATE ANY ADJACENT PARTS.
2. BONDING TO EQUIPMENT MOUNTED ON VIBRATION ISOLATION HANGERS AND SUPPORTS: INSTALL BONDING SO VIBRATION IS NOT TRANSMITTED TO RIGIDLY MOUNTED EQUIPMENT.
3. USE EXOTHERMIC-WELDED CONNECTORS FOR OUTDOOR LOCATIONS; IF A DISCONNECT-TYPE CONNECTION IS REQUIRED, USE A BOLTED CLAMP.
G. GROUNDING AND BONDING FOR PIPING:
1. METAL WATER SERVICE PIPE: INSTALL INSULATED COPPER GROUNDING CONDUCTORS, IN CONDUIT, FROM BUILDING'S MAIN SERVICE EQUIPMENT, OR GROUNDING BUS, TO MAIN METAL WATER SERVICE ENTRANCES TO BUILDING. CONNECT GROUNDING CONDUCTORS TO MAIN METAL WATER SERVICE PIPES; USE A BOLTED CLAMP CONNECTOR OR BOLT A LUG-TYPE CONNECTOR TO A PIPE FLANGE BY USING ONE OF THE LUG BOLTS OF THE FLANGE. WHERE A DIELECTRIC MAIN WATER FITTING IS INSTALLED, CONNECT GROUNDING CONDUCTOR ON STREET SIDE OF FITTING. BOND METAL GROUNDING CONDUCTOR CONDUIT OR SLEEVE TO CONDUCTOR AT EACH END.
2. WATER METER PIPING: USE BRAIDED-TYPE BONDING JUMPERS TO ELECTRICALLY BYPASS WATER METERS. CONNECT TO PIPE WITH A BOLTED CONNECTOR.
3. BOND EACH ABOVEGROUND PORTION OF GAS PIPING SYSTEM DOWNSTREAM FROM EQUIPMENT SHUTOFF VALVE.

2.6 FIELD QUALITY CONTROL
A. PERFORM THE FOLLOWING TESTS AND INSPECTIONS.
1. AFTER INSTALLING GROUNDING SYSTEM BUT BEFORE PERMANENT ELECTRICAL CIRCUITS HAVE BEEN ENERGIZED, TEST FOR COMPLIANCE WITH REQUIREMENTS.
2. INSPECT PHYSICAL AND MECHANICAL CONDITION. VERIFY TIGHTNESS OF ACCESSIBLE BOLTED, ELECTRICAL CONNECTIONS WITH A CALIBRATED TORQUE WRENCH ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.
3. TEST COMPLETED GROUNDING SYSTEM AT EACH LOCATION WHERE A MAXIMUM GROUND-RESISTANCE LEVEL IS SPECIFIED. MAKE TESTS AT GROUND RODS BEFORE ANY CONDUCTORS ARE CONNECTED.
a. MEASURE GROUND RESISTANCE NO FEWER THAN TWO FULL DAYS AFTER LAST TRACE OF PRECIPITATION AND WITHOUT SOIL BEING MOISTENED BY ANY MEANS OTHER THAN NATURAL DRAINAGE OR SEEPAGE AND WITHOUT CHEMICAL TREATMENT OR OTHER ARTIFICIAL MEANS OF REDUCING NATURAL GROUND RESISTANCE.
b. PERFORM TESTS BY FALL-OF-POTENTIAL METHOD ACCORDING TO IEEE 81.
B. GROUNDING SYSTEM WILL BE CONSIDERED DEFECTIVE IF IT DOES NOT PASS TESTS AND INSPECTIONS.
C. PREPARE TEST AND INSPECTION REPORTS. REPORT MEASURED GROUND RESISTANCES THAT EXCEED THE FOLLOWING VALUES:
1. POWER AND LIGHTING EQUIPMENT OR SYSTEM WITH CAPACITY OF 500 KVA AND LESS: 5 OHMS.
2. PAD-MOUNTED EQUIPMENT: 5 OHMS.
END OF SECTION

SECTION 26 05 29 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS
PART 1 - PRODUCTS
1.1 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS
A. STEEL SLOTTED SUPPORT SYSTEMS: PREFORMED GALVANIZED STEEL CHANNELS AND ANGLES WITH HOT-DIP GALVANIZED COATING, CHANNEL WIDTH OF 1-1/4 INCHES AND MINIMUM 13/32-INCH- DIAMETER HOLES AT A MAXIMUM OF 8 INCHES O.C. IN AT LEAST ONE SURFACE.
1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
a. B-LINE; AN EATON BUSINESS.
b. THOMAS & BETTS CORPORATION; A MEMBER OF THE ABB GROUP.
c. UNISTRUT; PART OF ATKORE INTERNATIONAL.
B. CONDUIT AND CABLE SUPPORT DEVICES: STEEL HANGERS, CLAMPS, AND ASSOCIATED FITTINGS, DESIGNED FOR TYPES AND SIZES OF RACEWAY OR CABLE TO BE SUPPORTED.
C. SUPPORT FOR CONDUCTORS IN VERTICAL CONDUIT: FACTORY-FABRICATED ASSEMBLY CONSISTING OF THREADED BODY AND INSULATING WEDGING PLUG OR PLUGS FOR NONARMORED ELECTRICAL CONDUCTORS OR CABLES IN RISER CONDUITS. PLUGS SHALL HAVE NUMBER, SIZE, AND SHAPE OF CONDUCTOR GRIPPING PIECES AS REQUIRED TO SUIT INDIVIDUAL CONDUCTORS OR CABLES SUPPORTED. BODY SHALL BE MADE OF MALLEABLE IRON.
D. MOUNTING, ANCHORING, AND ATTACHMENT COMPONENTS: ITEMS FOR FASTENING ELECTRICAL ITEMS OR THEIR SUPPORTS TO BUILDING SURFACES INCLUDE THE FOLLOWING:
1. MECHANICAL-EXPANSION ANCHORS: INSERT-WEDGE-TYPE, STAINLESS STEEL, FOR USE IN HARDENED PORTLAND CEMENT CONCRETE, WITH TENSION, SHEAR, AND PULLOUT CAPACITIES APPROPRIATE FOR SUPPORTED LOADS AND BUILDING MATERIALS WHERE USED.
2. CLAMPS FOR ATTACHMENT TO STEEL STRUCTURAL ELEMENTS: MSS SP-58 UNITS ARE SUITABLE FOR ATTACHED STRUCTURAL ELEMENT.
3. THROUGH BOLTS: STRUCTURAL TYPE, HEX HEAD, AND HIGH STRENGTH. COMPLY WITH ASTM F 3125/F 3125M, GRADE A325.
4. HANGER RODS: THREADED STEEL.

PART 2 - EXECUTION
2.1 APPLICATION
A. SPACE SUPPORTS FOR EMT AND RMC AS REQUIRED BY NFPA 70. MINIMUM ROD SIZE SHALL BE 1/4 INCH IN DIAMETER.
B. MULTIPLE RACEWAYS OR CABLES: INSTALL TRAPEZE-TYPE SUPPORTS FABRICATED WITH STEEL SLOTTED OR OTHER SUPPORT SYSTEM, SIZED SO CAPACITY CAN BE INCREASED BY AT LEAST 25 PERCENT IN FUTURE WITHOUT EXCEEDING SPECIFIED DESIGN LOAD LIMITS. SECURE RACEWAYS AND CABLES TO THESE SUPPORTS WITH TWO-BOLT CONDUIT CLAMPS.

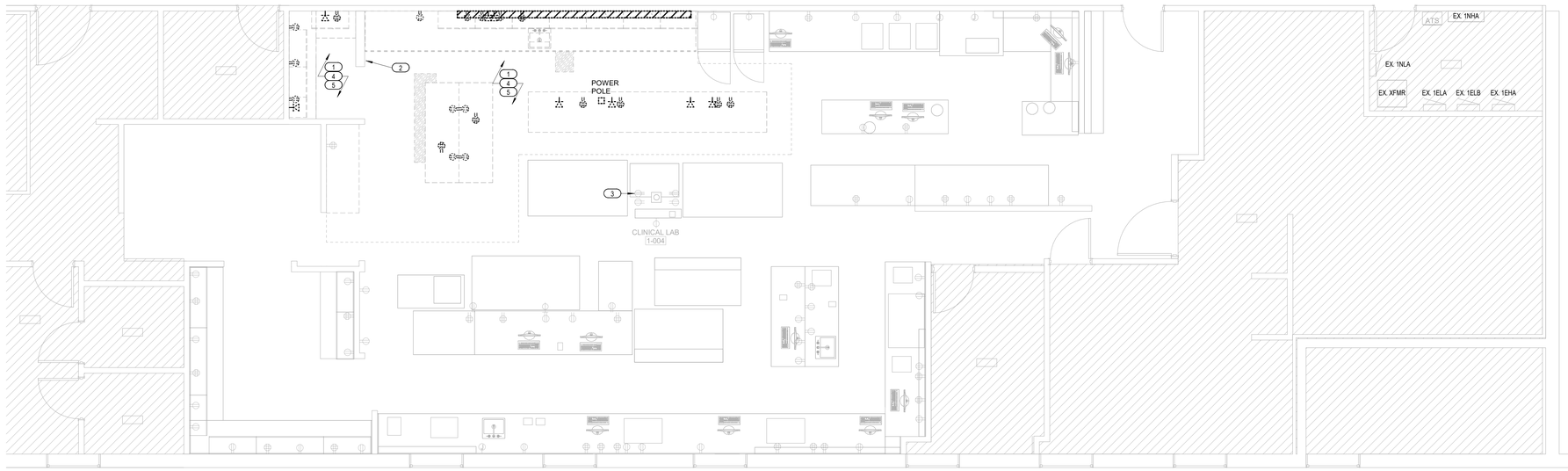
2.2 SUPPORT INSTALLATION
A. COMPLY WITH NECA 1 AND NECA 101 FOR INSTALLATION REQUIREMENTS EXCEPT AS SPECIFIED IN THIS ARTICLE.
B. STRENGTH OF SUPPORT ASSEMBLIES: WHERE NOT INDICATED, SELECT SIZES OF COMPONENTS SO STRENGTH WILL BE ADEQUATE TO CARRY PRESENT AND FUTURE STATIC LOADS WITHIN SPECIFIED LOADING LIMITS. MINIMUM STATIC DESIGN LOAD USED FOR STRENGTH DETERMINATION SHALL BE WEIGHT OF SUPPORTED COMPONENTS PLUS 200 LB.
C. MOUNTING AND ANCHORAGE OF SURFACE-MOUNTED EQUIPMENT AND COMPONENTS: ANCHOR AND FASTEN ELECTRICAL ITEMS AND THEIR SUPPORTS TO BUILDING STRUCTURAL ELEMENTS BY THE FOLLOWING METHODS UNLESS OTHERWISE INDICATED BY CODE:
1. TO NEW CONCRETE: BOLT TO CONCRETE INSERTS.
2. TO STEEL: BEAM CLAMPS (MSS SP-58, TYPE 19, 21, 23, 25, OR 27), COMPLYING WITH MSS SP-69.
3. ITEMS MOUNTED ON HOLLOW WALLS AND NONSTRUCTURAL BUILDING SURFACES: MOUNT CABINETS, PANELBOARDS, DISCONNECT SWITCHES, CONTROL ENCLOSURES, PULL AND JUNCTION BOXES, TRANSFORMERS, AND OTHER DEVICES ON SLOTTED-CHANNEL RACKS ATTACHED TO SUBSTRATE.
D. DRILL HOLES FOR EXPANSION ANCHORS IN CONCRETE AT LOCATIONS AND TO DEPTHS THAT AVOID THE NEED FOR REINFORCING BARS.
END OF SECTION

SECTION 26 05 33
RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS
PART 1 GENERAL

1.1 SCOPE
A. THE WORK UNDER THIS SECTION INCLUDES CONDUITS, SURFACE RACEWAYS, AND BOXES FOR ELECTRICAL SYSTEMS INCLUDING WALL AND CEILING OUTLET BOXES, FLOOR BOXES, AND JUNCTION BOXES

PART 2 PRODUCTS
2.1 ELECTRICAL METALLIC TUBING (EMT) AND FITTINGS
A. CONDUIT: STEEL, GALVANIZED TUBING.
B. FITTINGS: ALL STEEL, SET SCREW, CONCRETE TIGHT. NO PUSH-ON OR INDENTER TYPES PERMITTED.
C. CONDUIT BODIES: ALL STEEL THREADED CONDUIT BODIES.

2.2 OUTLET BOXES
A. SHEET METAL OUTLET BOXES: GALVANIZED STEEL, WITH STAMPED KNOCKOUTS.
B. LUMINAIRE AND EQUIPMENT SUPPORTING BOXES: RATED FOR WEIGHT OF EQUIPMENT SUPPORTED; INCLUDE 3/8 INCH MALE FIXTURE ST



1 LEVEL 1 POWER & SYSTEMS DEMO PLAN - PHASE 2

1/4" = 1'-0"

GENERAL NOTES

A. REFER TO SHEETS E000 AND E001 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS, AND ADDITIONAL GENERAL NOTES THAT APPLY.
B. TEMPORARILY REMOVE CEILING FIRE ALARM DEVICES AS NEEDED TO ACCOMODATE MECHANICAL WORK. REINSTALL UPON COMPLETION OF WORK. COORDINATE WITH DIVISION 23. FIELD VERIFY EXACT CONDITIONS.

DEMOLITION KEYED NOTES

1. DEVICES AND ASSOCIATED CIRCUITRY SHOWN AS DEMOLISHED ARE TO BE DISCONNECTED AND REMOVED COMPLETE BACK TO SOURCE. NOTE: MAINTAIN BY NECESSARY MEANS POWER TO ANY EXISTING TO REMAIN DOWNLINE DEVICES. PAINT AND PATCH AS REQUIRED. FIELD VERIFY EXACT CONDITIONS.
2. DEMOLISH ABANDONED FRIDGE ALARMS AND ASSOCIATED WIRING COMPLETE. FIELD VERIFY EXACT CONDITIONS. PROVIDE BLANK COVERPLATES ON EXISTING FLUSH BACKBOXES IN WALLS WHICH ARE NOT BEING REMOVED.
3. CONTRACTOR TO TEMPORARILY REFEED EXISTING VISTA LAB ANALYZER L6-50R RECEPTACLE FROM PANEL 1NLA. CIRCUIT TO BE DEMOLISHED IN LATER PHASE. FIELD VERIFY EXACT CONDITIONS.
4. CIRCUITS 1ELB-12, 1ELB-14, 1ELB-16, 1ELA-17 TO BE MAINTAINED DURING DEMOLITION FOR RECONNECTION TO NEW DEVICES IN NEW CONSTRUCTION. EXTEND EXISTING CIRCUITRY BY NECESSARY MEANS. FIELD VERIFY EXACT CONDITIONS.
5. DATA RECEPTACLES SHOWN AS DEMOLISHED ARE TO BE DISCONNECTED AND REMOVED COMPLETE. PAINT AND PATCH AS REQUIRED. FIELD VERIFY EXACT CONDITIONS.



2 LEVEL 1 POWER & SYSTEMS PLAN - PHASE 2

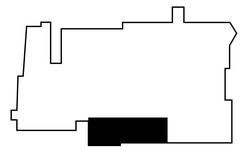
1/4" = 1'-0"

KEYED NOTES

1. PROVIDE (6) 20 AMP 208V NEMA L6-20R TWIST LOCK RECEPTACLES EACH ON A DEDICATED CIRCUIT FOR CONNECTION TO NEW EATON UPS INPUTS (QUANTITY OF 6). COORDINATE WITH SIEMENS REP FOR ADDITIONAL INFORMATION. PROVIDE ALL NECESSARY MATERIALS AND LABOR FOR A COMPLETE INSTALLATION.
2. PROVIDE (6) 20 AMP 208V NEMA L6-20P TWIST LOCK PLUGS WITH 3#12 SO CORD ROUTED VIA WALL VIA SURFACE MOUNTED WIREWAY. WIREMOLD OR APPROVED EQUAL OVERHEAD TO POWER POLES SHOWN ON PLAN. PROVIDE 6' PIGTAIL OR SUFFICIENT LENGTH AS REQUIRED TO REACH EACH UPS OUTPUT RECEPTACLE. COORDINATE WITH SIEMENS REP FOR ADDITIONAL INFORMATION. PROVIDE ALL NECESSARY MATERIALS AND LABOR FOR A COMPLETE INSTALLATION.
3. PROVIDE DUAL CHANNEL POWER POLE WIREMOLD OR APPROVED EQUAL NEXT TO NEW ATELICA UNIT WITH (3) L6-20R TWIST LOCK RECEPTACLES FED FROM UPS AND (1) 5-20R QUAD RECEPTACLE ON A SEPARATE DEDICATED CIRCUIT. COORDINATE WITH SIEMENS REP FOR ADDITIONAL INFORMATION. PROVIDE ALL NECESSARY MATERIALS AND LABOR FOR A COMPLETE INSTALLATION. PAINT POLE TO MATCH SURROUNDING AREA.
4. PROVIDE 2-PORT DATA OUTLET VIA POWER POLE WITH CONNECTION TO NEAREST IDF CLOSET.
5. PROVIDE 4-POST 42U 19" SERVER RACK CABINET ON CASTERS WITH REMOVABLE, PERFORATED SIDE PANELS AND HINGED FRONT AND REAR DOORS EQUAL TO STARTECH #RK4236BKB.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: rmartine
Date: May 14, 2026
2021 INTERNATIONAL CODES & 2023 NEC

KEY PLAN



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JONATHAN GRANT
48502
PROFESSIONAL ENGINEER
2/19/2026

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Date:	02/19/25

REVISIONS

NO	DESCRIPTION	DATE

E101.2

LEVEL 01 ELECTRICAL POWER & SYSTEMS PLAN - PHASE 2

Treanor NO. Project Number

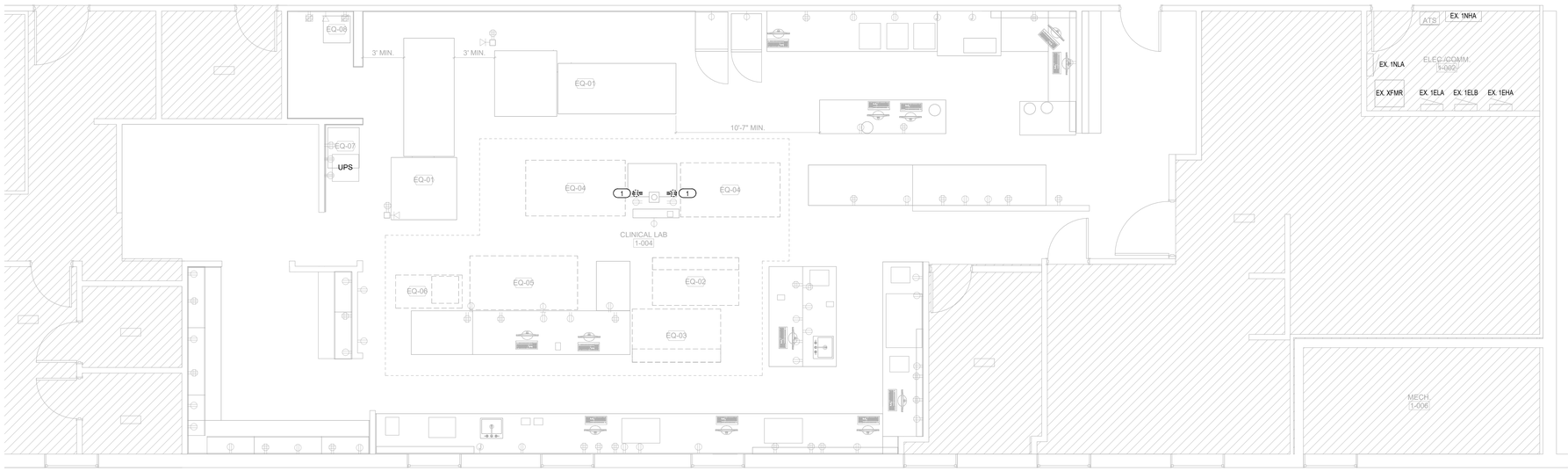
Autodesk Docs://HCI\2222.2401.00 TMCA Lab Analyzer\ISO_2561-L0006400_TMCA Lab Analyzer_MEP_R23.rvt
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GENERAL NOTES

A. REFER TO SHEETS E000 AND E001 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS, AND ADDITIONAL GENERAL NOTES THAT APPLY.
B. TEMPORARILY REMOVE CEILING FIRE ALARM DEVICES AS NEEDED TO ACCOMODATE MECHANICAL WORK. REINSTALL UPON COMPLETION OF WORK. COORDINATE WITH DIVISION 23. FIELD VERIFY EXACT CONDITIONS.

DEMOLITION KEYED NOTES

(1) EXISTING LAB ANALYZER L6-50 RECEPTACLES ARE TO BE DISCONNECTED AND REMOVED COMPLETE BACK TO SOURCE. EXISTING IN-WALL AND UNDERGROUND RACEWAY MAY REMAIN. PROVIDE BLANK COVER ON EXISTING BACKBOX. LABEL BREAKER AS SPARE. FIELD VERIFY EXACT CONDITIONS.



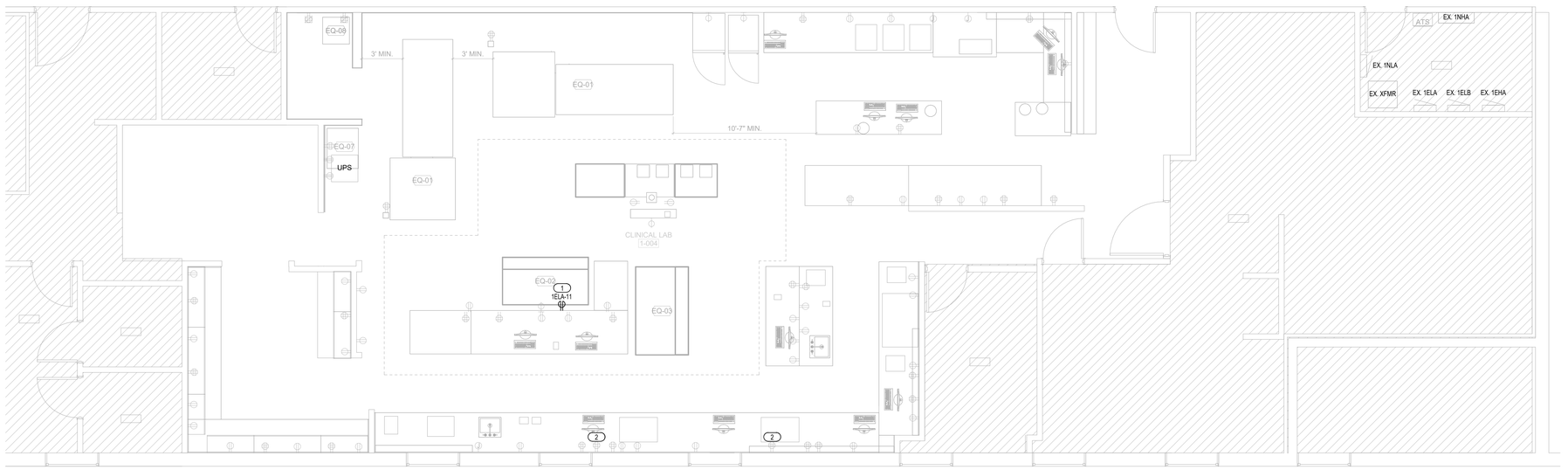
1 LEVEL 1 POWER & SYSTEMS DEMO PLAN - PHASE 3

1/4" = 1'-0"

KEYED NOTES

(1) PROVIDE NEW DEDICATED 120V RECEPTACLE FOR RELOCATED SIEMENS XN-3000. FIELD VERIFY EXACT CONDITIONS.

(2) PROVIDE A SEPARATE LINE ITEM COST TO REPLACE THE BRANCH CIRCUIT FEEDING THE EXISTING 5-20 RECEPTACLE IN THIS APPROXIMATE LOCATION FEEDING THE SYSMEX COAGULATION ANALYZER. EC TO CONFIRM THAT RECEPTACLE IS WIRED TO A DEDICATED BRANCH CIRCUIT.



2 LEVEL 1 POWER & SYSTEMS PLAN - PHASE 3

1/4" = 1'-0"

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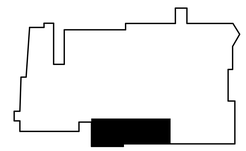
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Date:	02/19/25

REVISIONS

NO	DESCRIPTION	DATE

City of Aurora Building Division
Reviewed for Code Compliance
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Date: May 14, 2026
2021 INTERNATIONAL CODES & 2023 NEC

KEY PLAN



E101.3

LEVEL 01 ELECTRICAL POWER & SYSTEMS PLAN - PHASE 3

Treanor NO. Project Number

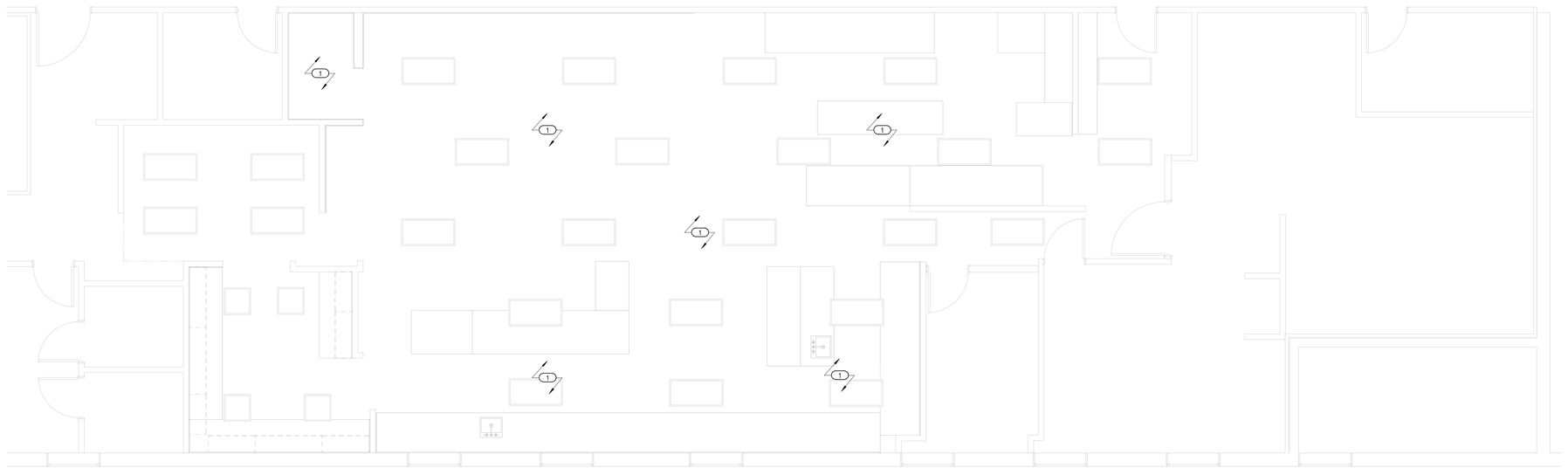
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GENERAL NOTES

A. REFER TO SHEETS E000 AND E001 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS, AND ADDITIONAL GENERAL NOTES THAT APPLY.

DEMOLITION KEYED NOTES

(1) TEMPORARILY REMOVE LIGHTS AS NEEDED TO ACCOMODATE MECHANICAL WORK. REINSTALL LIGHTS UPON COMPLETION OF WORK. COORDINATE WITH DIVISION 23. FIELD VERIFY EXACT CONDITIONS.



1 LEVEL 1 LIGHTING DEMO PLAN - ALL PHASES

1/4" = 1'-0"

2 LEVEL 1 LIGHTING PLAN - ALL PHASES

1/4" = 1'-0"

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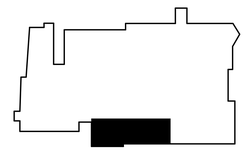
City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: nmartine
Date: May 14, 2026
2021 INTERNATIONAL CODES & 2023 NEC

Issued For:	CONSTRUCTION DOCUMENTS
Date:	02/19/25

REVISIONS

NO	DESCRIPTION	DATE

KEY PLAN



E102.1

LEVEL 01 ELECTRICAL LIGHTING PLAN - ALL PHASES

Treanor NO. Project Number

Autodesk Docs://HC16222.2401.00 TMCA Lab Analyzer/SD_22611-000664-00_TMCA Lab Analyzer_MEP_R23.rvt
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Branch Panel: EX. 1NLA

Location: | **Volts:** 120/208 Wye | **A.I.C. Rating:** 10,000 A
Supply From: | **Phases:** 3 | **Mains Type:** MCB
Mounting: SURFACE | **Wires:** 4 | **Mains Rating:** 150 A
Enclosure: Type 1 | **MCB Rating:** 150 A

Notes:

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	EX. R-BB-WIREMOLD	20 A	1	0 VA	0 VA		1	20 A	EX. R-HEMO-ISLAND	2
3	EX. R-BB-OFFICE	20 A	1		0 VA	0 VA	1	20 A	EX. R-HEMO-ISLAND	4
5	EX. R-LAB-BINS	20 A	1			0 VA	0 VA	1	20 A	EX. R-HEMO-ISLAND	6
7	EX. R-DIST-WIREMOLD	20 A	1	0 VA	0 VA		1	20 A	EX. R-HEMO-W.S./WIREMOLD	8
9	EX. R-DIST-WIREMOLD	20 A	1		0 VA	0 VA	1	20 A	EX. R-OFFICES	10
11	EX. R-DIST-ISLAND	20 A	1			0 VA	0 VA	1	20 A	EX. R-OFFICES	12
13	EX. R-DIST-ISLAND	20 A	1	0 VA	0 VA		1	20 A	EX. R-OFFICES	14
15	EX. R-DIST-CENTRIFUGE	20 A	1		0 VA	0 VA	1	20 A	EX. R-DIR OFFICE	16
17	EX. R-CHEM-VISTA	20 A	1			0 VA	0 VA	1	20 A	EX. R-CONF RM	18
19	SPARE*	20 A	1	0 VA	0 VA		1	20 A	EX. R-LOCKER/BREAK	20
21	SPARE*	20 A	1		0 VA	0 VA	1	20 A	EX. LOUNGE FRIDGE	22
23	SPARE*	20 A	1			0 VA	0 VA	1	20 A	EX. LOUNGE FRIDGE	24
25	SPARE*	20 A	1	0 VA	0 VA		1	20 A	EX. LOUNGE COFFEE	26
27	EX. SPARE	20 A	1		0 VA	0 VA	1	20 A	EX. LOUNGE MICROWAVE	28
29	EX. LOAD	20 A	1			0 VA	0 VA	1	20 A	EX. LOAD	30
31	EX. LOAD	20 A	1	0 VA	0 VA		1	20 A	EX. LOAD	32
33	EX. LOAD	20 A	1		0 VA	0 VA	1	20 A	EX. SPARE	34
35	EX. LOAD	20 A	1			0 VA	0 VA	1	20 A	EX. SPARE	36
37	EX. LOAD	20 A	1	0 VA	0 VA		1	20 A	EX. SPARE	38
39	EX. LOAD	20 A	1		0 VA	0 VA	1	20 A	EX. SPARE	40
41	EX. SPARE	20 A	1			0 VA	0 VA	1	20 A	EX. LOAD	42
43	EX. R-MICRO-OFFICE	20 A	1	0 VA	0 VA		1	20 A	EX. AIR COMPRESSOR	44
45	EX. R-MICRO-SINKS	20 A	1		0 VA	0 VA	2	15 A	EX. RELOC AHU	46
47	EX. R-MICRO-DNA WIREMOLD	20 A	1			0 VA	0 VA	--	--	--	48
49	EX. R-MICRO-DNA-WIREMOLD	20 A	1	0 VA	0 VA		3	20 A	EX. RELOC AHU CU	50
51	EX. R-MICRO-DNA-WIREMOLD	20 A	1		0 VA	0 VA	--	--	--	52
53	EX. R-MICRO-WORKSPACE	20 A	1			0 VA	0 VA	--	--	--	54
55	EX. R-MICRO-M09	20 A	1	0 VA	0 VA		1	20 A	EX. SPARE	56
57	EX. R-MICRO-WORKSPACE	20 A	1		0 VA	0 VA	1	20 A	EX. SPARE	58
59	EX. R-MICRO-BACTEC	20 A	1			0 VA	0 VA	1	20 A	EX. SPARE	60
61	EX. R-MICRO-BACTEC	20 A	1	0 VA	0 VA		1	20 A	EX. MOTORIZED DAMPERS	62
63	EX. R-MICRO-WIREMOLD	20 A	1		0 VA	0 VA	1	20 A	EX. SPARE	64
65	EX. R-MICRO-WORKSTATIONS	20 A	1			0 VA	0 VA	1	20 A	EX. CO2 MANIFOLD	66
67	EX. R-MICRO-WIREMOLD	20 A	1	0 VA	0 VA		1	20 A	EX. WATER HTR CIRC PUMP	68
69	EX. R-MICRO-WIREMOLD	20 A	1		0 VA	0 VA	1	20 A	EX. SPARE	70
71	EX. R-MICRO-WORKSTATIONS	20 A	1			0 VA	0 VA	1	20 A	EX. SPARE	72
73	EX. TRAP PRIMERS	20 A	1	0 VA	0 VA		1	20 A	EX. SPARE	74
75	EX. BREAK-GARBAGE DISP	20 A	1		0 VA	0 VA	1	20 A	EX. SPARE	76
77	EX. LOAD	20 A	1			0 VA	0 VA	1	20 A	EX. SPARE	78
79	EX. GENERATOR LOAD CENTER	60 A	3	0 VA	0 VA		1	20 A	EX. LOAD	80
81	--	--	--		0 VA	0 VA	2	50 A	SPARE*	82
83	--	--				0 VA	0 VA	--	--	--	84
		Total Load:		0 VA	0 VA	0 VA				
		Total Amps:		0 A	0 A	0 A				

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
				Total Conn. Load: 0 VA
				Total Est. Demand: 0 VA
				Total Conn. Current: 0 A
				Total Est. Demand Current: 0 A

Notes:
Loads shown represent new loads only. Spares removed to make room for new breakers to be turned over to owner.

*Upon removal of the existing equipment/device, turn circuit breaker off and mark circuit as a spare in panel directory.
**Reused circuit from demolition.

LOAD SUMMARY	
ADDED	0 VA
REMOVED	-9620 VA
NET CHANGE	-9620 VA

Branch Panel: EX. 1ELA

Location: | **Volts:** 120/208 Wye | **A.I.C. Rating:** 10,000 A
Supply From: | **Phases:** 3 | **Mains Type:** MCB
Mounting: SURFACE | **Wires:** 4 | **Mains Rating:** 150 A
Enclosure: Type 1 | **MCB Rating:** 150 A

Notes:

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	EX. R-ELEC-COMM	20 A	1	0 VA	0 VA		1	20 A	EX. R-BB-FRIDGE	2
3	EX. R-ELEC-COMM	20 A	1		0 VA	0 VA	1	20 A	EX. R-BB-FRIDGE	4
5	EX. R-DIST-WORKSTATIONS	20 A	1			0 VA	0 VA	2	15 A	EX. R-BB-FREEZER	6
7	EX. R-DIST-CENTRIFUGE	20 A	1	0 VA	0 VA		1	--	--	--	8
9	EX. R-DIST-WORKSTATIONS	20 A	1		0 VA	0 VA	1	20 A	EX. R-BB-MICRO	10
11	SIEMENS UN-3000**	20 A	1			180 VA	0 VA	1	20 A	EX. R-BB-WORKSTATION	12
13	EX. R-CHEM-FRIDGE	20 A	1	0 VA	0 VA		1	20 A	EX. SPARE	14
15	EX. R-CHEM-FREEZER	20 A	1		0 VA	0 VA	1	20 A	EX. R-BB-ICE MAKER	16
17	SPARE*	20 A	1			0 VA	0 VA	1	20 A	EX. R-BB-CAPTURE	18
19	EX. R-CHEM-COULTER PS	20 A	1	0 VA	0 VA		1	20 A	EX. R-BB-SERO	20
21	EX. R-HEMO-WORKSTATIONS	20 A	1		0 VA	0 VA	1	20 A	EX. R-BB-WORKSTATION	22
23	EX. R-HEMO-ISLAND	20 A	1			0 VA	0 VA	1	20 A	EX. R-R-PRINT STATION	24
25	EX. R-WORKSTATION	20 A	1	0 VA	0 VA		1	20 A	EX. R-BB-INCUBATOR	26
27	EX. HEMO-BCS COAG	20 A	1		0 VA	0 VA	1	20 A	EX. R-BB-WORKSTATION	28
29	EX. R-HEMO-WORKSTATION	20 A	1			0 VA	0 VA	1	20 A	EX. R-BB-ECHO	30
31	EX. XN3100 HEMO	20 A	1	0 VA	0 VA		1	20 A	EX. R-BB-FRIDGE	32
33	EX. LOAD	20 A	2		0 VA	0 VA	1	20 A	EX. SPARE	34
35	--	--	--			0 VA	0 VA	3	20 A	EX. 1455 2ND FLOOR IT RACK	36
37	EX. SPARE	20 A	1	0 VA	0 VA			--	--	--	38
39	EX. SPARE	20 A	1		0 VA	0 VA		--	--	--	40
41	EX. SPARE	20 A	1			0 VA	0 VA	1	20 A	EX. SPARE	42
43	EX. R-MICRO-WORKSTATIONS	20 A	1	0 VA	0 VA		1	20 A	EX. R-CHEM-VISTA	44
45	EX. R-MICRO-MICROSAN	20 A	1		0 VA	0 VA	1	20 A	EX. SPARE	46
47	EX. R-MICRO-BACTEC	20 A	1			0 VA	0 VA	1	20 A	EX. SPARE	48
49	EX. R-MICRO-WIREMOLD	20 A	1	0 VA	0 VA		1	20 A	EX. SPARE	50
51	EX. R-MICRO-INCUBATOR	20 A	1		0 VA	0 VA	1	20 A	EX. SPARE	52
53	EX. R-MICRO-INCUBATOR	20 A	1			0 VA	0 VA	1	20 A	EX. SPARE	54
55	EX. R-MICRO-FREEZER	20 A	1	0 VA	0 VA		1	20 A	EX. SPARE	56
57	EX. R-MICRO	20 A	1		0 VA	0 VA	1	20 A	EX. SPARE	58
59	EX. R-MICRO-MICROSCAN	20 A	1			0 VA	0 VA	1	20 A	EX. SPARE	60
61	UPS 1***	20 A	2	1200...	0 VA		1	20 A	EX. SPARE	62
63	--	--	--		1200...	0 VA	1	20 A	EX. SPARE	64
65	UPS 2***	20 A	2			1200...	0 VA	1	20 A	EX. SPARE	66
67	--	--	--	1200...	0 VA		1	20 A	EX. SPARE	68
69	UPS 3***	20 A	2		1200...	0 VA	1	20 A	EX. SPARE	70
71	--	--	--			1200...	0 VA	1	20 A	EX. SPARE	72
73	EX. SPARE	20 A	1	0 VA	0 VA		1	20 A	EX. R-BB-FRIDGE	74
75	EX. SPARE	20 A	1		0 VA	0 VA	1	20 A	EX. SPARE	76
77	EX. SPARE	20 A	1			0 VA	0 VA	1	20 A	EX. R-BB-FRIDGE	78
79	EX. SPARE	20 A	1	0 VA	0 VA		1	20 A	EX. SPARE	80
81	EX. SPARE	20 A	1		0 VA	0 VA	2	50 A	SPARE*	82
83	EX. SPARE	20 A	1			0 VA	0 VA	--	--	--	84
		Total Load:		2400 VA	2400 VA	2580 VA				
		Total Amps:		20 A	20 A	22 A				

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Spare	4800 VA	100.00%	4800 VA	
Receptacle	2580 VA	100.00%	2580 VA	**Total Conn. Load:** 7380 VA
				Total Est. Demand: 7380 VA
				Total Conn. Current: 20 A
				Total Est. Demand Current: 20 A

Notes:
Loads shown represent new loads only. Spares removed to make room for new breakers to be turned over to owner.

*Upon removal of the existing equipment/device, turn circuit breaker off and mark circuit as a spare in panel directory.
**Reused circuit from demolition....

LOAD SUMMARY	
ADDED	7380 VA
REMOVED	-9080 VA
NET CHANGE	-1700 VA

Branch Panel: EX. 1ELB

Location: | **Volts:** 120/208 Wye | **A.I.C. Rating:** 10,000 A
Supply From: | **Phases:** 3 | **Mains Type:** MCB
Mounting: SURFACE | **Wires:** 4 | **Mains Rating:** 150 A
Enclosure: Type 1 | **MCB Rating:** 150 A

Notes:

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	EX. PTS STATION	20 A	1	0 VA	0 VA		1	20 A	EX. R-BB-WORKSTATION	2
3	EX. PTS STATION	20 A	1		0 VA	0 VA	1	20 A	EX. R-BB-CAPTURE	4
5	EX. PTS STATION	20 A	1			0 VA	0 VA	1	20 A	EX. R-BB-PRINT STATION	6
7	EX. R-BB-SPOT COOLER	20 A	1	0 VA	0 VA		1	20 A	EX. R-DIST-COPIER	8
9	EX. R-HEMO-COULTER PS	20 A	1		0 VA	0 VA	1	20 A	EX. R-DIST-STAT SPIN	10
11	EX. R-HEMO-WORKSTATIONS	20 A	1			0 VA	360 VA	1	20 A	Power Pole Quadplex**	12
13	EX. R-HEMO-WORKSTATIONS	20 A	1	0 VA	360 VA		1	20 A	Power Pole Quadplex**	14
15	EX. R-HEMO-UCF	20 A	1		0 VA	1200...	1	20 A	MILLIPORE**	16
17	EX. R-HEMO-COAG	20 A	1			0 VA	0 VA	1	20 A	EX. R-VITROS-ISLAND	18
19	EX. R-HEMO-IRIS	20 A	1	0 VA	0 VA		1	20 A	EX. R-MICRO-M16	20
21	EX. R-HEMO-WORKSTATIONS	20 A	1		0 VA	0 VA	1	20 A	EX. R-MICRO-SPOT COOLER	22
23	EX. R-HEMO-STRAINER	20 A	1			0 VA	0 VA	1	20 A	EX. R-MICRO-SPOT COOLER	24
25	EX. R-OFFICE WORKSTATION	20 A	1	0 VA	0 VA		1	20 A	EX. SPARE	26
27	EX. R-MICRO-DNA	20 A	1		0 VA	0 VA	1	20 A	EX. SPARE	28
29	EX. R-MICRO-DNAA FREEZER	20 A	1			0 VA	0 VA	1	20 A	EX. SPARE	30
31	EX. R-MICRO-WORKSTATION	20 A	1	0 VA	0 VA		1	20 A	EX. SPARE	32
33	EX. R-MICRO-SPEC FRIDGE	20 A	1		0 VA	0 VA	1	20 A	EX. SPARE	34
35	EX. R-MICRO-M09	20 A	1			0 VA	0 VA	1	20 A	EX. SPARE	36
37	EX. R-MICRO-M20	20 A	1	0 VA	0 VA		1	20 A	EX. SPARE	38
39	EX. R-MICRO-BACTEC	20 A	1		0 VA	0 VA	1	20 A	EX. SPARE	40
41	EX. R-MICRO-WIREMOLD	20 A	1			0 VA	0 VA	1	20 A	EX. SPARE	42
43	UPS 4***	20 A	2	1200...	0 VA		1	20 A	EX. SPARE	44
45	--	--	--		1200...	0 VA	1	20 A	EX. SPARE	46
47	UPS 5***	20 A	2			1200...	0 VA	1	20 A	EX. SPARE	48
49	--	--	--	1200...	0 VA		1	20 A	EX. SPARE	50
51	UPS 6***	20 A	2		1200...	0 VA	1	20 A	EX. SPARE	52
53	--	--	--			1200...	0 VA	1	20 A	EX. SPARE	54
55	EX. SPARE	20 A	1	0 VA	0 VA		1	20 A	EX. SPARE	56
57	EX. SPARE	20 A	1		0 VA	0 VA	1	20 A	EX. SPARE	58
59	EX. SPARE	20 A	1			0 VA	0 VA	1	20 A	EX. SPARE	60
61	EX. SPARE	20 A	1	0 VA	0 VA		1	20 A	EX. SPARE	62
63	EX. SPARE	20 A	1		0 VA	0 VA	1	20 A	EX. SPARE	64
65	EX. SOUTH #1 WALK-IN EVAPORATORS	20 A	1			0 VA	0 VA	1	20 A	EX. SPARE	66
67	EX. WALK-IN CONTROLS	20 A	1	0 VA	0 VA		1	20 A	EX. SPARE	68
69	EX. WALK-IN HEAT TAPE	20 A	1		0 VA	0 VA	1	20 A	EX. GEF-1	70
71	EX. NORTH EVAP FANS WALK-IN	20 A	1			0 VA	0 VA	1	20 A	EX. GEF-2	72
73	EX. WALK-IN CONDENSER	25 A	3	0 VA	0 VA		1	20 A	EX. SPARE	74
75	--	--	--		0 VA	0 VA	1	20 A	EX. CO2 ALARM/WALK-IN CHART RECORDER	76
77	--	--	--			0 VA	0 VA	1	20 A	EX. MECH CONTROLS	78
79	EX. WALK-IN CONDENSER	25 A	3	0 VA	0 VA		1	20 A	EX. F/S DAMPERS, EX. FAN	80
81	--	--	--		0 VA	0 VA	1	20 A	EX. EGAP	82
83	--	--	--			0 VA	0 VA	1	20 A	EX. L/R-GENERATOR	84
		Total Load:		2760 VA	3600 VA	2760 VA				
		Total Amps:		23 A	30 A	23 A				

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Spare	7200 VA	100.00%	7200 VA	
Receptacle	1920 VA	100.00%	1920 VA	**Total Conn. Load:** 9120 VA
				Total Est. Demand: 9120 VA
				Total Conn. Current: 25 A
				Total Est. Demand Current: 25 A

Notes:
Loads shown represent new loads only. Spares removed to make room for new breakers to be turned over to owner.

*Upon removal of the existing equipment/device, turn circuit breaker off and mark circuit as a spare in panel directory.
**Reused circuit from demolition....

LOAD SUMMARY		
EXISTING LOAD	8910 VA	Measured via 30-day temp metering.
EXISTING LOAD x 1.25	11140 VA	
ADDED	9120 VA	
REMOVED	-1620 VA	
NET LOAD	18640 VA	

Every circuit and circuit modification shall be provided with a legible and permanent description that complies with all of the following conditions as applicable (see 1-6). 2023 NEC 408.4

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: nmartine
Date: May 14, 2026
2021 INTERNATIONAL CODES & 2023 NEC

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JONATHAN GRANT
48502
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2/19/2026

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Health ONE

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Issued For:	CONSTRUCTION DOCUMENTS
Date:	02/19/25

REVISIONS

NO	DESCRIPTION	DATE

E600

ELECTRICAL SCHEDULES

Treanor NO. | Project Number

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