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

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.

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

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 BUILDING 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"

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 NOTES

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.

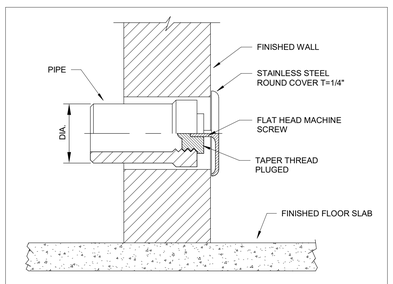
City of Aurora Building Division
Project: *Revision to 1972129*
Address: *1501 S Potomac St*
Occupancy Group: *IBC I2*
Construction Type: *UBC IFR-SPK*
RSN: *1997016*
Permit: *2026-2649293-LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Kirk Nagle*
Date: *Aug 24, 2026*
2021 INTERNATIONAL CODES & 2023 NEC

Only highlighted or clouded revisions are approved on this review. All previous comments apply.

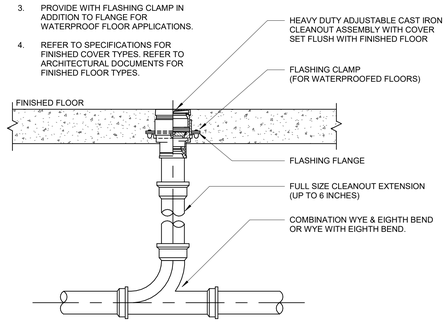
Code violations found during inspections are required to be corrected. Permit issuance does not grant approval of a code violation.

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

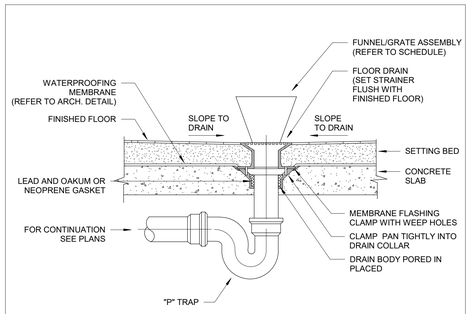


1 WALL CLEANOUT
NOT TO SCALE

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

TREANOR
1755 Blake Street, Suite 400
Denver, CO 80202
Phone: 303.739.7400
www.treanor.design

COLORADO LICENSED
JONATHAN GUNN
28502
PROFESSIONAL ENGINEER
05/14/2026

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:	08/14/2026

REVISIONS

NO	DESCRIPTION	DATE
2	PERMIT COMMENTS	08/14/26

P000

PLUMBING SYMBOLS, ABBREVIATIONS, NOTES, DETAILS AND SCHEDULES

Treanor NO. Project Number

Autodesk Docs://HC16222.2401.00 TMCA Lab Analyzer/SD_2261-00084-00_TMCA Lab Analyzer_MEP_R23.rvt
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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 PIPING 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.

2

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.

Only highlighted or clouded revisions are approved on this review. All previous comments apply.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Kirk Nagle*
Date: *Aug 24, 2026*
2021 INTERNATIONAL CODES & 2023 NEC

TREANOR
1755 Blake Street, Suite 400
Denver, CO 80202
Phone: 303.892.1166
www.treanor.design

COLORADO LICENSED
JONATHAN GRANT
38502
PROFESSIONAL ENGINEER
08/14/2026

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

Health ONE

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Date:	08/14/2026

REVISIONS

NO	DESCRIPTION	DATE
2	PERMIT COMMENTS	08/14/26

P001

PLUMBING SPECIFICATIONS

Treanor NO. Project Number

Autodesk Docs://HC16222.2401.00 TMCA Lab Analyzer/SD_2251-00084-00_TMCA Lab Analyzer_MEP_R23.rvt
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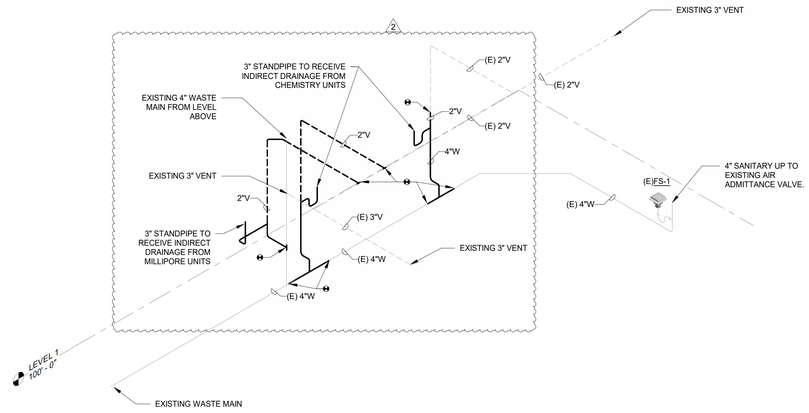
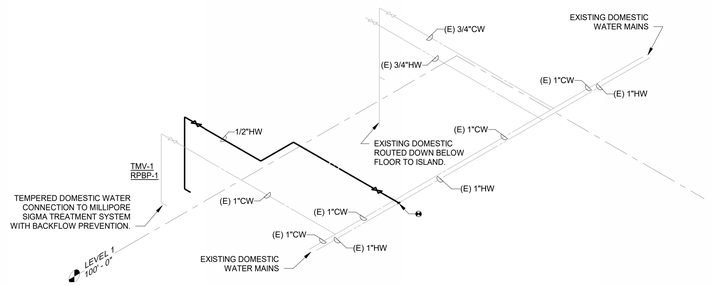


1 PHASE 2 SANITARY AND VENT PIPING DIAGRAM

NOT TO SCALE



2 PHASE 2 DOMESTIC WATER PIPING DIAGRAM

NOT TO SCALE

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City of Aurora Building Division
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Date: *Aug 24, 2026*
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TREANOR
1755 Blake Street, Suite 400
Denver, CO 80202
Phone: 303.996.4000
www.treanor.design

COLORADO LICENSED
JONATHAN GRANT
38502
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THE MEDICAL CENTER OF AURORA
LAB ANALYZER
1501 S POTOMAC ST., AURORA, CO, 80012

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REVISIONS

NO	DESCRIPTION	DATE
1	City Comments	05/20/26
2	PERMIT COMMENTS	08/14/26

P002

PLUMBING DIAGRAMS

Treanor NO. Project Number

Autodesk Docs://HC16222.2401.00 TMCA Lab Analyzer/SD_2261.000664-00_TMCA Lab Analyzer_MEP_R23.rvt
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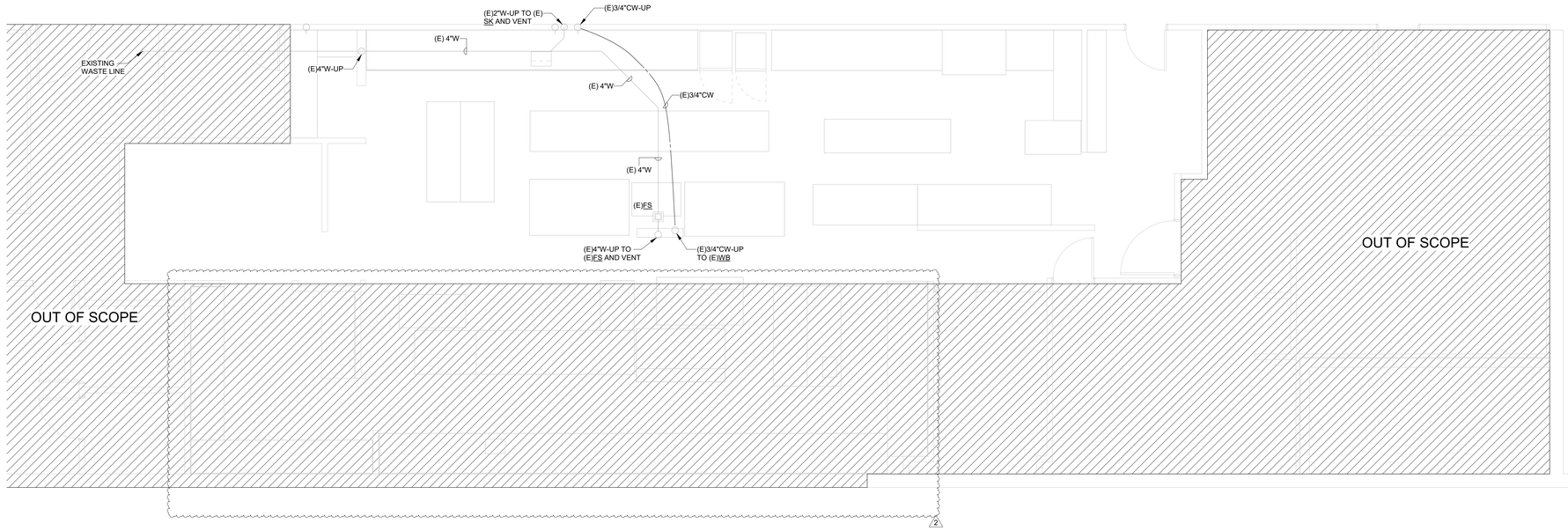
GENERAL NOTES

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

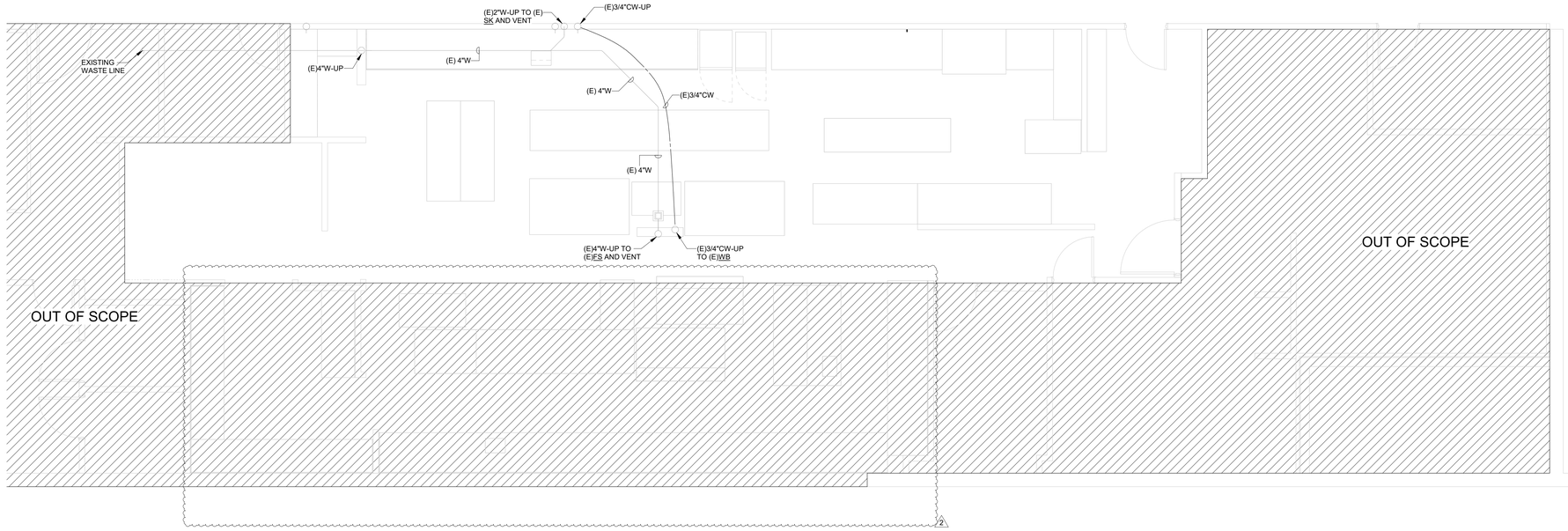
B. CONTRACTORS TO CLEAN & FLUSH EXISTING DRAINAGE PIPING TO ASSURE DRAINAGE CONDITIONS. CONTRACTOR TO SCOPE OUT AND CAMERA EXISTING SYSTEM CONDITIONS.

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



1 LEVEL 1 PLUMBING BG DEMO - PHASE 1

1/4" = 1'-0"



2 LEVEL 1 PLUMBING BG - PHASE 1

1/4" = 1'-0"

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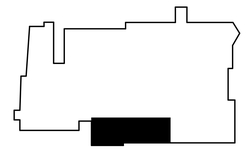
Approved as Noted: *Kirk Nagle*
Date: *Aug 24, 2026*
2021 INTERNATIONAL CODES & 2023 NEC

KEY PLAN



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Denver, CO 80202
Phone: 303.892.1166
www.treanor.design

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JONATHAN GRANT
38502
PROFESSIONAL ENGINEER
08/14/2026

THE MEDICAL CENTER OF AURORA
LAB ANALYZER
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REVISIONS

NO	DESCRIPTION	DATE
2	PERMIT COMMENTS	08/14/26

P101.1

LEVEL 01 UNDERGROUND PLUMBING PLAN - PHASE 1

Treanor NO. Project Number

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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.

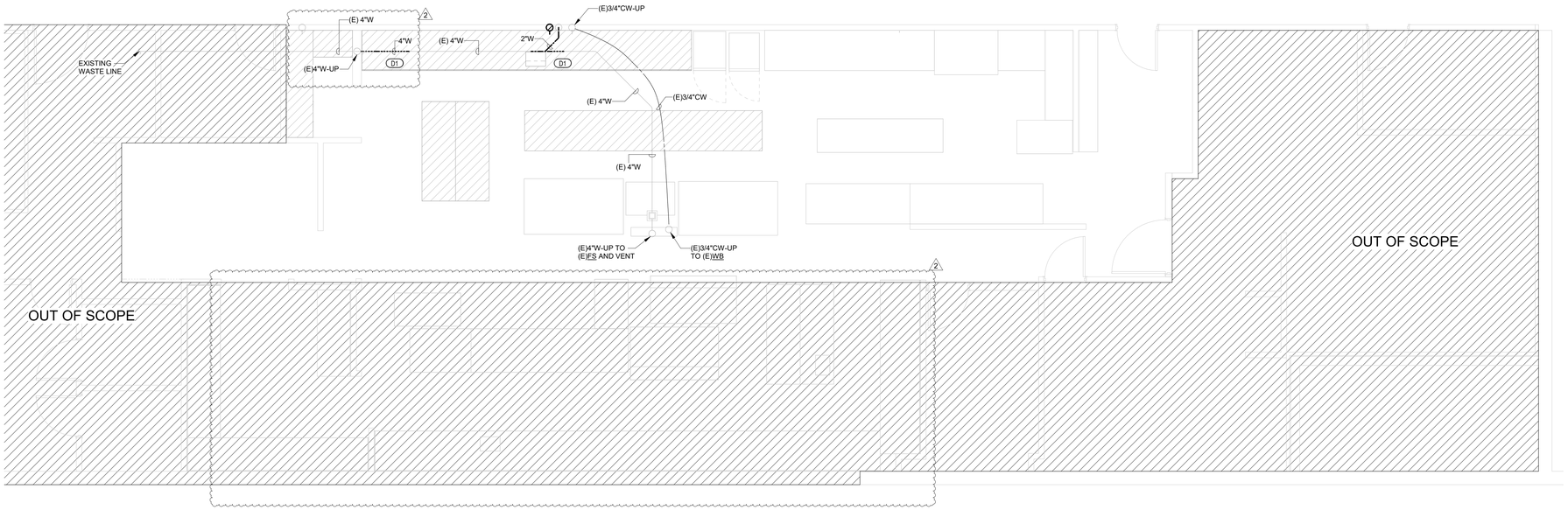
KEYED NOTES

(1) - NEW STANDPIPE 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 3" STANDPIPE FOR INDIRECT DRAINAGE. NEW SANITARY LINE TO HAVE 4"FCO FOR ACCESS.

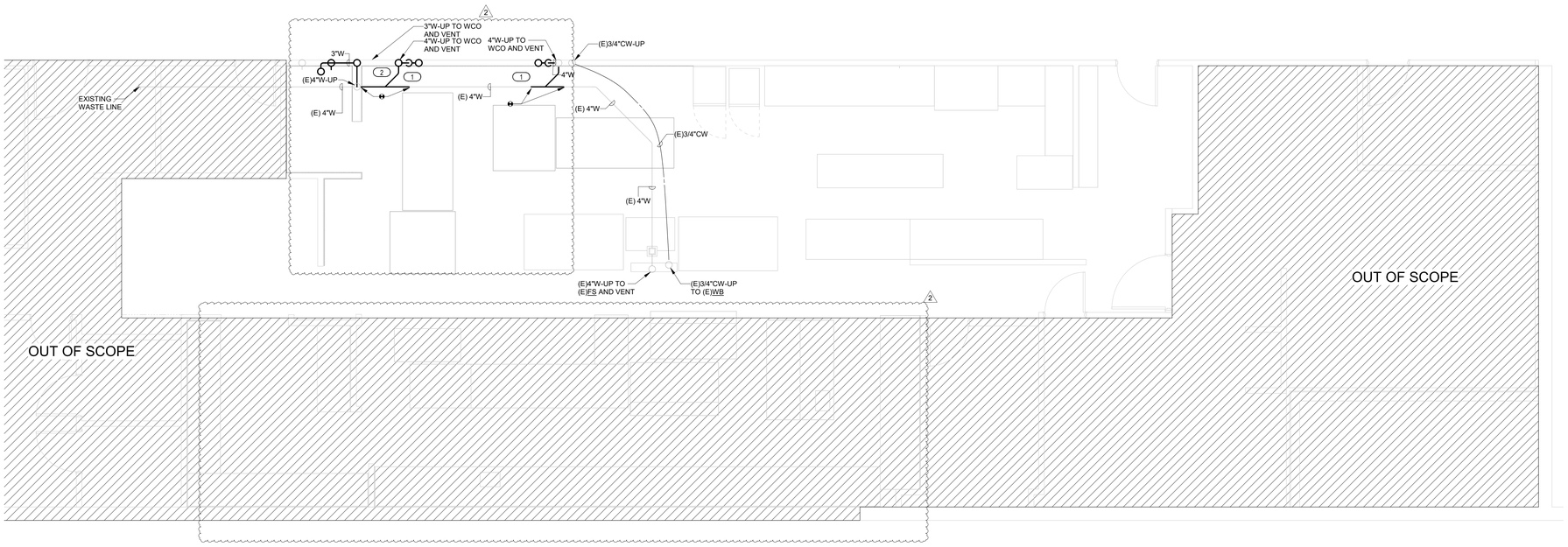
DEMOLITION KEY NOTES

(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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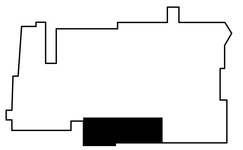
KEY PLAN



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Denver, CO 80202
Phone: 303.407.1000
www.treanor.design

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JONATHAN GRANT
38502
PROFESSIONAL ENGINEER
08/14/2026

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LAB ANALYZER
1501 S POTOMAC ST., AURORA, CO, 80012

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P101.2

LEVEL 01
UNDERGROUND
PLUMBING PLAN - PHASE 2

Treanor NO. | Project Number

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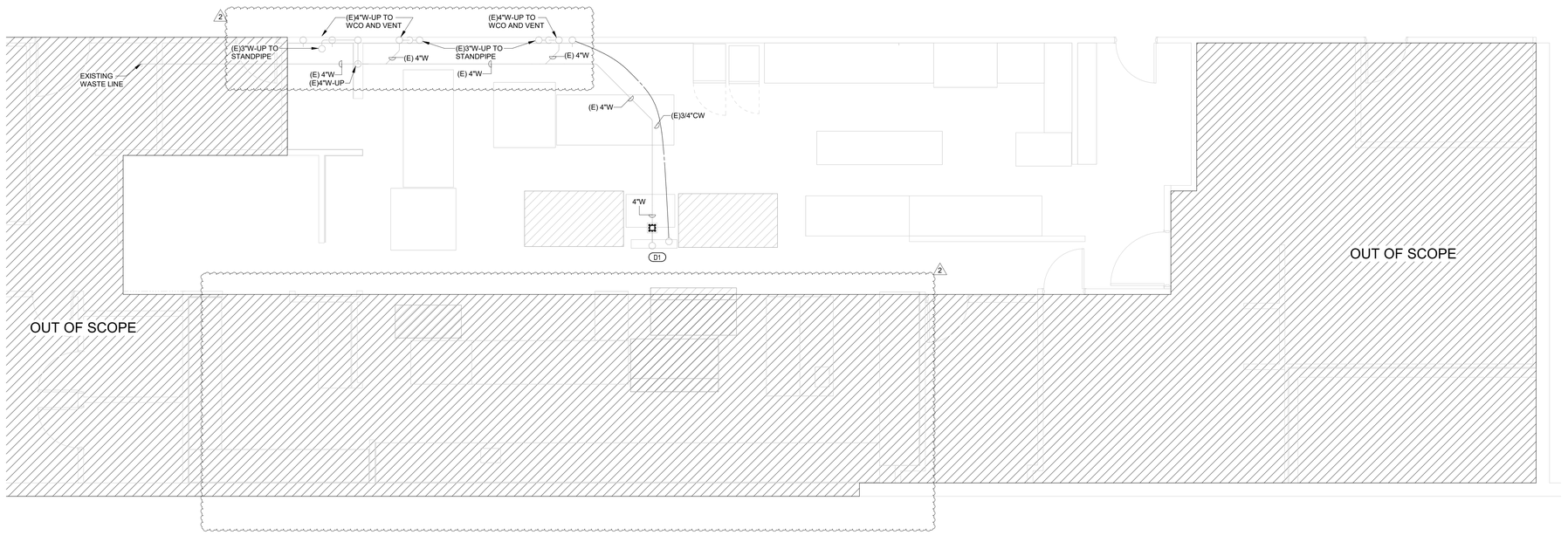
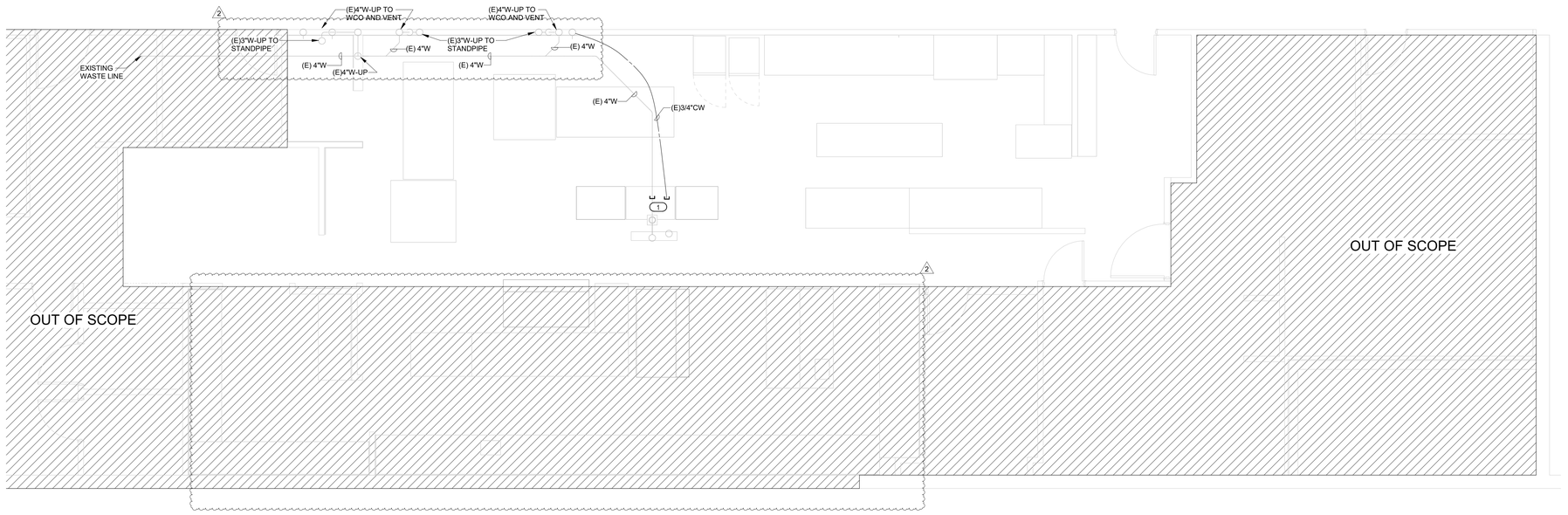


1 LEVEL 1 PLUMBING BG DEMO - PHASE 3

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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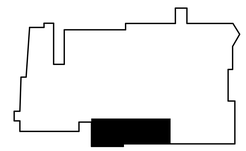
KEY PLAN



TREANOR
1755 Blake Street, Suite 400
Denver, CO 80202
Phone: 303.892.1166
www.treanor.design

COLORADO LICENSED
JONATHAN GRANT
38502
PROFESSIONAL ENGINEER
08/14/2026

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LAB ANALYZER
1501 S POTOMAC ST., AURORA, CO, 80012

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P101.3

LEVEL 01
UNDERGROUND
PLUMBING PLAN - PHASE 3

Treanor NO. Project Number

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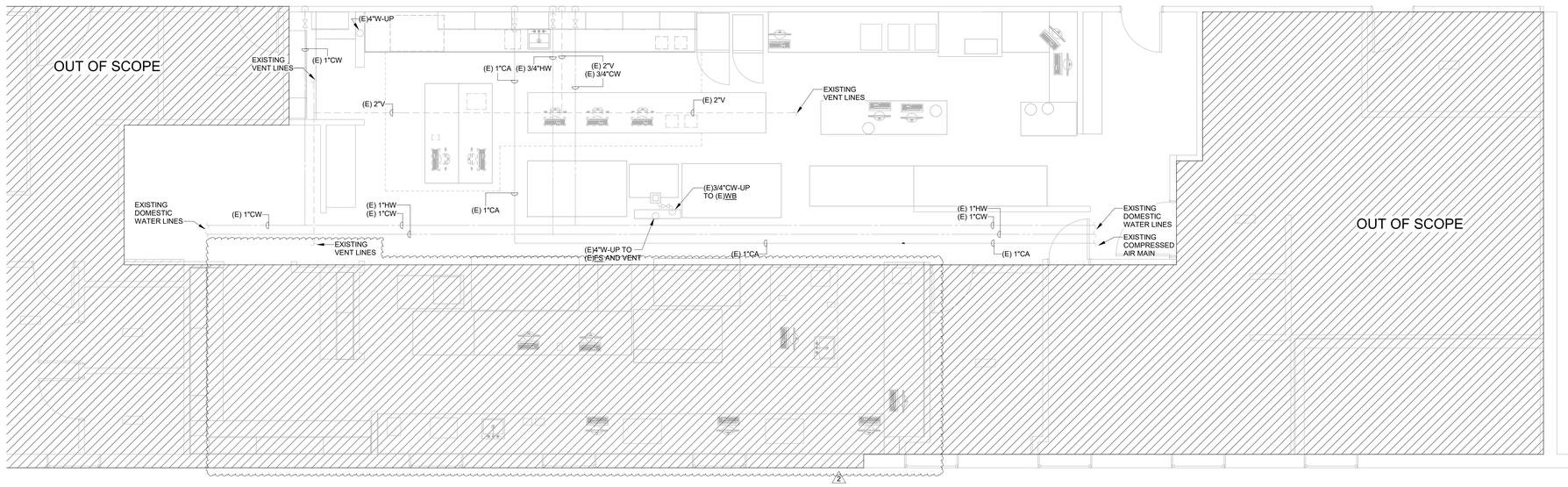
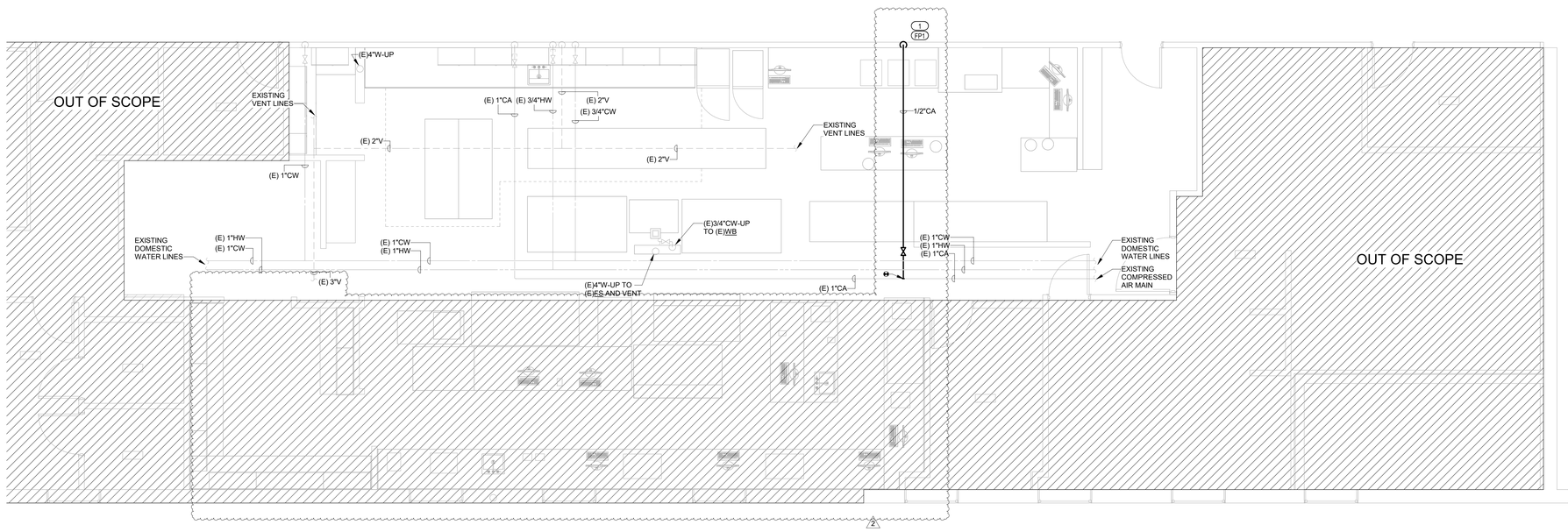


1 LEVEL 1 PLUMBING DEMO - PHASE 1

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 COMPRESSED AIR TO BE ROUTED DOWN WALL TO NEW CENTRAFUGE WALL OUTLET LOCATION.

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.

TREANOR
1755 Blake Street, Suite 400
Denver, CO 80202
Phone: 303.892.1500
www.treanor.design

COLORADO LICENSED
JONATHAN GRANT
28502
PROFESSIONAL ENGINEER
03/14/2026

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

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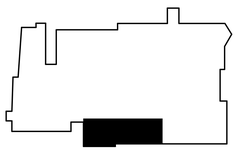
KEY PLAN



P111.1

LEVEL 01 PLUMBING PLAN - PHASE 1

Treanor NO. | Project Number

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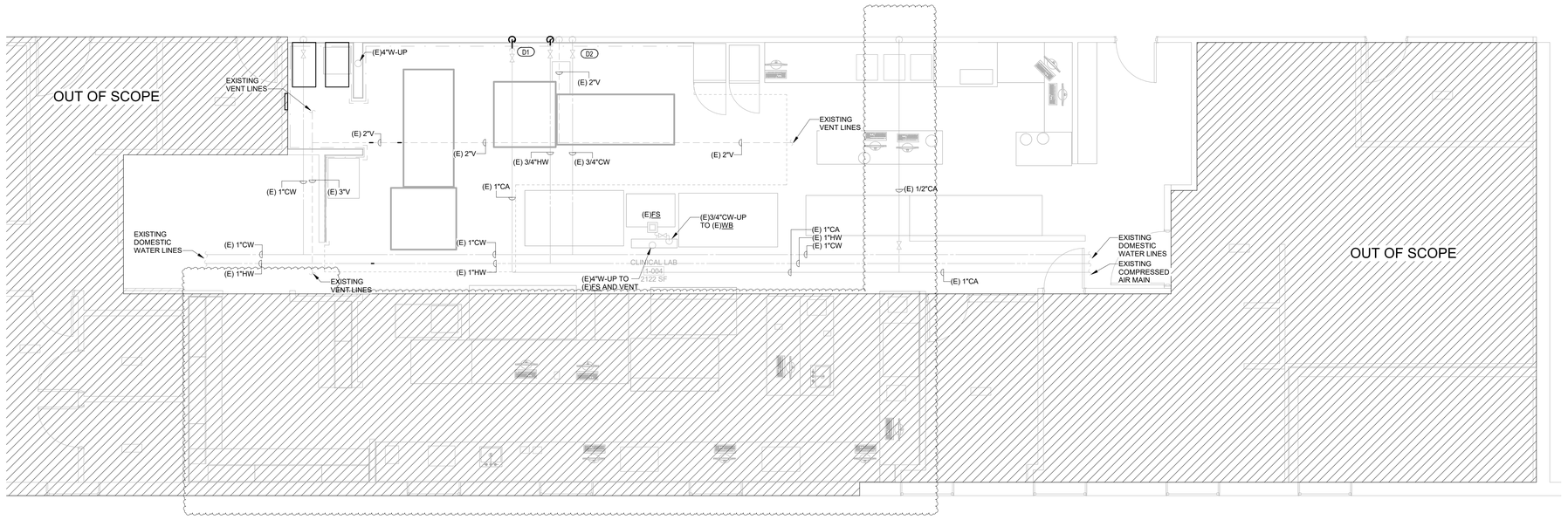
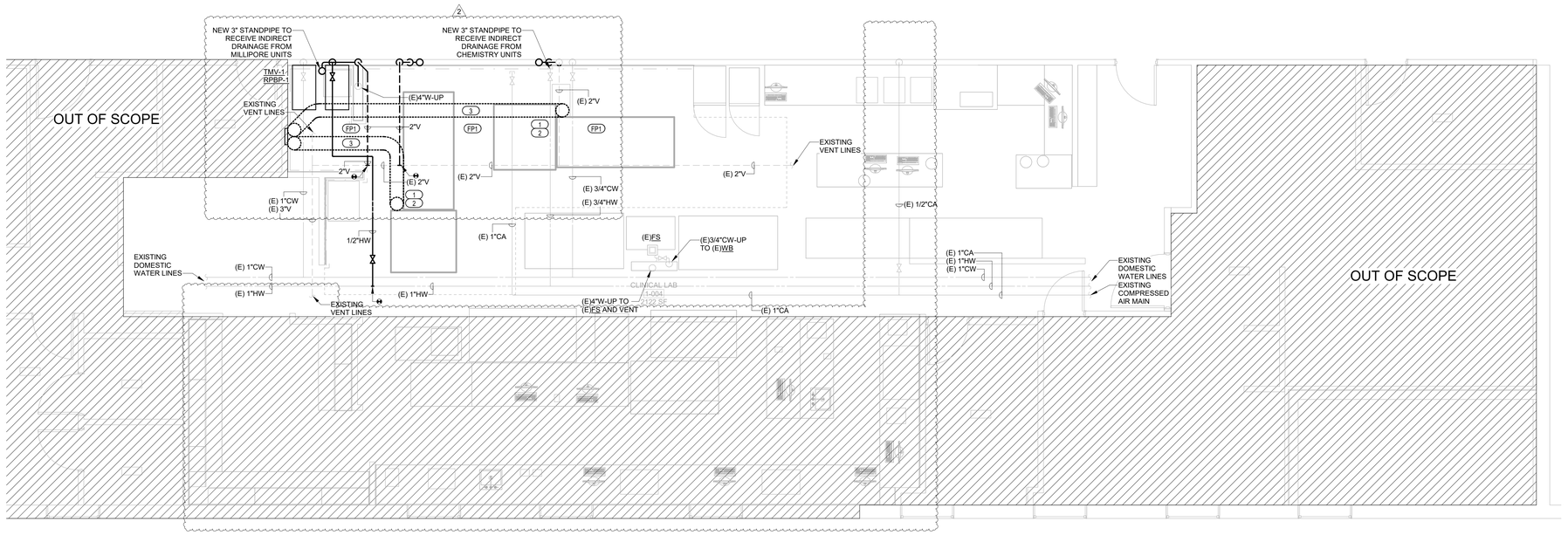


1 LEVEL 1 PLUMBING DEMO - PHASE 2

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 NEW CHEMISTRY UNIT EQUIPMENT DRAIN LINES ARE TO ROUTE TO NEW 3" STANDPIPE AT NORTH WALL. 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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1755 Blake Street, Suite 400
Denver, CO 80202
Phone: 303.837.1200
www.treanor.design

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JONATHAN GRANT
28502
PROFESSIONAL ENGINEER
03/14/2026

THE MEDICAL CENTER OF AURORA
LAB ANALYZER
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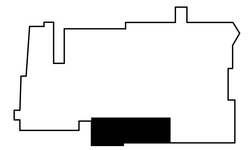

P111.2

LEVEL 01 PLUMBING PLAN - PHASE 2

Treanor NO. Project Number

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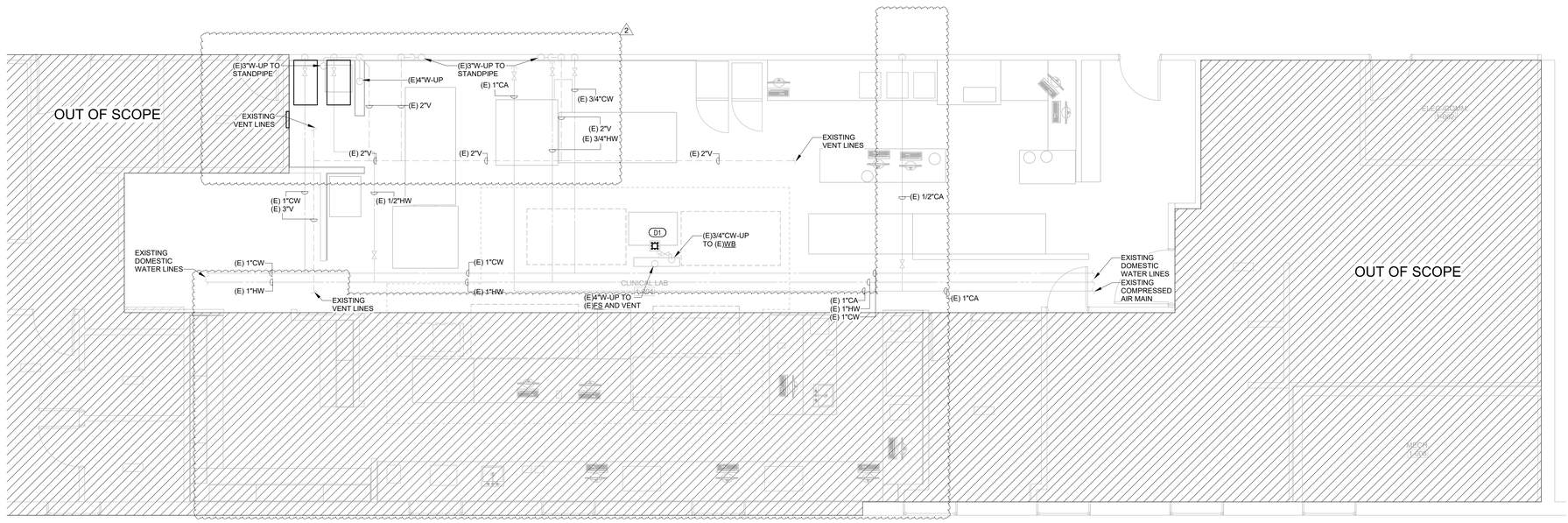
C. ALL PLUMBING SYSTEMS ON PLAN ARE LOCATED WITHIN THE CEILING AREA OF LEVEL 01.

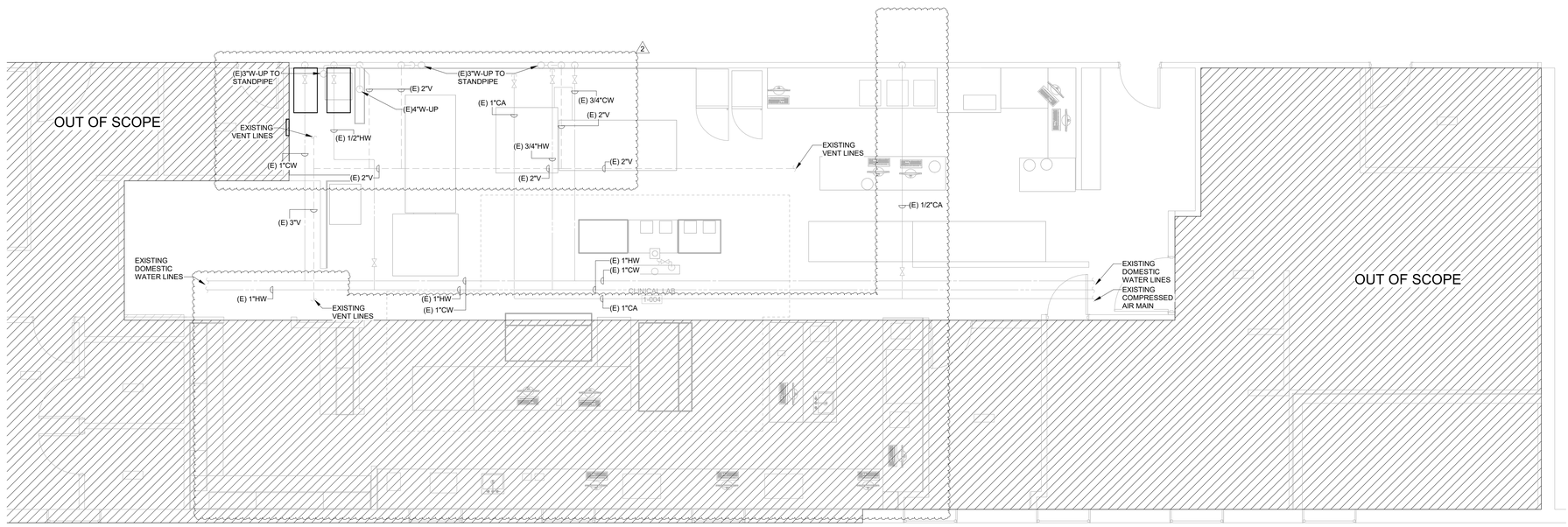
DEMOLITION KEY NOTES

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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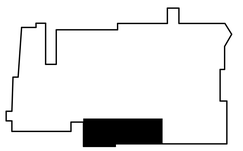

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1755 Blake Street, Suite 400
Denver, CO 80202
Phone: 303.892.4000
www.treanor.design

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LEVEL 01 PLUMBING PLAN - PHASE 3

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