# LEGEND OF MECHANICAL SYMBOLS AND ABBREVIATIONS

## DUCTWORK/GRILLES

- POSITIVE PRESSURE DUCT - RISE
- POSITIVE PRESSURE DUCT - DROP
- NEGATIVE PRESSURE DUCT - RISE
- NEGATIVE PRESSURE DUCT - DROP
- ROUND DUCT - RISE
- ROUND DUCT - DROP
- UNDER FLOOR DUCT
- TURNING VANES
- FRESH AIR LOUVER
- RELIEF AIR OR EXHAUST AIR LOUVER
- 12X12 200 — CEILING SUPPLY DIFFUSER
- 22X22 200 — CEILING RETURN REGISTER
- 12X12 200 — CEILING EXHAUST REGISTER, (BALANCE TO MATCH SUPPLY IF RETURN CFM IS NOT SHOWN)
- 24X10 200 — SIDEWALL SUPPLY REGISTER
- 24X10 200 — SIDEWALL EXHAUST OR RETURN REGISTER
- 12X12 200 — CEILING SUPPLY DIFFUSER WITH FLEXIBLE DUCT
- 12X12 200 — CEILING AIR GRILLE WITH FLEXIBLE DUCT

TOP FIGURES INDICATE NECK SIZE. BOTTOM FIGURE INDICATES CFM.

- CEILING RETURN AIR GRILE W/ SOUND BOOT
- 3-1" SLOTS @ 48" 400 — LINEAR DIFFUSER WITH PLENUM AND FLEXIBLE DUCT CONNECTION. NO. OF SLOTS & SIZE OF SLOT ON TOP, ACTIVE LENGTH AND CFM ON BOTTOM
- FLEXIBLE DUCT CONNECTION
- FLEXIBLE DUCT
- 12/8 FO — FLAT OVAL DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
- 12/8 — RECTANGULAR DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
- 12ø — ROUND DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
- UP — INCLINED RISE
- DN — INCLINED DROP

WITH RESPECT TO AIR FLOW 15° NOMINAL INCLINE WITH RADIUS TURNS=DEPTH OF DUCT.

- W R — R/W=1. ROUND DUCT SIMILAR TO RECTANGULAR
- 12/12 8/8 — RECTANGULAR TO RECTANGULAR OR ROUND TO ROUND DUCT TRANSFORMATION MAXIMUM 15° INCLUDED ANGLE EXCEPT WHERE SHOWN OTHERWISE.
- 12/12 12ø — RECTANGULAR TO ROUND DUCT TRANSFORMATION
- R 6 — BRANCH DUCT SPLIT WITH 6" WIDTH AND MIN. R=WIDTH OF BRANCH DUCT DOWNSTREAM. ELBOW TURNING VANE OPTIONAL.
- 1.5D 1.25D 45° D D — TAP ENTRY AREA EQUALS 150% OF BRANCH AREA
- 12Ø 12/12 — HIGH EFFICIENCY FITTING
- MANUAL VOLUME DAMPER
- FD — FIRE DAMPER IN DUCT, W/ ACCESS PANEL REQD.
- FSD — COMBINATION FIRE/SMOKE DAMPER W/ ACCESS PANEL
- SD — SMOKE DAMPER W/ ACCESS PANEL
- BDD — BACK DRAFT DAMPER
- ATC OR — ATC DAMPER
- AD — ACCESS PANEL IN DUCT OR PLENUM
- HEATING OR COOLING COIL IN DUCT
- SINGLE DUCT AIR TERMINAL BOX VARIABLE OR CONSTANT VOLUME. MIN. 1-1/2 TERMINAL INLET SIZE STRAIGHT DUCT AT TERMINAL INLET.
- 4-WAY BLOW PATTERN
- 3-WAY BLOW PATTERN
- 2-WAY BLOW PATTERN
- 2-WAY BLOW PATTERN
- 1-WAY BLOW PATTERN
- SD — DUCT SMOKE DETECTOR

## PIPING

- OR — SHUT OFF VALVE
- OR — BALL VALVE
- OR — BUTTERFLY VALVE
- MOTOR OPERATED BUTTERFLY VALVE
- OR — GATE VALVE
- GATE VALVE - NON RISING STEM
- OR — ANGLE VALVE
- OR — GLOBE VALVE
- OR — PLUG VALVE
- SHUT OFF PLUG VALVE FOR FOR USE WITH PRESSURE GAUGE
- OR — CHECK VALVE
- OR — LATERAL STRAINER WITH BLOW-OFF VALVE, PROVIDE HOSE END WITH CAP WHERE DISCHARGE IS NOT PIPED TO DRAIN
- F&T — F&T=FLOAT & THERMOSTATIC
- RPBP — REDUCED PRESSURE BACKFLOW PREVENTOR W/ DRAIN PAN
- OR — PRESSURE REDUCING VALVE EXTERNAL PRESSURE
- OR — PRESSURE REDUCING VALVE SELF CONTAINED
- OR — ATC - 2 WAY VALVE
- OR — ATC - 3 WAY VALVE
- S — SOLENOID VALVE
- 0.0 GPM OR — CALIBRATED BALANCING VALVE WITH GPM INDICATED
- VENTURI FLOW METER
- GPM LB/HR. — FLOW METER ORIFICE
- OR — RELIEF VALVE
- AIR VENT-MANUAL
- AIR VENT-AUTO
- FLOW SWITCH
- P S — PRESSURE SWITCH
- OR — TEMPERATURE AND PRESSURE TEST PORT
- THERMOMETER WELL
- 0-160°F — THERMOMETER - TEMP RANGE AS INDICATED
- PRESSURE GAUGE WITH SHUT OFF PLUG VALVE
- PRESSURE GAUGE WITH PIGTAIL
- OR — UNION
- OR — FLANGE
- OR — FLEXIBLE EXPANSION JOINT
- REDUCER
- ECCENTRIC REDUCER
- BRANCH - BOTTOM CONNECTION
- BRANCH - TOP CONNECTION
- BRANCH - SIDE CONNECTION
- RISE OR DROP
- RISER - DOWN (ELBOW)
- RISER - UP (ELBOW)
- PIPE CAP
- ARROW INDICATES DIRECTION OF FLOW IN PIPE
- DN — LEADER INDICATES DOWNWORD SLOPE
- VALVE IN RISE
- OR — 90° ELBOW
- 45° ELBOW
- ALIGNMENT GUIDE
- ANCHOR

## PLUMBING

- THERMOSTATIC MIXING VALVE
- HOSE BIBB
- FLOOR SINK
- FLOOR DRAIN
- FCO COTG — FLOOR CLEAN-OUT OR CLEAN-OUT TO GRADE
- ROOF DRAIN
- DOWNSPOUT NOZZLE
- VTR — VENT THRU ROOF
- WATER HAMMER ARRESTOR
- CLEAN-OUT
- FILL PORT
- DRAIN PAN AND P-TRAP
- (NAME) — FIXTURE FROM LEVEL ABOVE
- DEMOLITION

## EQUIPMENT

- UNIT HEATER
- INLINE PUMP
- INLINE PUMP
- FAN

## FIRE

- HOSE VALVE
- NRS GATE VALVE WITH SUPERVISION
- FLOW SWITCH
- FIRE RISER
- SPRINKLER HEAD
- F — FIRE SPRINKLER WATER

## ANNOTATIONS

- P-1 — PLUMBING FIXTURES
- POINT OF CONNECTION
- A / M-101 — SECTION TAG - TOP FIGURE IS SECTION NO. BOTTOM FIGURE IS SHEET NO.
- A / M101 — DETAIL TAG - TOP FIGURE IS DETAIL NO. BOTTOM FIGURE IS SHEET NO.
- EF 1 — EQUIPMENT IDENTIFICATION
- 1 — KEYED NOTE IDENTIFICATION
- S — SWITCH
- S — SENSOR
- T — THERMOSTAT
- T N — NIGHT THERMOSTAT

## LINETYPES

- AV — ACID VENT
- AW — ACID WASTE
- BBD — BOILER BLOW DOWN
- BF — BOILER FEED WATER
- B — BRINE
- C02 — CARBON DIOXIDE
- CA — COMPRESSED AIR
- CF — CHEMICAL FEED
- CHWS — CHILLED WATER SUPPLY
- CHWR — CHILLED WATER RETURN
- CS — CONDENSER WATER SUPPLY
- CR — CONDENSER WATER RETURN
- DOMESTIC COLD WATER (DCW)
- DOMESTIC HOT WATER (DHW)
- DOMESTIC HOT WATER RETURN (DHWR)
- DI — DEIONIZED WATER SUPPLY
- DIR — DEIONIZED WATER RETURN
- E(NAME) — EXISTING PIPING
- (NAME) — EXISTING PIPING TO BE REMOVED
- GHR — GLYCOL HEAT RECOVERY PIPING
- G(NAME) — GLYCOL PIPING SOLUTION
- FOR — FUEL OIL RETURN
- FOS — FUEL OIL SUPPLY
- FOV — FUEL OIL VENT
- FVS — FLUSH VALVE SUPPLY
- G — NATURAL GAS
- HG — HOT GAS
- HFR — HELICOPTER FUEL RETURN
- HFS — HELICOPTER FUEL SUPPLY
- HP(NAME) — HIGH PRESSURE DOMESTIC WATER
- HPC — HIGH PRESSURE CONDENSATE
- HPS — HIGH PRESSURE STEAM
- HWR — HEATING HOT WATER RETURN
- HWS — HEATING HOT WATER SUPPLY
- IA — INSTRUMENT AIR
- IA 120 — INSTRUMENT AIR AT PRESSURE INDICATED
- ICW — INDUSTRIAL COLD WATER
- IHW — INDUSTRIAL HOT WATER
- IHWR — INDUSTRIAL HOT WATER RETURN
- ISCW — INDUSTRIAL SOFT COLD WATER
- LA — LAB AIR
- LV — LAB VACUUM
- LPC — LOW PRESSURE CONDENSATE
- LPG — LIQUIFIED PETROLEUM GAS
- LPS — LOW PRESSURE STEAM
- LW — LAB WATER
- LWR — LAB WATER RETURN
- MA — MEDICAL AIR
- MA 120 — MEDICAL AIR AT PRESSURE INDICATED
- MPC — MEDIUM PRESSURE CONDENSATE
- MPS — MEDIUM PRESSURE STEAM

## LINETYPES CONT.

- MUW — MAKE UP WATER
- MV — MEDICAL VACUUM
- N — NITROGEN
- N20 — NITROUS OXIDE
- OX — MEDICAL OXYGEN
- OX 120 — MEDICAL OXYGEN AT PRESSURE INDICATED
- PC — PUMPED CONDENSATE
- RO — REVERSE OSMOSIS WATER SUPPLY
- ROR — REVERSE OSMOSIS WATER RETURN
- RD — ROOF DRAIN
- RDO — ROOF DRAIN OVERFLOW
- RL — REFRIGERANT LIQUID
- RS — REFRIGERANT SUCTION
- SEWER (BELOW GRADE)
- SEWER (ABOVE GRADE)
- SW — SOFT DOMESTIC WATER
- TW — TEMPERED WATER
- TWR — TEMPERED WATER RETURN
- V — VACUUM
- VENT (SEWER)

**SHEET INDEX - CD SET**




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MECHANICAL SYMBOLS & LEGEND

ME000

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## PLUMBING GENERAL NOTES

1. UNLESS OTHERWISE NOTED, SLOPE PIPE AS FOLLOWS: WASTE PIPING 2" AND SMALLER SLOPE 1/4" PER FOOT; WASTE PIPING 3" AND LARGER SLOPE 1/8" PER FOOT; ROOF DRAIN/ROOF DRAIN OVERFLOW: 1/8" PER FOOT.
2. ALL WORK DONE SHALL BE PERFORMED WITH WATER CONTROL IN MIND. CONTAINMENT OF WATER IS NECESSARY TO PREVENT WATER FROM DAMAGING AREAS ON FLOORS BELOW.
3. PLUMBING DRAWINGS ARE SCHEMATIC IN NATURE. COORDINATE ROUTING IN ADDITION AREAS WITH ALL OTHER TRADES. COORDINATE ROUTING IN REMODELED AREAS WITH EXISTING STRUCTURE, DUCTWORK, PIPING AND ELECTRICAL.
4. ALL PIPING IN PLUMBING CHASES SHALL BE ARRANGED TO ALLOW MAINTENANCE ACCESS.
5. NO PIPING TO RUN OVER ELECTRICAL PANELS, VFD'S OR MCC'S. PROTECT EQUIPMENT WITH A 42" DEEP ZONE IN FRONT OF PANELS, VFD'S, AND MCC'S.
6. COORDINATE FAN ROOM FLOOR DRAIN AND FLOOR SINK LOCATIONS WITH COOLING COIL, EVAPORATIVE SECTION, AND HEATING COIL LOCATIONS.
7. CONTRACTOR TO PROVIDE VALVE IDENTIFICATION AND LOCATION ON ALL CEILING TILES WHERE VALVES ARE LOCATED.
8. THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING PIPING HAS BEEN TAKEN FROM EXISTING DRAWINGS. FIELD VERIFY SIZE, LOCATION AND ELEVATION OF ALL EXISTING PIPING, DUCTWORK AND ELECTRICAL IN NEW WORK AREAS PRIOR TO STARTING ANY DEMOLITION OR NEW WORK.
9. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE MOUNTING HEIGHTS, DIMENSIONS, AND OTHER REQUIREMENTS.
10. CONTRACTOR TO VERIFY CONNECTION SIDE OF ADA FIXTURES AND ADJUST ACCORDINGLY. INSTALL FLUSH VALVES HANDLES ON WIDE SIDE OF ALL FIXTURES.
11. LOCATE ALL VENTS MINIMUM 25' AWAY FROM AIR INTAKES.
12. INSTALL ALL DOMESTIC WATER LINES BELOW DUCTWORK.
13. INSTALL A 24" X 24" ACCESS DOOR BELOW ALL ISOLATION VALVES, BALANCING VALVES, CIRCUIT SETTERS, ETC. WHERE MOUNTED ABOVE HARD CEILINGS.
14. MOUNT ALL ISOLATION VALVES, CONTROL VALVES, BALANCING VALVES, ETC. NEAR CEILING HEIGHT AND IN AN ACCESSIBLE LOCATION.
15. INSTALL ALL EQUIPMENT WITH SUFFICIENT CLEARANCE FOR MAINTENANCE PER MANUFACTURERS RECOMMENDATION.
16. COORDINATE ALL FLOOR PENETRATIONS WITH STRUCTURAL AND PROVIDE SLEEVES AS SPECIFIED.
17. COORDINATE THE LOCATION OF THE FLOOR DRAINS, SHOWER DRAINS AND FLOOR SINKS WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS.
18. ACCESS DOORS SHALL BE PROVIDED TO ALL WATER HAMMER ARRESTORS IN WALLS OR ABOVE CEILINGS.
19. SEE PLUMBING FIXTURE SCHEDULE FOR PIPE SIZES OF WASTE, VENT AND DOMESTIC WATER TO/FROM SINGLE FIXTURE.
20. ALL PIPE AND DUCT SIZES SHALL REMAIN THE SAME SIZE SHOWN, IN THE DIRECTION OF FLOW, UNTIL SHOWN OTHERWISE.
21. INSTALL CLEANOUTS IN DRAIN PIPING AS INDICATED, AND WHERE NOT INDICATED, AS REQUIRED BY THE ADOPTED PLUMBING CODE. DO NOT LOCATE FLOOR CLEANOUTS IN FINISHED AREA. EXTEND PIPING AND INSTALL IN NEAREST WALL.

## MECHANICAL PIPING GENERAL NOTES

1. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE PIPING SYSTEMS AS DETAILED BY THE CONSTRUCTION DOCUMENTS AND CODE REQUIREMENTS.
2. UNLESS OTHERWISE NOTED: ALL MECHANICAL PIPING IS OVERHEAD, TO RUN ABOVE DUCTWORK, AND TIGHT TO UNDERSIDE OF STRUCTURE.
3. WHERE VALVING OR EQUIPMENT IS LOCATED ABOVE HARD CEILINGS PROVIDE AN ACCESS DOOR IN CEILING. MINIMUM ACCESS DOOR SIZE OF 24"X24".
4. NO PIPING TO RUN OVER ELECTRICAL PANELS, VFD'S OR MCC'S. PROTECT EQUIPMENT WITH A 42" DEEP ZONE IN FRONT OF PANELS, VFD'S, AND MCC'S.
5. SLEEVE PIPING THRU WALLS/FOUNDATIONS WHERE REQUIRED.
6. INSTALL PIPING SO THAT ALL VALVES, STRAINERS, UNIONS, TRAPS, FLANGES, AND OTHER APPURTENANCES REQUIRING ACCESS ARE ACCESSIBLE.
7. ALL VALVES SHALL BE INSTALLED SO THAT VALVE REMAINS IN SERVICE WHEN EQUIPMENT OR PIPING ON EQUIPMENT SIDE OF VALVE IS REMOVED.
8. PROVIDE AN AIR VENT AT THE HIGH POINT OF EACH DROP IN THE HEATING AND CHILLED WATER PIPING SYSTEM.
9. INSTALL ALL PIPING WITHOUT FORCING OR SPRINGING.
10. ALL VALVES SHALL BE ADJUSTED FOR SMOOTH AND EASY OPERATION.
11. PROVIDE ISOLATION VALVES AT EACH EXIT/ENTRANCE INTO SHAFT WHETHER OR NOT SHOWN.
12. ALL PIPE SIZES SHALL REMAIN THE SAME SIZE SHOWN, IN THE DIRECTION OF FLOW, UNTIL SHOWN OTHERWISE.
13. COORDINATE LOCATION OF THERMOSTAT WITH ARCHITECTURAL FURNISHING PLANS. MOUNT THERMOSTAT AT HEIGHT AS SPECIFIED ON ARCHITECTURAL.
14. PROVIDE VALVE IDENTIFICATION AND LOCATION ON ALL CEILING TILES WHERE VALVES ARE LOCATED.
15. ALL PROPOSED DEVIATIONS FROM THE CONTRACT DOCUMENTS TO BE CLOSELY COORDINATED WITH ENGINEER OF DESIGN.
16. PROVIDE 2-WAY OR 3-WAY CONTROL VALVES AT EACH HYDRONIC COIL. LOCATE AS INDICATED ON MECHANICAL PLANS OR SCHEDULES. 3-WAY VALVES TO BE INSTALLED AT END OF LONG BRACH LINES AND/OR TO PROVIDE MINIMUM OF 30% FLOW TO FLOOR. BALANCING VALVE TO BE PROVIDED ON RETURN LINE PRIOR TO ISOLATION VALVE AT SHAFT. BALANCING VALVE TO BE BALANCED TO A TOTAL FLOW OF CONNECTED COILS.

## MECHANICAL GENERAL NOTES

1. ALL NEW DUCTWORK, ACCESORIES, AND EQUIPMENT SHALL BE COORDINATED WITH ALL OTHER TRADES INCLUDING BUT NOT LIMITED TO STRUCTURE, LIGHTING, REFLECTED CEILINGS, CABLE TRAY, ELECTRICAL CONDUIT, PLUMBING, FIRE PROTECTION, MEDICAL GASES, EXISTING CONDITIONS, ETC.
2. PROVIDE FIRE, SMOKE OR COMBINATION FIRE/SMOKE DAMPERS AT ALL LOCATIONS SHOWN ON THE CONTRACT DOCUMENTS AND AS REQUIRED TO MEET THE INTEGRITY OF ALL RATED WALLS, BARRIERS, AND PARTITIONS. REFER TO ARCHITECTURALS LIFE SAFETY PLANS FOR ALL RATED WALLS, BARRIERS, AND PARTITION WALL REQUIREMENTS.
3. PROVIDE FIRE/SMOKE CAULKING OR APPROVED METHOD OF SEALING FOR ALL PENETRATIONS OF FIRE AND SMOKE RATED WALLS, BARRIERS, AND PARTITIONS.
4. PROVIDE 24" X 24" CEILING MOUNTED ACCESS DOORS FOR ALL FIRE, SMOKE AND COMBINATION FIRE/SMOKE DAMPERS INSTALLED ABOVE INACCESSIBLE CEILING. FIELD VERIFY EXACT INSTALLATION LOCATIONS PRIOR TO COMMENCING WORK AND COORDINATE INSTALLATIONS WITH LATEST ARCHITECTURAL REFLECTED CEILING PLANS.
5. ALL FIRE, SMOKE, AND COMBINATION FIRE AND SMOKE DAMPERS TO BE PROVIDED WITH SHUTOFF/TEST SWITCH.
6. PROVIDE ALL CV/VAV TERMINAL UNIT EQUIPMENT WITH REHEAT COILS UNLESS NOTED OTHERWISE.
7. PROVIDE A MINIMUM OF (2) DUCT DIAMETERS OF STRAIGHT ROUND DUCT PRIOR TO CONNECTION OF CV/VAV TERMINAL UNIT EQUIPMENT. MEDIUM PRESSURE DUCTWORK TO BE HARD DUCTED TO UNIT. NO FLEXIBLE DUCT TO BE INSTALLED ON MEDIUM PRESSURE DUCTWORK.
8. INSTALL ALL MECHANICAL TERMINAL UNIT EQUIPMENT AND COMPONENTS WITH MANUFACTURERS RECOMMENDED AND CODE REUIRED CLEARANCES. EQUIPMENT AND COMPONENTS TO INCLUDE BUT NOT LIMITED TO COIL PULL SPACE, BAS DEVICES, MAINTENANCE CLEARENCE, ETC.
9. PROVIDE 24" X 24" CEILING MOUNTED ACCESS DOORS FOR ALL MECHANICAL EQUIPMENT CONTROLS INSTALLED ABOVE INACCESSIBLE CEILING. FIELD VERIFY EXACT INSTALLATION LOCATIONS PRIOR TO COMMENCING WORK AND COORDINATE INSTALLATIONS WITH LATEST ARCHITECTURAL REFLECTED CEILING PLANS.
10. COORDINATE EXACT PLACEMENT OF DIFFUSERS, GRILLES, AND REGISTERS WITH ARCHITECTURAL REFLECTED CEILING PLAN.
11. REFER TO MECHANICAL DETAILS SHEETS FOR DIFFUSER, REGISTER, OR GRILLE CONNECTION REQUIREMENTS.
12. ALL BRANCH DUCTWORK SHALL BE SIZED TO MATCH THE NECK INLET SIZE OF THE DIFFUSERS, REGISTER, OR GRILLE IT SERVES UNLESS NOTED OTHERWISE.
13. ALL DUCTWORK SIZES SHALL REMAIN THE SAME SIZE SHOWN, IN THE DIRECTION OF FLOW, UNTIL SHOWN OTHERWISE.
14. DUCTWORK SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS. REFER TO DIVISION 23 SPECIFICATIONS FOR EXTENT OF DUCT INSULATION AND LINER REQUIREMENTS.
15. PROVIDE TURNING VANES IN ALL SQUARE/RECTANGULAR LOW PRESSURE DUCTWORK AT ELBOWS OR TEES.
16. PROVIDE OFFSETS, TRANSITIONS, AND SHAPE DIMENSIONS OF DUCTWORK AS REQUIRED FOR COORDINATION WITH ALL DIVISIONS.
17. PROVIDE FABRICATED TRANSITION BOOT FROM FLEX CONNECTION TO DIFFUSER OR GRILLE WITH BALANCING DAMPER WHEN DIFFUSER OR GRILLED IS INSTALLED UNDER DUCTWORK.
18. PROVIDE REMOTE DAMPER OPERATORS FOR ALL DAMPERS INSTALLED ABOVE INACCESSIBLE CEILINGS OR WITH LIMITED DAMPER ACCESSIBLITY. REFER TO DIVISION 23 SPECIFICATIONS FOR REMOTE DAMPER REQUIREMENTS.
19. PROVIDE HIGH EFFICIENCY TAKE-OFF FITTINGS WITH BALANCING DAMPER AT ALL BRANCH CONNECTIONS TO LOW PRESSURE DUCTWORK.
20. PROVIDE HIGH EFFICIENCY OR CONICAL TAKE-OFFS AT ALL BRANCH CONNECTIONS TO MEDIUM PRESSURE DUCTWORK.
21. WHERE DUCTWORK CROSSES, SUPPLY DUCTWORK IS USUALLY BELOW RETURN AND EXHAUST DUCT. RETURN DUCTWORK IS USUALLY BELOW EXHAUST DUCTS.
22. ALL PROPOSED DEVIATIONS FROM THE CONTRACT DOCUMENTS TO BE CLOSELY COORDINATED WITH ENGINEER OF DESIGN.
23. PROVIDE ALL MATERIALS. AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE DUCT SYSTEMS AS DETAILED BY THE CONSTRUCTION DOCUMENTS AND CODE REQUIREMENTS.
24. CONTRACTOR SHALL REMOVE ALL ABANDONED DUCT.

## CONCRETE WALL PENETRATION REQUIREMENTS

1. ALL PIPING PENETRATIONS THROUGH CONCRETE WALLS, FOUNDATIONS, AND FOOTINGS ARE TO BE SUBMITTED FOR REVIEW BY ENGINEER.
2. PROVIDE LOCATION, SIZE, LAYOUT, AND DIMENSIONS WITH SUBMITTED DOCUMENT.

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Intermountain Health
# Intermountain Kidney Services
# West Valley Dialysis
2750 South 5600 West
West Valley City, UT 84120

NJRA Project # 22211.05
Construction Documents Jan 15, 2024

MECHANICAL GENERAL NOTES

ME001

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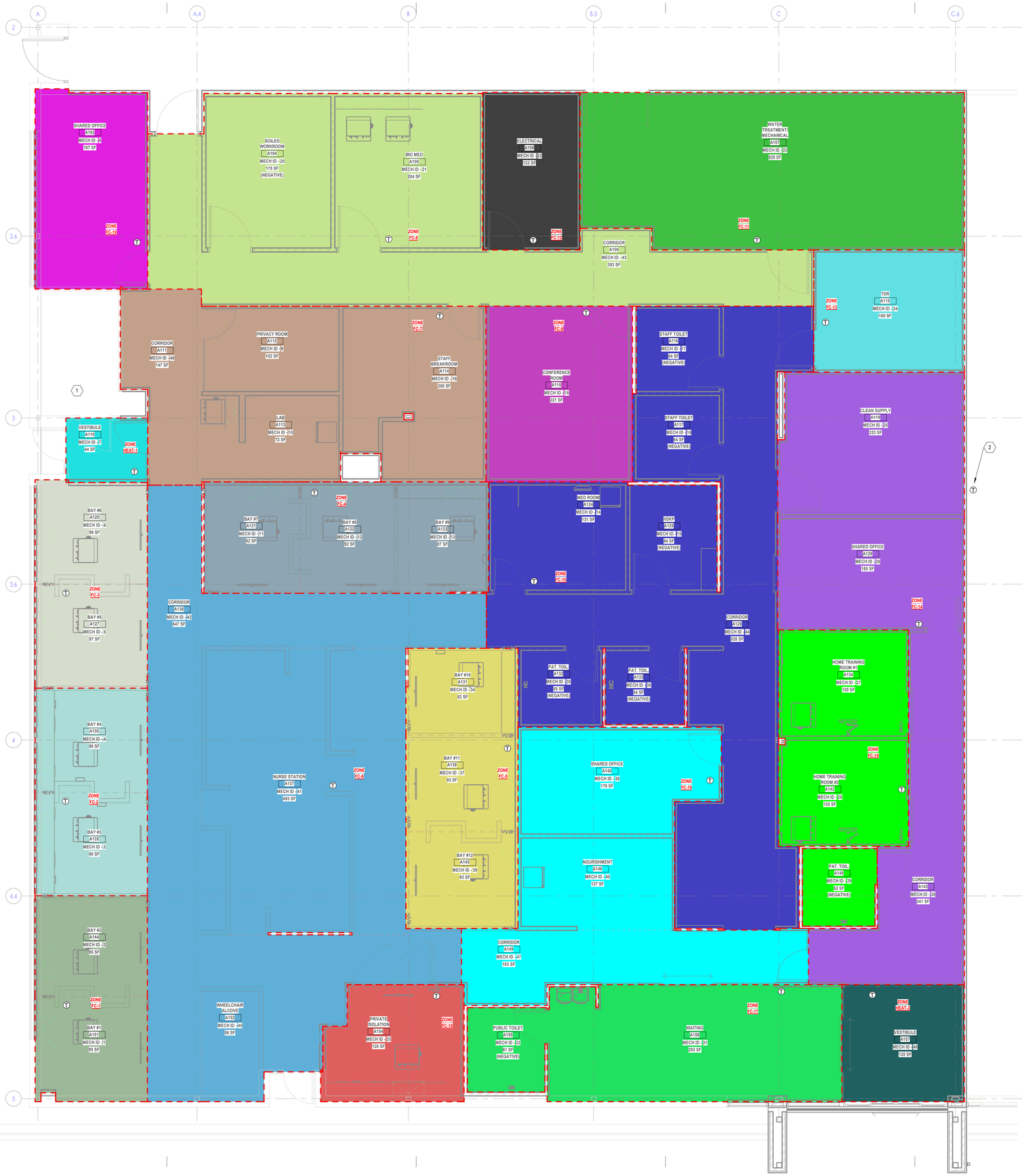


1 MECHANICAL ZONING PLAN LEVEL 1
SCALE: 1/4" = 1'-0"

NORTH

# KEYED NOTES

1. EXISTING ROOM OUT OF SCOPE OF PROJECT.
2. RELOCATE EXISTING THERMOSTAT TO NEW LOCATION OUT OF THE FOOTPRINT OF THE PROJECT. COORDINATE EXACT LOCATION WITH OWNER.


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MECHANICAL ZONE & PRESSURE PLAN LEVEL 1

MZ101

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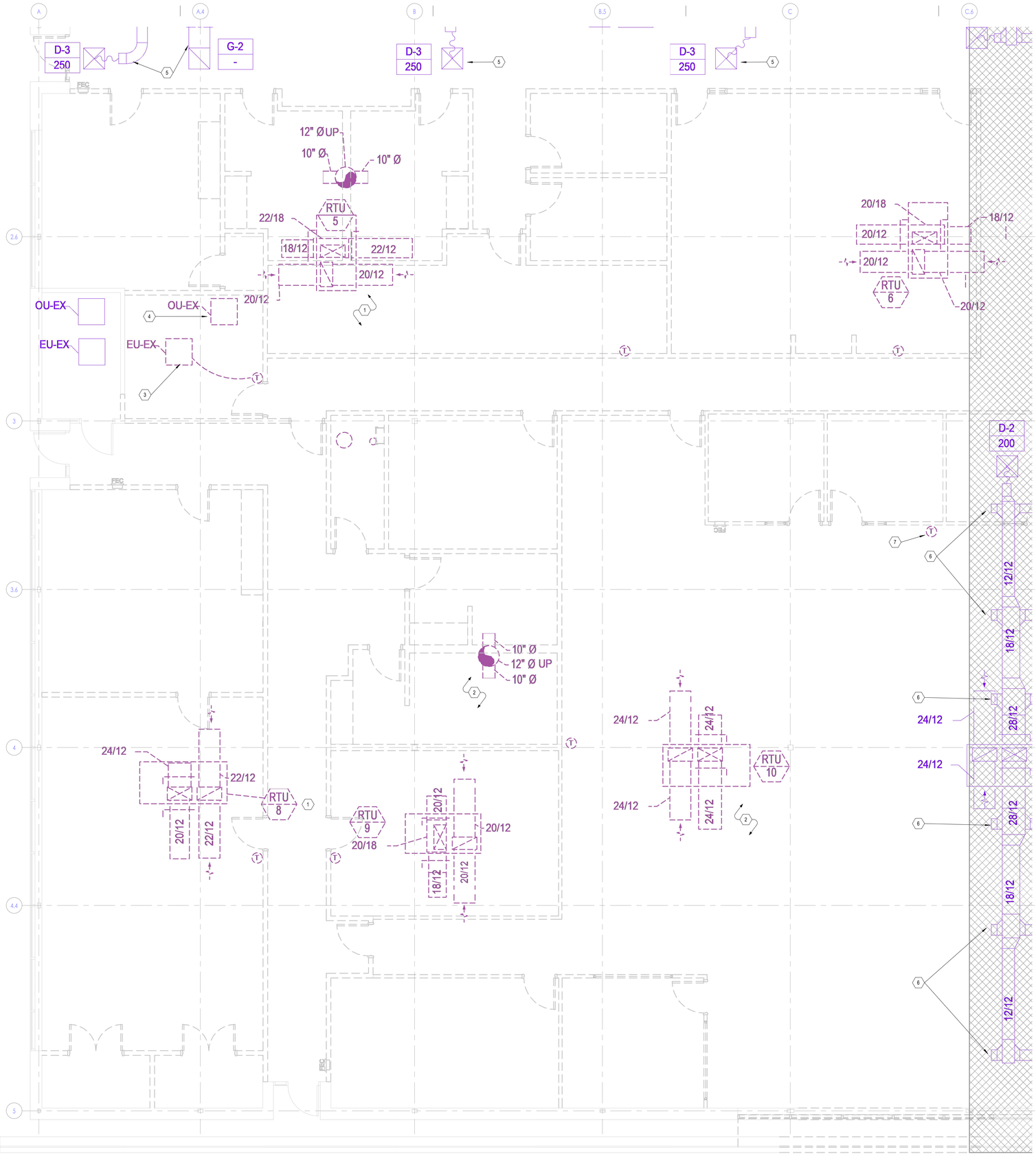


## KEYED NOTES

1. REMOVE ALL EXISTING DUCTWORK AND ASSOCIATED ACCESSORIES FROM EXISTING ROOF TOP UNITS.
2. EXISTING HVAC SHOWN FOR REFERENCE ONLY. EXISTING CONDITIONS MAY DIFFER SLIGHTLY (TYPICAL ENTIRE PLAN).
3. RELOCATE EXISTING UNIT HEATER AND ASSOCIATED THERMOSTAT TO ELECTRICAL ROOM. COORDINATE SCOPE OF WORK WITH BUILDING OWNER.
4. RELOCATE EXISTING DX SYSTEM AND ASSOCIATED THERMOSTAT AND ACCESSORIES TO ELECTRICAL ROOM. COORDINATE SCOPE OF WORK WITH BUILDING OWNER.
5. EXISTING HVAC OUT OF SCOPE OF PROJECT. COORDINATE AREA WITH THE OWNER AND CONCURRENT TI PROJECTS (TYPICAL).
6. FIELD VERIFY EXISTING CONDITIONS. COORDINATE WITH PROJECT SCOPE OF WORK BOUNDARIES (TYPICAL). DEMOLISH EXISTING HVAC DUCT BACK TO NEW WALL AND CAP. ALL HVAC OUTSIDE THE SCOPE OF WORK BY OTHERS.
7. RELOCATE EXISTING THERMOSTAT OUTSIDE OF THE PROJECT AREA. COORDINATE SCOPE OF WORK WITH THE BUILDING OWNER.

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MECHANICAL
DEMO PLAN
LEVEL 1

MD101

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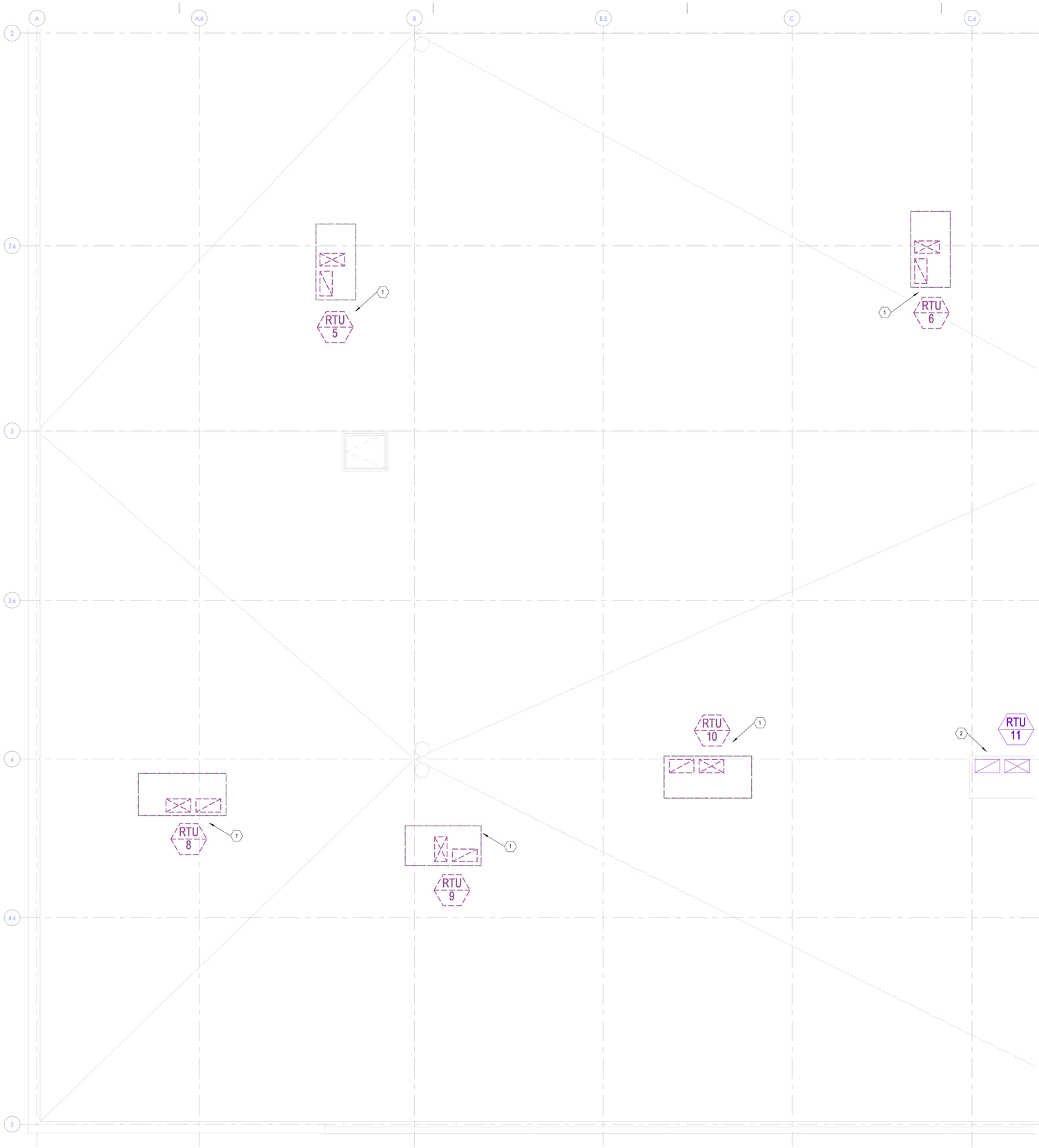
1 MECHANICAL DEMO PLAN LEVEL 1
SCALE: 1/4" = 1'-0"

NORTH




## KEYED NOTES

1. DEMOLISH EXISTING ROOF TOP HVAC EQUIPMENT (TYPICAL).
2. EXISTING ROOF TOP UNITS OUT OF SCOPE OF PROJECT TO REMAIN.

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REGISTERED PROFESSIONAL ENGINEER
No. 11573858-2202
TREVOR DONEY
07.17.2023
STATE OF UTAH

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VBFA Project Number: 22249

Intermountain Health
# Intermountain Kidney Services West Valley Dialysis

2750 South 5600 West
West Valley City, UT 84120

NJRA Project # 22211.05
Construction Documents Jan 15, 2024

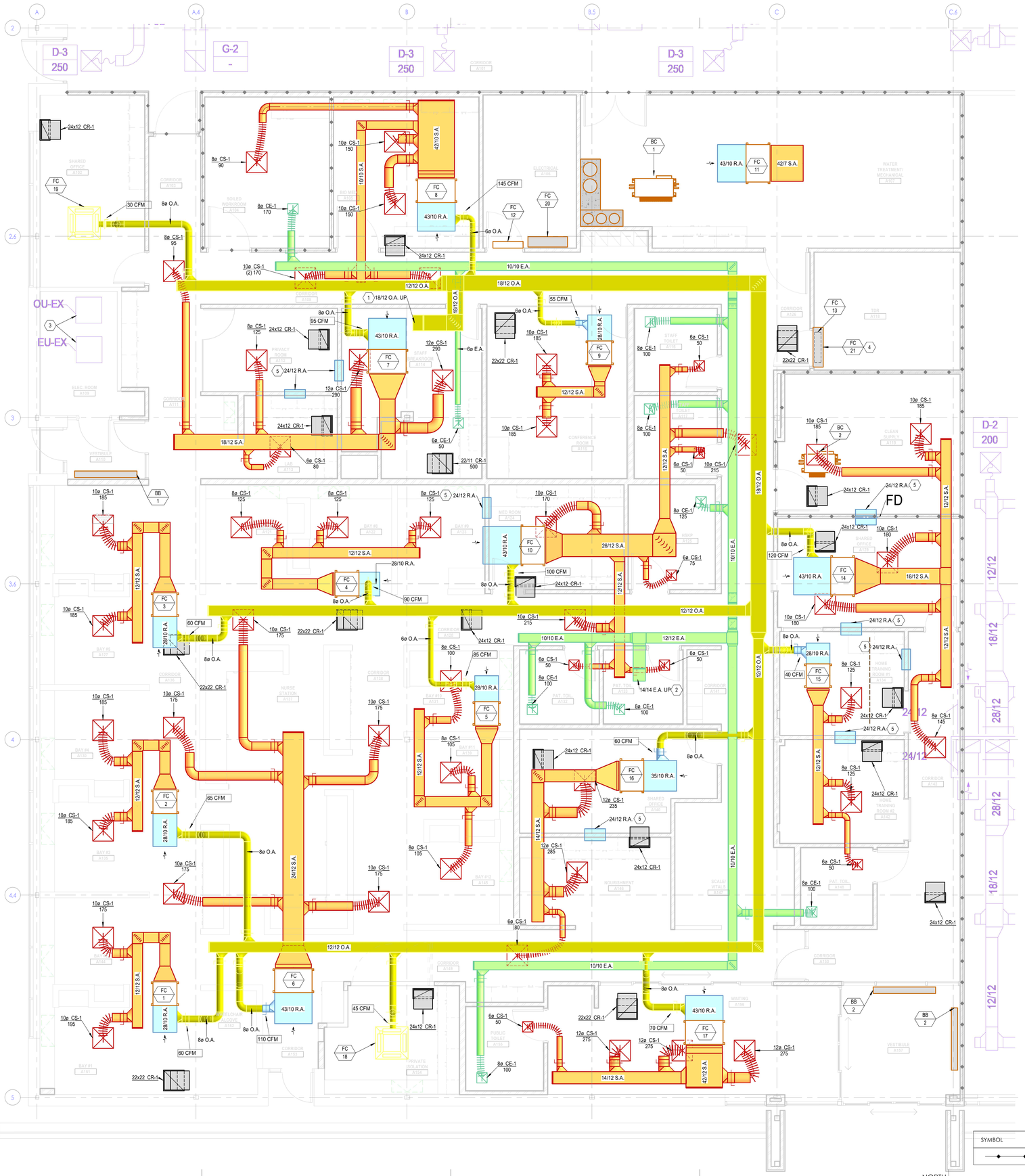
1/9/2024 5:21:18 PM

1 MECHANICAL DEMO PLAN ROOF
SCALE: 1/4" = 1'-0"

NORTH

MECHANICAL DEMO ROOF PLAN

MD102




1 MECHANICAL PLAN LEVEL 1
SCALE: 1/4" = 1'-0"

1/9/2024 5:21:26 PM

## KEYED NOTES

1. UP TO ROOF TOP DEDICATED OUTSIDE AIR SYSTEM (DOAS).
2. UP TO ROOF TOP EXHAUST FAN (EF).
3. EXISTING EQUIPMENT TO BE RELOCATED BY OTHERS (TYPICAL).
4. STACK IU-1 AND FC-13 ABOVE DOOR.
5. REQUIRED RETURN PATH SHOWN.

| SYMBOL | DESCRIPTION | FIRE RESISTANCE RATING | DOOR FIRE RATING | WINDOW FIRE RATING |
|---|---|---|---|---|
| | 1 HOUR FIRE RATED WALL | 1 HOUR | 3/4 HOUR | 3/4 HOUR |

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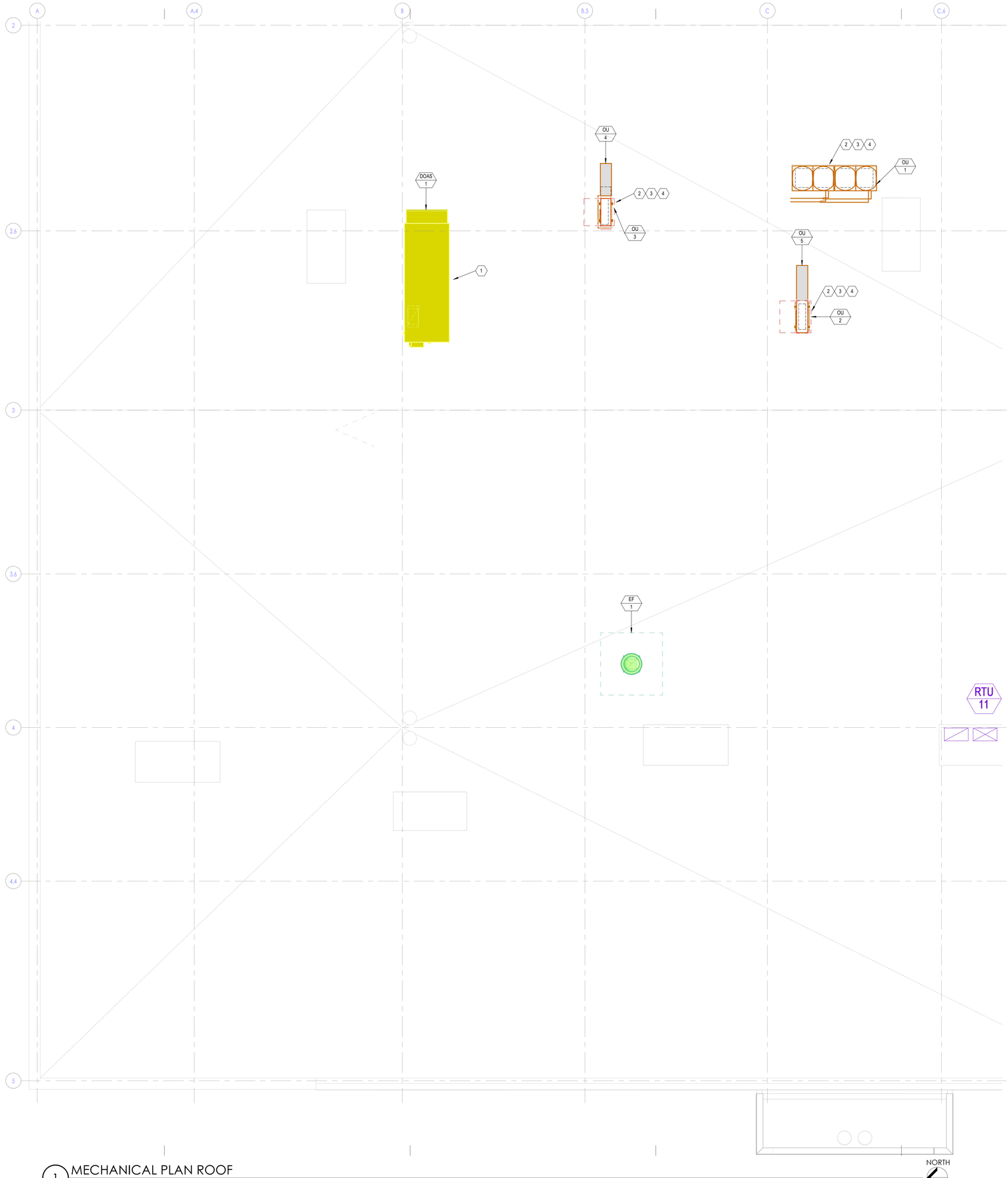
MECHANICAL PLAN LEVEL 1

MH101




## KEYED NOTES

1. ADAPT EXISTING CURBS TO MOUNT OUTDOOR SPLIT-SYSTEM UNITS.
2. PROVIDE FABRICATED STAINLESS STEEL DRAIN PANS UNDER VRF OUTDOOR UNIT AND MOUNT TO VRF UNIT SUPPORT. DRAIN PAN IS TO SLOPE AND DRAIN TO ROOF MOUNTED DRAIN LINE.
3. DRAIN LINE FROM VRF OUTDOOR UNITS IS TO TERMINATE TO ROOF DRAIN OR SCUPPER. DRAIN LINE IS TO MOUNT ON ROOF WITH PIPE SUPPORTS PER DETAIL. USE MIRO OR EQUAL ROOF PIPE SUPPORT. DRAIN LINE IS TO BE TYPE L COPPER WITH SOLDERED JOINTS.
4. PROVIDE SUPER-STAND OR EQUAL TO SUPPORT CONDENSING UNIT 2' ABOVE ROOF.

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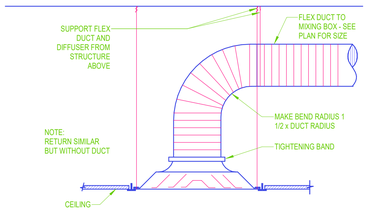
1/9/2024 5:21:29 PM

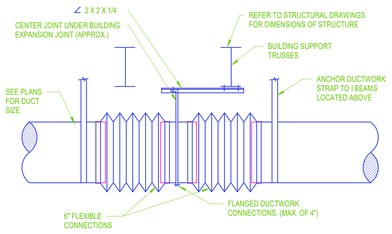
1 MECHANICAL PLAN ROOF
SCALE: 1/4" = 1'-0"

MECHANICAL PLAN ROOF

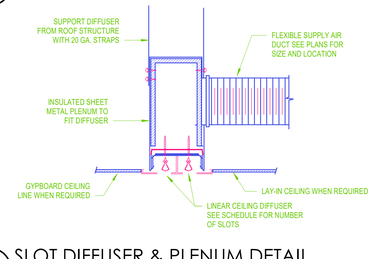
MH102



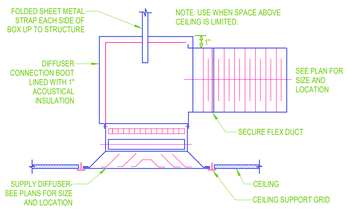

16 DIFFUSER CONNECTION DETAIL
SCALE: NOT TO SCALE



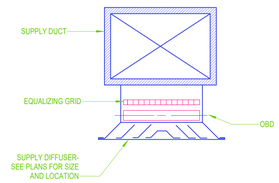

17 FLEX CONNECTION DETAIL
SCALE: NOT TO SCALE



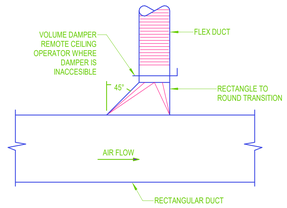

18 SLOT DIFFUSER & PLENUM DETAIL
SCALE: NOT TO SCALE



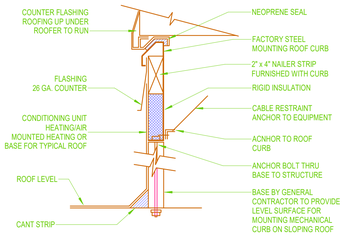

SUPPLY DIFFUSER W/ FLEX DUCT DETAIL
19 SCALE: NOT TO SCALE



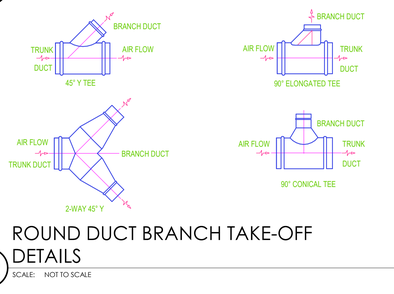

DUCT MOUNTED SUPPLY DIFFUSER DETAIL
20 SCALE: NOT TO SCALE




10 HIGH EFFICIENCY TAKE-OFF DETAIL
SCALE: NOT TO SCALE

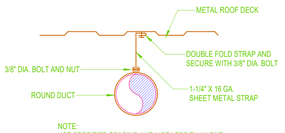



11 ROOF CURB DETAIL
SCALE: NOT TO SCALE

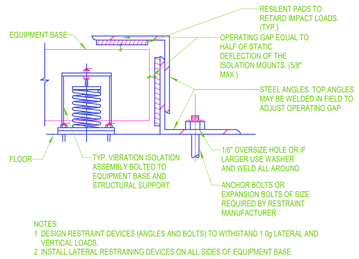



ROUND DUCT BRANCH TAKE-OFF DETAILS
12 SCALE: NOT TO SCALE

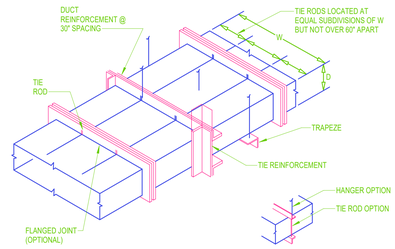

13 ROUND DUCT ELBOW DETAILS
SCALE: NOT TO SCALE

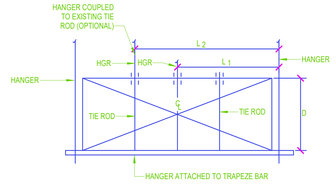



14 ROUND DUCT SUPPORT DETAIL
SCALE: NOT TO SCALE

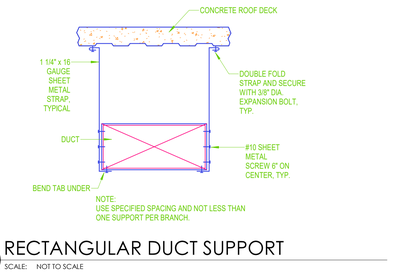



SPRING ISOLATOR RESTRAINT DETAIL
15 SCALE: NOT TO SCALE

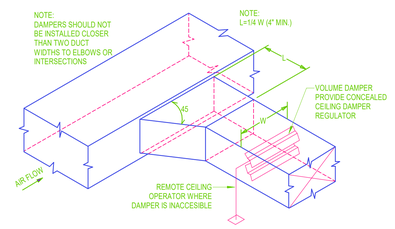


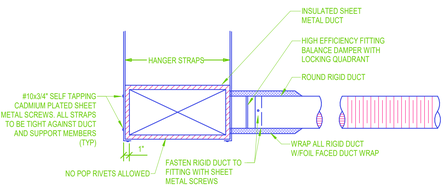

LARGE DUCT REINFORCEMENT DETAIL
6 SCALE: NOT TO SCALE



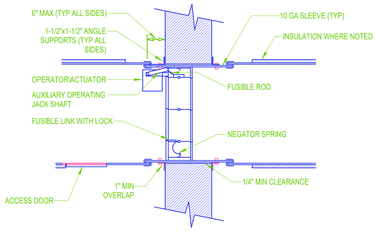

RECTANGULAR DUCT SUPPORT
7 SCALE: NOT TO SCALE



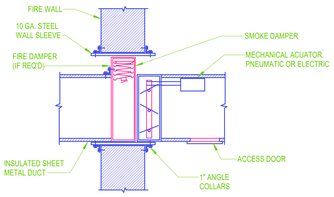

BRANCH DUCT TAKE-OFF & DAMPER DETAIL
8 SCALE: NOT TO SCALE



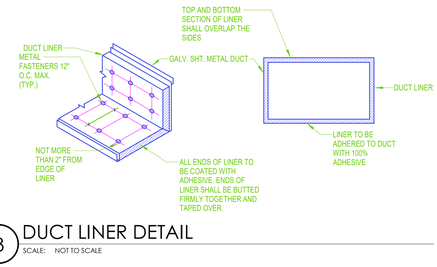

FLEX DUCT / HIGH EFFICIENCY FITTING
9 SCALE: NOT TO SCALE



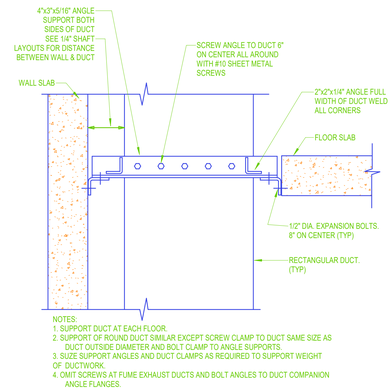

COMBINATION FIRE SMOKE DAMPER DETAIL
1 SCALE: NOT TO SCALE



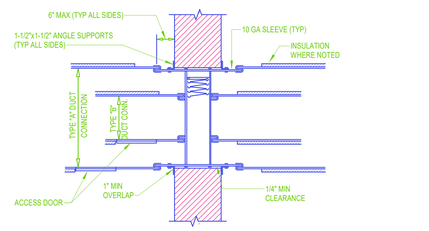

SMOKE DAMPER DETAIL
2 SCALE: NOT TO SCALE




DUCT LINER DETAIL
3 SCALE: NOT TO SCALE




DUCT RISER SUPPORT IN CHASE DETAIL
4 SCALE: NOT TO SCALE




FIRE DAMPER DETAIL
5 SCALE: NOT TO SCALE

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Construction Documents Jan 15, 2024

MECHANICAL DETAILS

MH501

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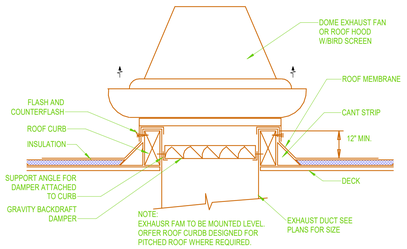
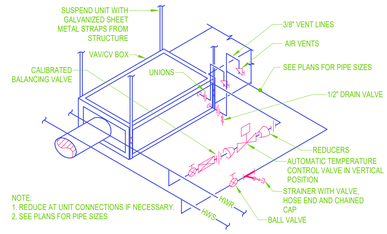
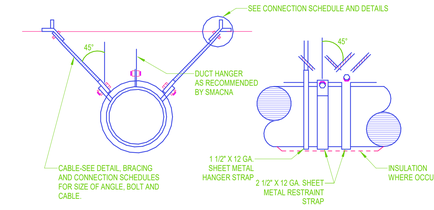


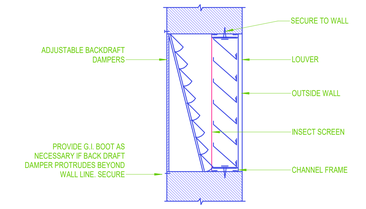

## 14 UPBLAST EXHAUST FAN DETAIL
SCALE: NOT TO SCALE



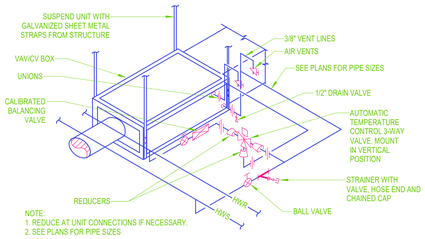

## 9 VAV/CV BOX PIPING DETAIL WITH 2-WAY AUTO-VALVE
SCALE: NOT TO SCALE



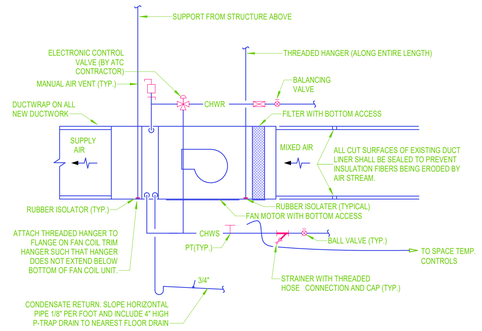

## 5 CABLE BRACING FOR ROUND AND OVAL DUCTS
SCALE: NOT TO SCALE



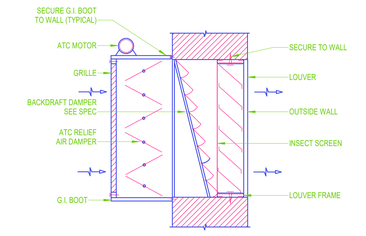

## 1 AIR LOUVER SECTION
SCALE: NOT TO SCALE




## 10 VAV/CV BOX PIPING DETAIL WITH 3-WAY AUTO-VALVE
SCALE: NOT TO SCALE



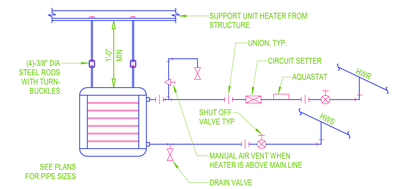

## 6 FAN COIL 3-WAY VALVE DETAIL
SCALE: NOT TO SCALE




## 2 ATC RELIEF AIR DAMPER & LOUVER SECTION
SCALE: NOT TO SCALE



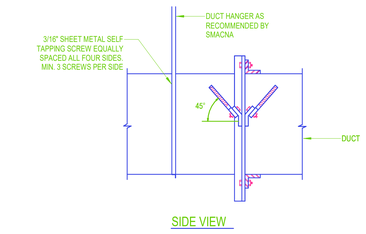

## 11 VIBRATION ISOLATION HANGER CLEARANCE
SCALE: NOT TO SCALE



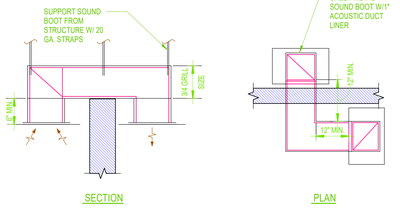

## 7 HOT WATER UNIT HEATER DETAIL
SCALE: NOT TO SCALE



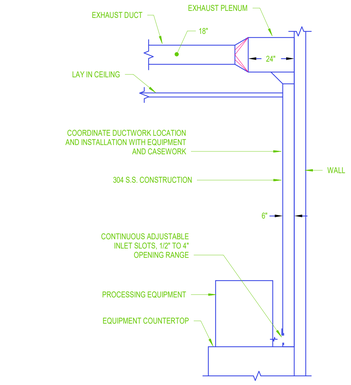

## 3 BOILER STACK DETAIL
SCALE: NOT TO SCALE



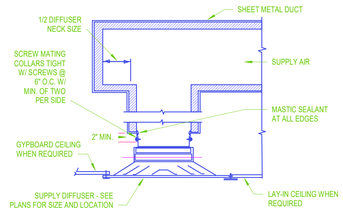

## 4 CABLE BRACING FOR RECTANGULAR DUCTS
SCALE: NOT TO SCALE




## 12 R.A. TRANSFER GRILL W/SOUND BOOT DETAIL
SCALE: NOT TO SCALE




## 8 LOW EXHAUST SECTION
SCALE: NOT TO SCALE




## 13 TYPICAL CEILING DIFFUSER DETAIL
SCALE: NOT TO SCALE

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MECHANICAL DETAILS

MH502

## GRILLES, REGISTERS AND DIFFUSERS

| ID | MANUFACTURER | MODEL | TYPE | DESCRIPTION | AIRFLOW MAX (CFM) | STATIC PRESSURE MAX (IN H2O) | MAX NC | SCHEDULE |
|---|---|---|---|---|---|---|---|---|
| CS-1 | PRICE | SPD | CEILING - SUPPLY | LAY-IN, PLAQUE SUPPLY AIR DIFFUSER | VARIES | 0.15 | 30 | SQUARE PLAQUE DIFFUSER: STEEL CONSTRUCTION WITH REMOVEABLE FACE. DUCT CONNECTION SIZE AS INDICATED ON PLANS. 24"X24" or 12"x12" AS NOTED, T-BAR LAY-IN BORDER. COLOR AS SELECTED BY ARCHITECT. |
| CE-1 | PRICE | PDDR | CEILING - EXHAUST | LAY-IN, PERFORATED EXHAUST AIR GRILLE | VARIES | 0.05 | 30 | PERFORATED GRILLE: STEEL CONSTRUCTION WITH HINGED QUICK-RELEASE FACE. DUCT CONNECTION SIZE AS INDICATED ON PLANS. 24"X24" T-BAR LAY-IN BORDER. COLOR AS SELECTED BY ARCHITECT. |
| CR-1 | PRICE | PDDR | CEILING - RETURN | LAY-IN, PERFORATED RETURN AIR GRILLE | VARIES | 0.05 | 30 | PERFORATED GRILLE: STEEL CONSTRUCTION WITH HINGED QUICK-RELEASE FACE. DUCT CONNECTION SIZE AS INDICATED ON PLANS. 24"X24", 12"X24" OR 12"X12" AS NOTED. T-BAR LAY-IN BORDER. COLOR AS SELECTED BY ARCHITECT. |

## DEDICATED OUTSIDE AIR HANDLER SCHEDULE

| | | | | | HEATING | | | | COOLING | | | | MOTOR | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ID | MANUF. AND MODEL NO. | LOCATION | OUTSIDE AIR FLOW RATE (CFM) | EXTERNAL STATIC PRESSURE DROP (IN H20) | ENTER/ LEAVING AIR TEMP. DB (DEG. F.) | HEATING LOAD INPUT (MBH) | HEATING LOAD OUTPUT (MBH) | WORKING FLUID | ENTER/ LEAVING AIR TEMP. DB/WB (DEG. F.) | TOTAL COOLING LOAD (MBH) | EVAP FACE AREA (FT^2) | WORKING FLUID | EER | BHP | MCA | V/PH | NOTES |
| DOAS-1 | TRANE HORIZON OABD036E3-C1B401KE-A1E020CB0004000F0C1A4 | ROOF | 1,365 | 0.5 | 0 / 79.5 | 150 | 100.8 | N. GAS | 96/62 65.0/51.0 | 41.5 | 4.17 | R-410A | 12.6 | 0.34 | 24.4 | 208/3 | ALL |

1. UNIT WEIGHT= 1,416 LBS
2. MERV-8 PREFILTER, MERV-14 FINAL FILTER
3. FACTORY SUPPLIED VFD'S

## ELECTRIC BASEBOARD HEATER SCHEDULE

| SYMBOL | MANUFACTURER AND MODEL | DESCRIPTION | LENGTH (FT) | HEIGHT/ WIDTH (IN) | WATTS | VOLTS/PH | AMPS | REMARKS |
|---|---|---|---|---|---|---|---|---|
| BB-1 | QMARK DBA | CONVECTOR BASEBOARD HEATER | 6.0 | 6/4 | 1,500 | 208/1 | 7.2 | ALL |
| BB-2 | QMARK DBA | CONVECTOR BASEBOARD HEATER | 6.0 | 6/4 | 1,500 | 208/1 | 7.2 | ALL |

1. DISCONNECT BY ELECTRICAL.
2. PROVIDE WITH INTEGRAL THERMOSTAT.
3. BASEBOARD TO BE GREY. CUSTOM COLOR TO BE COORDINATED WITH ARCHITECT AND BE ONLY COST UP-CHARGE. NO CONTRACTOR OR SUBCONTRACTOR MARKUP.
4. SEE PLAN VIEW FOR QUANTITY.

## EXHAUST AIR FAN SCHEDULE

| | | | | AIR | | FAN | | | ELECTRICAL | | | | PHYSICAL | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ID | MANUFACTURER AND MODEL NUMBER | LOCATION | TYPE | MAXIMUM AIRFLOW RATE (CFM) | EXTERNAL STATIC PRESSURE (IN. H2O) | FAN SPEED (RPM) | FAN WHEEL DIA. (IN) | STATIC EFF. (%) | MOTOR SIZE (HP) | MOTOR BHP (HP) | MOTOR SPEED (RPM) | VOLT/PH/HZ | LENGTH/ WIDTH/ HEIGHT (IN) | WEIGHT (LBS) | NOTES |
| EF-1 | GREENHECK CUE-120-VG | ROOF | ROOF, UPBLAST, DIRECT | 1050 | 0.75 | 1380 | | | 1/4 | 0.21 | 1400 | 115/60/1 | | 50 | 1 |

1. EQUIPMENT SELECTION AT 4,200 FEET ABOVE SEA LEVEL.
2. DIRECT DRIVE EC MOTOR WITH DIAL FOR BALANCING.


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VBFA Project Number: 22249


Intermountain Health
# Intermountain Kidney Services
# West Valley Dialysis

2750 South 5600 West
West Valley City, UT 84120

NJRA Project # 22211.05
Construction Documents Jan 15, 2024

MECHANICAL SCHEDULES

MH601

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## MITSUBISHI ELECTRIC TRANE HVAC US: CITY MULTI VRF OUTDOOR UNIT SCHEDULE

| System Tag | Tag Reference | M-NET Address | Model Number | Modules | Nominal Cooling Capacity (BTU/h) | Nominal Heating Capacity (BTU/h) | Nom System Connected Capacity (% of NOM) | Design Cooling Outdoor Temp DB (°F) | Design Heating Outdoor Temp WB (°F) | Corrected Cooling Total Capacity (BTU/h) | Corrected Heating Capacity (BTU/h) | Electrical-Per Module | | | | Notes / Options |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | 208/230 or [460V] | | | | |
| | | | | | | | | | | | | Voltage / Phase | MCA 208/230 or [460V] | RFS | MOCP | |
| System 1 | OU-1 | 51, 52 | TURYE2403BN40AN | P120, P120 | 240,000 | 270,000 | 122.5 % | 97.0 | 2.3 | 235,125.3 | 210,261.0 | 208/230V / 3-phase 3-wire | 41/38, 41/38 | 60/60, 60/60 | 60/60, 60/60 | 1, 2, 3, 4, 5, 6 |
| System 3 | OU-2 | N/A | TRUZA0121KA70NA | | 12,000 | 14,000 | 100.0 % | 97.0 | 2.3 | 10,275.6 | 7,447.3 | 208/230V / 1-phase | 11 | 15 | 28 | 1, 2, 3, 4, 5, 6 |
| System 4 | OU-3 | N/A | TRUZA0121KA70NA | | 12,000 | 14,000 | 100.0 % | 97.0 | 2.3 | 10,275.6 | 7,447.3 | 208/230V / 1-phase | 11 | 15 | 28 | 1, 2, 3, 4, 5, 6 |
| System 5 | OU-4 | 24 | TRUYA0241HA70NA | | 24,000 | | 100.0 % | 97.0 | 2.3 | 20,551.3 | 0.0 | 208/230V / 1-phase | 19 | 25 | 26 | 1, 2, 3, 4, 5, 6 |
| System 6 | OU-5 | 25 | TRUYA0301HA70NA | | 30,000 | | 100.0 % | 97.0 | 2.3 | 25,689.1 | 0.0 | 208/230V / 1-phase | 19 | 25 | 26 | 1, 2, 3, 4, 5, 6 |

Notes & Options:
1 Nominal cooling capacities are based on indoor coil EAT of 80/67°F (DB/WB), outdoor of 95°F (DB)
2 Nominal heating capacities are based on indoor coil EAT of 70°F (DB), outdoor of 43°F (WB)
3 Efficiency values for EER, IEER, COP are based on AHRI 1230 test method for mixture of ducted & non-ducted indoor units.
4 For systems with multiple modules, refrigerant pipe dimensions indicate total system combined piping downstream of module twinning.
5 Added field charge listed is in addition to factory charge, this must be updated based upon final as-built piping layout.
6 Corrected capacities shown are based on lowest guaranteed outdoor temperature, temperatures below this are not guaranteed.

## VRF HEAT RECOVERY BRANCH CIRCUIT CONTROLLER

| System Tag | Tag Reference | M-NET Address | Model Number | Type (double / Main / Sub) | Number of Ports | Connected Capacity to BC | Voltage / Phase | MCA 208/230 | Notes / Options |
|---|---|---|---|---|---|---|---|---|---|
| System 1 | BCController 1 | 53 | TCMBM1016JA11N4 | Main | 16 | 294,000.0 | 208/230V/1-phase | | 1 |
| System 1 | BCController 2 | 66 | TCMBS0104KB11N4 | Sub | 4 | 56,000.0 | 208/230V/1-phase | | 1 |

Notes & Options:
1 Include Diamondback Ball Valves BV-Series, 700PSIG working pressure, full port, 410A rated.
2 For sub BC controller CMB-P-NU-GB1 or -GB, the total connectable indoor unit capacity can be 126,000 BTUs or less. If two sub BC controllers are used, the total indoor unit capacity connected to BOTH sub BC controllers also cannot exceed 126,000 BTUs. For sub BC controller CMB-P1016NU-HB1 the total connectable indoor unit capacity can be 126,000 BTUs or less. However, if two sub controllers are used, and one of them is CMB-1016NU-HB1, the total indoor unit capacity connected to BOTH sub controllers must NOT exceed 168,000 BTUs.

## MITSUBISHI ELECTRIC TRANE HVAC US: CITY MULTI VRF INDOOR UNIT SCHEDULE

| Tag Reference | System Tag | Served by Outdoor Unit | Model | Type | Nominal Cooling Capacity (BTU/h) | Nominal Heating Capacity (BTU/h) | Cooling Design Entering Temp DB/WB (°F) / [Water in temp] | Heating Design Entering Temp DB/WB (°F) / [Water in temp] | Corrected Capacity | | | | | Refrig Pipe Dim Liquid/Suction (inch) | Fan Speed Setting | Peak Fan Airflow (cfm) / [Design gpm G(US)/min] | Max Fan ESP Setting 208V/230V (IN WG) | Voltage / Phase | Electrical MCA/MFS | Notes / Options |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Cooling Diversity Full/Partial (See Note 5, 6) | Cooling Total Capacity (BTU/h) | Cooling Sensible Capacity (BTU/h) | Heating Diversity Full/Partial (See Note 5, 6) | Heating Capacity (BTU/h) | | | | | | | |
| FC-1 | System 1 | OU-1 | TPEFYP012MA144A | Ceiling-Concealed (Ducted) | 12,000 | 13,500 | 80.0/67.0 | 70 | DIVERSITY OPERATION | 10,264.2 | 7,654.5 | DIVERSITY OPERATION | 11,344.7 | 1/4 / 1/2 | HIGH | 371 | 0.6/0.6 | 208/230V/1-phase | 2.13/15 | 1, 2, 3, 4 |
| FC-2 | System 1 | OU-1 | TPEFYP012MA144A | Ceiling-Concealed (Ducted) | 12,000 | 13,500 | 80.0/67.0 | 70 | DIVERSITY OPERATION | 10,264.2 | 7,654.5 | DIVERSITY OPERATION | 11,344.7 | 1/4 / 1/2 | HIGH | 371 | 0.6/0.6 | 208/230V/1-phase | 2.13/15 | 1, 2, 3, 4 |
| FC-3 | System 1 | OU-1 | TPEFYP012MA144A | Ceiling-Concealed (Ducted) | 12,000 | 13,500 | 80.0/67.0 | 70 | DIVERSITY OPERATION | 10,264.2 | 7,654.5 | DIVERSITY OPERATION | 11,344.7 | 1/4 / 1/2 | HIGH | 371 | 0.6/0.6 | 208/230V/1-phase | 2.13/15 | 1, 2, 3, 4 |
| FC-4 | System 1 | OU-1 | TPEFYP012MA144A | Ceiling-Concealed (Ducted) | 12,000 | 13,500 | 80.0/67.0 | 70 | DIVERSITY OPERATION | 10,264.2 | 7,654.5 | DIVERSITY OPERATION | 11,344.7 | 1/4 / 1/2 | HIGH | 371 | 0.6/0.6 | 208/230V/1-phase | 2.13/15 | 1, 2, 3, 4 |
| FC-5 | System 1 | OU-1 | TPEFYP008MA144A | Ceiling-Concealed (Ducted) | 8,000 | 9,000 | 80.0/67.0 | 70 | DIVERSITY OPERATION | 6,842.8 | 5,988.9 | DIVERSITY OPERATION | 7,563.2 | 1/4 / 1/2 | HIGH | 300 | 0.6/0.6 | 208/230V/1-phase | 1.75/15 | 1, 2, 3, 4 |
| FC-6 | System 1 | OU-1 | TPEFYP030MA144A | Ceiling-Concealed (Ducted) | 30,000 | 34,000 | 80.0/67.0 | 70 | DIVERSITY OPERATION | 25,660.5 | 19,858.9 | DIVERSITY OPERATION | 28,571.9 | 3/8 / 5/8 | HIGH | 883 | 0.6/0.6 | 208/230V/1-phase | 2.88/15 | 1, 2, 3, 4 |
| FC-7 | System 1 | OU-1 | TPEFYP024MA144A | Ceiling-Concealed (Ducted) | 24,000 | 27,000 | 80.0/67.0 | 70 | DIVERSITY OPERATION | 20,528.4 | 17,893.9 | DIVERSITY OPERATION | 22,689.5 | 3/8 / 5/8 | HIGH | 883 | 0.6/0.6 | 208/230V/1-phase | 2.88/15 | 1, 2, 3, 4 |
| FC-8 | System 1 | OU-1 | TPEFYP024MA144A | Ceiling-Concealed (Ducted) | 24,000 | 27,000 | 80.0/67.0 | 70 | DIVERSITY OPERATION | 20,528.4 | 17,893.9 | DIVERSITY OPERATION | 22,689.5 | 3/8 / 5/8 | HIGH | 883 | 0.6/0.6 | 208/230V/1-phase | 2.88/15 | 1, 2, 3, 4 |
| FC-9 | System 1 | OU-1 | TPEFYP012MA144A | Ceiling-Concealed (Ducted) | 12,000 | 13,500 | 80.0/67.0 | 70 | DIVERSITY OPERATION | 10,264.2 | 7,654.5 | DIVERSITY OPERATION | 11,344.7 | 1/4 / 1/2 | HIGH | 371 | 0.6/0.6 | 208/230V/1-phase | 2.13/15 | 1, 2, 3, 4 |
| FC-10 | System 1 | OU-1 | TPEFYP024MA144A | Ceiling-Concealed (Ducted) | 24,000 | 27,000 | 80.0/67.0 | 70 | DIVERSITY OPERATION | 20,528.4 | 17,893.9 | DIVERSITY OPERATION | 22,689.5 | 3/8 / 5/8 | HIGH | 883 | 0.6/0.6 | 208/230V/1-phase | 2.88/15 | 1, 2, 3, 4 |
| FC-11 | System 1 | OU-1 | TPEFYP030MA144A | Ceiling-Concealed (Ducted) | 30,000 | 34,000 | 80.0/67.0 | 70 | DIVERSITY OPERATION | 25,660.5 | 19,858.9 | DIVERSITY OPERATION | 28,571.9 | 3/8 / 5/8 | HIGH | 883 | 0.6/0.6 | 208/230V/1-phase | 2.88/15 | 1, 2, 3, 4 |
| FC-12 | System 4 | OU-3 | TPKA0A0121HA70A | Wall -Mounted | 12,000 | 14,000 | 80.0/67.0 | 70 | DIVERSITY OPERATION | 10,275.6 | 9,053.1 | DIVERSITY OPERATION | 7,447.3 | 1/2 / 1/4 | HIGH | 425 | | 208/230V/1-phase | Powered by Outdoor | 1, 2, 3, 4 |
| FC-13 | System 3 | OU-2 | TPKA0A0121HA70A | Wall -Mounted | 12,000 | 14,000 | 80.0/67.0 | 70 | DIVERSITY OPERATION | 8,799.1 | 8,507.9 | DIVERSITY OPERATION | 4,621.9 | 1/2 / 1/4 | HIGH | 425 | | 208/230V/1-phase | Powered by Outdoor | 1, 2, 3, 4 |
| FC-14 | System 1 | OU-1 | TPEFYP024MA144A | Ceiling-Concealed (Ducted) | 24,000 | 27,000 | 80.0/67.0 | 70 | DIVERSITY OPERATION | 20,528.4 | 17,893.9 | DIVERSITY OPERATION | 22,689.5 | 3/8 / 5/8 | HIGH | 883 | 0.6/0.6 | 208/230V/1-phase | 2.88/15 | 1, 2, 3, 4 |
| FC-15 | System 1 | OU-1 | TPEFYP008MA144A | Ceiling-Concealed (Ducted) | 8,000 | 9,000 | 80.0/67.0 | 70 | DIVERSITY OPERATION | 6,842.8 | 5,988.9 | DIVERSITY OPERATION | 7,563.2 | 1/4 / 1/2 | HIGH | 300 | 0.6/0.6 | 208/230V/1-phase | 1.75/15 | 1, 2, 3, 4 |
| FC-16 | System 1 | OU-1 | TPEFYP018MA144A | Ceiling-Concealed (Ducted) | 18,000 | 20,000 | 80.0/67.0 | 70 | DIVERSITY OPERATION | 15,396.3 | 12,706.0 | DIVERSITY OPERATION | 16,807.0 | 1/4 / 1/2 | HIGH | 600 | 0.6/0.6 | 208/230V/1-phase | 2.94/15 | 1, 2, 3, 4 |
| FC-17 | System 1 | OU-1 | TPEFYP024MA144A | Ceiling-Concealed (Ducted) | 24,000 | 27,000 | 80.0/67.0 | 70 | DIVERSITY OPERATION | 20,528.4 | 17,893.9 | DIVERSITY OPERATION | 22,689.5 | 3/8 / 5/8 | HIGH | 883 | 0.6/0.6 | 208/230V/1-phase | 2.88/15 | 1, 2, 3, 4 |
| FC-18 | System 1 | OU-1 | TPLFYP005FM140A | Ceiling-Cassette (Four-Way) | 5,000 | 5,600 | 80.0/67.0 | 70 | DIVERSITY OPERATION | 4,276.8 | 4,116.9 | DIVERSITY OPERATION | 4,706.0 | 1/4 / 1/2 | HIGH | 280 | | 208/230V/1-phase | 0.24/0.24/15 | 1, 2, 3, 4 |
| FC-19 | System 1 | OU-1 | TPLFYP015FM140A | Ceiling-Cassette (Four-Way) | 15,000 | 17,000 | 80.0/67.0 | 70 | DIVERSITY OPERATION | 12,830.3 | 8,972.7 | DIVERSITY OPERATION | 14,286.0 | 1/4 / 1/2 | HIGH | 390 | | 208/230V/1-phase | 0.35/0.35/15 | 1, 2, 3, 4 |
| FC-20 | System 5 | OU-4 | TPKA0A0241KA70A | Wall -Mounted | 24,000 | 26,000 | 80.0/67.0 | 70 | FULL DEMAND | 20,551.3 | 17,191.9 | FULL DEMAND | 0.0 | 5/8 / 3/8 | HIGH | 775 | | 208/230V/1-phase | Powered by Outdoor | 1, 2, 3, 4 |
| FC-21 | System 6 | OU-5 | TPKA0A0301KA70A | Wall -Mounted | 30,000 | 32,000 | 80.0/67.0 | 70 | FULL DEMAND | 25,689.1 | 19,291.3 | FULL DEMAND | 0.0 | 5/8 / 3/8 | HIGH | 775 | | 208/230V/1-phase | Powered by Outdoor | 1, 2, 3, 4 |

Notes & Options:
1 Nominal cooling capacities are based on indoor coil EAT of 80/67°F (DB/WB), outdoor of 95°F (DB)
2 Nominal heating capacities are based on indoor coil EAT of 70°F (DB), outdoor of 43°F (WB)
3 See outdoor unit schedule for outdoor ambient conditions, connected capacity, and other factors associated with corrected capacities
4 See schematic piping/control diagram for indication of required indoor unit remote controllers, system controllers, and integration devices.
5 Full demand corrected capacity includes de-rate associated with indoor vs. outdoor connected capacity indicated on outdoor unit schedule for associated system.
Partial corrected capacity assumes sufficient diversity exists such that the connected capacity de-rate does not apply.
It is the designer's responsibility to ensure "Diamond System Builder" is set in the appropriate output capacity setting (full demand/partial demand) prior to generating this schedule.
6 It is recommended to always base heating corrected capacity on full demand.

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VBFA Project Number: 22249

Intermountain Health
# Intermountain Kidney Services
# West Valley Dialysis
2750 South 5600 West
West Valley City, UT 84120

NJRA Project # 22211.05
Construction Documents Jan 15, 2024

MECHANICAL SCHEDULES

MH602

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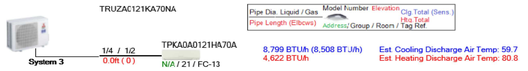
# Centralized System - 1 : System 1

## Piping Diagram Image (Design View)

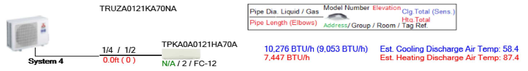

# Centralized System - 1 : System 3

## Piping Diagram Image (Design View)




# Centralized System - 1 : System 4

## Piping Diagram Image (Design View)





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Intermountain Health
Intermountain Kidney Services
West Valley Dialysis

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West Valley City, UT 84120

NJRA Project # 22211.05
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MECHANICAL SCHEMATICS

MH701

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1 MECHANICAL PIPING PLAN LEVEL 1
SCALE: 1/4" = 1'-0"

## KEYED NOTES

1. DROP CONDENSATE LINE DOWN WALL AND DRAIN TO SERVICE SINK WITH AIR GAP PER IPC.
2. DROP CONDENSATE LINE DOWN WALL AND DRAIN TO TRENCH DRAIN WITH AIR GAP PER IPC.
3. LINE SIZE SHOWN IS PER 2018 IPC. IF MANUFACTURER RECOMMENDATIONS REQUIRE LARGER PIPES SIZE, SIZE PER RECOMMENDATIONS.
4. SLOPE LINE TO DRAIN AS REQUIRED PER IPC.
5. CONDENSATE PIPE MATERIAL TO BE COPPER, PROVIDE INSULATION AND JACKETING AS REQUIRED PER SPECS.

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Intermountain Health
# Intermountain Kidney Services West Valley Dialysis

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West Valley City, UT 84120

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MECHANICAL PIPING PLAN LEVEL 1

MP101

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# LEGEND OF PLUMBING SYMBOLS AND ABBREVIATIONS

## PIPING

| | |
|---|---|
| OR | SHUT OFF VALVE |
| OR | BALL VALVE |
| OR | BUTTERFLY VALVE |
| | MOTOR OPERATED BUTTERFLY VALVE |
| OR | GATE VALVE |
| | GATE VALVE - NON RISING STEM |
| OR | ANGLE VALVE |
| OR | GLOBE VALVE |
| OR | PLUG VALVE |
| | SHUT OFF PLUG VALVE FOR FOR USE WITH PRESSURE GAUGE |
| OR | CHECK VALVE |
| OR | LATERAL STRAINER WITH BLOW-OFF VALVE, PROVIDE HOSE END WITH CAP WHERE DISCHARGE IS NOT PIPED TO DRAIN |
| RPBP | REDUCED PRESSURE BACKFLOW PREVENTOR W/ DRAIN PAN |
| OR | PRESSURE REDUCING VALVE EXTERNAL PRESSURE |
| OR | PRESSURE REDUCING VALVE SELF CONTAINED |
| OR | ATC - 2 WAY VALVE |
| OR | ATC - 3 WAY VALVE |
| S | SOLENOID VALVE |
| 0.0 GPM OR | CALIBRATED BALANCING VALVE WITH GPM INDICATED |
| OR | RELIEF VALVE |
| | FLOW SWITCH |
| P S | PRESSURE SWITCH |
| OR | TEMPERATURE AND PRESSURE TEST PORT |
| | THERMOMETER WELL |
| | THERMOMETER - TEMP RANGE AS INDICATED |
| | PRESSURE GAUGE WITH SHUT OFF PLUG VALVE |
| | PRESSURE GAUGE WITH PIGTAIL |
| OR | UNION |
| OR | FLANGE |
| OR | FLEXIBLE EXPANSION JOINT |
| | REDUCER |
| | ECCENTRIC REDUCER |
| | BRANCH - BOTTOM CONNECTION |
| | BRANCH - TOP CONNECTION |
| | BRANCH - SIDE CONNECTION |
| | RISE OR DROP |
| | RISER - DOWN (ELBOW) |
| | RISER - UP (ELBOW) |
| | PIPE CAP |
| | ARROW INDICATES DIRECTION OF FLOW IN PIPE |
| DN | LEADER INDICATES DOWNWORD SLOPE |
| | VALVE IN RISE |
| OR | 90° ELBOW |
| | 45° ELBOW |
| | ALIGNMENT GUIDE |
| | ANCHOR |

## PLUMBING

| | |
|---|---|
| | THERMOSTATIC MIXING VALVE |
| | HOSE BIBB |
| | FLOOR SINK |
| | FLOOR DRAIN |
| FCO COTG | FLOOR CLEAN-OUT OR CLEAN-OUT TO GRADE |
| | ROOF DRAIN |
| | DOWNSPOUT NOZZLE |
| VTR | VENT THRU ROOF |
| | WATER HAMMER ARRESTOR |
| | CLEAN-OUT |
| | FILL PORT |
| (NAME) | FIXTURE FROM LEVEL ABOVE |
| | DEMOLITION |

## EQUIPMENT

| | |
|---|---|
| | UNIT HEATER |
| | INLINE PUMP |
| | INLINE PUMP |
| | FAN |

## ANNOTATIONS

| | |
|---|---|
| P-1 | PLUMBING FIXTURES |
| | POINT OF CONNECTION |
| A M-101 | SECTION TAG - TOP FIGURE IS SECTION NO. BOTTOM FIGURE IS SHEET NO. |
| A M101 | DETAIL TAG - TOP FIGURE IS DETAIL NO. BOTTOM FIGURE IS SHEET NO. |
| EF 1 | EQUIPMENT IDENTIFICATION |
| 1 | KEYED NOTE IDENTIFICATION |

## LINETYPES

| | |
|---|---|
| C02 | CARBON DIOXIDE |
| CA | COMPRESSED AIR |
| COND | CONDENSATE |
| | DOMESTIC COLD WATER (DCW) |
| | DOMESTIC HOT WATER (DHW) |
| | DOMESTIC HOT WATER RETURN (DHWR) |
| E(NAME) | EXISTING PIPING |
| (NAME) | EXISTING PIPING TO BE REMOVED |
| FOR | FUEL OIL RETURN |
| FOS | FUEL OIL SUPPLY |
| FOV | FUEL OIL VENT |
| G | NATURAL GAS |
| HP(NAME) | HIGH PRESSURE DOMESTIC WATER |
| HPC | HIGH PRESSURE CONDENSATE |
| HPS | HIGH PRESSURE STEAM |
| HWR | HEATING HOT WATER RETURN |
| HWS | HEATING HOT WATER SUPPLY |
| MA | MEDICAL AIR |
| MUW | MAKE UP WATER |
| MV | MEDICAL VACUUM |
| N | NITROGEN |
| N20 | NITROUS OXIDE |
| OX | MEDICAL OXYGEN |
| PC | PUMPED CONDENSATE |
| ROS | REVERSE OSMOSIS WATER SUPPLY |
| ROR | REVERSE OSMOSIS WATER RETURN |
| RD | ROOF DRAIN |
| RDO | ROOF DRAIN OVERFLOW |
| | SEWER (BELOW GRADE) |
| | SEWER (ABOVE GRADE) |
| SW | SOFT DOMESTIC WATER |
| V | VACUUM |
| | VENT (SEWER) |
| WAGD | WASTE ANESTHESIA GAS DISPOSAL |


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PLUMBING GENERAL SYMBOLS & LEGEND

PP000

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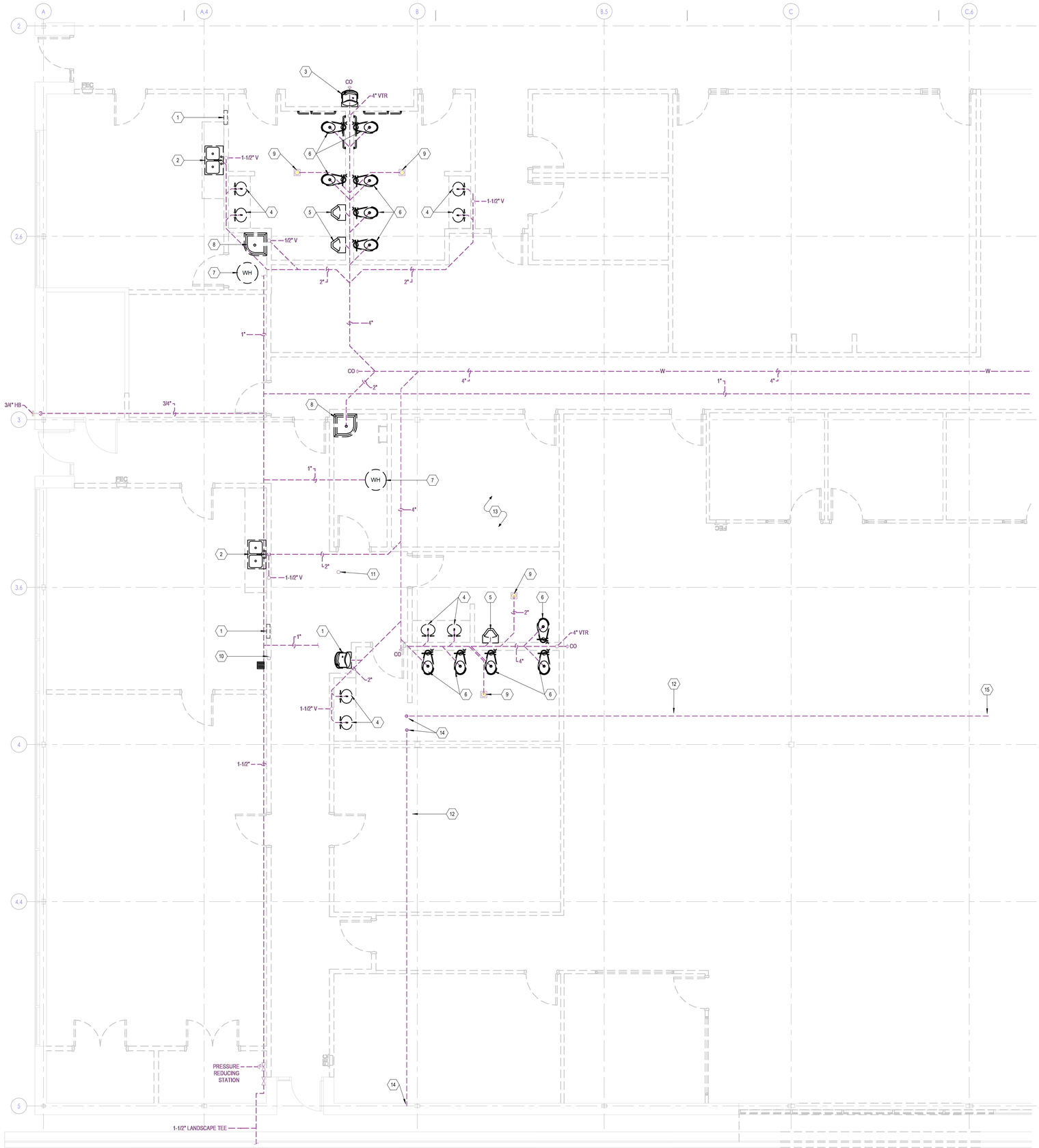


1 PLUMBING DEMO PLAN LEVEL 1
SCALE: 1/4" = 1'-0"

NORTH

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## KEYED NOTES

1. REMOVE EXISTING WATER VALVE IN BOX AND RELATED PIPING.
2. REMOVE EXISTING COUNTERTOP SINK AND RELATED PIPING.
3. REMOVE EXISTING WATER COOLER AND RELATED PIPING.
4. REMOVE EXISTING LAVATORY AND RELATED PIPING.
5. REMOVE EXISTING URINAL AND RELATED PIPING.
6. REMOVE EXISTING WATER CLOSET AND RELATED PIPING.
7. REMOVE EXISTING WATER HEATER AND RELATED PIPING, EXPANSION TANK, CIRCULATING PUMP, FLUE AND COMBUSTION AIR DUCTWORK.
8. REMOVE EXISTING SERVICE SINK AND RELATED PIPING.
9. REMOVE EXISTING FLOOR DRAIN.
10. REMOVE EXISTING FLOOR SINK AND WATER VALVE WITH RELATED PIPING.
11. RELOCATE EXISTING 1-1/2" WATER SERVICE THROUGH FLOOR.
12. REMOVE EXISTING 6" PVC RD/RDO LINES. SEE PP101 FOR NEW ROOF DRAINAGE PIPING.
13. EXISTING FIXTURES HAVE BEEN REMOVED, SHOWN HERE FOR REFERENCE.
14. EXISTING ROOF DRAIN AND DOWNSPOUT TO REMAIN FOR RECONNECTION.
15. REMOVE PVC PIPING PAST DEMISING WALL.

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TREVOR DONEY
07.17.2023
STATE OF UTAH

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VBFA Project Number: 22249

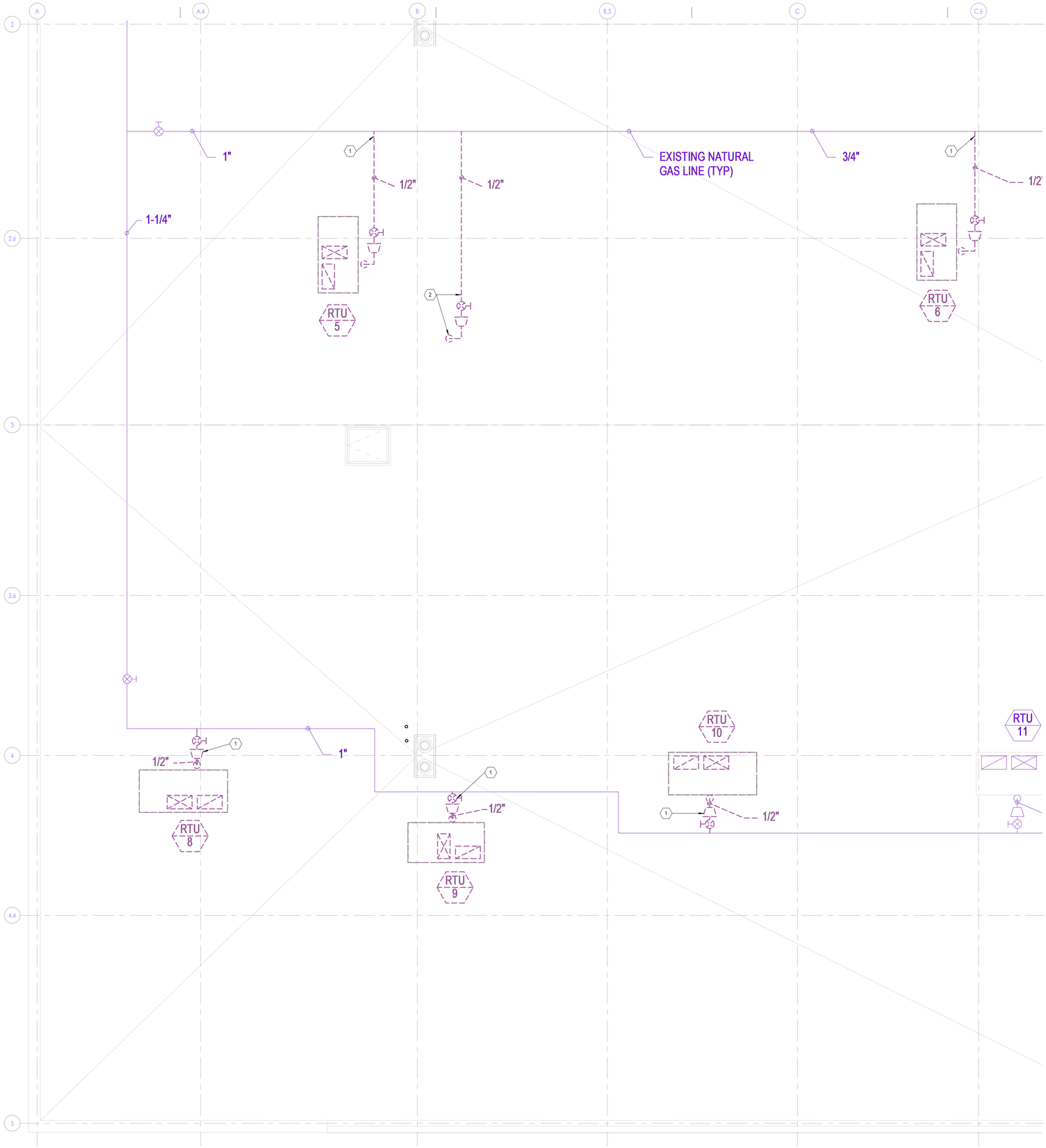
Intermountain Health
# Intermountain Kidney Services
# West Valley Dialysis

2750 South 5600 West
West Valley City, UT 84120

NJRA Project # 22211.05
Construction Documents Jan 15, 2024

PLUMBING
DEMO PLAN
LEVEL 1

PD101




## KEYED NOTES

1. DISCONNECT GAS LINE AND CAP.
2. REMOVE EXISTING GAS LINE TO WATER HEATER BELOW INCLUDING PIPING BELOW ROOF.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PLUMBING
DEMO PLAN
ROOF

PD102

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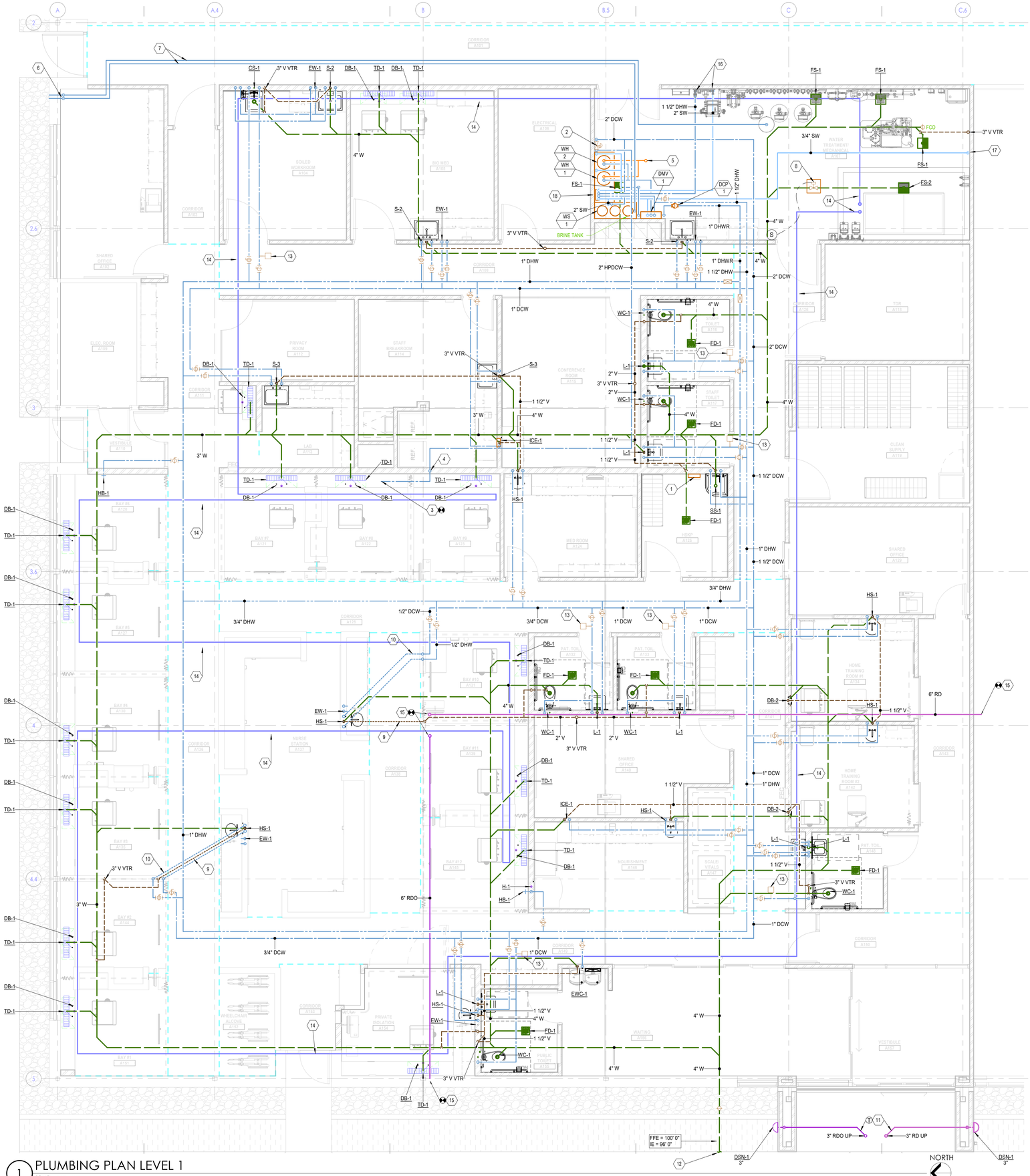
1 PLUMBING DEMO PLAN ROOF
SCALE: 1/4" = 1'-0"

NORTH




1 PLUMBING PLAN LEVEL 1
SCALE: 1/4" = 1'-0"

## KEYED NOTES

1. PRESSURE VACUUM BREAKER FOR CHEMICAL DISPENSER.
2. DOMESTIC WATER PRESSURE REDUCING STATION.
3. CONNECT NEW 2" DCW TO EXIST 1-1/2" DCW BELOW THE FLOOR FIELD VERIFY SIZE AND LOCATION OF EXISTING LINE.
4. RISE UP WALL. PROVIDE SHUT OFF VALVE WITH ACCESS PANEL.
5. 2" NG UP.
6. TERMINATE SALT SUPPLY LINES AT WALL PER "STEP SAVER" REQUIREMENTS.
7. NORMALLY STEEL SALT SUPPLY PIPING PER "STEP SAVER" REQUIREMENTS.
8. NORMALLY CLOSED 2-POSITION LINE VOLTAGE SOLENOID VALVE IN CONCRETE PIT WIT ALUMINUM DIAMOND PLATE HINGED COVER. PROVIDE 0-30 MINUTE TIMER SWITCH ON WALL.
9. ISLAND VENT PER PLUMBING CODE REQUIREMENTS.
10. DROP PIPING BELOW FLOOR.
11. THERMOSTAT FOR HEAT CABLE. HEAT TRACE ALL EXTERIOR RD PIPING WITH WATTS/FT. HEATING CABLE.
12. SEE CIVIL FOR CONTINUATION.
13. WATER HAMMER ARRESTOR.
14. 4" PVC CONDUIT BELOW FLOOR FOR ACID TUBING. ROUTING SHOWN IS APPROXIMATE. COORDINATE WITH THE OWNER'S WATER TREATMENT SUPPLIER FOR FINAL ROUTING, INCLUDING PENETRATIONS UP THROUGH THE FLOOR FOR CONNECTION TO THE DIALYSIS BOXES.
15. CONNECT NEW 6" CAST IRON ROOF DRAIN PIPING TO EXISTING DRAINS, DOWNSPOUTS AND PVC PIPING OUTSIDE OF THE PLENUM SPACE OF THIS PROJECT.
16. CONNECT TO WATER TREATMENT EQUIPMENT. COORDINATE WITH OWNER'S WATER TREATMENT SUPPLIER.
17. 3/4" WATER LINE TO BIO-AMP UNIT. TERMINATE WITH 3/4" HOSE THREAD.

## GENERAL NOTES

1. PROJECT SHALL COMPLY WITH ALL GRANGER-HUNTER IMPROVEMENT DISTRICT SPECIFICATIONS AND REQUIREMENTS
2. PROJECT SHALL COMPLY WITH ALL UTAH DIVISION OF DRINKING WATER RULES AND REGULATIONS INCLUDING, BUT NOT LIMITED TO THOSE PERTAINING TO BACKFLOW PROTECTION AND CROSS CONNECTION PREVENTION.
3. OWNER IS RESPONSIBLE TO SUBMIT BACKFLOW REPORTS TO GRANGER HUNTER IMPROVEMENT DISTRICT WATER QUALITY DEPARTMENT WITHIN 10 DAYS OF INITIAL USE AND ANNUALLY THEREAFTER.

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PLUMBING PLAN LEVEL 1

PP101

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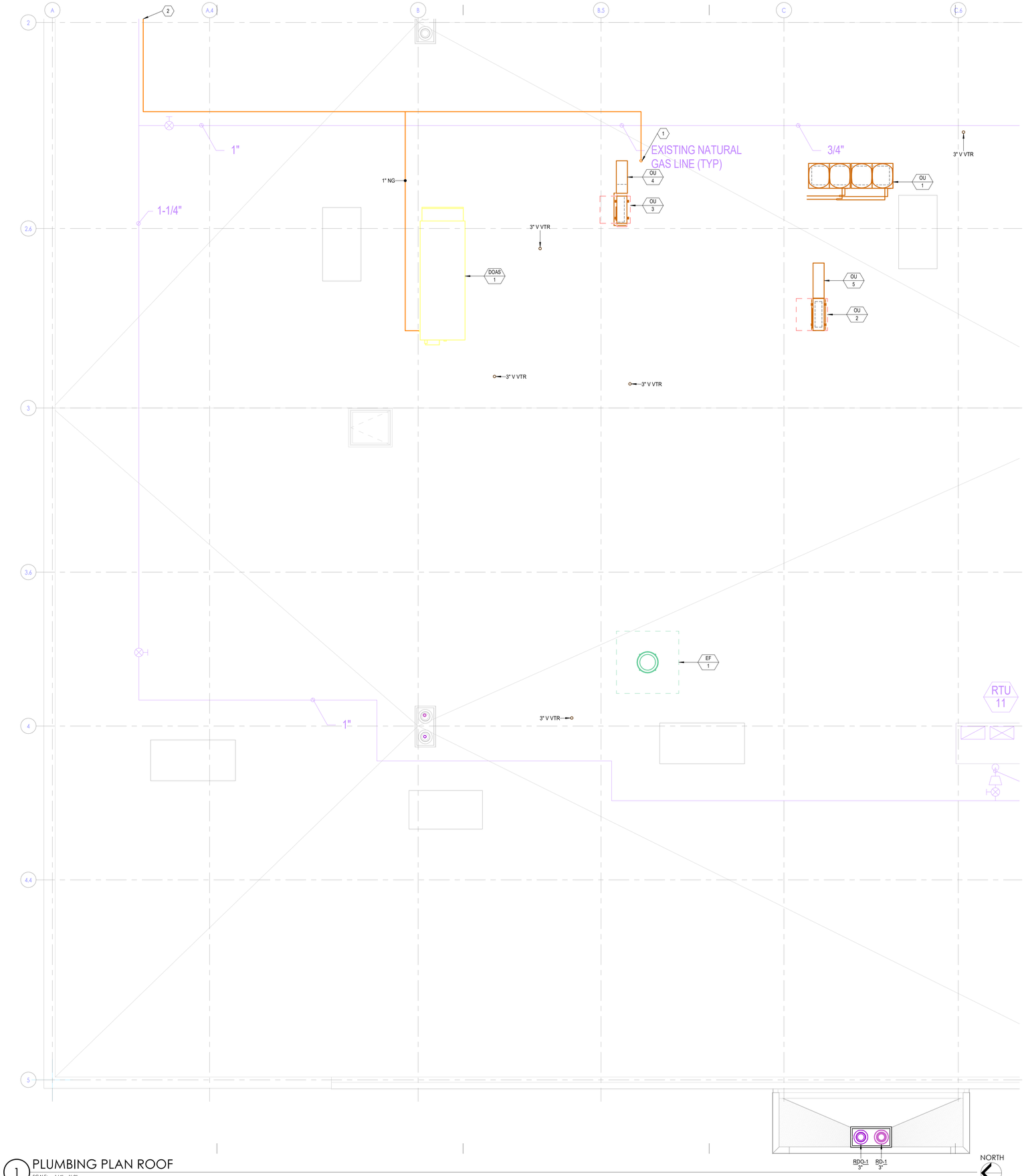


1 PLUMBING PLAN ROOF
SCALE: 1/4" = 1'-0"

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## KEYED NOTES

1. 2" NG DOWN.
2. EXTEND 2" NG TO EXISTING GAS METER. CONNECT TO EXISTING PIPING AT METER WITH SHUT OFF VALVE.

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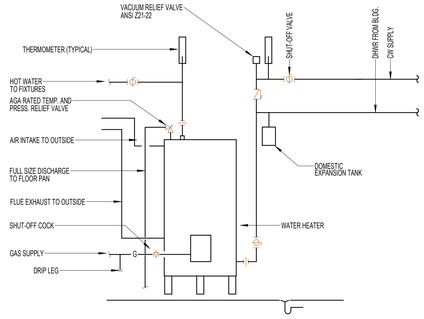
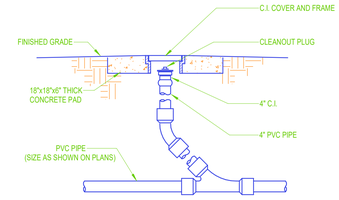
PLUMBING
PLAN ROOF

PP102



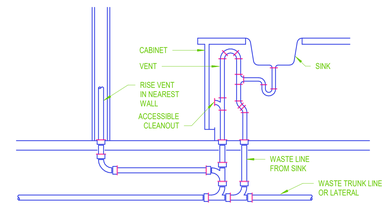

## 5 SIMPLEX GAS WATER HEATER DETAIL

SCALE: NOT TO SCALE




## 1 CLEANOUT TO GRADE DETAIL (COTG)

SCALE: NOT TO SCALE




## 2 ISLAND VENT DETAIL

SCALE: NOT TO SCALE

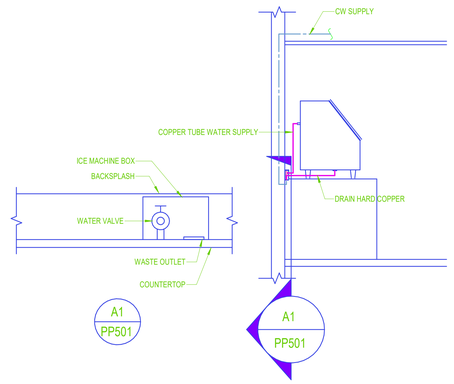



## 6 DUPLEX GAS WATER HEATER DETAIL

SCALE: NOT TO SCALE

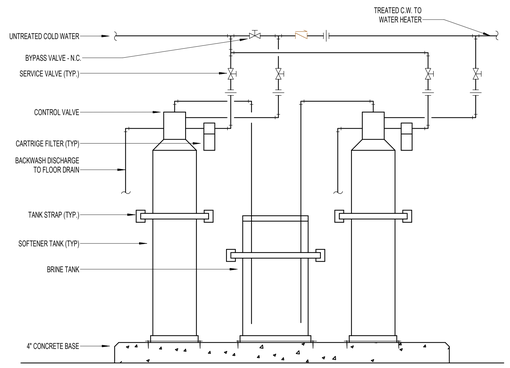
## KEYED NOTES

1. FULL SIZE DRAIN TO FLOOR DRAIN.




## 3 ICE MACHINE DETAIL

SCALE: NOT TO SCALE




## 4 WATER SOFTENER, DUPLEX DETAIL

SCALE: NOT TO SCALE

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PLUMBING DETAILS

PP501

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## PLUMBING FIXTURE SCHEDULE

| ID | FIXTURE | CW (IN) | HW (IN) | W (IN) | V (IN) | NOTES |
|---|---|---|---|---|---|---|
| WC-1 | ADA WATER CLOSET | 1 | - | 4 | 2 | WATER CLOSET: KOHLER K-96057 HIGHCLIFF VITREOUS CHINA, WATERSENSE LABELED, FLOOR MOUNTED, ELONGATED BOWL, 1-1/2" TOP SPUD, ADA TOILET WITH K-4670-C LUSTRA OPEN-FRONT SEAT. SLOAN 1.1 ULTRA LOW CONSUMPTION 1.1 GPF FLUSH VALVE; PROVIDE "DIRT GRABBER" FLUSH VALVE FILTER, COORDINATE SIZE WITH FLUSH VALVE; INSTALL ACTUATOR ON WIDE SIDE OF FIXTURE. |
| L-1 | LAVATORY | 1/2 | 1/2 | 1 1/2 | 1 1/2 | LAVATORY: KOHLER K- K-2005 VITREOUS CHINA WALL HUNG LAVATORY WITH 8" FAUCET CENTERS; WATERSENSE LABELED CHICAGO 786-GN2FCXKABCP FACUET, WITH WRIST BLADE HANDLES, RIGID/SWING GOOSENECK SPOUT WITH 0.35 GPM LAMINAR FLOW CONTROL IN SPOUT. CHICAGO 131-FMABRC THERMOSTATIC MIXING VALVE WITH ZURN MODEL 40XL2 CHECK VALVES ON HOT AND COLD LINES. FLEXIBLE STAINLESS STEEL SUPPLIES WITH WITH LOOSE KEY ANGLE STOPS. CHICAGO 327-XCP OPEN-GRID STRAINER AND CAST BRASS P-TRAP WITH CLEAN OUT PLUG. SMITH 0700-Z CONCEALED ARM CHAIR CARRIER WITH FOOT SUPPORT. |
| L-2 | LAVATORY | 1/2 | 1/2 | 1 1/2 | 1 1/2 | LAVATORY: KOHLER K-2005 VITREOUS CHINA WALL HUNG LAVATORY WITH 8" FAUCET CENTERS; WATERSENSE LABELED CHICAGO 786-GN2FCXKABCP FACUET, WITH WRIST BLADE HANDLES, RIGID/SWING GOOSENECK SPOUT WITH 1.5 GPM LAMINAR FLOW CONTROL IN SPOUT. FLEXIBLE STAINLESS STEEL SUPPLIES WITH WITH LOOSE KEY ANGLE STOPS. CHICAGO 327-XCP OPEN-GRID STRAINER AND CAST BRASS P-TRAP WITH CLEAN OUT PLUG. SMITH 0700-Z CONCEALED ARM CHAIR CARRIER WITH FOOT SUPPORT. |
| HS-1 | HAND WASH SINK | 1/2 | 1/2 | 2 | 1 1/2 | INTEGRAL WITH COUNTERTOP, PROVIDE CHICAGO 895-317GN2AFCABCP 4" CENTER ABOVE DECK GOOSENECK FAUCET WITH A GN2A RIGID/SWING CONVERTIBLE GOOSE NECK WITH 1.5 GPM FC LAMINAR FLOW CONTROL IN SPOUT AND PLAIN END SPOUT RING. PROVIDE FLEXIBLE STAINLESS STEEL SUPPLIES WITH LOOSE KEY ANGLE STOPS; JUST J-35 STAINLESS STEEL CUP STRAINER AND CAST BRASS P-TRAP WITH CLEAN-OUT PLUG. |
| S-1 | MEDICATION SINK | 1/2 | 1/2 | 2 | 1 1/2 | SINK (STAINLESS STEEL, COUNTER MOUNTED, SINGLE COMPARTMENT): ELKAY LRAD252165 18 GA. TYPE 304 STAINLESS STEEL SINK,25" X 21-1/4" X 6-1/2" DEEP BASIN, SELF RIMMING, 8" CENTERS CENTER REAR OUTLET. PROVIDE CHICAGO 895-317GN2AFCABCP 4" CENTER ABOVE DECK GOOSENECK FAUCET WITH A GN2A RIGID/SWING CONVERTIBLE GOOSE NECK WITH 1.5 GPM FC LAMINAR FLOW CONTROL IN SPOUT AND PLAIN END SPOUT RING. PROVIDE FLEXIBLE STAINLESS STEEL SUPPLIES WITH LOOSE KEY ANGLE STOPS; OPEN GRID STRAINER AND CAST BRASS P-TRAP WITH CLEAN-OUT PLUG. |
| S-2 | INSTRUMENT CLEANING SINK | 1/2 | 1/2 | 2 | 1 1/2 | SINK (STAINLESS STEEL, COUNTER MOUNTED: ELKAY DLR312212 16 GA. TYPE 304 STAINLESS STEEL SINK, 31" X 22" X 12" DEEP, THRE FAUCET HOLES, CHICAGO 786-GN2FCXKABCP FACUET, WITH WRIST BLADE HANDLES, 8" RIGID/SWING GOOSENECK SPOUT WITH 1.5 GPM LAMINAR FLOW CONTROL IN SPOUT. FLEXIBLE STAINLESS STEEL SUPPLIES WITH WITH LOOSE KEY ANGLE STOPS.; FLEXIBLE STAINLESS STEEL SUPPLIES WITH LOOSE KEY ANGLE STOPS; CHICAGO 327-XCP OPEN-GRID STRAINER AND CAST BRASS P-TRAP WITH CLEAN OUT PLUG. |
| S-3 | BREAKROOM SINK | 1/2 | 1/2 | 1 1/2 | 1 1/2 | SINK (STAINLESS STEEL, COUNTER MOUNTED, SINGLE COMPARTMENT): ELKAY LRAD252165 18 GA. TYPE 304 STAINLESS STEEL SINK,25" X 21-1/4" X 6-1/2" DEEP BASIN, SELF RIMMING, 8" CENTERS CENTER REAR OUTLET, DRILLING WITH J-35 CUP STRAINER. CHICAGO 786-GN9FCABCP FACUET, WITH WRIST BLADE HANDLES, RIGID/SWING GOOSENECK SPOUT WITH 1.5 GPM LAMINAR FLOW CONTROL IN SPOUT. FLEXIBLE STAINLESS STEEL SUPPLIES WITH LOOSE KEY ANGLE STOPS, CAST BRASS P-TRAP WITH CLEAN-OUT PLUG. |
| SS-1 | SERVICE SINK | 1/2 | 1/2 | 3 | 1 1/2 | SERVICE SINK (FLOOR MOUNTED): KOHLER K6710, WHITBY, 28 X 28-INCH, ENAMELED CAST IRON FLOOR-MOUNTED CORNER MODEL, K9146-3" DRAIN WITH STRAINER, NO. K8940 REMOVABLE VINYL-COATED RIM GUARD; CHICAGO 897-CP FAUCET WITH VACUUM BREAKER, SCREWDRIVER STOPS IN SHANKS, 5 FOOT RUBBER HOSE AND 853 WALL HOOK. INSTALLED IN CEILING ABOVE SERVICE SINK WITH ACCESS DOOR IF HARD CEILING, PROVIDE WATTS LFMMV THERMOSTATIC MIXING VALVE WITH WATTS # 7 DUAL CHECK VALVES ON HOT AND COLD LINES. |
| CS-1 | CLINIC SINK | 1 | 1/2 | 4 | 2 | KOHLER K-6676 TYRRELL FLOOR MOUNTED CLINIC SINK; CHICAGO 814-VBCP FAUCET; SLOAN REGAL 117 XL FLUSH VALVE; CHICAGO 910-GSL0777-19KCP WALL MOUNTED BEDPAN WASHER WITH FOOT PEDALS VACUUM BREAKER AND HAND HELD SPRAY HOSE. PROVIDE 10" HIGH CONCRETE BASE FOR CLINIC SINK. |
| ICE-1 | WATER OUTLET | 1/2 | - | 2 | 1 1/2 | WATER OUTLET BOX: WATER-TITE 82148 WASHING MACHINE OUTLET BOX WITH DRAIN QUARTER TURN BALL VALVE WITH WATER HAMMER ARRESTOR FOR USE WITH ICE AND SODA MACHINE. INSTALL ONLY COLD WATER BALL VALVE. NOTCH COUNTERTOP BACK-SPLASH AND INSTALL OUTLET BOX DRAIN FLUSH WITH COUNTERTOP. PROVIDE WITH PVC TRAP. |
| EWC-1 | ELECTRIC WATER COOLER | 1/2 | - | 2 | 1 1/2 | ELECTRIC WATER COOLER: ELKAY EZH20 LZSTL8WSSP DUAL STATION, WALL MOUNTED WITH BOTTLE FILLING STATION, BARRIER FREE, ADA ELECTRIC WATER COOLER WITH FLEXIIBLE SAFETY BUBBLER, STAINLESS STEEL BOWLS AND CONTROL BUTTONS ON FRONT AND SIDES. COMPRESSOR TO BE 115V, 60 HZ WITH CAPACITY TO DELIVER AT LEAST 8.0 GPH OF 50°F WATER. 1-1/2" CAST BRASS CHROME-PLATED P-TRAPS. COORDINATE THE ADA SIDE WITH THE ARCHITECT. |
| EWC-2 | ELECTRIC WATER COOLER | 1/2 | - | 2 | 1 1/2 | ELECTRIC WATER COOLER: ELKAY EZH20 LZS8WSLK, WALL MOUNTED WITH BOTTLE FILLING STATION, BARRIER FREE, ADA ELECTRIC WATER COOLER WITH FLEXIIBLE SAFETY BUBBLER, STAINLESS STEEL BOWL AND CONTROL BUTTONS ON FRONT AND SIDES. COMPRESSOR TO BE 115V, 60 HZ WITH CAPACITY TO DELIVER AT LEAST 8.0 GPH OF 50°F WATER. 1-1/2" CAST BRASS CHROME-PLATED P-TRAPS. |
| EWS-1 | EMERGENCY EYEWASH | 1/2 | 1/2 | - | - | GUARDIAN G5022BP EYEWASH/DRENCH HOSE DECK MOUNTED UNITS WITH DUAL INLINE CHECK BACKFLOW PREVENTERS AND GUARDIAN G3600LF THERMOSTATIC MIXING VALVE. INSTALL THE EYEWASH/DRENCH HOSE UNIT ON THE COUNTER NEXT TO THE SINK. INSTALL THE MIXING VALVE ABOVE THE CEILING WITH THE OUTLET TEMPERATURE SET TO 85-90°F. |
| RD-1 | ROOF DRAIN | | | SEE PLANS | | ROOF DRAIN: SMITH FIGURE 1010Y-R-C-CID CAST IRON BODY WITH COMBINED FLASHING CLAMP AND CAST IRON GRAVEL STOP, CAST IRON DOME, EXTENSION, SUMP RECEIVER AND UNDERDECK CLAMP. |
| RDO-1 | ROOF DRAIN OVERFLOW | | | SEE PLANS | | ROOF DRAIN: SMITH FIGURE 1080Y-R-C-CID CAST IRON BODY WITH COMBINED FLASHING CLAMP AND CAST IRON GRAVEL STOP, CAST IRON DOME, EXTENSION, SUMP RECEIVER AND UNDERDECK CLAMP, 2" WATER DAM. |
| DSN-1 | DOWN SPOUT NOZZLE | | | SEE PLANS | | DOWNSPOUT NOZZLE: SMITH 1770 DOWNSPOUT NOZZLE WITH CAST BRONZE BODY AND FLANGE. |
| DB-1 | DIALYSIS BOX | | | 2 IND | | AQUABOSS RECESSED DIALYSIS BOX |
| DB-2 | DIALYSIS BOX | 3/4 | | 2 | 1 1/2 | WHITEHALL MANUFACTURING M8190-E557 6" DP WALL BOX WITH STAINLESS STEEL DOOR WITHOUT LOGO COMPLETE WITH VALVE, VACUUM BREAKER WITH HOSE CONNECTION AND WASTE OUTLET |
| TD-1 | TRENCH DRAIN | | | 3 | 2 | SMITH FIGURE 9660 STAINLESS STEEL MODULAR TRENCH DRAIN WITH END CAPS AND SLOTTED STAINLESS STEEL GRATE. PROVIDE LENGTH AS INDICATED ON DRAWINGS. |
| FD-1 | FLOOR DRAIN | - | - | 2 | 1 1/2 | FLOOR DRAIN: SMITH FIGURE 2005Y-P050 FLOOR DRAIN WITH CAST IRON BODY AND FLASHING COLLAR WITH 6-INCH ROUND NICKEL BRONZE ADJUSTABLE STRAINER HEAD WITH SECURED GRATE. PROVIDE DEEP SEAL TRAP AND TRAP GUARD TYPE TRAP SEAL DEVICE. |
| FD-2 | MECH ROOM DRAIN | - | - | 3 | 2 | FLOOR DRAIN (MECHANICAL ROOM): SMITH 2220Y FLOOR DRAIN WITH CAST IRON BODY AND FLASHING COLLAR WITH 8" NICKEL BRONZE TOP AND GRATE AND SEDIMENT BUCKET, NO-HUB CONNECTION, TRAP GUARD TYPE TRAP SEAL DEVICE AND DEEP SEAL P-TRAP. |
| FS-1 | FLOOR SINK | -.- | -.- | 3 | 1 1/2 | JR SMITH FIG 3100 CAST IRON FLANGED FLANGED RECEPTOR WITH SEEPAGE HOLES; ACID RESISTANT COATED INTERIOR; NICKEL BRONZE RIM AND SECURED GRATE; ALUMINUM DOME BOTTOM STRAINER. |
| FS-2 | FLOOR SINK | -.- | -.- | 4 | 2 | JR SMITH FIG 3100 CAST IRON FLANGED FLANGED RECEPTOR WITH SEEPAGE HOLES; ACID RESISTANT COATED INTERIOR; NICKEL BRONZE RIM AND SECURED GRATE; ALUMINUM DOME BOTTOM STRAINER. |
| HB-1 | HOSE BIBB | | 1/2 | | | CHICAGO 952-12XKCP HOSE BIBB COMPLETE WITH POLISHED CHROME FINISH; TEE HANDLE; CERAMIC CARTRIDGE. |

(1) ALL UNDER GROUND WASTE AND VENT SHALL BE 2" OR GREATER PER DRAWINGS.

## WATER SOFTENER SCHEDULE

| ID | MANUFACTURER AND MODEL NUMBER | LOCATION | TYPE | TOTAL (GRAINS) | NORMAL / MAX WATER FLOW/UNIT @ 15/25 PSI LOSS | BACKWASH FLOW RATE (GPM) | RESIN QUANTITY (FT^3) | RESIN TANK HGHT/DIA (IN/IN) | BRINE TANK HGHT/DIA (IN/IN) | ELECTRICAL (VOLT/PH) | OPERATING WEIGHT (LBS.) | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WS-1 | WATER SPECIALTIES A959TA-300 | MECH RM | DUPLEX | 600,000 | 98/126 | 12 | 10 EA | 72/24 | 50/30 | 115/1 | 4860 | 1 |

1. TWIN ALTERNATING EQUIPMENT

## DOMESTIC PUMP SCHEDULE

| ID | MANUFACTURER AND MODEL NUMBER | LOCATION | TYPE | FLUID | | | PUMP | | ELECTRICAL | | | | PHYSICAL | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | FLOW RATE (GPM) | WORKING FLUID | HEAD LOSS (FT) | EFFICIENCY (%) | CONSTRUCTION | MOTOR SIZE (HP) | MOTOR BHP (HP) | MOTOR SPEED (RPM) | VOLT/PH/HZ | WEIGHT (LBS.) | |
| DCP-1 | TACO O15-SFMS | WATER ROOM | INLINE | 5 | WATER | 10 | 55 | BRONZE | 1/20 | - | - | 115/1/60 | | |

## GAS FIRED WATER HEATER SCHEDULE

| ID | MANUFACTURER AND MODEL NUMBER | LOCATION | SERVICE | INPUT LOAD (BTUH) | EFFICIENC (%) | TYPE | RECOVERY RATE @ 100 F DELTA T | TANK SIZE (GAL) | FLUE SIZE (IN) | HEIGHT/ DIAMETER (IN) | OPERATING WEIGHT (LBS.) | ELECTRICAL | | NOTE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | (AMP) | V/PH | |
| WH-1 | AO SMITH BTH-199 300 | MECH. RM | DIALYSIS SUPPLY | 199,000 | 96 | CONDENSING | 235 | 100 | | 76/28 | 1470 | 5 | 120/1 | 1, 2 |
| WH-2 | AO SMITH BTH-199 300 | MECH. RM | DIALYSIS SUPPLY | 199,000 | 96 | CONDENSING | 235 | 100 | | 76/28 | 1470 | 5 | 120/1 | 1, 2 |

1. ALL CAPACITIES AT 0 FEET ELEVATION.
2. PROVIDE PVC INTAKE AND EXHAUST PIPING AS REQUIRED BY THE MANUFACTURER.

## DOMESTIC PRV SCHEDULE

| ID | MANUF. AND MODEL NO. | LOCATION | SERVICE | TYPE | CAPACITY (GPM) | INLET PRESSURE (PSIG) | OUTLET PRESSURE (PSIG) | SIZE (IN) | SHIPPING WEIGHT (LBS.) | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|
| DPRV-1 | WATTS LFF115-74 | MECH ROOOM | DOMESTIC WATER | PILOT | 65 | | 60 | 1-1/2 | 15 | 1 |

1. PROVIDE LOW FLOW BY-PASS WITH LOW FLOW, FLOW CONTROL

## DOMESTIC MIXING STATION SCHEDULE

| ID | MANUFACTURER AND MODEL NUMBER | LOCATION | TYPE | BODY CONSTRUCTION | CONTROL TYPE | ACTUATOR TYPE | FLUID | | ELECTRICAL | PHYSICAL | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | FLOW RATE (GPM) | HEAD LOSS (FT) | VOLT/PH | CONNECT SIZE (IN) | |
| DMV-1 | ACORN E0-00-C-10-L-N | WATER ROOM | DIGITAL | BRASS | ELECT | - | 65 | 12 | 115/1 | 1/1.25 | 1 |

## DOMESTIC EXPANSION TANK SCHEDULE

| ID | MANUFACTURER AND MODEL NUMBER | LOCATION | TYPE | FLUID | | PHYSICAL | | | | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | WORKING FLUID | MIN. TANK/ ACCEPTANCE (GAL) | TANK SIZE (GAL) | DIA./ HEIGHT (IN) | WEIGHT (LBS.) | NPT FITTING (IN) | |
| DET-1 | B&G PT-12 | MECH RM | DIAPHRAGM | WATER | 3.2 | 4.4 | 11/15 | 9 | 3/4 | 1 |

1. TANK LINER SUITABLE FOR POTABLE WATER


NJRA ARCHITECTS

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Murray, Utah 84123
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REGISTERED PROFESSIONAL ENGINEER
No. 11573858-2202
TREVOR DONEY
07.17.2023
STATE OF UTAH


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VBFA Project Number: 22249


Intermountain Health
Intermountain Kidney Services
West Valley Dialysis

2750 South 5600 West
West Valley City, UT 84120

NJRA Project # 22211.05
Construction Documents Jan 15, 2024

PLUMBING SCHEDULES

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1 FIRE PROTECTION PLAN LEVEL 1
SCALE: 1/4" = 1'-0"

NORTH

## KEYED NOTES

1. COORDINATE ALL FIRE PROTECTION SYSTEM UPGRADES WITH OWNER.

## GENERAL NOTES

1. ALL FIRE LINES WITHIN GRANGER-HUNTER BOUNDARIES MUST COMPLY WITH THE INTERNATIONAL PLUMBING CODE, SECTION 608 PROTECTION OF POTABLE WATER SUPPLY. GRANGER-HUNTER IMPROVEMENT DISTRICT REQUIRES TESTABLE BACKFLOW ASSEMBLIES ON ALL CONNECTIONS CONSIDERED A CROSS-CONNECTION. THE FIRE SYSTEM MAY NEED TO BE MODIFIED BY ENGINEER'S RECOMMENDATIONS.

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FIRE PROTECTION PLAN LEVEL 1

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