VOLUME ISSUE: 01 OF: 01



DAVIS
PARTNERSHIP
ARCHITECTS

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STATE OF COLORADO
J.D. DREIER
203337
11/30/2022
LICENSED ARCHITECT

Issue Date:

11/30/2022

Project:

21303.00.000

RDH - SURGERY DEPT

225 EAGLE CREST DR
RANGELY, CO 81648

Original Issuance:

CONSTRUCTION DOCUMENTS

11/30/2022 1:25:28 PM

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Sheet Index

#	Name	Issuance	Sheet Issue Date
General			
G-000	COVER	CONSTRUCTION DOCUMENTS	11/30/2022
G-001	SHEET INDEX AND PROJECT DATA	CONSTRUCTION DOCUMENTS	11/30/2022
FGI REVIEW			
FGI-101	FGI CODE COMPLIANCE	CONSTRUCTION DOCUMENTS	11/30/2022
Life Safety			
LS-101	LIFE SAFETY PLAN - LEVEL 01	CONSTRUCTION DOCUMENTS	11/30/2022
LS-201	UL ASSEMBLIES	CONSTRUCTION DOCUMENTS	11/30/2022
LS-202	UL ASSEMBLIES	CONSTRUCTION DOCUMENTS	11/30/2022
LS-203	UL ASSEMBLIES	CONSTRUCTION DOCUMENTS	11/30/2022
Structural			
S-100	GENERAL NOTES AND TYPICAL DETAILS	CONSTRUCTION DOCUMENTS	11/30/2022
S-101	PLAN AND SECTIONS	CONSTRUCTION DOCUMENTS	11/30/2022
Architectural Demolition			
AD-101	DEMOLITION FLOOR PLAN - LEVEL ONE	CONSTRUCTION DOCUMENTS	11/30/2022
Architectural			
A-101	LEVEL ONE FLOOR PLANS	CONSTRUCTION DOCUMENTS	11/30/2022
A-102	LEVEL ONE ROOF & REFLECTED CEILING PLAN	CONSTRUCTION DOCUMENTS	11/30/2022
A-400	ENLARGED PLANS, INTERIOR ELEVATIONS AND RENDERINGS	CONSTRUCTION DOCUMENTS	11/30/2022
A-401	ENLARGED PLANS, INTERIOR ELEVATIONS AND RENDERINGS	CONSTRUCTION DOCUMENTS	11/30/2022
A-550	INTERIOR DETAILS	CONSTRUCTION DOCUMENTS	11/30/2022
A-600	FINISH LEGEND, SCHEDULE, NOTES AND DETAILS	CONSTRUCTION DOCUMENTS	11/30/2022
A-610	LEVEL ONE WALL PROTECTION AND FINISH FLOOR PLAN	CONSTRUCTION DOCUMENTS	11/30/2022
A-710	INTERIOR PARTITON TYPES	CONSTRUCTION DOCUMENTS	11/30/2022
A-711	PARTITION DETAILS	CONSTRUCTION DOCUMENTS	11/30/2022
A-720	DOOR SCHEDULE, TYPES, AND DETAILS	CONSTRUCTION DOCUMENTS	11/30/2022
A-760	INTERIOR MOUNTING HEIGHTS	CONSTRUCTION DOCUMENTS	11/30/2022
Plumbing			
P-000	PLUMBING LEGEND	CONSTRUCTION DOCUMENTS	11/30/2022
P-001	PLUMBING SCHEDULES	CONSTRUCTION DOCUMENTS	11/30/2022
P-011	LEVEL ONE PLUMBING REFERENCE PLAN	CONSTRUCTION DOCUMENTS	11/30/2022
P-100D	UNDERGROUND PLUMBING DEMO PLAN	CONSTRUCTION DOCUMENTS	11/30/2022
Plumbing			
P-100	UNDERGROUND PLUMBING PLAN	CONSTRUCTION DOCUMENTS	11/30/2022
P-101D	LEVEL ONE PLUMBING DEMO PLAN	CONSTRUCTION DOCUMENTS	11/30/2022
Plumbing			
P-101	LEVEL ONE PLUMBING PLAN	CONSTRUCTION DOCUMENTS	11/30/2022
P-102	ROOF PLUMBING PLAN	CONSTRUCTION DOCUMENTS	11/30/2022
P-600	WATER ISOMETRIC	CONSTRUCTION DOCUMENTS	11/30/2022
P-601	SANITARY VENT ISOMETRIC	CONSTRUCTION DOCUMENTS	11/30/2022
P-602	MEDICAL GAS ISOMETRIC	CONSTRUCTION DOCUMENTS	11/30/2022
P-603	CA DI ISOMETRIC	CONSTRUCTION DOCUMENTS	11/30/2022
P-800	PLUMBING DETAILS	CONSTRUCTION DOCUMENTS	11/30/2022
P-801	PLUMBING DETAILS	CONSTRUCTION DOCUMENTS	11/30/2022
P-802	PLUMBING DETAILS	CONSTRUCTION DOCUMENTS	11/30/2022
Mechanical			
M-000	MECHANICAL LEGEND	CONSTRUCTION DOCUMENTS	11/30/2022
M-001	MECHANICAL GENERAL NOTES	CONSTRUCTION DOCUMENTS	11/30/2022
Mechanical			
M-101D	LEVEL ONE MECHANICAL DEMO PLANS	CONSTRUCTION DOCUMENTS	11/30/2022
Mechanical			
M-101	LEVEL ONE MECHANICAL PLANS	CONSTRUCTION DOCUMENTS	11/30/2022
M-102	ROOF MECHANICAL PLANS	CONSTRUCTION DOCUMENTS	11/30/2022
M-201D	LEVEL ONE MECHANICAL PIPING DEMO PLANS	CONSTRUCTION DOCUMENTS	11/30/2022
Mechanical			
M-201	LEVEL ONE MECHANICAL PIPING PLANS	CONSTRUCTION DOCUMENTS	11/30/2022
M-300	MECHANICAL DETAILS	CONSTRUCTION DOCUMENTS	11/30/2022
M-301	MECHANICAL DETAILS	CONSTRUCTION DOCUMENTS	11/30/2022
M-400	MECHANICAL CONTROLS	CONSTRUCTION DOCUMENTS	11/30/2022
M-401	MECHANICAL CONTROLS	CONSTRUCTION DOCUMENTS	11/30/2022
MEP-000	MECHANICAL SCHEDULES	CONSTRUCTION DOCUMENTS	11/30/2022
Electrical			
E-000	ELECTRICAL LEGEND	CONSTRUCTION DOCUMENTS	11/30/2022
E-001	ELECTRICAL ONE-LINE	CONSTRUCTION DOCUMENTS	11/30/2022
E-002	ELECTRICAL ONE-LINE	CONSTRUCTION DOCUMENTS	11/30/2022
E-003	LIGHTING SCHEDULES	CONSTRUCTION DOCUMENTS	11/30/2022
E-004	ELECTRICAL SCHEDULES	CONSTRUCTION DOCUMENTS	11/30/2022
E-101	LEVEL ONE ELECTRICAL PLANS	CONSTRUCTION DOCUMENTS	11/30/2022
E-102	ROOF ELECTRICAL PLAN	CONSTRUCTION DOCUMENTS	11/30/2022
E-401	LEVEL ONE LIGHTING PLANS	CONSTRUCTION DOCUMENTS	11/30/2022
E-800	ELECTRICAL DETAILS	CONSTRUCTION DOCUMENTS	11/30/2022
Equipment			
EQ-01.00	FIRST FLOOR EQUIPMENT PLAN	CONSTRUCTION DOCUMENTS	11/30/2022

GENERAL NOTES

1. IF DISCREPANCIES OCCUR BETWEEN DRAWINGS OR BETWEEN THE DRAWINGS AND SPECIFICATIONS, SUBMIT AN RFI FOR RESOLUTION.
2. DO NOT SCALE THE DRAWINGS. SUBMIT AN RFI IF CRITICAL DIMENSIONS DO NOT APPEAR ON THE DRAWINGS.
3. THE BUILDING EXTERIOR IS DEFINED BASED ON A SYSTEMS METHODOLOGY. REFER TO A-700 DRAWING SERIES FOR COMPONENTS THAT COMPRISE EACH SYSTEM.
4. PROVIDE ISOLATION BETWEEN ALL DISSIMILAR METALS WHERE THEY OCCUR TO PREVENT ELECTROLYTIC REACTION AND CORROSION.
5. VERIFY EQUIPMENT ROUGH-IN DIMENSIONS WITH MANUFACTURER FOR EQUIPMENT THAT IS EXISTING, REUSED, OR FURNISHED BY OWNER.

DEFINITIONS

ALIGN	TO ACCURATELY LOCATE FACE BASED ON ADJACENT ITEMS OR CONSTRUCTION
MAXIMUM	THE CONDITION MAY NOT VARY TO A DIMENSION GREATER THAN THAT SHOWN WITHOUT THE APPROVAL OF THE ARCHITECT
MINIMUM	THE CONDITION MAY NOT VARY TO A DIMENSION SMALLER THAN THAT SHOWN WITHOUT THE APPROVAL OF THE ARCHITECT
TYPICAL	THE CONDITION APPLIES TO SAME CONDITIONS THROUGHOUT UNLESS NOTED OTHERWISE

STANDARD ABBREVIATIONS LEGEND

ACT	ACOUSTICAL CEILING TILE
ADD	ADDENDUM
AFF	ABOVE FINISHED FLOOR
AL	ALUMINUM
ALT	ALTERNATE
ALUM	ALUMINUM
ANOD	ANODIZED
APPROX	APPROXIMATE(LY)
ARCH	ARCHITECT or ARCHITECTURAL
ASI	ARCHITECT'S SUPPLEMENTAL INSTRUCTIONS
AUX	AUXILIARY
BLDG	BUILDING
BSMT	BASEMENT
BTWN	BETWEEN
CD	CONSTRUCTION DOCUMENTS or CONTRACT DOCUMENTS
CJ	CONSTRUCTION JOINT or CONTROL JOINT
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CORR	CORRIDOR
DBL	DOUBLE
DEMO	DEMOLISH or DEMOLITION
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION or DIMENSIONAL
DW	DISHWASHER
DWG	DRAWING
EA	EACH
EJ	EXPANSION JOINT
ELEC	ELECTRIC(AL)
ELEV	ELEVATOR
EMER	EMERGENCY
EOS	EDGE OF SLAB
EQ	EQUAL
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FFE	FURNITURE, FIXTURES AND EQUIPMENT
FHC	FIRE HOSE CABINET
GA	GAUGE
GALV	GALVANIZED
HB	HOSE BIBB
HORIZ	HORIZONTAL
HT	HEIGHT
HVAC	HEATING, VENTILATION and AIR CONDITIONING
IBC	INTERNATIONAL BUILDING CODE
JAN	JANITOR
JT	JOINT
L	ANGLE
MAX	MAXIMUM
MECH	MECHANICAL
MEP	MECHANICAL, ELECTRICAL and PLUMBING
MEZZ	MEZZANINE
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO.	NUMBER
NOTE:	FOR ADDITIONAL ABBREVATIONS; REFER TO SPECIFICATION 01 4200 FOR COMPLETE INDUSTRY STANDARD ABBREVIATION LIST
NRC	NOISE REDUCTION COEFFICIENT
NTS	NOT TO SCALE
OC	ON-CENTER
OPNG	OPENING
OPP	OPPOSITE
PERIM	PERIMETER
PR	PAIR or PROPOSAL REQUEST
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED
QTY	QUANTITY
R	RADIUS, RISER or THERMAL RESISTANCE
RCP	REFLECTED CEILING PLAN
RD	ROAD or ROOF DRAIN
RE	REFER TO or REFERENCE
REV	REVISE, REVISED or REVISION
RM	ROOM
RO	ROUGH OPENING
ROW	RIGHT-OF-WAY
RTU	ROOFTOP UNIT
SAN	SANITARY
SF	SQUARE FOOT (FEET)
SHT	SHEET
SIM	SIMILAR
SPEC	SPECIFICATION(S)
SQ	SQUARE
STC	SOUND TRANSMISSION CLASS
STL	STEEL
STOR	STORAGE
TO	TOP OF
TOC	TOP OF CONCRETE
TOP	TOP OF PARAPET
TOS	TOP OF STEEL
TOW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VIF	VERIFY IN FIELD
W/	WITH
W/O	WITHOUT
WD	WOOD
WP	WORKING POINT
WT	WEIGHT

ARCHITECTURAL SYMBOLS LEGEND

BUILDING SECTION REFERENCE — # / X-###

WALL SECTION REFERENCE — # / X-###

DETAIL ELEVATION REFERENCE — # / X-###

INTERIOR ELEVATION REFERENCE — (# / X-### / #)

EXTERIOR ELEVATION REFERENCE — # / # / X-### / #

DETAIL CALLOUT — # / X-### TYP.

DIMENSION STRING — 8'-2"

CENTERLINE

GRID LABEL - NEW — #

GRID LABEL - EXISTING — #

ELEVATION LABEL — LEVEL 1 / 100' - 0"

EXTERIOR SYSTEM TAG — PWS_MET_2.1

INTERIOR PARTITION TYPE TAG — Fa2PX

WINDOW TAG — W#

CURTAIN WALL TAG — C#

STOREFRONT TAG — S#

SPOT ELEVATION — EL = 100'-0"

DOOR TAG — ####X

ROOM TAG — ROOM NAME / ####

AREA TAG — AREA NAME / 150 SF

CEILING HEIGHT TAG — 10'-10"

FINISH TAG — XX#

VIEW REFERENCE — 1 / A-101

KEYNOTE AND LEADER-TYPE 1 — F15

KEYNOTE AND LEADER-TYPE 2 — 07 2700 - SHEET WATERPROOFING

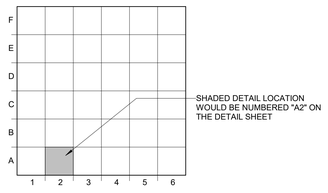
REVISION CLOUD AND TAG — 1

NORTH ARROW — N

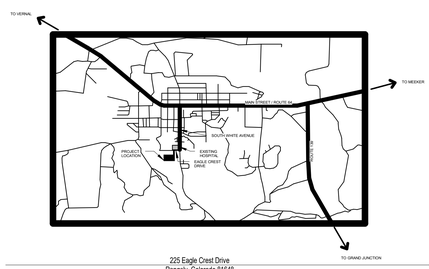
GRAPHIC SCALE

0' 4' 8' 16' 32' SCALE: 1/8" = 1'-0"

DETAIL NUMBERING
BATTLESHIP GRID ORDER



Location Map



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STATE OF COLORADO — J.D. DREYER — 403337 — 11/30/2022 — LICENSED ARCHITECT

Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
RANGELY, CO 81648

Sheet Information

Sheet Title:
SHEET INDEX AND PROJECT DATA

Sheet Number:
G-001

DPA Project: 21303.00.000

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11/30/2022 4:34:39 PM

(EXISTING) 2.2-3.11.2.6
PATIENT TOILET ROOM

(EXISTING) 2.2-3.11.2
ENDOSCOPY PROCEDURE ROOM

2.2-3.3.3.6
EQUIPMENT STORAGE FOR OPERATING ROOMS

2.2-3.3.6.14
EVS

2.2-3.3.3
OPERATING ROOM

2.2-3.3.8.13
EQUIPMENT STORAGE

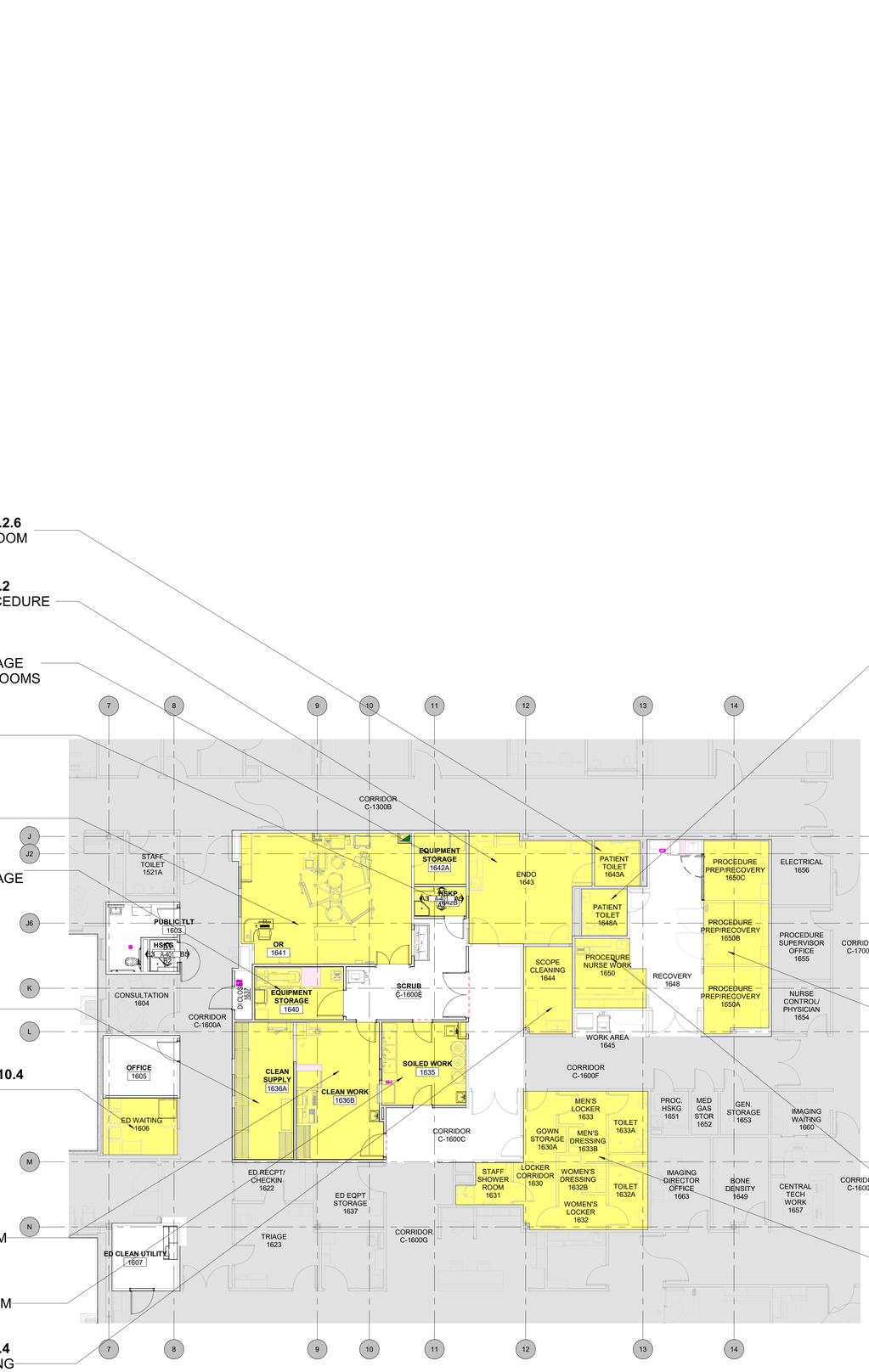
2.2-3.3.7.13
CLEAN SUPPLY

(EXISTING) 2.2-3.3.10.4
WAITING AREA

2.1-2.8.11
CLEAN WORKROOM

2.2-3.4.8.12
SOILED WORKROOM

(EXISTING) 2.2-3.11.4
SCOPE PROCESSING



A3 **LEVEL 1 - FGI ANALYSIS FLOOR PLAN**
1/8" = 1'-0"

(EXISTING) 2.2-3.3.5.10
PATIENT TOILET ROOM

2.1-3.4
PRE- AND POST-PROCEDURE CARE AREAS (WAIVER RECEIVED 7/1/2022 TO REMAIN 3 PATIENT CARE STATIONS INSTEAD OF FGI REQUIRED 4)

2.2-3.3.6.2
NURSE STATION

(EXISTING) 2.2-3.3.9.4
STAFF CHANGING AREAS (WAIVER RECEIVED 7/1/2022 TO ALLOW TOILET 1632A AND TOILET 1633A TO PROVIDE FOR FGI REQUIREMENT 2.2-3.3.5.9 STAFF TOILET IN PATIENT CARE AREA)

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Consultant(s)

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J.D. DRESHER
203337
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CONSTRUCTION DOCUMENTS	11/30/2022

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Sheet Information

Sheet Title:
FGI CODE COMPLIANCE

Sheet Number:
FGI-101

DPA Project: 21303.00.000

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EXIT ACCESS PATH OF TRAVEL SUMMARY - LEVEL 01

PATH #	PATH LENGTH	MIN. EXIT SEPARATION	MAX. COMMON PATH	MAX. DEADEND CORRIDOR	MAX. TRAVEL DISTANCE
DEADEND CORRIDOR					
DE1	17' - 0"	0"	0"	20'-0"	0"
EXIT ACCESS TRAVEL DISTANCE					
EA01	186' - 9"	200'-0"	0"	0"	200'-0"
EA02	198' - 4"	200'-0"	0"	0"	200'-0"

EXIT CAPACITY TABLE - LEVEL 01

EXIT NAME	DOOR WIDTH	DOOR FACTOR	DOOR CAPACITY (WIDTH / FACTOR)	STAIR WIDTH	STAIR FACTOR	STAIR CAPACITY (WIDTH / FACTOR)	EXIT CAPACITY	ACTUAL OCC. LOAD
EXIT DISCHARGE								
DOOR V-4	96"	0.250"	384	96"	0.199"	481	384	44
								44

OCCUPANT LOAD SUMMARY - LEVEL 01

FUNCTION OF SPACE	OCC. LOAD	AREA
ASSEMBLY - UNCONCTD - TABLES & CHAIRS	85	1,268 SF
BUSINESS AREAS - CONCTD	0	7,804 SF
INSTITUTIONAL - OUTPATIENT AREAS	143	14,250 SF
INSTITUTIONAL - SLEEPING AREAS	56	6,425 SF
TOTAL	284	29,748 SF

LIFE SAFETY LEGEND

FIRE SAFETY COMPONENTS (COORDINATE FINAL LOCATION(S) WITH LOCAL FIRE DEPARTMENT)

FEC **FIRE EXTINGUISHER CABINET**

EGRESS COMPONENTS

EA## EXIT ACCESS TRAVEL DISTANCE **= 60'-0" < 250' MAX.**

DE1 DEAD END CORRIDOR DISTANCE **= 15'-0" < 20' MAX.**

0 EXIT ACCESS (OCCUPANT LOAD)

0 EXIT DISCHARGE (OCCUPANT LOAD)

FIRE RATED WALL LEGEND

			FIRE DOOR ASSEMBLY RATINGS PER *IBC TABLE 716.1(2)*
FIRE BARRIER (B)	1HR		1 HOUR AT SHAFT, EXIT ENCLOSURE; EXIT PASSAGEWAY WALLS; 3/4 HOUR AT OTHER FIRE BARRIERS
	2HR		1 1/2 HOUR
FIRE SMOKE EXTER. BOUNDRIES	HORIZONTAL EXIT MODIFIER (H)		
	SMOKE PARTITION (V)		(c)
	SMOKE BARRIER (X)		1/3 HOUR(b)
	WALL RESISTING THE PASSAGE OF SMOKE (Y)		(d)(e)
NON-RATED	NEW WALL		
	EXISTING WALL (HALFTONE)		

(a) **IBC TABLE 716.1(2)** - TWO DOORS, EACH WITH A FIRE PROTECTION RATING OF 1½ HOURS, INSTALLED ON OPPOSITE SIDES OF THE SAME OPENING IN A FIRE WALL, SHALL BE DEEMED EQUIVALENT TO ONE 3HR FIRE DOOR.

(b) **IBC TABLE 716.1(2)** - FIRE-RESISTIVE-RATED GLAZING FOR OPENINGS AS A PART OF A FIRE BARRIER, FIRE WALL, FIRE PARTITION AND OR CORRIDOR WALL ARE PER **SECTION 716.1.2.3**

(c) **IBC 716.2.1.4** - FIRE DOOR ASSEMBLIES THAT SERVE AS SMOKE AND DRAFT CONTROL ASSEMBLIES SHALL BE TESTED IN ACCORDANCE WITH **UL 1784**.

(d) **IBC 716.2.6.4** - AUTOMATIC-CLOSING FIRE DOOR ASSEMBLIES SHALL BE SELF-CLOSING IN ACCORDANCE WITH **NFPA 80**.

(e) **IBC 509.4.2** - DOORS SHALL BE SELF- OR AUTOMATIC-CLOSING UPON DETECTION OF SMOKE PER **SECTION 716.2.6.6**. NO AIR TRANSFER OPENINGS AND UNDERCUTS IN EXCESS OF THE CLEARANCE PERMITTED PER **NFPA 80**. WALLS SURROUNDING THE INCIDENTAL USE SHALL NOT HAVE AIR TRANSFER OPENINGS UNLESS PROVIDED WITH SMOKE DAMPERS PER **SECTION 710.8**.

PROJECT DESCRIPTION: **THIS PROJECT IS A 2,012 SF RENOVATION TO RANGELY DISTRICT HOSPITAL IN RANGELY, COLORADO. TO UPGRADE THE EXISTING PROCEDURE SUITE TO A SURGERY DEPARTMENT. THE RENOVATIONS INCLUDE ENLARGING THE EXISTING PROCEDURE ROOM TO A 400 SF OPERATING ROOM, ADDING CLEAN STORAGE AND A HOUSEKEEPING CLOSET, AND RELOCATING A PUBLIC TOILET, CLEAN UTILITY, OFFICE AND A HOUSEKEEPING CLOSET.**

APPLICABLE BUILDING CODES:

2021	INTERNATIONAL BUILDING CODE
2021	INTERNATIONAL ENERGY CONSERVATION CODE
2021	INTERNATIONAL MECHANICAL CODE
2018	INTERNATIONAL FUEL GAS CODE
2018	INTERNATIONAL PLUMBING CODE
2020	NATIONAL ELECTRICAL CODE
2021	INTERNATIONAL FIRE CODE
2017	ICC/ANSI A117.1 ACCESSIBILITY STANDARD
2012	NFPA 101
2018	FACILITY GUIDELINES INSTITUTE

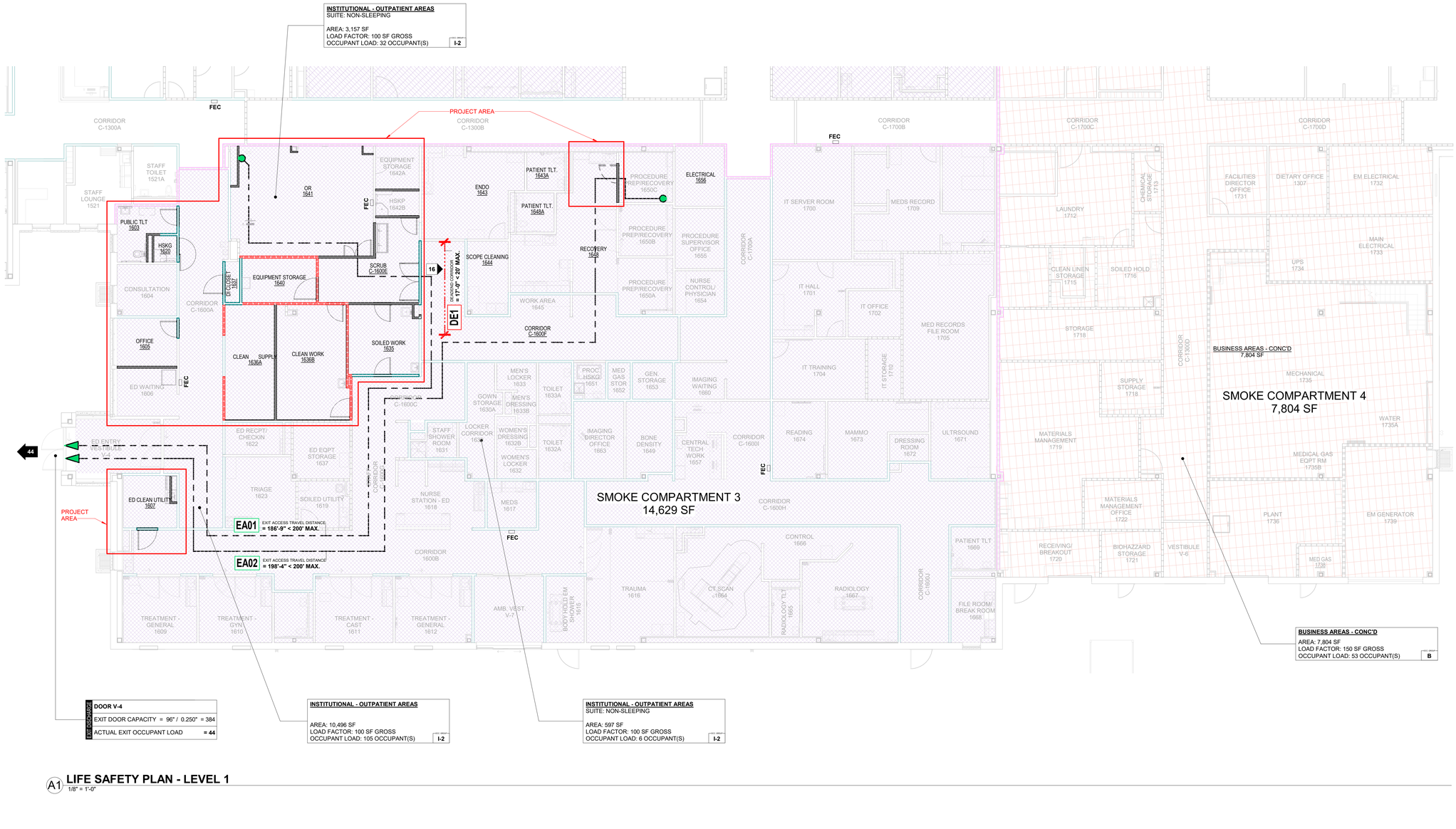
	IBC (2021)	NFPA (2012)
CONSTRUCTION TYPE:	I-B (EXISTING)	I-332
OCCUPANCY CLASSIFICATION:	I-2	EXISTING HEALTHCARE
	B	
LIFE SAFETY SYSTEMS:	FULLY SPRINKLERED	
MAX. TRAVEL DISTANCE ALLOWED TO EXIT:	200 FEET (407.5.2, TABLE 1017.2)	
NUMBER OF EXITS REQUIRED:	2 (1006.2)	
NUMBER OF EXITS PROVIDED:		

EXISTING FIRE RESISTIVE REQUIREMENTS TO BE MAINTAINED: (RESTRAINED / UNRESTRAINED)

CONSTRUCTION (TYPE 1B)	**IBC RATING**
STRUCTURAL FRAME	2 HOURS
EXTERIOR BEARING WALLS	2 HOURS
INTERIOR BEARING WALLS	2 HOURS
EXTERIOR NONBEARING WALLS	1 HOUR
FLOOR CONSTRUCTION	2 HOURS
ROOF CONSTRUCTION & CANOPY	1 HOUR

NOTE:

- RE: **A-710** FOR PARTITION TYPES SCHEDULE, WALL RATINGS & UL ASSEMBLIES AT ADDITIONAL INTERIOR PARTITIONS.
- RE: SPEC. **SECTION 07 8413** PENETRATION FIRESTOPPING FOR USE OF UL ASSEMBLIES AT THROUGH-PENETRATION FIRESTOP CONDITIONS.



A1 **LIFE SAFETY PLAN - LEVEL 1**
1/8" = 1'-0"

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LIFE SAFETY PLAN - LEVEL 01

Sheet Number:
LS-101

DPA Project: 21303.00.000

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UL Product iQ®

BXUV.U419 - Fire-resistance Ratings - ANSI/UL 263

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

Fire-resistance Ratings - ANSI/UL 263

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

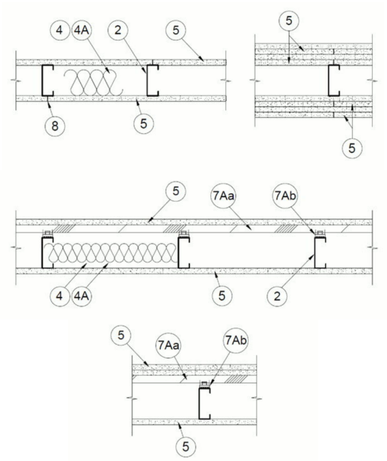
See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. **U419**

September 5, 2022

Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr (See Items 4 & 5 through 5J)
*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Floor and Ceiling Runners —** (Not Shown) — For use with Item 2 — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth to accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.

1A. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper25™ Track

CRACO MFG INC — SmartTrack25™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™ Track

IMPERIAL MANUFACTURING GROUP INC — Viper25™ Track

1B. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2C, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™ Track

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track

IMPERIAL MANUFACTURING GROUP INC — Viper20™ Track

1C. **Framing Members* — Floor and Ceiling Runners —** (Not Shown) — In lieu of Item 1 — Channel shaped, attached to floor and ceiling with fasteners 24 in. OC. max.
ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME D24/30EQD and Type SUPREME D20

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME D24/30EQD and Type SUPREME D20

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME D24/30EQD and Type SUPREME D20

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME D24/30EQD and Type SUPREME D20

TELLING INDUSTRIES L L C — Type SUPREME D24/30EQD and Type SUPREME D20

UNITED METAL PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

1D. **Floor and Ceiling Runners —** (Not Shown) — For use with Item 2A — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, min depth to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners spaced max 24 in. OC.

1E. **Framing Members* — Floor and Ceiling Runners —** (Not Shown, As an alternate to Item 1) — For use with Items 2E, 5F or 5G or 5I only, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max.
CLARKDIETRICH BUILDING SYSTEMS — CD ProTRAK

DMFCWBS L L C — ProTRAK

MBA METAL FRAMING — ProTRAK

RAM SALES L L C — Ram ProTRAK

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProTRAK

1F. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2F, proprietary channel shaped runners, minimum width to accommodate stud size, with 1- 1/8 in. long legs fabricated from min 0.015 in. (min bare metal thickness) galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
SUPER STUD BUILDING PRODUCTS — The Edge

1G. **Framing Members* — Floor and Ceiling Runner —** For use with Item 2G, proprietary channel shaped runners, minimum width to accommodate stud size attached to floor and ceiling with fasteners 24 in. OC max.
STUDCO BUILDING SYSTEMS — CROCSTUD Track

1H. **Floor and Ceiling Runners —** (Not Shown) — Channel shaped, fabricated from min 0.02 in. galv steel, min width to accommodate stud size, with min 1 in. long legs, for use with studs specified below and fabricated from min 0.018 in. galv steel or thicker, attached to floor and ceiling with fasteners spaced max 24 in. OC.
MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track VT100

IMPERIAL MANUFACTURING GROUP INC — Viper20™ Track VT100

1I. **Framing Members* — Floor and Ceiling Runners —** (Not Shown, As an alternate to Item 1) — For use with Items 2H, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max.
TELLING INDUSTRIES L L C — TRUE-TRACK™

1J. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2I, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.

1K. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2J, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

1L. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2N, proprietary channel shaped runners, 1-1/4 in. wide by min. 3-1/2 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
RESCUE METAL FRAMING, L L C — AlphaTRAK

1M. **Framing Members* — Floor and Ceiling Runners —** Not Shown — As an alternate to Item 1 — For use with Item 2O, proprietary channel shaped runners, min width to accommodate stud size, galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
RONDO BUILDING SERVICES PTY LTD — Rondo Wall Track

1N. **Framing Members* — Floor and Ceiling Runners —** Not Shown — As an alternate to Item 1 — For use with Item 2P, proprietary channel shaped runners, min width to accommodate stud size, galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
OEG BUILDING MATERIALS — OEG Track

1O. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2Q, proprietary channel shaped runners, min width to accommodate stud size, fabricated from min. 25 MSG (0.018 in. min. bare metal thickness), attached to floor and ceiling with fasteners spaced 24 in. OC max.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper X Track

2. **Steel Studs —** Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

2A. **Steel Studs —** (As an alternate to Item 2, For use with Items 5B, 5E, 5H, 5J or Type ULIX) — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, 3-1/2 in. min depth, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height.

2B. **Framing Members* - Steel Studs —** (As an alternate to Item 2, For use with Items 5C, 5I or Type ULIX) — Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in less than the assembly height and installed with a 1/2 in. gap between the end of the stud and track at the bottom of the wall. For direct attachment of gypsum board only.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper25™

CRACO MFG INC — SmartStud25™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™

IMPERIAL MANUFACTURING GROUP INC — Viper25™

2C. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™

IMPERIAL MANUFACTURING GROUP INC — Viper20™

2D. **Framing Members* — Steel Studs —** In lieu of Item 2 — Channel shaped studs, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME D24/30EQD and Type SUPREME D20

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME D24/30EQD and Type SUPREME D20

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME D24/30EQD and Type SUPREME D20

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME D24/30EQD and Type SUPREME D20

TELLING INDUSTRIES L L C — Type SUPREME D24/30EQD and Type SUPREME D20

UNITED METAL PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

2E. **Framing Members* — Steel Studs —** (Not Shown, As an alternate to Item 2) — For use with Items 5F or 5G or 5I or Type ULIX only, channel shaped studs, min depth as indicated under Item 5F, 5G or 5I, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
CLARKDIETRICH BUILDING SYSTEMS — CD ProSTUD

DMFCWBS L L C — ProSTUD

MBA METAL FRAMING — ProSTUD

RAM SALES L L C — Ram ProSTUD

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProSTUD

2F. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, minimum width indicated under Item 5, 1-1/4 in. deep fabricated from min 0.015 in. (min bare metal thickness) galvanized steel. Studs 3/8 in. to 3/4 in. less in lengths than assembly heights.
SUPER STUD BUILDING PRODUCTS — The Edge

2G. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — proprietary channel shaped studs, minimum width indicated under Item 5, Studs to be cut 3/8 to 3/4 in less than the assembly height.
STUDCO BUILDING SYSTEMS — CROCSTUD

2H. **Framing Members* — Steel Studs —** (Not Shown, As an alternate to Item 2) — Fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
TELLING INDUSTRIES L L C — TRUE-STUD™

2I. **Framing Members* — Steel Studs —**

2J. **Framing Members* — Metal Studs —** Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights

2K. **Framing Members* — Steel Studs —** As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
EB METAL INC — NITROSTUD

2L. **Framing Members* — Steel Studs —** As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
OLMAR SUPPLY INC — PRIMESTUD

2M. **Framing Members* — Steel Studs —** As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
MARINO/WARE, DIV OF WARE INDUSTRIES INC — StudRite™

2N. **Framing Members*— Steel Studs —** As an alternate to Item 2 — proprietary channel shaped steel studs, min depth 3-1/2 in. and as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in length than assembly height.
RESCUE METAL FRAMING, L L C — AlphaSTUD

2O. **Framing Members* — Steel Studs —** As an alternate to Item 2 — proprietary channel shaped steel studs, min width as indicated under Item 5, galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max.
RONDO BUILDING SERVICES PTY LTD — Rondo Lipped Wall Stud

2P. **Framing Members* — Steel Studs —** As an alternate to Item 2 — proprietary channel shaped steel studs, min width as indicated under Item 5, min 25 MSG galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max.
OEG BUILDING MATERIALS — OEG Stud

2Q. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — For use with Item 1O, proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min 25 MSG (0.018 in. min. bare metal thickness). Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper X

3. **Wood Structural Panel Sheathing —** (Optional, For use with Item 5 Only) — (Not Shown) — 4 ft wide, 7/16 in. thick oriented strand board (OSB) or 15/32 in. thick structural 1 sheathing (plywood) complying with DOC PS1 or PS2, or APA Standard PRP-108, manufactured with exterior glue, applied horizontally or vertically to the steel studs. Vertical joints centered on studs, and staggered one stud space from wallboard joints. Attached to studs with flat-head self-drilling tapping screws with a min. head diam. of 0.292 in. at maximum 6 in. OC. in the perimeter and 12 in. OC. in the field. When used, gypsum panels attached over OSB or plywood panels and fastener lengths for gypsum panels increased by min. 1/2 in.

4. **Batts and Blankets* —** (Required as indicated under Item 5) — Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 5.
See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4A. **Batts and Blankets* —** (Optional) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance.
See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4B. **Fiber, Sprayed* —** (Optional, for use with Type ULIX) Where insulation is required - Spray applied granulated mineral fiber material. The fiber is applied with adhesive at a minimum density of 4.0 pcf to completely fill the wall cavity in accordance with the application instructions supplied with the product. See **Fiber, Sprayed** (CCAZ).
AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

4C. **Foamed Plastic* —** (Where Batts and Blankets*, Item 4, are optional, for use with Item 5K) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity, for 2 hour rated assemblies only. When foamed plastic is used, minimum stud depth shall be 3-1/2 in.

CARLISLE SPRAY FOAM INSULATION — Types SealTite Pro Closed Cell (CC), SealTite Pro Open Cell (OC), SealTite Pro OCX, SealTite Pro No Trim 21, SealTite Pro One Zero, Foamulate Closed Cell, Foamulate OCX, Foamulate 70, and Foamulate HFO.

4D. **Foamed Plastic* —** (Where Batts and Blankets*, Item 4, are optional, for use with Item 5L) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity, for up to 2 hour rated assemblies only. When foamed plastic is used, minimum stud depth shall be 3-1/2 in. with minimum 20 MSG steel thickness.

BASF CORP - Enertite® NM, Enertite® G, FE178®, Spraytite® 178, Spraytite® 81206, Walltite® 200, Walltite® US, Walltite® US-N, Walltite HP+, FE137®, FE158®, Spraytite® 158, Spraytite® SP and Sprayrite® 81205

5. **Gypsum Board* —** Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) with Type ULIX need not be staggered. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Items 2, 2C, 2D, 2F, 2G, 2O	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4)
1	3-1/2	1 layer, 5/8 in. thick	Optional
1	2-1/2	1 layer, 1/2 in. thick	1-1/2 in.
1	1-5/8	1 layer, 3/4 in. thick	Optional
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
2	3-1/2	1 layer, 3/4 in. thick	3 in.
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	2 layers, 3/4 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional
4	2-1/2	2 layers, 3/4 in. thick	2 in.

CGC INC — 1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, WRX or WRC; 3/4 in. thick Types IP-X3 or ULTRACODE

THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — 1/2 in. thick Type C and 5/8 in. thick Type SCX

UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SGX, SHX, ULIX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR; 3/4 in. thick Types IP-X3 or ULTRACODE

USG BORAL DRYWALL SFZ LLC — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, ULTRACODE

USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or; 3/4 in. thick Types IP-X3 or ULTRACODE

When Item 7B, **Steel Framing Members***, is used, Nonbearing Wall Rating is limited to 1 Hr. Min. stud depth is 3-1/2 in., min. thickness of insulation (Item 4) is 3 in., and two layers of gypsum board panels (1/2 in. or 5/8 in. thick) shall be attached to furring channels as described in Item 6. One layer of gypsum board panels (1/2 in. or 5/8 in. thick) attached to opposite side of stud without furring channels as described in Item 6.

5A. **Gypsum Board* —** (As an alternate to Item 5) — 5/8 in. thick, 24 to 54 in. wide, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 6.
CGC INC — Type SHX.

UNITED STATES GYPSUM CO — Type FRX-G, SHX.

USG MEXICO S A DE C V — Type SHX.

5B. **Gypsum Board* —** (Not Shown) — As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 in or 3/4 in. thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) — Nom 5/8 in. or 3/4 in. may be used as alternate to all 5/8 in. or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 in. or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to 20 MSG steel studs Item 2A with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. To be used with Lead Batten Strips (see Item 11) or Lead Discs or Tabs (see Item 12).
RAY-BAR ENGINEERING CORP — Type RB-LBG

DAVIS PARTNERSHIP ARCHITECTS
2901 Blake Street, Suite 100
Denver, CO 80205
303.861.8555

Consultant(s)

Stamp

STATE OF COLORADO
J.D. DREYER
203337
11/30/2022
LICENSED ARCHITECT

Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
RANGELY, CO 81648

Sheet Information

Sheet Title:
UL ASSEMBLIES

Sheet Number:
LS-201

DPA Project: 21303.00.000

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5C. **Gypsum Board* —** (For Use With Item 2B) — Rating Limited to 1 Hour. 5/8 in. thick, 48 in. wide, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. (Vertical Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. Vertical joints are to be centered over studs and staggered one stud cavity on opposite sides of studs. (Horizontal Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. All horizontal joints are to be backed as outlined under section VI of Volume 1 in the Fire Resistive Directory.
CGC INC — Type SCX, ULIX.

THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Type SCX

UNITED STATES GYPSUM CO — Type SCX, SGX, ULIX.

USG BORAL DRYWALL SFZ LLC — Type SCX

USG MEXICO S A DE C V — Type SCX

5D. **Gypsum Board* —** (As an alternate to Item 5) — 5/8 in. thick, 48 in. wide, applied vertically or horizontally. Secured as described in Item 6. For use with Items 1 and 2 only.
CGC INC — Type USGX

UNITED STATES GYPSUM CO — Type USGX

USG BORAL DRYWALL SFZ LLC — Type USGX

USG MEXICO S A DE C V — Type USGX

5E. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nominal 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 (or No. 6 by 1-1/4 in. long bugle head fine driller) steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.
NEW ENGLAND LEAD BURNING CO INC, DBA NELCO — Nelco

5F. **Gypsum Board* —** (As an alternate to Item 5) — For use with Items 1E and 2E and limited to 1 Hour Rating only, Gypsum panels with beveled, square or tapered edges, applied vertically, and fastened to the steel studs with 1 in. long Type S screws spaced 8 in. OC along vertical and bottom edges and 12 in. OC in the field. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Steel stud depth shall be a minimum 3-5/8 in.
THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Type SCX

UNITED STATES GYPSUM CO — 5/8 in. thick Type SCX, SGX, ULIX

USG BORAL DRYWALL SFZ LLC — 5/8 in. thick Type SCX, SGX

5G. **Gypsum Board* —** (As an alternate to Item 5) — For use with Items 1E and 2E only, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally, as specified in the table below and fastened to the steel studs as described in Item 6. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Item 2E	No. of Layers & Thickness of Panel	Min Thkns of Insulation (Item 4)
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional

CGC INC — 1/2 in. thick Type C, IP-X2 or IPC-AR;, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX or 3/4 in. thick Types IP-X3 or ULTRACODE

THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — 1/2 in. thick Types C and 5/8 in. thick SCX

UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type SCX, SGX, SHX, IP-X1, AR, C, , FRX-G, IP-AR, IP-X2, IPC-AR, ULIX; 3/4 in. thick Types IP-X3 or ULTRACODE

USG BORAL DRYWALL SFZ LLC — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, ULTRACODE

USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, or; 3/4 in. thick Types IP-X3 or ULTRACODE

5H. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 or 3/4 in thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) - Nom 5/8 or 3/4 in. may be used as alternate to all 5/8 or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Gypsum board secured to 20 MSG steel studs Item 2B with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 11A) or Lead Discs (see Item 12A).
MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

5I. **Gypsum Board* —** (As an alternate to Item 5) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 5. Steel stud minimum depth shall be as indicated in Item 5.
CGC INC — Type ULIX, ULX

UNITED STATES GYPSUM CO — Type ULIX, ULX

USG MEXICO S A DE C V — Type ULX

5J. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in, placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".
RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

5K. **Gypsum Board* —** (As an alternate to Item 5 when Foam Plastic insulation (Item 4C) is used) **—** Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 5 above. Applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Gypsum panels secured to studs with 1 in. long Type S steel screws spaced 8 in. OC at perimeter and in the field. For 2 layer assemblies outer layer will be attached to studs over inner layer with the 1-5/8 in. long steel screws spaced 8 in. OC.

5L. **Gypsum Board* —** (As an alternate to Item 5 when Foam Plastic insulation (Item 4D) is used) **—** Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 5 above. Applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Gypsum panels secured to studs with 1-1/4 in. long Type S steel screws spaced 8 in. OC at perimeter and in the field. For 2 layer assemblies outer layer will be attached to studs over inner layer with the 1-7/8 in. long steel screws spaced 8 in. OC.

6. **Fasteners —** (Not Shown) — For use with Items 2 and 2F - Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 7). **Single layer systems:** 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. **Single layer system with Type ULIX:** 1 in. long, spaced 12 in. OC in the field and perimeter, when panels are applied horizontally or vertically.**Two layer systems:** First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer.**Three-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. **Four-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.

7. **Furring Channels —** (Optional, Not Shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Item 5A.

7A. **Framing Members* —** (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Aa) to studs (Item 2). Clips spaced max. 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 9/16 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.
PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).

7B. **Framing Members* —** (Optional, Not Shown) — As an alternate to Item 7, for single or double layer systems, furring channels and Steel Framing Members on only one side of studs as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 5. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Ba) to one side of studs (Item 2) only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.
KINETICS NOISE CONTROL INC — Type Isomax

7C. **Framing Members* —** (Not Shown) — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Ca) to studs (Item 2). Clips spaced max. 48 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.
PLITEQ INC — Type GENIECLIP

7D. **Steel Framing Members* —** (Optional on one or both sides, not shown, for single or double layer systems) — Furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire.. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Da) to studs. Clips spaced 48 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

7E. **Steel Framing Members* —** (Optional on one or both sides, not shown, for single or double layer systems) — Furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 7Eb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire.. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A and 5E.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Ea) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
REGUPOL AMERICA — Type SonusClip

7F. **Steel Framing Members* —** (Optional on one or both sides, not shown, for single or double layer systems) — Resilient channels and Steel Framing Members as described below:
a. **Resilient Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 5. Not for use with Item 5A and 5E.

b. **Steel Framing Members* —** Used to attach resilient channels (Item 7Fa) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw.
KEENE BUILDING PRODUCTS CO INC — Type RC+ Assurance Clip

7G. **Framing Members* —** (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Ga) to studs (Item 2). Clips spaced max. 48 in. OC. Clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips.
CLARKDIETRICH BUILDING SYSTEMS — Type ClarkDietrich Sound Clip

8. **Joint Tape and Compound —** Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layer panels. Paper tape and joint compound may be omitted when gypsum panels are supplied with a square edge.

9. **Siding, Brick or Stucco —** (Optional, Not Shown) — Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.

10. **Caulking and Sealants* —** (Optional, Not Shown) — A bead of acoustical sealant applied around the partition perimeter for sound control.
UNITED STATES GYPSUM CO — Type AS

11. **Lead Batten Strips —** (Not Shown, For Use With Item 5B) — Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5B) and optional at remaining stud locations. Required behind vertical joints.

11A. **Lead Batten Strips —** (Not Shown, For Use With Item 5H) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations.

12. **Lead Discs or Tabs —** (Not Shown, For Use With Item 5B) — Used in lieu of or in addition to the lead batten strips (Item 11) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 5B) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

12A. **Lead Discs —** (Not Shown, for use with Item 5H) — Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

13. **Lead Batten Strips —** (Not Shown, For Use With Item 5E) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.142 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5E) and optional at remaining stud locations.

14. **Lead Tabs —** (Not Shown, For Use With Item 5E) — 2 in. wide, 5 in. long with a max thickness of 0.142 in. Tabs friction-fit around front face of stud, the stud folded back flange, and the back face of the stud. Tabs required at each location where a screw (that secures the gypsum boards, Item 5E) will penetrate the steel stud. Lead tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary.

15. **Barrier Mesh —** (Optional, Not Shown) - Attached to steel studs on one or both sides of the wall using Barrier Mesh Clips spaced at maximum 12 inches on center vertically, using a flat head type screw penetrating through the steel at least 3/8 of an inch. For Steel Studs less than 0.033 inches in thickness, use self-piercing screws. For Steel Studs equal to or greater than 0.033 inches in thickness, use steel drill screws (self-tapping). Gypsum Board (Item 5) to be installed directly over the Barrier Mesh using prescribed screw patterns with lengths increased by a minimum 1/8 in. Barrier Mesh may be installed with the long dimension of the diamond pattern positioned vertically or horizontally. Barrier Mesh joints may occur as butt joints at the framing members and secured using the Barrier Mesh Clips or occur in between framing members as overlapping joints secured using 18 SWG wire ties spaced a maximum 12 in. on center.
CLARKDIETRICH BUILDING SYSTEMS — Barrier Mesh, Barrier Mesh Clips

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2022-09-05

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Consultant(s)

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STATE OF COLORADO
J.D. DREWER
203337
11/30/2022
LICENSED ARCHITECT

Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
RANGELY, CO 81648

Sheet Information

Sheet Title:
UL ASSEMBLIES

Sheet Number:
LS-202

DPA Project: 21303.00.000

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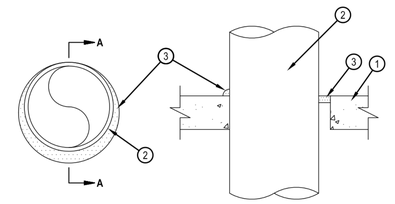
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System No. C-AJ-1291

CAJ 1291

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Rating — 2 Hr
	FTH Rating — 0 Hr



SECTION A-A

1. Floor or Wall Assembly — Min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 30-7/8 in. (784 mm). See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Through-Penetrant — One metallic pipe or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between pipe or conduit and periphery of opening shall be min 0 in. to max 7/8 in. (22 mm). Pipe or conduit to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes or conduits may be used:
   A. Steel Pipe — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
   C. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
   D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Conduit — Nom 6 in. (152 mm) diam (or smaller) steel conduit.
   F. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT).
3. Fill, Void or Cavity Material* — Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall. At the point contact location between pipe and concrete, a min 1/4 in. (6 mm) diam bead of fill material shall be applied at the concrete/pipe interface on the top surface of floor and on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealeant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

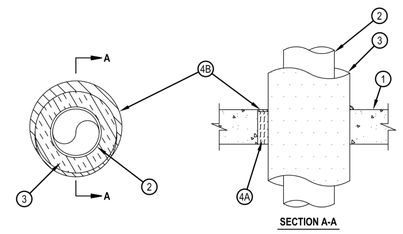
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System No. C-AJ-5301

CAJ 5301

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 0 and 1-1/2 Hr (See Item 3)	FT Rating — 0 and 1-1/2 Hr (See Item 3)
	FH Rating — 2 Hr
	FTH Rating — 0 and 1-1/2 Hr (See Item 3)



SECTION A-A

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete floor or min 5 in. (127 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete wall. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 12 in. (305 mm). See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Through Penetrants — One metallic pipe or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes or tubing may be used:
   A. Steel Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe.
   B. Iron Pipe — Nom 6 in. (152 mm) diam (or smaller) cast or ductile iron pipe.
   C. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   D. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

Hilti Firestop Systems

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System No. C-AJ-5301

CAJ 5301

3. Pipe Covering* — Min 1/2 in. (13 mm) to max 2 in. (51 mm) thick hollow cylindrical heavy density (3.5 pcf or 56 kg/m3) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. Annular space between insulated penetrant and the periphery of the opening shall be a min 0 in. (point contact) to a max 1-7/8 in. (48 mm). When thickness of pipe covering is less than 2 in. (51 mm), the T Rating for the firestop system is 0 hr.
   See Pipe and Equipment Covering — Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
4. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 4-1/4 in. (108 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material* — Sealant — Min 1/4 in. (6 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall. Min 1/2 in. (13 mm) bead of sealant applied at point contact location.
      HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-ONE MAX Intumescent Sealeant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

DAVIS PARTNERSHIP ARCHITECTS
2901 Blake Street, Suite 100
Denver, CO 80205
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Consultant(s)

Stamp

STATE OF COLORADO
J.D. DREHER
#20337
11/30/2022
LICENSED ARCHITECT

Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
RANGELY, CO 81648

Sheet Information

Sheet Title:
UL ASSEMBLIES

Sheet Number:
LS-203

DPA Project: 21303.00.000

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STRUCTURAL GENERAL NOTES

DESIGN LOADS:

1. DESIGN LOADS: 2021 INTERNATIONAL BUILDING CODE, ASCE 7-16
2. RISK CATEGORY: IV ESSENTIAL FACILITY
3. ROOFS:
   - A. EXISTING ROOF DEAD LOAD — 30 PSF
   - B. GROUND SNOW LOAD, Pg — 35 PSF
   - C. FLAT-ROOF SNOW LOAD, Pf — 40 PSF
   - D. SNOW EXPOSURE FACTOR, Ce — 1.0
   - E. SNOW IMPORTANCE FACTOR, Is — 1.2
   - F. THERMAL FACTOR, Ct — 1.0
4. WIND:
   - A. ULTIMATE DESIGN WIND SPEED, V_{ULT}, (3-SECOND GUST) — 110 MPH
   - B. WIND EXPOSURE — C
5. SEISMIC:
   - A. SPECTRAL RESPONSE ACCELERATION PARAMETERS
     1. SHORT PERIOD
        - a. S_S — 0.309g
        - b. S_{DS} — 0.319g
     2. ONE SECOND
        - a. S_1 — 0.075g
        - b. S_{D1} — 0.120g
   - B. SOILS SITE CLASS — D
   - C. SEISMIC IMPORTANCE FACTOR — 1.5
   - D. SEISMIC DESIGN CATEGORY — C

STRUCTURAL STEEL:

1. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" (AISC 360) AND THE "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" (AISC 303) BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).
2. STRUCTURAL STEEL WIDE FLANGE BEAMS AND WTS SHALL CONFORM TO ASTM A992, 50 KSI YIELD.
3. OTHER ROLLED SHAPES, INCLUDING PLATES, CHANNELS, AND ANGLES SHALL CONFORM TO ASTM A36, 36 KSI YIELD.
4. HOLLOW STRUCTURAL SECTION (HSS) RECTANGULAR SHAPES SHALL CONFORM TO ASTM A500, GRADE C, 50 KSI YIELD.
5. HSS ROUND SHAPES SHALL CONFORM TO ASTM A500, GRADE C, 46 KSI YIELD.
6. BOLTED CONNECTIONS SHALL BE BEARING-TYPE WITH 7/8" DIAMETER, SNUG TIGHT, ASTM F3125 BOLTS, DETAILED IN CONFORMANCE WITH THE STRUCTURAL DRAWINGS AND THE "STEEL CONSTRUCTION MANUAL" BY THE AISC. INSTALL BOLTS IN ACCORDANCE WITH AISC'S "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS".
7. WELDING SHALL BE DONE BY A CERTIFIED WELDER IN ACCORDANCE WITH THE AISC DOCUMENTS LISTED ABOVE, THE AMERICAN WELDING SOCIETY (AWS) D1.1: STRUCTURAL WELDING CODE, AND THE RECOMMENDATIONS FOR USE OF WELD E70 ELECTRODES. WHERE NOT SPECIFICALLY NOTED, MINIMUM WELD SHALL BE 3/16" FILLET BY LENGTH OF CONTACT EDGE.

SHOP DRAWINGS:

1. THE STRUCTURAL DRAWINGS ARE COPYRIGHTED AND SHALL NOT BE COPIED FOR USE AS ERECTION PLANS OR SHOP DETAILS. USE OF JVA'S ELECTRONIC FILES AS THE BASIS FOR SHOP DRAWINGS REQUIRES PRIOR APPROVAL BY JVA, A SIGNED RELEASE OF LIABILITY BY THE GENERAL CONTRACTOR AND/OR HIS SUBCONTRACTORS, AND DELETION OF JVA'S NAME AND LOGO FROM ALL SHEETS SO USED.
2. THE GENERAL CONTRACTOR SHALL SUBMIT IN WRITING ANY REQUESTS TO MODIFY THE STRUCTURAL DRAWINGS OR PROJECT SPECIFICATIONS.
3. ALL SHOP AND ERECTION DRAWINGS SHALL BE CHECKED AND STAMPED (AFTER HAVING BEEN CHECKED) BY THE GENERAL CONTRACTOR PRIOR TO SUBMISSION FOR STRUCTURAL ENGINEER'S REVIEW; SHOP DRAWING SUBMITTALS NOT CHECKED BY THE GENERAL CONTRACTOR PRIOR TO SUBMISSION TO THE STRUCTURAL ENGINEER WILL BE RETURNED WITHOUT REVIEW.
4. FURNISH ELECTRONIC VERSION (PDF) OF SHOP AND ERECTION DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION FOR:
   - A. STRUCTURAL STEEL
5. SUBMIT IN A TIMELY MANNER TO PERMIT 10 WORKING DAYS FOR REVIEW BY THE STRUCTURAL ENGINEER.
6. SHOP DRAWINGS SUBMITTED FOR REVIEW DO NOT CONSTITUTE "REQUEST FOR CHANGE IN WRITING" UNLESS SPECIFIC SUGGESTED CHANGES ARE CLEARLY MARKED. IN ANY EVENT, CHANGES MADE BY MEANS OF THE SHOP DRAWING SUBMITTAL PROCESS BECOME THE RESPONSIBILITY OF THE ONE INITIATING THE CHANGE.

FIELD VERIFICATION OF EXISTING CONDITIONS:

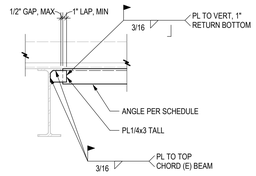
1. THE GENERAL CONTRACTOR SHALL THOROUGHLY INSPECT AND SURVEY THE EXISTING STRUCTURE TO VERIFY CONDITIONS THAT AFFECT THE WORK SHOWN ON THE DRAWINGS.
2. THE GENERAL CONTRACTOR SHALL REPORT ANY VARIATIONS OR DISCREPANCIES TO THE ARCHITECT AND STRUCTURAL ENGINEER BEFORE PROCEEDING.

STRUCTURAL COORDINATION, ERECTION AND BRACING REQUIREMENTS:

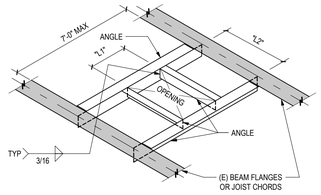
1. THE STRUCTURAL DRAWINGS ILLUSTRATE AND DESCRIBE THE COMPLETED STRUCTURE WITH ELEMENTS IN THEIR FINAL POSITIONS, PROPERLY SUPPORTED, CONNECTED, AND/OR BRACED. NOTHING SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE CONSTRUED AS ELIMINATING THE NEED FOR THE CONTRACTOR TO COMPLY WITH ALL OSHA REQUIREMENTS.
2. THE GENERAL CONTRACTOR, IN THE PROPER SEQUENCE, SHALL PERFORM OR SUPERVISE ALL WORK NECESSARY TO ACHIEVE THE FINAL COMPLETED STRUCTURE, AND TO PROTECT THE STRUCTURE, WORKMEN, AND OTHERS DURING CONSTRUCTION.
3. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL WORK, INCLUDING SEQUENCE OF CONSTRUCTION, LAYOUT AND DIMENSION VERIFICATION WITH ARCHITECTURAL DRAWINGS. MATERIALS COORDINATION, SHOP DRAWING REVIEW, AND THE WORK OF SUBCONTRACTORS. ANY DISCREPANCIES OR OMISSIONS DISCOVERED IN THE COURSE OF THE WORK SHALL BE IMMEDIATELY REPORTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR RESOLUTION. CONTINUATION OF WORK WITHOUT NOTIFICATION OF DISCREPANCIES RELIEVES THE ARCHITECT AND STRUCTURAL ENGINEER FROM ALL CONSEQUENCES.
4. UNLESS OTHERWISE SPECIFICALLY INDICATED, THE STRUCTURAL DRAWINGS DO NOT DESCRIBE METHODS OF CONSTRUCTION.
5. THE STRUCTURAL DRAWINGS ILLUSTRATE TYPICAL AND REPRESENTATIVE DETAILS TO ASSIST THE GENERAL CONTRACTOR. DETAILS SHOWN APPLY AT ALL SIMILAR CONDITIONS UNLESS OTHERWISE INDICATED. ALTHOUGH DUE DILIGENCE HAS BEEN APPLIED TO MAKE THE DRAWINGS AS COMPLETE AS POSSIBLE, NOT EVERY DETAIL IS ILLUSTRATED AND NOT EVERY EXCEPTIONAL CONDITION IS ADDRESSED.
6. VERIFY ALL OPENINGS THROUGH ROOF WITH ARCHITECTURAL, MECHANICAL AND ELECTRICAL REQUIREMENTS. COORDINATE DIMENSIONS WITH SUPPLIERS PRIOR TO FABRICATION.
7. SIGNIFICANT PERMANENT EQUIPMENT SIZES, WEIGHTS AND LOCATIONS ARE INDICATED ON THE DRAWINGS AS PROVIDED TO THE ENGINEER DURING DESIGN. CHANGES IN SIZE, WEIGHT, OR LOCATION MUST BE SUBMITTED IN WRITING FOR REVIEW BY THE ENGINEER. REQUIRED CURBS, SUPPORTS, OR BRACES NOT SHOWN ON THE DRAWINGS ARE THE RESPONSIBILITY OF THE EQUIPMENT SUPPLIER.
8. ALL PROPRIETARY CONNECTIONS AND ELEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS.
9. ALL WORK SHALL BE ACCOMPLISHED IN A WORKMANLIKE MANNER AND IN ACCORDANCE WITH THE APPLICABLE CODES AND LOCAL ORDINANCES.
10. TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL ALL SUPPORTING ELEMENTS ARE IN PLACE.
11. THE ARCHITECT AND STRUCTURAL ENGINEER BEAR NO RESPONSIBILITY FOR THE ABOVE ITEMS, AND OBSERVATION VISITS TO THE SITE DO NOT IN ANY WAY INCLUDE INSPECTIONS OF THESE ITEMS.

SPECIAL INSPECTIONS:

1. THE FOLLOWING SPECIAL INSPECTIONS AND TESTING SHALL BE PERFORMED BY A QUALIFIED SPECIAL INSPECTOR, RETAINED BY THE OWNER, IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF IBC CHAPTER 17:
   - A. SECTION 1704 SPECIAL INSPECTIONS, CONTRACTOR RESPONSIBILITY, AND STRUCTURAL OBSERVATIONS AND THE FOLLOWING SUB-SECTIONS:
     1. 1704.2 SPECIAL INSPECTIONS AND TESTS
     2. 1704.3 STATEMENT OF SPECIAL INSPECTIONS
   - B. SECTION 1705 REQUIRED VERIFICATION AND INSPECTION AND THE FOLLOWING SUB-SECTIONS:
     1. 1705.2 STEEL CONSTRUCTION
   - C. SECTION 1706 DESIGN STRENGTHS OF MATERIALS
2. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. THE APPROVED INSPECTOR MUST BE INDEPENDENT FROM THE CONTRACTOR RESPONSIBLE FOR THE WORK BEING INSPECTED.
3. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR SHALL BE TO INSPECT AND/OR TEST THE WORK OUTLINED ABOVE AND WITHIN THE STATEMENT OF SPECIAL INSPECTIONS IN ACCORDANCE WITH CHAPTER 17 OF THE IBC FOR CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.
4. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.
5. PER SECTION 1704.2.4 THE SPECIAL INSPECTOR SHALL FURNISH REPORTS TO THE BUILDING OFFICIAL AND THE STRUCTURAL ENGINEER. THE REPORTS SHALL NOTE UNCORRECTED DEFICIENCIES, CORRECTION OF PREVIOUSLY REPORTED DEFICIENCIES, AND CHANGES TO THE APPROVED CONSTRUCTION DOCUMENTS AUTHORIZED BY THE STRUCTURAL ENGINEER OF RECORD.
6. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT WITHIN 10 DAYS OF THE FINAL SPECIAL INSPECTION STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE IBC. WORK NOT IN COMPLIANCE SHALL BE NOTED IN THE REPORT.
7. EXCEPT AS NOTED, THE SPECIAL INSPECTIONS OUTLINED ABOVE ARE IN ADDITION TO, AND BEYOND THE SCOPE OF PERIODIC STRUCTURAL OBSERVATIONS AS DEFINED IN SECTION 1704.6. STRUCTURAL OBSERVATIONS ARE INCLUDED IN THE STRUCTURAL ENGINEERING DESIGN AND CONSTRUCTION ADMINISTRATION SERVICES PROVIDED BY THE STRUCTURAL ENGINEER.



TYPICAL CONNECTION OF FRAME TO (E) BEAM OR JOIST

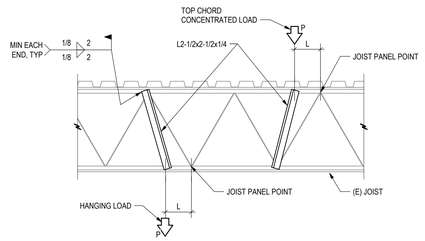


'L1' OR 'L2 (USE LARGER VALUE)	ANGLE SIZES	REMARKS
UP TO 6"	NONE REQUIRED	
UP TO 3'-0"	L3-1/2x3-1/2x1/4	
UP TO 5'-0"	L5x3x1/4 (LLV)	
UP TO 7'-0"	L6x4x5/16 (LLV)	

- USE ABOVE FRAMING AT ALL ROOF OPENINGS WHERE EITHER "L1" OR "L2" EXCEEDS 6" AND TO SUPPORT EXHAUST FANS, UNLESS NOTED OTHERWISE
- SEE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF ALL ROOF OPENINGS AND FOR EXHAUST FAN LOCATIONS
- PROVIDE STEEL JOIST WEB REINFORCING PER 2/S-100

1 S-100 TYP STL SUPPORT FRAME AT ROOF OPENINGS & EXHAUST FANS

3/4" = 1'-0"



NOTES:
ANGLE REQUIRE AT ALL CONCENTRATED LOADS WHERE L EXCEEDS 6" AND *P* EXCEEDS 100 LB

2 S-100 TYP STL JOIST WEB REINF AT CONCENTRATED LOADS

3/4" = 1'-0"

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Glenwood Springs ● Denver

Stamp

COLORADO LICENSED PROFESSIONAL ENGINEER
37388
11-30-2022

Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
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RANGELY, CO 81648

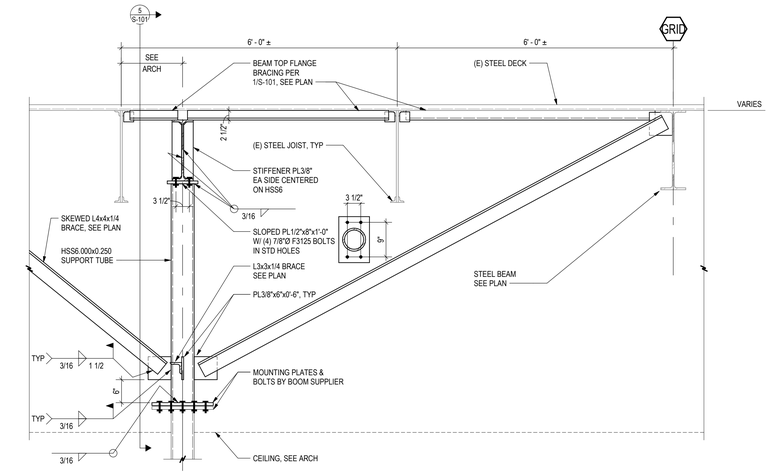
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GENERAL NOTES AND TYPICAL DETAILS

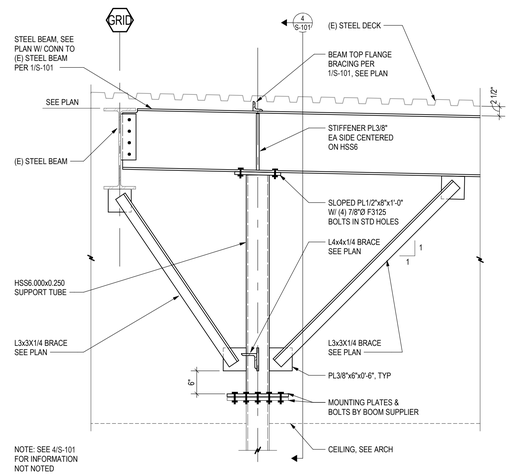
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DPA Project: 21326.00.000

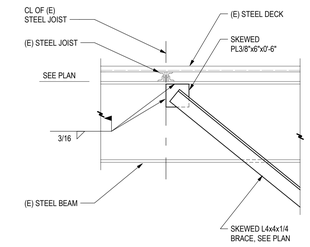
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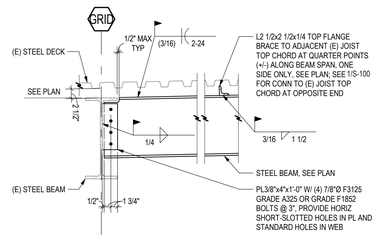
4 S-101 SECTION
3/4" = 1'-0"



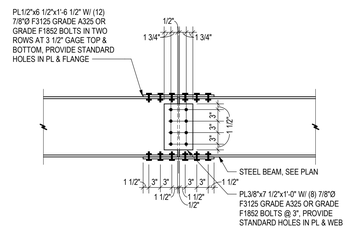
5 S-101 SECTION
3/4" = 1'-0"



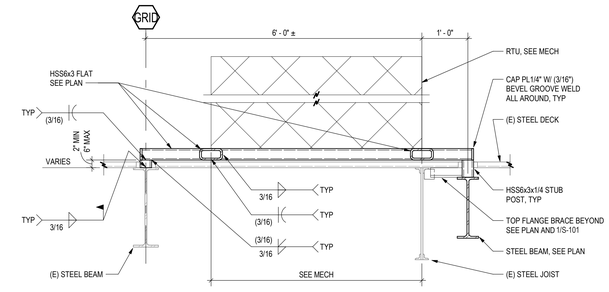
6 S-101 SECTION
3/4" = 1'-0"



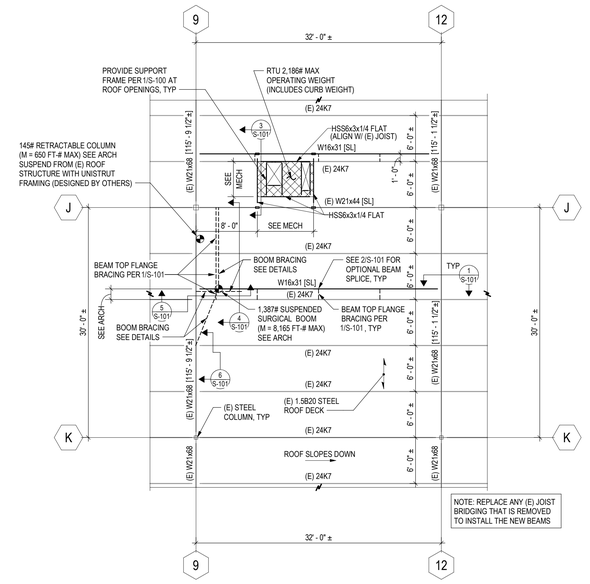
1 S-101 TYP BEAM TO (E) BEAM CONNECTION
3/4" = 1'-0"



2 S-101 TYP OPTIONAL MIDSPAN BEAM SPLICE
3/4" = 1'-0"



3 S-101 SECTION
3/4" = 1'-0"



1 S-101 ROOF LEVEL FRAMING PLAN
1/8" = 1'-0"
NORTH
0 2' 4' 8' 16'

- ELEVATION 100'-0" = TOP OF MAIN LEVEL INTERIOR FLOOR SLAB
- TOP OF STEEL BEAM ELEVATION NOTED THUS: [XXX'-X"]
- TOP OF JOIST/BOTTOM OF DECK ELEVATION IS 2 1/2" ABOVE TOP OF STEEL BEAM ELEVATIONS NOTED ON PLAN
- [SL] INDICATES SLOPING BEAM
- (E) INDICATES EXISTING CONSTRUCTION
- SEE STRUCTURAL RECORD DRAWINGS DATED 3/25/2013 AS PREPARED BY STRUCTURAL CONSULTANTS, INC. (#09-157.02) FOR INFORMATION ABOUT THE EXISTING STRUCTURE

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Glenwood Springs ● Denver

Stamp

COLORADO LICENSED
JAMES M. WOLFE
37388
PROFESSIONAL ENGINEER
11-30-2022

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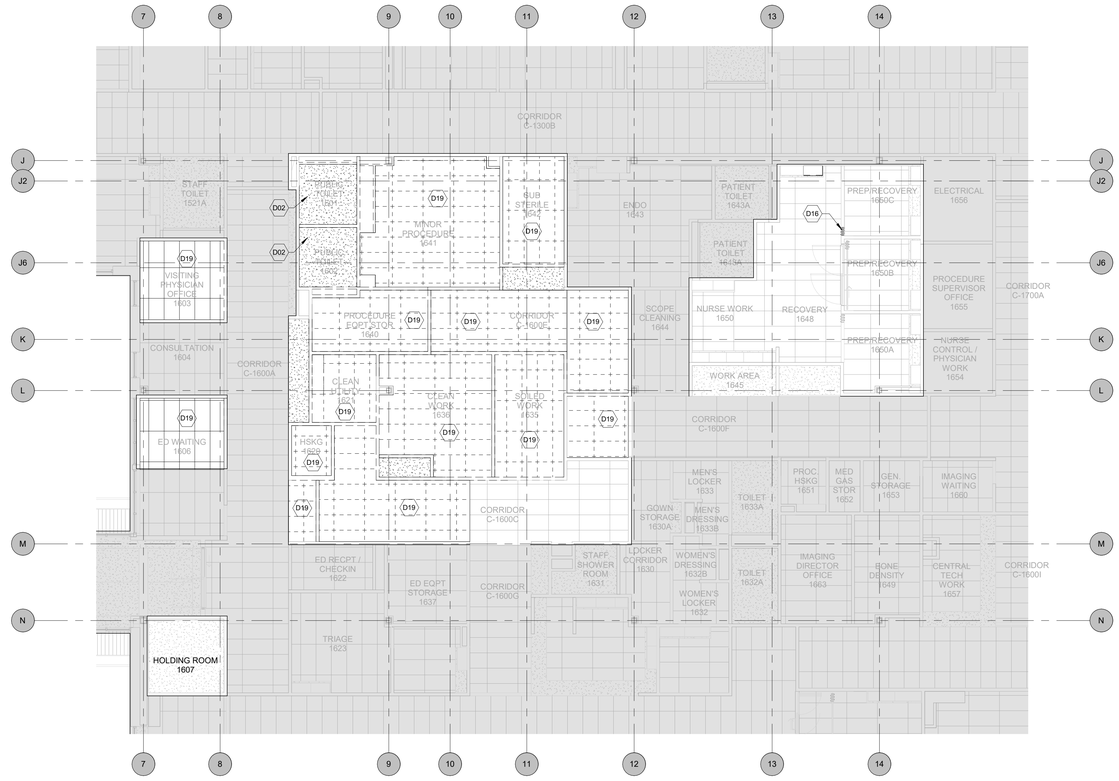
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PLAN AND SECTIONS

Sheet Number:
S-101

DPA Project: 21326.00.000

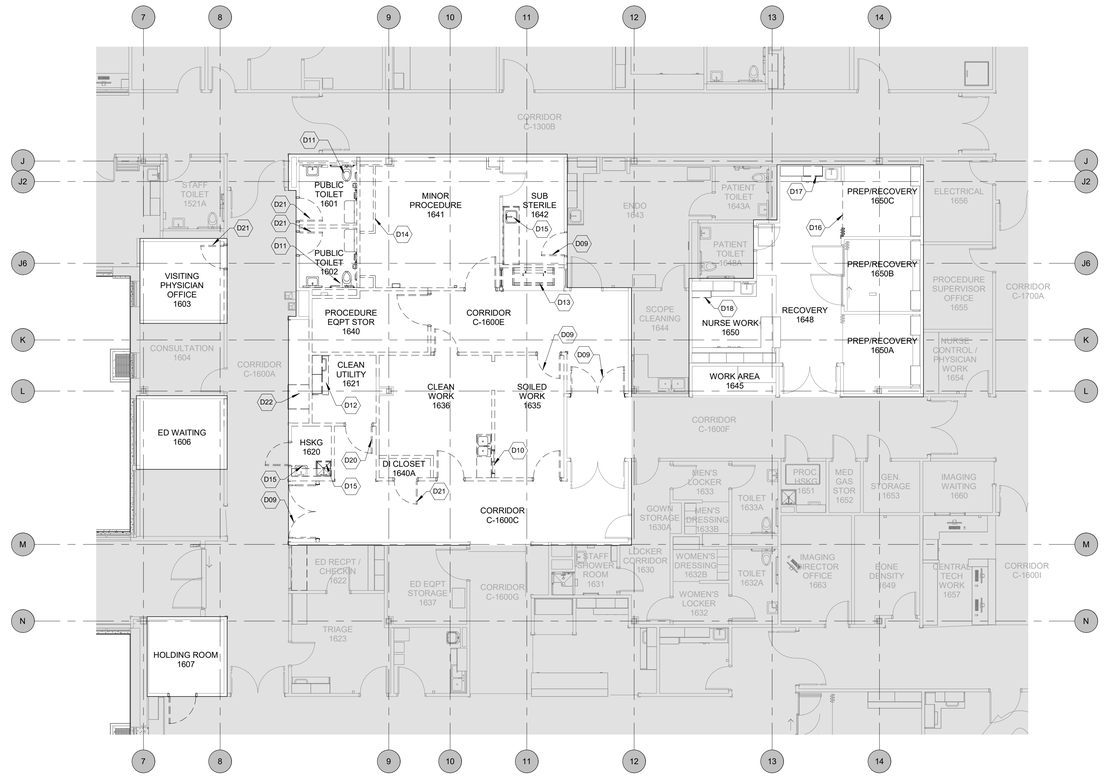
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N

D3 **LEVEL 1 - DEMO REFLECTED CEILING PLAN**

1/8" = 1'-0"



N

A3 **LEVEL 1 - DEMO FLOOR PLAN**

1/8" = 1'-0"

Demolition General Notes

1. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME COMPLETELY FAMILAR WITH ALL EXISTING CONDITIONS IN THE AREAS OF CONSTRUCTION PRIOR TO SUBMITTING PRICES AND STARTING WORK. CONTRACTOR TO NOTE ANY DEVIATIONS FROM CONDITIONS INDICATED ON THE PLANS AND INFORM THE ARCHITECT AND OWNER OF DEVIANCE.
2. EXISTING CONDITIONS, INCLUDING BUT NOT LIMITED TO DIMENSIONS, UTILITIES, AND MATERIALS HAVE BEEN TAKEN FROM EXISTING DRAWINGS AND/OR FIELD MEASUREMENTS. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND CONSTRUCTION PERTAINING TO EXISTING CONDITIONS PRIOR TO THE START OF DEMOLITION OR CONSTRUCTION.
3. PROVIDE TEMPORARY EXIT PATH WHERE DEMOLITION MAY IMPEDE EXISTING EXIT WAY.
4. THE CONTRACTOR SHALL MAINTAIN THE EXISTING STRUCTURAL AND FIREPROOFING INTEGRITY THROUGHOUT THE ENTIRE BUILDING AREA.
5. REMOVE EXISTING FLOORING FINISH AND WALL BASE IN AREAS OF WORK AS NEEDED.
6. PENETRATIONS IN EXISTING CONCRETE FLOOR SLAB IS TO BE COORDINATED WITH STRUCTURAL REQUIREMENTS. ALL DIMENSIONS ARE TO BE FIELD VERIFIED.
7. CONTRACTOR TO INCLUDE ALL REQUIRED PATCHING IN BASE BID.
8. PATCH AND REPAIR ALL EXISTING WALLS TO REMAIN AT LOCATION OF DEMOLITION TO PREPARE FOR NEW FINISHES.
9. COORDINATE INTERRUPTIONS OF UTILITIES AND SERVICES WITH OWNER.

Demo Legend

EXISTING TO REMAIN

EXISTING TO BE REMOVED

EXISTING WALL/ PARTITION TO BE REMOVED

EXISTING PLUMBING FIXTURES TO BE REMOVED

EXISTING DOOR OR WINDOW, FRAME AND HARDWARE TO BE REMOVED
PARTIAL PARTS OF WALLS TO BE REMOVED, CONTRACTOR TO DETERMINE EXTENTS IN THE FIELD

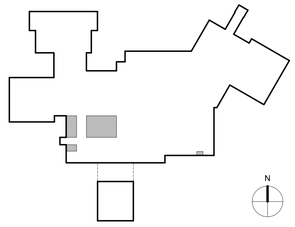
REMOVE ACT CEILING

Demo Keynotes

KEYNOTE LEGEND (PER SHEET)

D02	REMOVE EXISTING GYP CEILING; REPAIR AND PATCH SURROUNDING AREAS AS NEEDED.
D09	SALVAGE DOOR FOR INSTALLATION IN RENOVATION AREA
D10	SALVAGE WINDOW FOR INSTALLATION IN RENOVATION AREA
D11	SALVAGE TOILET PLUMBING FIXTURES AND TOILET ACCESSORIES FOR INSTALLATION IN RENOVATION AREA
D12	SALVAGE COUNTER, CABINETS, SINK AND ACCESSORIES FOR INSTALLATION IN RENOVATION AREA
D13	SALVAGE SCRUB SINK AND ACCESSORIES FOR INSTALLATION IN RENOVATION AREA
D14	SALVAGE BUILT IN EQUIPMENT CABINETS FOR INSTALLATION IN RENOVATION AREA
D15	SALVAGE SINK FOR INSTALLATION IN NEW WORK
D16	REMOVE EXISTING CUBICLE CURTAIN AND TRACK
D17	REMOVE EXISTING UPPER CABINET
D18	REMOVE EXISTING PLATFORM
D19	REMOVE EXISTING CEILING
D20	SALVAGE 45 MIN DOOR FOR INSTALLATION IN NEW WORK
D21	SALVAGE 20 MIN DOOR FOR INSTALLATION IN NEW WORK
D22	SALVAGE VENDING MACHINE FOR INSTALLATION IN NEW WORK

Key Plan



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STATE OF COLORADO
J.D. DREHER
403337
11/30/2022
LICENSED ARCHITECT

Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

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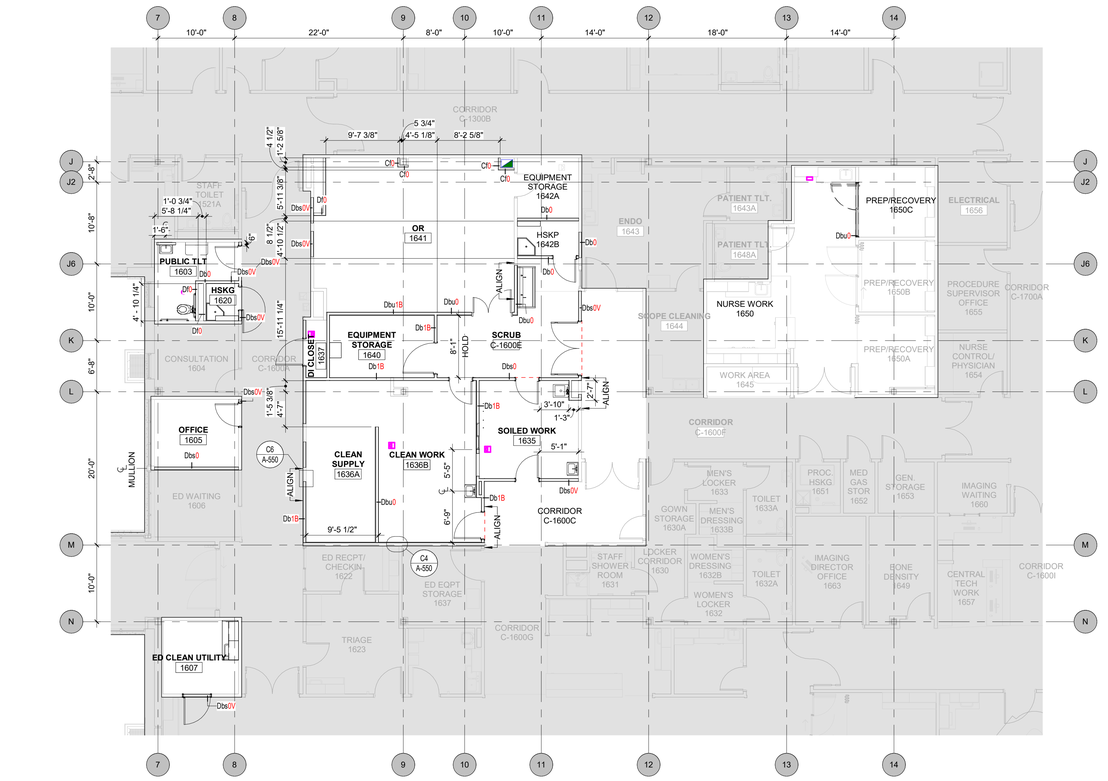
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DEMOLITION FLOOR PLAN - LEVEL ONE

Sheet Number:
AD-101

DPA Project: 21303.00.000

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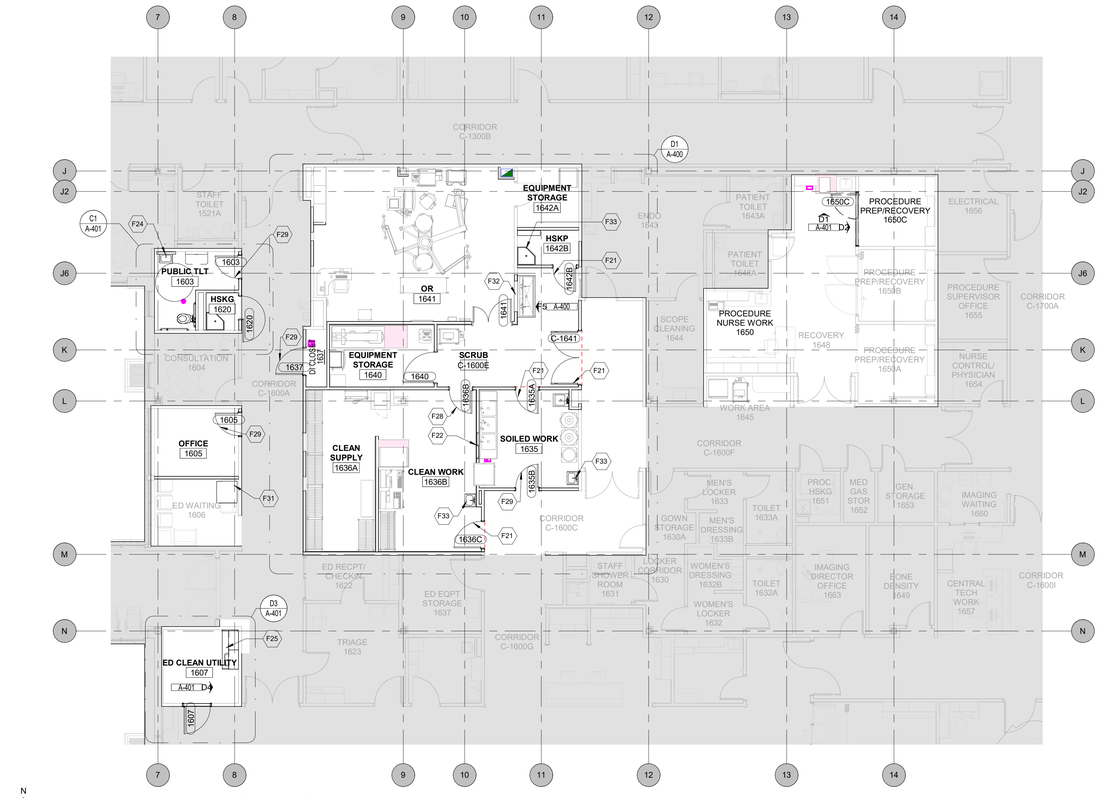
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D2 **LEVEL 1 - DIMENSION FLOOR PLAN**

1/8" = 1'-0"



N

A2 **LEVEL 1 - ANNOTATION FLOOR PLAN**

1/8" = 1'-0"

Plan General Notes

1. ALL DIMENSIONS ARE SHOWN FROM FINISHED FACE OF GYPSUM BOARD. DIMENSIONS LOCATING INTERIOR GYPSUM PARTITIONS ARE TO FINISHED FACE OF PARTITION U.N.O.
2. DIMENSIONS ON ARCHITECTURAL DRAWINGS LOCATING STRUCTURAL ELEMENTS ARE TO CENTERLINE OF COLUMNS AND BEAMS, U.N.O.
3. EXISTING ASSEMBLIES AND NOT IN SCOPE EQUIPMENT AND FURNITURE ARE SHOWN HALFTONED FOR REFERENCE ONLY.
4. PROVIDE FIRESTOPPING AND FIRE SEALS AT ALL PENETRATIONS THROUGH THE FIRE RATED ASSEMBLY. PROVIDE FIRE RATED SLIP JOINTS AT ALL FIRE RATED WALL ASSEMBLIES.
5. CONTRACTOR TO PROVIDE FIRE RETARDENT WALL BACKING FOR ALL WALL HUNG EQUIPMENT AND FURNITURE.
6. ALL LOW VOLTAGE BY OWNER, CONTRACTOR TO PROVIDE EMPTY CONDUIT AND BACK BOXES AS REQUIRED PER ELECTRICAL DRAWINGS.
7. PATCH AND REPAIR ALL EXISTING WALLS FOR NEW FINISH.
8. FIRE EXTINGUISHER CABINETS ARE TO BE SEMI-RECESSED IN METAL STUD WALLS. MAINTAIN REQUIRED WALL RATING OR RATED CABINETS TO BE USED. RE: PLAN FOR LOCATION OF CABINETS.
9. FURRING AROUND STRUCTURAL COLUMNS ARE TO BE IN INTERIOR PARTITIONS TYPE DI0 UNLESS OTHERWISE NOTED.
10. TYPICAL INTERIOR PARTITION TYPE TO BE Db0, UNLESS NOTED OTHERWISE.
11. PROVIDE GYPSUM BOARD CONTROL JOINTS AT DOOR HEADERS WHERE GYPSUM BOARD EXCEEDS 30 FEET (TYP.) UNLESS SHOWN OTHERWISE. REFER TO SPECIFICATION FOR LOCATIONS.

Plan Legend

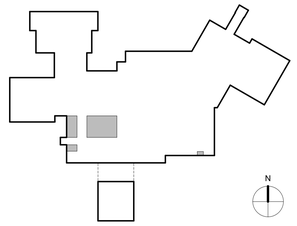
- EXISTING INTERIOR PARTITION WALL OR SHAFT WALL TO REMAIN. REFER TO LIFE SAFETY PLANS FOR EXTENT OF FIRE RATED AND SHAFT WALLS.
- NEW INTERIOR PARTITION WALL. REFER TO PARTITION SCHEDULE AND TYPES ON A-710 FOR CONSTRUCTION AND DETAILING.
- LIMIT OF CONSTRUCTION
- ABOVE FLOOR LINE
- CENTERLINE
- NOT IN CONTRACT or BY OWNER EQUIPMENT
- EXPANSION JOINT (EJ)

Plan Keynotes

KEYNOTE LEGEND (PER SHEET)

F21	INSTALL SALVAGED DOORS
F22	INSTALL SALVAGED WINDOW
F24	INSTALL SALVAGED PLUMBING FIXTURES AND TOILET ACCESSORIES
F25	INSTALL SALVAGED COUNTER, CABINETS, SINK AND ACCESSORIES
F28	INSTALL SALVAGED 45 MIN DOOR
F29	INSTALL SALVAGED 20 MIN DOOR
F31	INSTALL SALVAGED VENDING MACHINE
F32	INSTALL SALVAGED WINDOW
F33	INSTALL SALVAGED SINK

Key Plan



DAVIS PARTNERSHIP ARCHITECTS
2901 Blake Street, Suite 100
Denver, CO 80205
303.861.8555

Consultant(s)

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STATE OF COLORADO J.D. DRISKER 403337 11/30/2022 LICENSED ARCHITECT

Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
RANGELY, CO 81648

Sheet Information

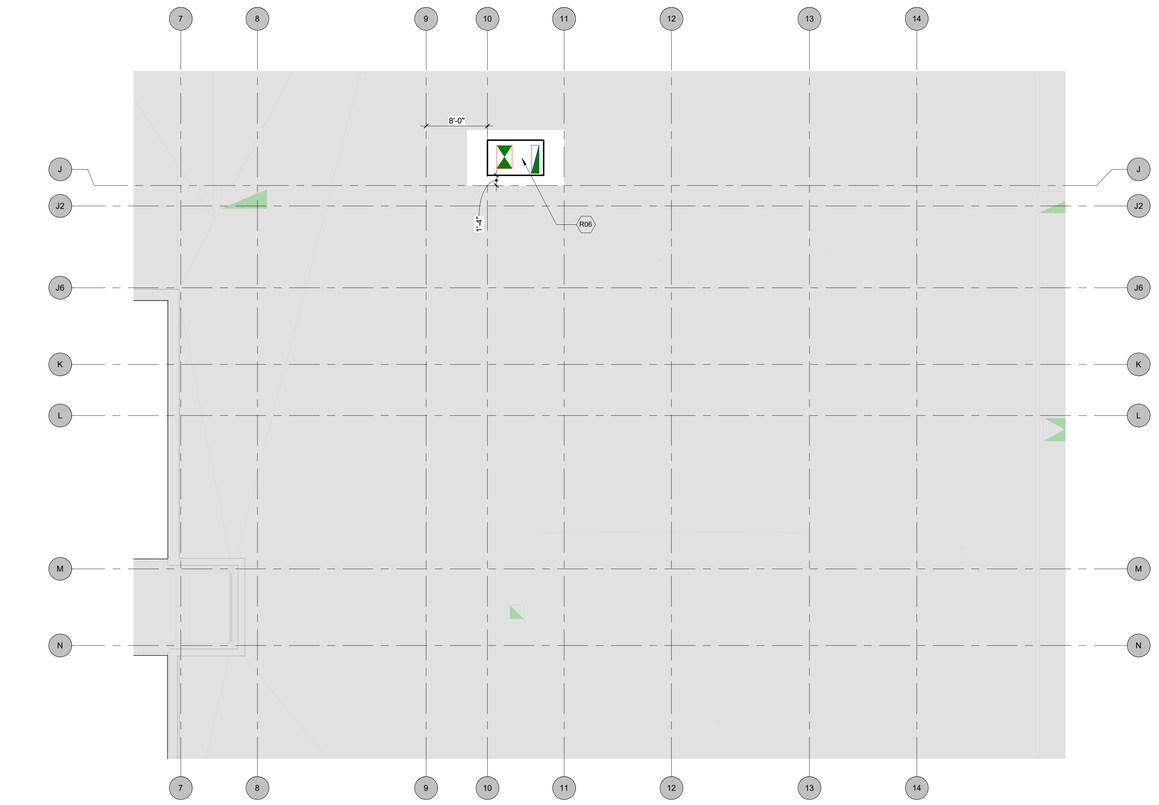
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LEVEL ONE FLOOR PLANS

Sheet Number:
A-101

DPA Project: 21303.00.000

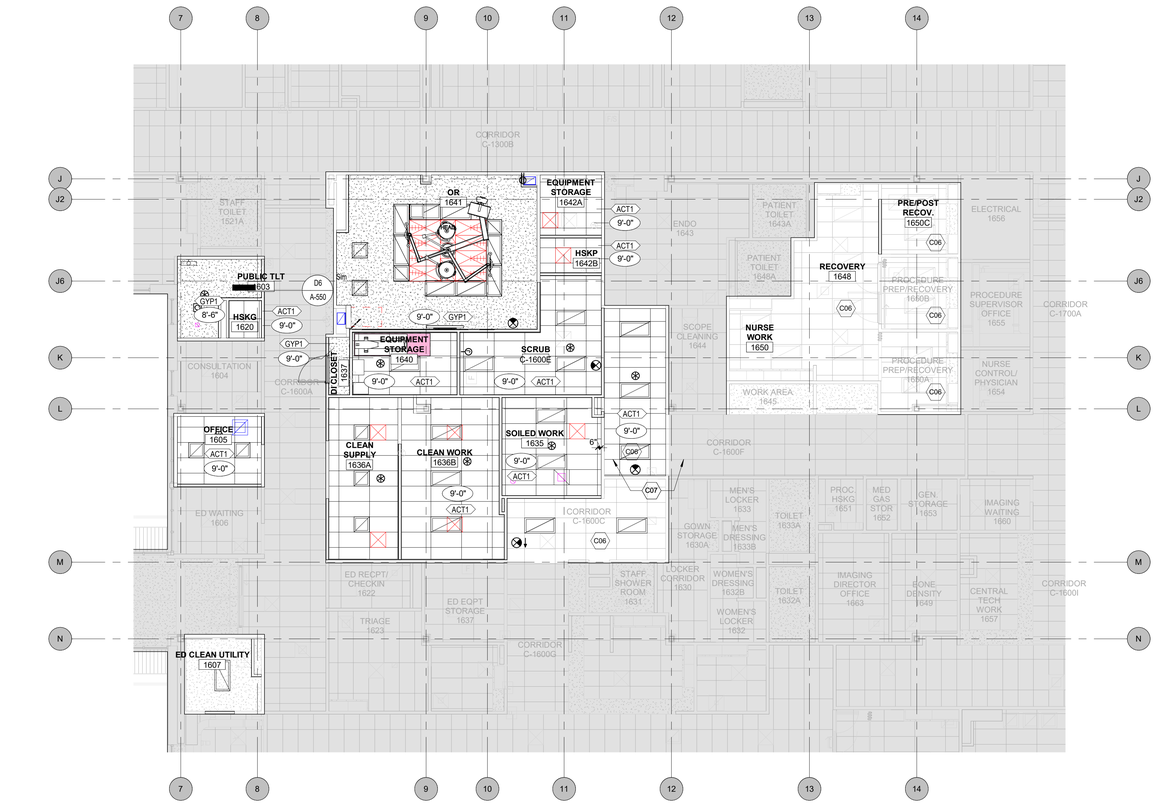
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N

D2 **ENLARGED ROOF PLAN**
1/8" = 1'-0"



N

A2 **ENLARGED RCP - SURGERY DEPARTMENT**
1/8" = 1'-0"

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Reflected Ceiling Plan General Notes

1. THIS DRAWING IS INTENDED TO SHOW CEILING MATERIAL AND CEILING HEIGHT.
2. ALL CEILINGS TO BE 9'-0" ABOVE FINISH FLOOR UNLESS NOTED OTHERWISE.
3. GYPSUM CEILINGS IN RESTROOMS TO BE 8'-0" UNLESS NOTED OTHERWISE. WET LOCATIONS TO BE PAINTED WITH EPOXY PAINT.
4. REFER TO ELECTRICAL DRAWINGS FOR LOCATIONS AND QUANTITIES OF ALL LIGHTING FIXTURES. LIGHT FIXTURES TO BE CENTERED ON CEILING TILE UNLESSS NOTED OTHERWISE.
5. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS AND QUANTITES OF ALL SUPPLY AND RETURN AIR DIFFUSERS.
6. PROVIDE FIRE SPRINKLERS TO MEET NFPA 13.
7. FIRE SPRINKLERS AND ALARM SYSTEM COMPONENTS TO BE CENTERED IN 2X2 ACOUSTICAL CEILING PANELS OR AT 1/4 POINTS IN 4" DIRECTION. FIRE SPRINKLER HEADS TO BE SEMI-RECESSED.
8. ALLOW FOR 1" DEFLECTION AT PARTITION HEAD OF WALL.
9. ALL ACOUSTICAL CEILINGS SHALL BE CENTERED IN THE ROOM UNLESS NOTED OTHERWISE.
10. PAINT ALL GRILLES, REGISTERS, DIFFUSERS, ACCESS PANELS, VENTS, ETC. THE SAME COLOR AS THE SURFACE IT APPEARS ON (TYPICAL).

Roof Plan General Notes

Lighting Symbol Legend

- RECESSED IN GRADE
- RECESSED ADJUSTABLE
- STAKE MOUNT ACCENT
- RECESSED DOWNLIGHT
- BOLLARD
- RECESSED WALLWASH
- PENDANT
- SURFACE MOUNT DOWNLIGHT
- SCONCE
- TRACK HEAD
- STEP LIGHT
- LINEAR EXTRUSION
- ILUMINATED MIRROR

Reflected Ceiling Plan Symbol Legend

- MECHANICAL DIFFUSER (SUPPLY)
- MECHANICAL DIFFUSER (RETURN)
- EXIT SIGN
- GYPSUM BOARD CEILING
- ACOUSTICAL CEILING TILE
- ACOUSTICAL CEILING TILE, WASHABLE
- CUBICLE CURTAIN TRACK
- X'-X" — CEILING HEIGHT ABOVE FINISHED FLOOR
- XXX — DPA FINISH MATERIAL TAG
- ABOVE FLOOR LINE
- CENTERLINE
- EXPANSION JOINT (EJ)

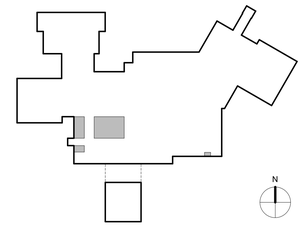
Roof Plan Keynotes

02 - 100 - KEYNOTE LEGEND - ROOF	
Key Value	Keynote Text
R06	ROOF TOP UNIT; RE: MECHANICAL

Reflected Ceiling Plan Keynotes

02 - 100 - KEYNOTE LEGEND - RCP	
Key Value	Keynote Text
C06	EXISTING TO REMAIN
C07	MATCH NEW GRID TO EXISTING CEILING GRID
C08	

Key Plan



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STATE OF COLORADO
J.D. DREIER
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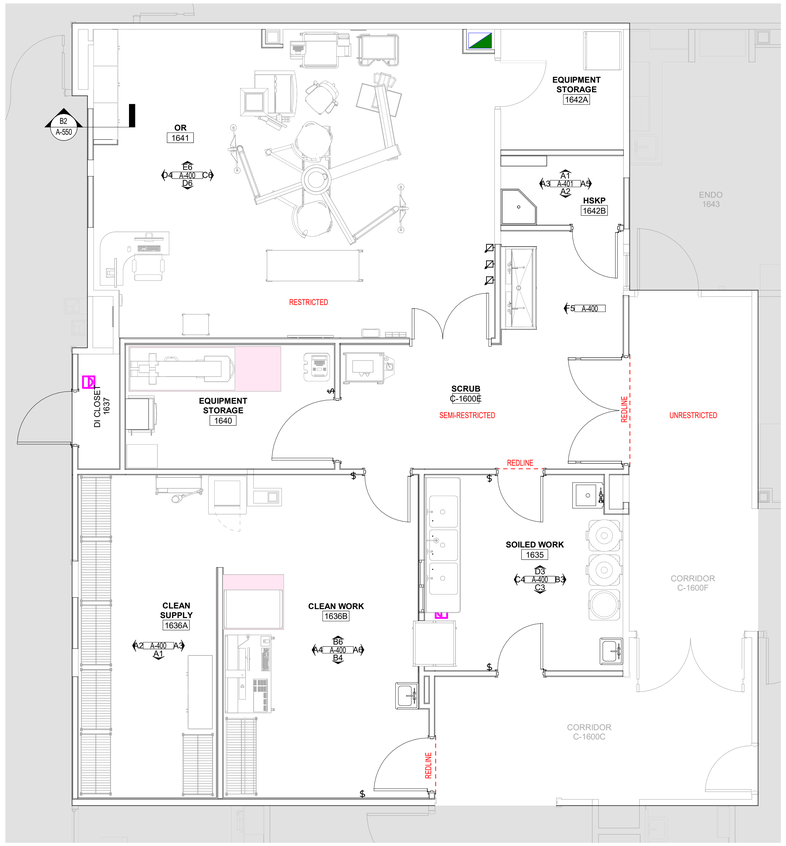
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LEVEL ONE ROOF & REFLECTED CEILING PLAN

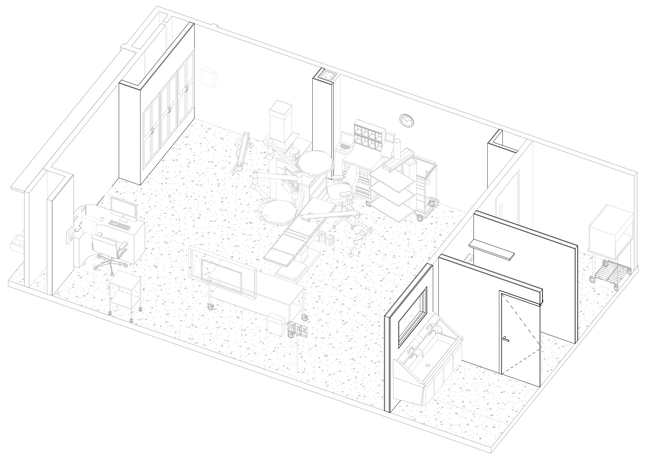
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A-102

DPA Project: 21303.00.000

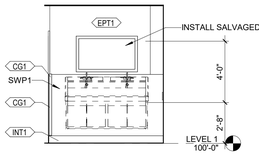
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D1 OR SUITE ENLARGED FLOOR PLAN
1/4" = 1'-0"



E4 OR AXON
Not To Scale



F5 SCRUB SINK WEST
1/4" = 1'-0"

Interior Elevations General Notes

1. REFER TO A-760 FOR INTERIOR MOUNTING HEIGHTS
2. REFER TO Q SERIES FOR MEDICAL EQUIPMENT

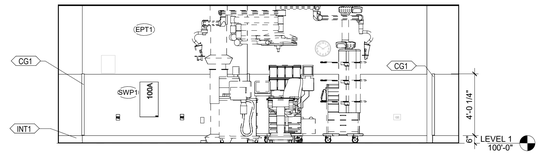
Interior Elevation Legend

A. 000 EQUIPMENT TAG. SEE Q-121.A & Q-121.B FOR EQUIPMENT SCHEDULE

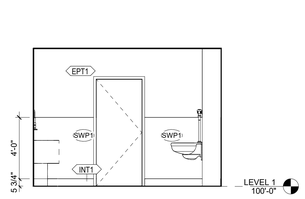
B. ? FINISH TAG. SEE I-600 FOR FINISH LEGEND AND NOTES

C. 8CCQ2 (36 | 36 | 24) CASEWORK TAG. SEE A-590 FOR CASEWORK DETAILS

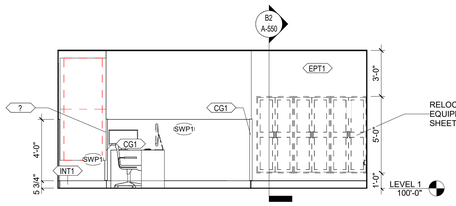
D. – — – EQUIPMENT, RE: Q SHEETS



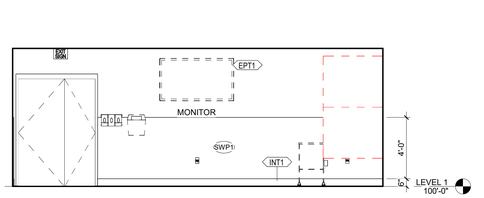
E6 OR NORTH
1/4" = 1'-0"



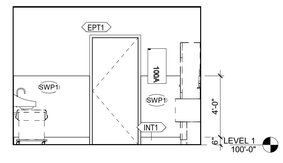
D3 SOILED WORK NORTH
1/4" = 1'-0"



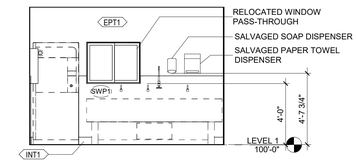
D4 OR WEST
1/4" = 1'-0"



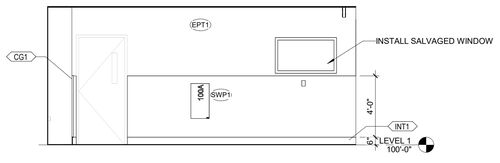
D6 OR SOUTH
1/4" = 1'-0"



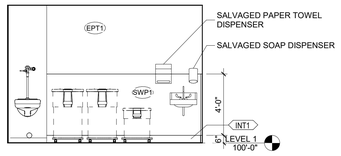
C3 SOILED WORK SOUTH
1/4" = 1'-0"



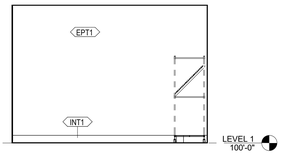
C4 SOILED WORK WEST
1/4" = 1'-0"



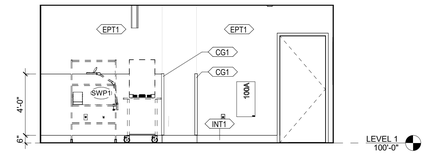
C6 OR EAST
1/4" = 1'-0"



B3 SOILED WORK EAST
1/4" = 1'-0"



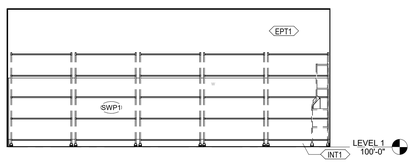
B4 CLEAN WORK SOUTH
1/4" = 1'-0"



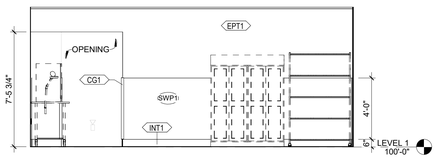
B6 CLEAN WORK NORTH
1/4" = 1'-0"



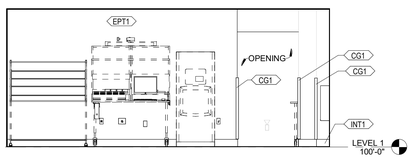
A1 CLEAN STORAGE SOUTH
1/4" = 1'-0"



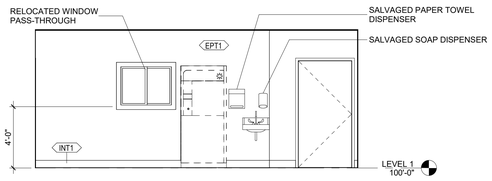
A2 CLEAN STORAGE WEST
1/4" = 1'-0"



A3 CLEAN STORAGE EAST
1/4" = 1'-0"



A4 CLEAN WORK WEST
1/4" = 1'-0"



A6 CLEAN WORK EAST
1/4" = 1'-0"

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RDH - SURGERY DEPT
225 EAGLE CREST DR
RANGELY, CO 81648

Sheet Information

Sheet Title:
ENLARGED PLANS, INTERIOR ELEVATIONS AND RENDERINGS

Sheet Number:
A-400

DPA Project: 21303.00.000

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Interior Elevations General Notes

1. REFER TO A-760 FOR INTERIOR MOUNTING HEIGHTS
2. REFER TO Q SERIES FOR MEDICAL EQUIPMENT

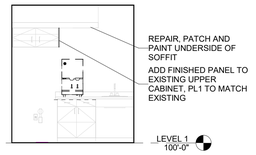
Interior Elevation Legend

A. 000 EQUIPMENT TAG. SEE Q-121.A & Q-121.B FOR EQUIPMENT SCHEDULE

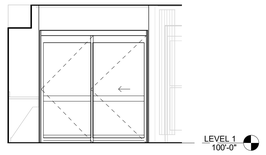
B. ? FINISH TAG. SEE I-600 FOR FINISH LEGEND AND NOTES

C. 9000|2 | 36 | 36 | 24 CASEWORK TAG. SEE A-590 FOR CASEWORK DETAILS

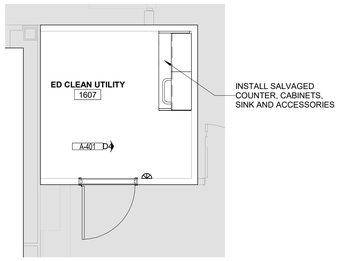
D. EQUIPMENT, RE: Q SHEETS



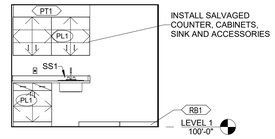
D1 **RECOVERY NOURISHMENT NORTH**
1/4" = 1'-0"



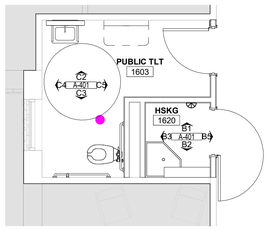
D2 **RECOVERY EAST**
1/4" = 1'-0"



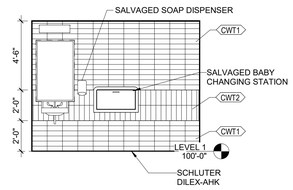
D3 **ED CLEAN UTILITY ENLARGED FLOOR PLAN**
1/4" = 1'-0"



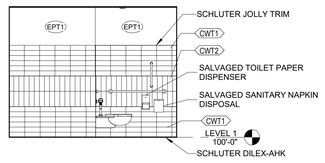
D4 **ED CLEAN UTILITY EAST**
1/4" = 1'-0"



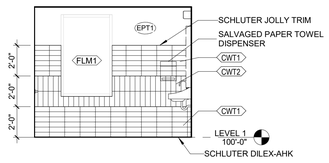
C1 **TOILET ENLARGED FLOOR PLAN**
1/4" = 1'-0"



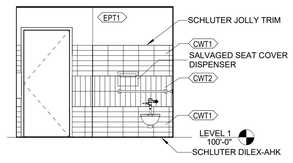
C2 **TOILET NORTH**
1/4" = 1'-0"



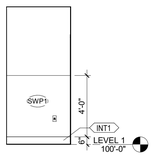
C3 **TOILET SOUTH**
1/4" = 1'-0"



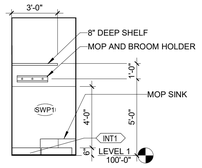
C4 **TOILET WEST**
1/4" = 1'-0"



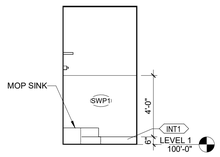
C5 **TOILET EAST**
1/4" = 1'-0"



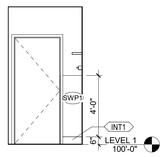
B1 **HSKG NORTH**
1/4" = 1'-0"



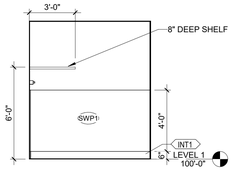
B2 **HSKG SOUTH**
1/4" = 1'-0"



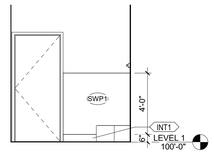
B3 **HSKG WEST**
1/4" = 1'-0"



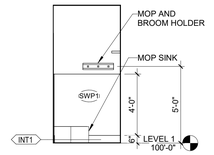
B5 **HSKG EAST**
1/4" = 1'-0"



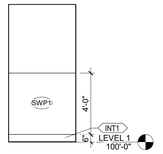
A1 **OR HSKP NORTH**
1/4" = 1'-0"



A2 **OR HSKP SOUTH**
1/4" = 1'-0"



A3 **OR HSKP WEST**
1/4" = 1'-0"



A5 **OR HSKP EAST**
1/4" = 1'-0"

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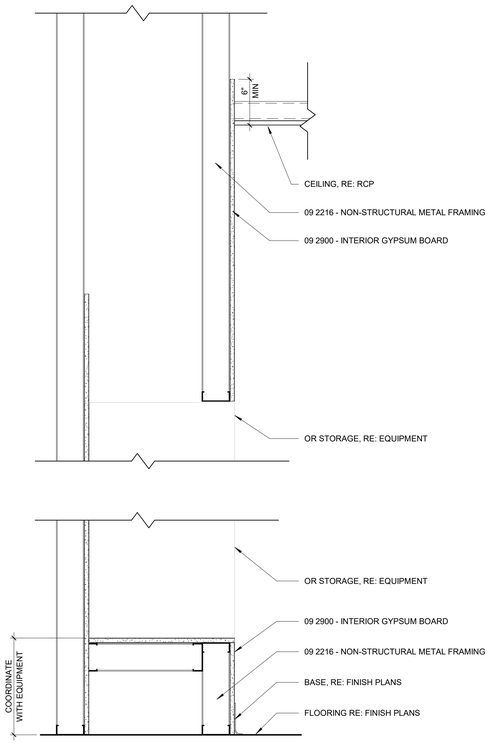
Sheet Title:
ENLARGED PLANS, INTERIOR ELEVATIONS AND RENDERINGS

Sheet Number:
A-401

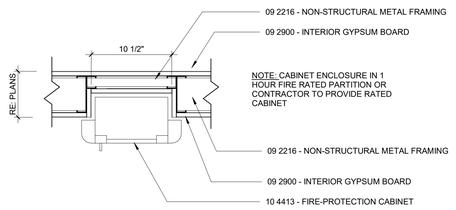
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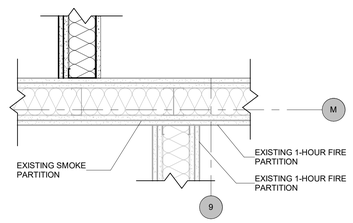
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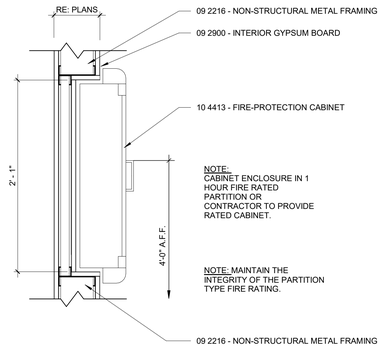
B2 **BUILT-IN OR TALL EQUIPMENT STORAGE**
1 1/2" = 1'-0"



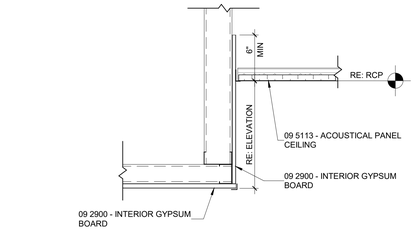
A2 **DETAIL - TYPICAL FEC - PLAN**
1 1/2" = 1'-0"



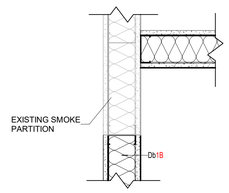
C4 **PLAN DETAIL - EXISTING TO NEW 1-HOUR FIRE PARTITION**
1 1/2" = 1'-0"



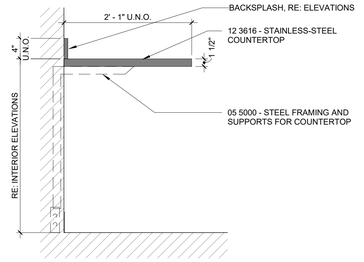
A4 **SECTION - TYPICAL FEC - WALL**
1 1/2" = 1'-0"



D6 **GYP SOFFIT TO ACT, TYPICAL**
1 1/2" = 1'-0"



C6 **PLAN DETAIL - 1-HOUR FIRE PARTITION TO EXISTING**
1 1/2" = 1'-0"



A6 **COUNTERTOP - STAINLESS STEEL**
1" = 1'-0"

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Consultant(s)

Stamp

STATE OF COLORADO
J.D. DRESHER
403337
11/30/2022
LICENSED ARCHITECT

Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
RANGELY, CO 81648

Sheet Information

Sheet Title:
INTERIOR DETAILS

Sheet Number:
A-550

DPA Project: 21303.00.000

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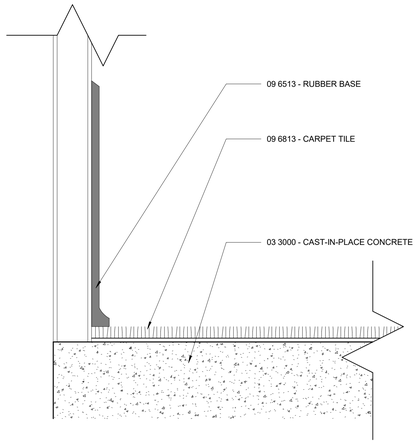
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FINISH ABBREVIATIONS

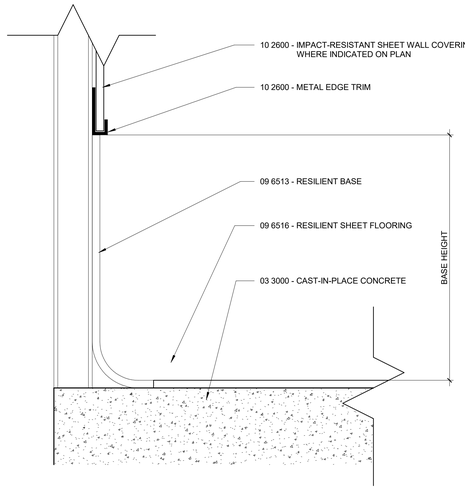
ABBREVIATION	DESCRIPTION
CEILING FINISHES	
ACC	ACOUSTICAL CEILING CLOUD
ACT	ACOUSTICAL CEILING TILE
AMC	ACOUSTICAL METAL CEILING
AWC	ACOUSTICAL WOOD CEILING
EXP	EXPOSED
GYP	GYPSUM CEILING
PT	PAINT
RP (C)	RESIN PANEL
FLOOR FINISHES	
CF	CORK FLOORING
CPT	CARPET
FT	FLOOR TRANSITION
LN	LINOLEUM FLOORING
LVT	LUXURY VINYL TILE
LWF	LAMINATE WOOD FLOORING
MFT	METAL FLOOR TILE
PE	POURED EPOXY
PFT	PORCELAIN TILE
RF	RUBBER
SC	SEALED CONCRETE
SD	STATIC DISSIPATIVE
SFT	STONE FLOOR TILE
STC	STAINED CONCRETE
SV	SHEET VINYL
TZ	TERRAZZO
VCT	VINYL COMPOSITE TILE
WDF	WOOD FLOORING
MILLWORK FINISH	
CM	CROWN MOLDING
CTC	CONCRETE COUNTERTOP
ML	METAL LAMINATE
MT	METAL TRIM
MTL	METAL (SHEET GOODS)
PL	PLASTIC LAMINATE
QTZ	QUARTZ
RP (M)	RESIN PANEL
SP	SOLID PHENOLIC
SS	SOLID SURFACE
ST	STONE
STS	STAINLESS STEEL
UPF	UPHOLSTERY FABRIC
WDT	WOOD TRIM
MISCELLANEOUS	
(E)	EXISTING
CC	CUBICLE CURTAIN
CCT	CUBICLE CURTAIN TRACK
MPT	METAL PAINT
SHC	SHOWER CURTAIN
WDS	WOOD STAIN
WALL BASE FINISHES	
INT	INTEGRAL BASE
PTB	PORCELAIN TILE BASE
RB	RUBBER BASE
SSB	SOLID SURFACE BASE
STS	STAINLESS STEEL BASE
TZB	TERRAZO BASE
WB	WOOD BASE
WALL FINISHES	
AWP	ACOUSTICAL WALL P ANEL
BR	BRICK
CWT	CERAMIC WALL TILE
DWP	DECORATIVE WALL PANEL
GL	GLASS WALL
GWT	GLASS WALL TILE
MTL	METAL (SHEET GOODS)
MWT	METAL WALL TILE
PT	PAINT
PWT	PORCELAIN WALL TILE
RP (W)	RESIN PANEL
SS	SOLID SURFACE
ST	STONE
SWT	STONE WALL TILE
TS	TACKABLE SURFACE
UWP	UPHOLSTERED WALL PANEL
VWC	VINYL WALL COVERING
VWG	VINYL WALL GRAPHIC
WDV	WOOD VENEER
WALL GUARDS	
BG	BUMPER GUARD
CG	CORNER GUARD
CHR	CHAIR RAIL
CR	CRASH RAIL
FRP	FIBER REINFORCED PLASTIC WALL PANEL
HR	HAND RAIL
SWP	SHEET WALL PROTECTION
WINDOWS	
DG	DECORATIVE GLASS
DR	DRAPERY
FLM	WINDOW FILM
MB	MINI BLIND
RS	ROLLER SHADE

FINISH SCHEDULE

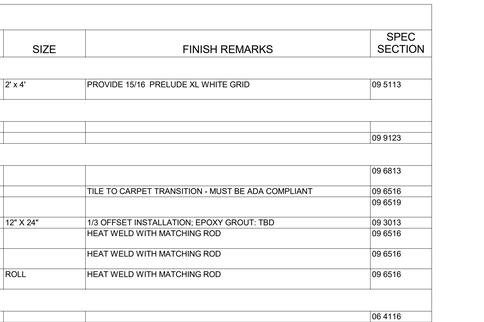
FINISH TYPE	FINISH CODE	DESCRIPTION	MANUFACTURER	SERIES/PATTERN	NUMBER	COLOR	SIZE	FINISH REMARKS	SPEC SECTION
CEILING FINISHES									
CEILING FINISHES	ACT1	ACOUSTICAL CEILING TILE	ARMSTRONG	CLEAN ROOM VL / SQUARE LAY IN	870	WHITE	2' x 4'	PROVIDE 15/16 PRELUDE XL WHITE GRID	09 5113
DOOR FINISHES									
DOOR FINISHES	DOOR			MATCH EXISTING					
DOOR FINISHES	PT3	DOOR FRAME PAINT		SEMI-GLOSS		MATCH EXISTING			09 9123
FLOOR FINISHES									
FLOOR FINISHES	CPT1	CARPET	MANNINGTON COMMERCIAL	EVERYWEAR III MODULAR	8316	COPPER			09 6813
FLOOR FINISHES	FT1	FLOOR TRANSITION	SCHLUTER	RENO-TK	AE			TILE TO CARPET TRANSITION - MUST BE ADA COMPLIANT	09 6516
FLOOR FINISHES	LVT1	LUXURY VINYL TILE	MANNINGTON COMMERCIAL			TBD			09 6519
FLOOR FINISHES	PFT1	PORCELAIN FLOOR TILE	AMERICAN OLEAN	UNION	UN02	WEATHERED BEIGE	12" X 24"	1/3 OFFSET INSTALLATION; EPOXY GROUT: TBD	09 3013
FLOOR FINISHES	SV1	SHEET VINYL	MANNINGTON COMMERCIAL	BIOSPEC ARMOR	OR117	ALPACA		HEAT WELD WITH MATCHING ROD	09 6516
FLOOR FINISHES	SV2	SHEET VINYL	MANNINGTON COMMERCIAL	BIOSPEC ARMOR	OR119	HAYSTACK		HEAT WELD WITH MATCHING ROD	09 6516
FLOOR FINISHES	SV3	SHEET VINYL	MANNINGTON COMMERCIAL	BIOSPEC ARMOR	OR108	CHERRY TOMATO	ROLL	HEAT WELD WITH MATCHING ROD	09 6516
MILLWORK FINISHES									
MILLWORK FINISHES	PL1	PLASTIC LAMINATE	NEVAMAR	TEXTURED/SUEDE FNISH	WM5577	SCANDIA MAPLE			06 4116
MILLWORK FINISHES	SS1	SOLID SURFACE	CORIAN			SAHARA	1/2"		12 3661.16
MISCELLANEIOUS									
MISCELLANEIOUS	FLM1	3M	FASARA	FROST/MATTE	SH2FNCR 1270	FINE CRYSTAL			08 8113
WALL BASE FINISHES									
WALL BASE FINISHES	INT1	INTEGRAL	MATCH ADJACENT SV				6"	HEAT WELD WITH MATCHING ROD	
WALL BASE FINISHES	MWB1	METAL WALL BASE	SCHLUTER	DILEX-AHK	AE		SIZE AS RE1'D	WALL TILE TO FLOOR TILE IN TOILET	09 3013
WALL BASE FINISHES	RB1	RUBBER BASE	JOHNSONITE BY TARKETT	DURACOVE	150	WETLANDS	4"		09 6513
WALL FINISHES									
WALL FINISHES	CWT1	PORCELAIN WALL TILE	CROSSVILLE	COLOR BY NUMBERS SATIN	WT07S	SEVENTH INNING STRETCH	4" X 12"	STACKED HORIZONTAL INSTALLATION, GROUT: TBD	09 3013
WALL FINISHES	CWT2	PORCELAIN WALL TILE	CROSSVILLE	COLOR BY NUMBERS SATIN	WT08S	EIGHT DAYS A WEEK	4" X 12"	STACKED VERTICAL INSTALLATION, GROUT: TBD	09 3013
WALL FINISHES	EPT1	EPOXY PAINT	SHERWIN WILLIAMS	MATCH EXISTING KWAL	CLC1250M	SOYA BEAN		ALL ROOMS IN SCOPE	09 9123
WALL FINISHES	WT1	WALL TRIM	SCHLUTER	JOLLY	AE		SIZE AS RE1'D		09 3013
WALL GUARDS									
WALL GUARDS	BG1	BUMPER GUARD	INPRO	1600	258	CHINO			10 2600
WALL GUARDS	CG1	CORNER GUARD	INPRO	160 SERIES	258	CHINO	4' H		10 2600
WALL GUARDS	SWP1	SHEET WALL PROTECTION	INPRO	SANPARREL	258	CHINO	.060" THICK		10 2600



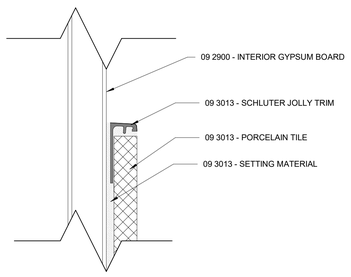
2 **DETAIL - TYP. RUBBER BASE**
12" = 1'-0"



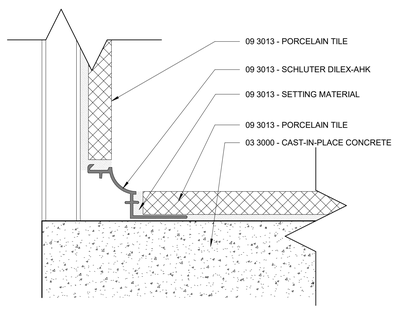
3 **DETAIL - TYP. INTEGRAL BASE**
12" = 1'-0"



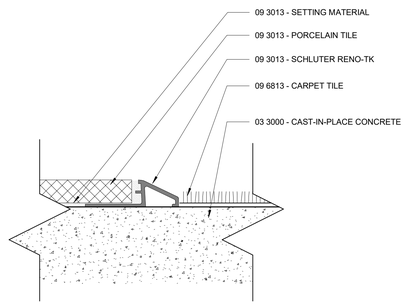
1 **SECTION - CORNER GUARD DETAIL - SINGLE**
3" = 1'-0"



5 **DETAIL - OUTSIDE EDGE OF TILE - JOLLY**
12" = 1'-0"



4 **DETAIL - FLOOR TILE TO WALL TILE TRANSITION**
12" = 1'-0"



6 **DETAIL - TILE TO CPT - RENO-TK**
12" = 1'-0"

Finish Plan General Notes

A. ALL PAINT FINISHES TO BE SATIN: (2) COATS OVER (1) COAT PRIMER, U.N.O. ALL WALLS TO BE PAINTED PT1 U.N.O.

B. ALL PAINT FINISHES TO BE EGGSHELL, U.N.O. (2) COATS OVER (1) COAT PRIMER. TOILET ROOMS, EVS, CLEAN AND SOILED ROOMS TO RECEIVE SEMI-GLOSS EPOXY PAINT, U.N.O.

C. PAINT ALL HOLLOW METAL DOOR FRAMES PTxxx SEMI-GLOSS.

D. ALL PAINT TO BE LOW - VOC: LESS THEN 50 G/L FOR UNTINTED BASE.

E. ALL EXPOSED GRILLS, REGISTERS, DIFFUSERS AND ACCESS PANELS AT GYP LOCATION TO BE PAINTED TO MATCH THE SURFACE ON WHICH THEY OCCUR, U.N.O.

F. ALL FLOOR FINISH CHANGES TO BE AT CENTER OF DOORWAYS U.N.O., NO SEAMS IN FRONT OF DOORWAYS.

G. ALL CEILING GRID WALL ANGLES TO BE SEALED AT WALL WHERE PAINT OCCURS.

H. ALL PAINT COLORS TO BE MOCKED-UP ON SITE ON ONE ENTIRE FULL HEIGHT WALL FOR OWNER APPROVAL PRIOR TO ORDERING PRODUCT.

I. PROVIDE CORNER GUARDS WHERE INDICATED. APPLY CORNER GUARDS STARTING AT THE TOP OF THE WALL BASE. U.N.O

J. SHEET WALL PROTECTION TO BE INSTALLED ABOVE WALL BASE.

K. PROVIDE AND INSTALL ADA COMPLIANT SIGNAGE. AS REQUIRED BY CODE. FOR ALL ADA TOILET ROOMS AND SERVICE ROOMS.

L. ALL OPEN BELOW COUNTERTOPS IN NEW WALLS TO INCLUDE IN WALL STEEL TUBE SUPPORT, 36" O.C. RE: DETAILS

M. PROVIDE FINISHES THAT COMPLY WITH AND MEET THE FLAME SPREAD RATING REQUIREMENTS FROM SECTION 803 AND TABLE 803.13 OF THE 2018 INTERNATIONAL BUILDING CODE.

N. ALL GROUT TO BE SELECTED BY ARCHITECT.

O. FINISH ALL SIDES OF SOFFIT OR GYP. CEILING. REFER TO REFLECTED CEILING PLAN FOR CEILING PAINT ACCENTS

P. ALL GYP CEILINGS TO BE PT1, U.N.O. PROVIDE MOLD RESISTANT EPOXY PAINT IN TOILET AND SHOWER ROOMS.

Finish Symbol Legend

XX# — FINISH EXTENTS AT ACCENT WALL

XX# — FINISH MATERIAL TAG

CORNER GUARD

SWP1 TO 54" A.F.F., INT1

SWP1 TO 54" A.F.F, BG1 TOP AT 40" A.F.F., INT1

SWP1 TO 52" A.F.F, BG1 TOP AT 40" A.F.F., RB1

CPT1

LVT1

PFT1

SV1

SV2

SV3 - TYP. 6" WIDE STRIP IN DOOR OPENING

EXISTING TO REMAIN

Key Plan

DAVIS PARTNERSHIP ARCHITECTS
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303.861.8555

Consultant(s)

Stamp

STATE OF COLORADO J.D. DREHER 403337 11/30/2022 LICENSED ARCHITECT

Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
RANGELY, CO 81648

Sheet Information

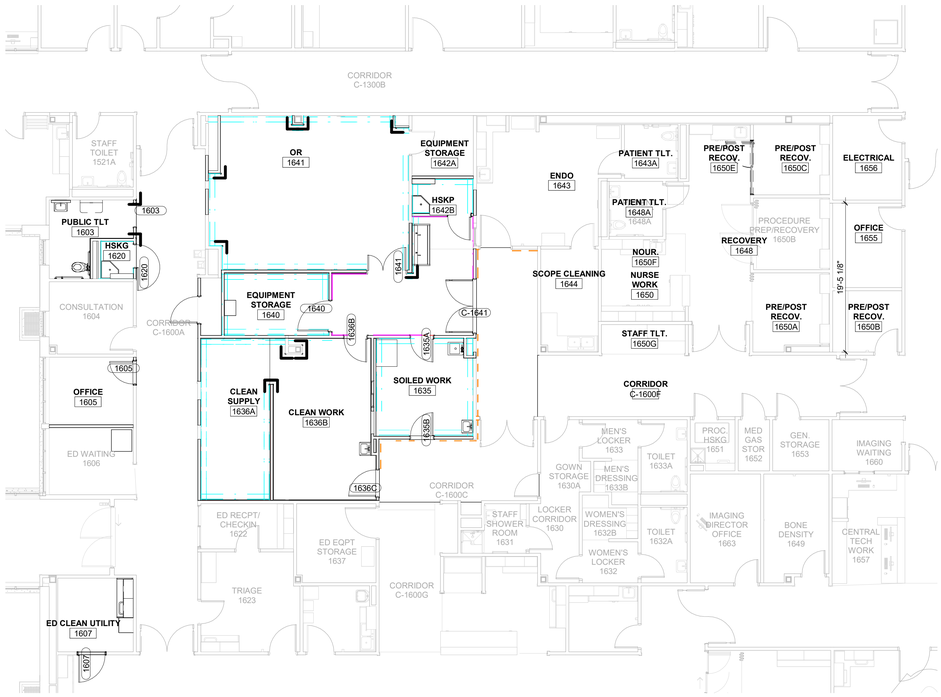
Sheet Title:
FINISH LEGEND, SCHEDULE, NOTES AND DETAILS

Sheet Number:
A-600

DPA Project: 21303.00.000

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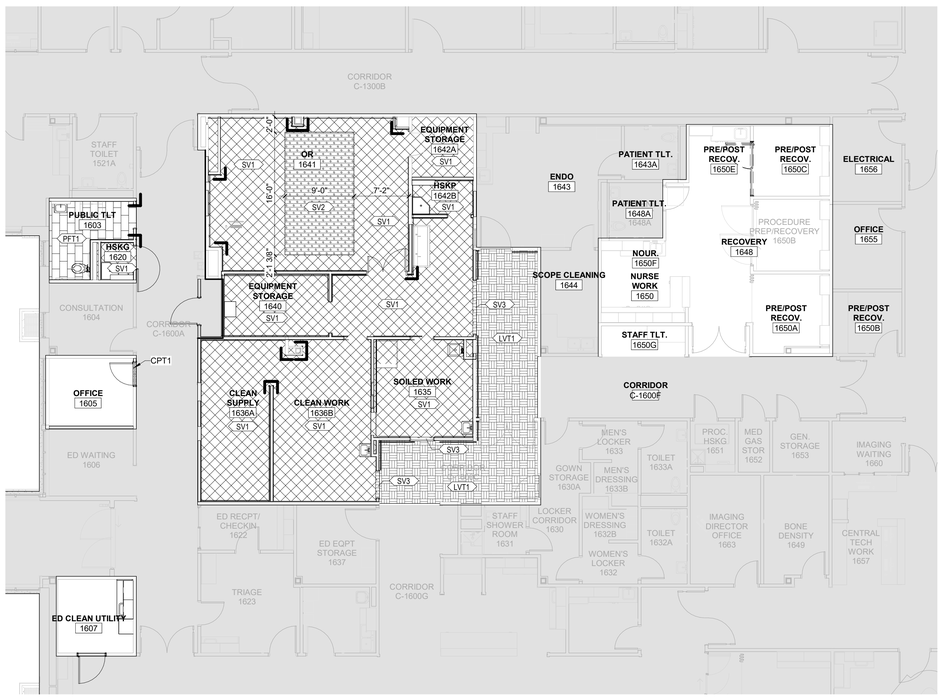
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N

D3 **LEVEL 1 - WALL PROTECTION FLOOR PLAN**

1/8" = 1'-0"



N

A3 **LEVEL 1 - FINISH FLOOR PLAN**

1/8" = 1'-0"

Finish Plan General Notes

A. ALL PAINT FINISHES TO BE SATIN: (2) COATS OVER (1) COAT PRIMER, U.N.O. ALL WALLS TO BE PAINTED PT1 U.N.O.

B. ALL PAINT FINISHES TO BE EGGSHELL, U.N.O. (2) COATS OVER (1) COAT PRIMER. TOILET ROOMS, EVS, CLEAN AND SOILED ROOMS TO RECEIVE SEMI-GLOSS EPOXY PAINT, U.N.O.

C. PAINT ALL HOLLOW METAL DOOR FRAMES PTxxx SEMI-GLOSS.

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N. ALL GROUT TO BE SELECTED BY ARCHITECT.

O. FINISH ALL SIDES OF SOFFIT OR GYP. CEILING. REFER TO REFLECTED CEILING PLAN FOR CEILING PAINT ACCENTS

P. ALL GYP CEILINGS TO BE PT1, U.N.O. PROVIDE MOLD RESISTANT EPOXY PAINT IN TOILET AND SHOWER ROOMS.

Finish Symbol Legend

XX# — FINISH EXTENTS AT ACCENT WALL

XX# — FINISH MATERIAL TAG

CORNER GUARD

SWP1 TO 54" A.F.F., INT1

SWP1 TO 54" A.F.F, BG1 TOP AT 40" A.F.F., INT1

SWP1 TO 52" A.F.F, BG1 TOP AT 40" A.F.F., RB1

CPT1

LVT1

PFT1

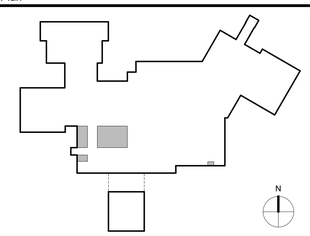
SV1

SV2

SV3 - TYP. 6" WIDE STRIP IN DOOR OPENING

EXISTING TO REMAIN

Key Plan



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STATE OF COLORADO J.D. DREHER 403337 11/30/2022 LICENSED ARCHITECT

Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
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RANGELY, CO 81648

Sheet Information

Sheet Title:
LEVEL ONE WALL PROTECTION AND FINISH FLOOR PLAN

Sheet Number:
A-610

DPA Project: 21303.00.000

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PARTITION TYPES SCHEDULE

PARTITION TYPE	USE DESCRIPTION	PARTITION WIDTH	STRUCTURE	CONSTRUCTION DESCRIPTION	TOP OF WALL TO	STC RATING	Fire Rating
		<varies>		(1) LAYER 5/8" GYPSUM BOARD EACH SIDE			NON-RATED
0							
Af0	FURRING WALL	<varies>	7/8" HAT CHANNEL	(1) LAYER 5/8" GYPSUM BOARD ONE SIDE			NON-RATED
Bf0	FURRING WALL	0'-2 1/4"	1-5/8" STEEL STUD	(1) LAYER 5/8" GYPSUM BOARD ONE SIDE	6" ABOVE CEILING		NON-RATED
Cf0	FURRING WALL	0'-3 1/8"	2-1/2" STEEL STUD	(1) LAYER 5/8" GYPSUM BOARD EACH SIDE	6" ABOVE CEILING		NON-RATED
Db0	SOUND PARTITION	0'-4 7/8"	3-5/8" STEEL STUD	(1) LAYER 5/8" GYPSUM BOARD EACH SIDE			
Dbs0<varies>	<varies>	0'-4 7/8"	3-5/8" STEEL STUD	(1) LAYER 5/8" GYPSUM BOARD EACH SIDE			<varies>
Dbu0	SOUND PARTITION	0'-5 1/2"	3-5/8" STEEL STUD	(2) LAYERS 5/8" GYPSUM BOARD ONE SIDE, (1) LAYER 5/8" GYPSUM BOARD ONE SIDE 3" SOUND BATT			NON-RATED
Df0	FURRING WALL	0'-4 1/4"	3-5/8" STEEL STUD	(1) LAYER 5/8" GYPSUM BOARD ONE SIDE	6" ABOVE CEILING		NON-RATED
1							
u1	SOUND & FIRE PARTITION	0'-1 1/4"		(2) LAYER 5/8" GYPSUM BOARD ONE SIDE	UNDERSIDE OF STRUCTURE		1HR
Db1B	FIRE BARRIER	0'-4 7/8"	3-5/8" STEEL STUD	(1) LAYER 5/8" TYPE "X" GYPSUM BOARD EACH SIDE	UNDERSIDE OF STRUCTURE		1HR
Dbu1B	FIRE BARRIER	0'-5 1/2"	3-5/8" STEEL STUD	(2) LAYER 5/8" TYPE "X" GYPSUM BOARD ON ONE SIDE	UNDERSIDE OF STRUCTURE		1HR

INTERIOR PARTITION TYPES

NAMING CONVENTION

STRUCTURE

A	7/8" HAT CHANNEL
B	1 5/8" STEEL STUD
C	2 1/2" STEEL STUD
D	3 5/8" STEEL STUD
E	4" STEEL STUD
F	6" STEEL STUD
G	3 5/8" DOUBLE STEEL STUD
J	2 1/2" C-H STEEL STUD
K	4" C-H STEEL STUD
L	6" C-H STEEL STUD
M	2x4 WOOD STUD
N	2x6 WOOD STUD
P	4" CMU
Q	6" CMU
R	8" CMU
S	12" CMU
T	8" CAST-IN-PLACE CONCRETE
V	12" CAST-IN-PLACE CONCRETE
Y	18" CAST-IN-PLACE CONCRETE
Z	1 1/2" Z-FURRING CHANNEL

SUB-TYPE

a	6" ABOVE CEILING
b	UNDERSIDE OF STRUCTURE
c	UNDERSIDE OF CEILING
f	FURRING
h	PARTIAL HEIGHT
k	MRI SHIELDING
m	LEAD-LINED
n	LEAD-LINED SOUND PARTITION
r	BALLISTIC RESISTANT FIBERGLASS
s	SOUND PARTITION
t	THERMAL INSULATION
u	SOUND PARTITION WITH (2) LAYERS GYPSUM BOARD ONE SIDE (1) LAYER OTHER SIDE
w	SOUND PARTITION WITH (2) LAYERS GYPSUM BOARD EACH SIDE
z	TILE BACKER BOARD

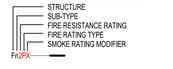
FIRE RESISTANCE RATING

0	NON-RATED
.5	1/2 HOUR
1	1 HOUR
2	2 HOUR
3	3 HOUR
4	4 HOUR

FIRE / SMOKE RATING MODIFIERS

B	FIRE BARRIER
P	FIRE PARTITION
W	FIRE WALL
N	INTERIOR LOAD BEARING FIRE RESISTANCE RATED WALL
V	SMOKE PARTITION
X	SMOKE BARRIER
Y	WALL RESISTING THE PASSAGE OF SMOKE

WALL TAG ANATOMY



F = 6" METAL STUD
n = LEAD-LINED SOUND PARTITION
2 = 2 HOUR FIRE RESISTANCE RATING
P = FIRE PARTITION
X = SMOKE BARRIER

GENERAL CONSTRUCTION AND LAYOUT NOTES

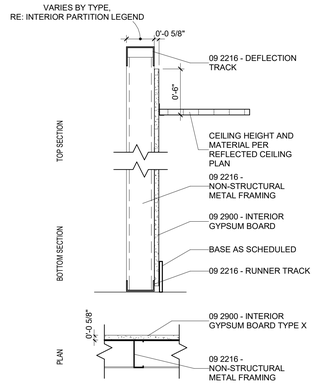
1. THE INTERIOR FRAMING SUBCONTRACTOR SHALL PROVIDE A DELEGATED ENGINEERED STUD DESIGN FOR ALL NON-STRUCTURAL METAL FRAMING FOR WALLS AND CEILINGS. SUBMIT FRAMING SHOP DRAWINGS WITH DETAILS, PRODUCT SELECTIONS, AND ENGINEERING CALCULATIONS STAMPED BY A LICENSED ENGINEER IN THE PROJECT JURISDICTION. ENGINEERING SHALL INCLUDE PROVISIONS FOR ELEMENTS ATTACHED TO/SUPPORTED BY THE FRAMING. FASTENER DESIGN AND SELECTION IS ALSO REQUIRED. SUBMIT ICC ES EVALUATION REPORTS FOR EACH FASTENER. USE OF DIMPLED OR PERFORMANCE ENCHANCED SHAPED STUDS IS ACCEPTABLE. UNLESS OTHERWISE INDICATED DESIGN FOR A MAXIMUM DEFLECTION OF L/240 AT 5 PSF. AT PARTITIONS TO RECEIVE CERAMIC TILE DESIGN FOR A MAXIMUM DEFLECTION OF L/360 AT 5 PSF.
2. ALL INTERIOR PARTITIONS ARE DIMENSIONED TO FINISHED FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
3. ALL STUDS SHALL BE FULL HEIGHT TO UNDERSIDE OF STRUCTURE UNLESS INDICATED OTHERWISE BY PARTITION TYPE.
4. BOTTOM OF GYPSUM BOARD SHALL BE 1/4" TO 3/8" ABOVE FINISH FLOOR UNLESS OTHERWISE INDICATED.
5. OFFSET STUDS AS NECESSARY TO ALIGN OUTSIDE FACES OF GYPSUM BOARD AT ADJACENT WALL TYPES WITH VARYING LAYERS OF GYPSUM BOARD.
6. PROVIDE DEEP LEG TRACKS (3" FLANGE) AT HEAD OF PARTITIONS AT ALL NON-LOAD BEARING PARTITIONS FOR EACH CONDITION THAT ALLOW FOR 1" OF UPWARD MOVEMENT AND 1" OF DOWNWARD DYNAMIC MOVEMENT CAPABILITIES.
7. AT SLAB-ON-GRADE CONDITIONS PROVIDE DYNAMIC MOVEMENT REQUIREMENTS CALLED FOR IN THE GEOTECHNICAL INVESTIGATION (SOILS REPORT). IF NO GEOTECHNICAL INVESTIGATION EXISTS CONTACT THE ARCHITECT FOR DEFLECTION CRITERIA.
8. ALL PARTITION TYPES MARKED BY A "t" SUFFIX (IE. Df0t) SHALL BE INSTALLED WITH FULL HEIGHT AND WIDTH CONTINUOUS THERMAL INSULATION AND, IF INDICATED, CONTINUOUS VAPOR RETARDER.
9. PROVIDE GYPSUM BOARD CONTROL JOINTS PER ASTM C 840 UNLESS OTHERWISE INDICATED ON DRAWINGS.
10. PROVIDE FIRE BLOCKING AND DRAFT STOPS PER CODE.

RATED PARTITION NOTES

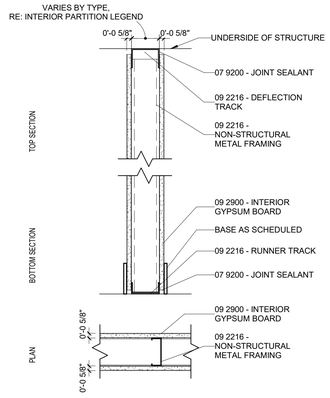
1. FIRE RATED ASSEMBLY CRITERIA TAKE PRECEDENT OVER ANY OTHER CONSTRUCTION CRITERIA.
2. REFERENCE LIFE SAFETY DRAWINGS FOR LOCATIONS OF FIREWALLS, FIRE BARRIERS, FIRE PARTITIONS, SMOKE PARTITIONS, SMOKE BARRIERS, AND WALLS RESISTING THE PASSAGE OF SMOKE. COMPLY WITH IBC AND ANY OTHER APPLICABLE CODES FOR CONSTRUCTION REQUIREMENTS FOR EACH RATED PARTITION TYPE.
3. REFERENCE SPECIFICATION SECTION 07 8413 – 'PENETRATION FIRESTOPPING' FOR TREATMENT OF ANY PENETRATIONS THROUGH A FIRE RATED PARTITION.
4. REFERENCE SPECIFICATION SECTION 07 8443 – 'JOINT FIRESTOPPING' FOR TREATMENT OF TOP AND BOTTOM OF WALL JOINTS AND JOINTS TO ABUTTING CONSTRUCTION.
5. PROVIDE AND SUBMIT FOR APPROVAL U.L. RATED HEAD OF WALL ASSEMBLIES FOR EACH RATED PARTITION CONDITION THAT ALLOWS FOR THE DYNAMIC MOVEMENT INDICATED. IF ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION (AHJ), OBTAIN ENGINEERING JUDGEMENTS FOR JOB SPECIFIC CONDITIONS NOT ADDRESSED BY TESTED ASSEMBLIES.
6. PROVIDE FIRE-RATED ACCESS DOORS AND FRAMES TO REACH DAMPERS OR CONTROL VALVES IN RATED PARTITIONS OR CEILING AS REQUIRED TO MAINTAIN RATING. PROVIDE NONRATED ACCESS DOORS AT NON RATED CONSTRUCTION.
7. WHERE DEVICES ARE RECESSED IN A FIRE RATED PARTITION PROVIDE: A.) DEVICE RATED FOR INSTALLATION IN RATED PARTITIONS, OR B.) CONSTRUCTION SUCH THAT FIRE RATING IS MAINTAINED BEHIND RECESSED DEVICE.
8. WHERE STRUCTURAL ITEMS SUCH AS HANGERS FOR STAIRS ARE EMBEDDED IN A RATED PARTITON CONSTRUCTION SHALL BE SUCH THAT FIRE RATING IS MAINTAINED BEHIND EMBEDDED ITEM.
9. MARKING AND IDENTIFICATION: FIRE WALLS, FIRE BARRIERS, FIRE PARTITIONS, SMOKE BARRIERS AND SMOKE PARTITIONS OR ANY OTHER WALL REQUIRED TO HAVE PROTECTED OPENINGS OR PENETRATIONS SHALL BE LABELED PER CODE.
10. PROVIDE SMOKE PARTITIONS TO LIMIT THE TRANSFER OF SMOKE. FILL JOINTS AND THE SPACE AROUND PENETRATING ITEMS SUCH AS DUCTS, PIPES, CONDUITS, AND SIMILAR BUILDING SERVICE EQUIPMENT WITH AN APPROVED MATERIAL TO LIMIT THE PASSAGE OF SMOKE.

SOUND PARTITION NOTES

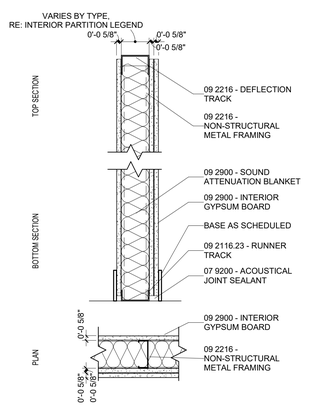
1. ALL PARTITION TYPES WITH A SUB-TYPE DESIGNATING A "SOUND PARTITION" SHALL BE INSTALLED TO INCLUDE FULL HEIGHT AND WIDTH SOUND ATTENUATION BLANKETS (SAB) AND ACOUSTICAL JOINT SEALANT AT TOPS AND BOTTOMS OF ALL WALLS AND PENETRATIONS
2. PROVIDE ELECTRICAL OUTLET BARRIER PADS IN SOUND PARTITIONS.
3. STAGGER DEVICES THAT PENETRATE OPPOSING WALL SURFACES IN ADJACENT STUD CAVITIES.



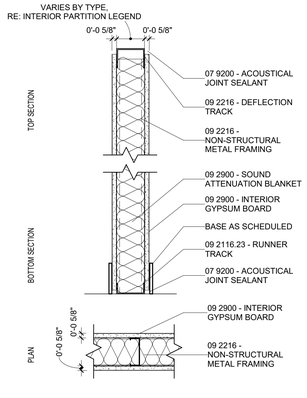
(_)f0 - UNRATED FURRING WALL



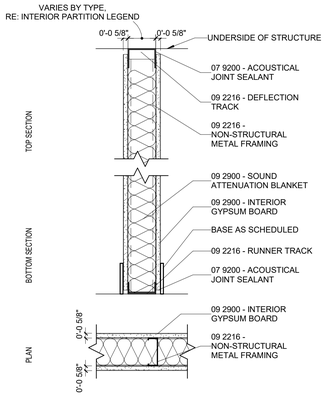
Db0 - UNRATED METAL STUD PARTITIONS



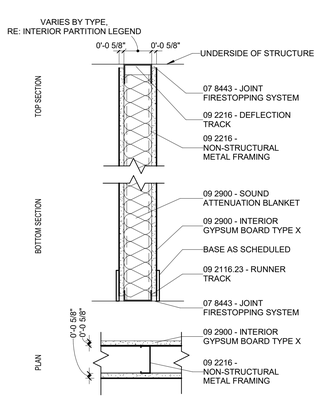
Dbu0 - UNRATED SOUND PARTITION WITH (2) LAYERS GYP ONE SIDE



Dbs0 - UNRATED METAL STUD SOUND PARTITIONS

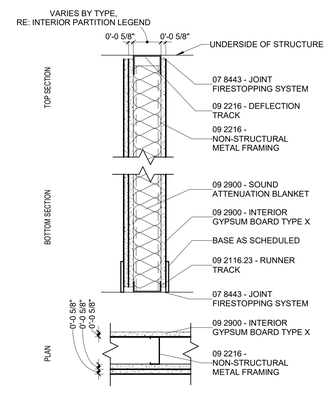


Dbs0V - SMOKE & SOUND PARTITIONS



RE: UL # U-419 FOR 1 HOUR RATED ASSEMBLY

Db1P - 1 HOUR RATED SOUND PARTITIONS



RE: UL # U-419 FOR 1 HOUR RATED ASSEMBLY

Dbu1P - 1 HOUR RATED SOUND PARTITIONS WITH (2) LAYERS OF GYP ONE SIDE

DAVIS PARTNERSHIP ARCHITECTS
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Denver, CO 80205
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Consultant(s)

Stamp

STATE OF COLORADO
J.D. DREIER
203337
11/30/2022
LICENSED ARCHITECT

Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
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Sheet Information

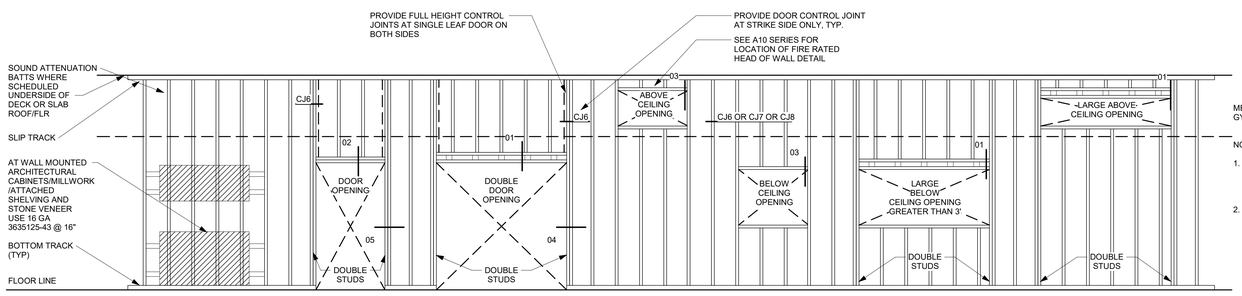
Sheet Title:
INTERIOR PARTITON TYPES

Sheet Number:
A-710

DPA Project: 21303.00.000

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FULL HEIGHT WALL

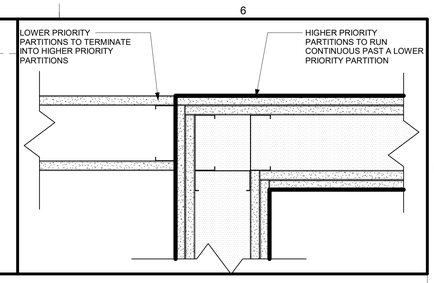
METAL STUD WALL W/ FULL HEIGHT GYPSUM WALL BOARD BOTH SIDES

NOTES:

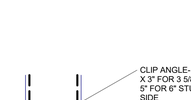
1. CONTROL JOINTS SHALL BE INSTALLED ON BOTH SIDES OF ALL PARTITIONS AND PER ASTM C840.
2. STUDS DESIGNATED AS "DOUBLE STUDS" SHALL EXTEND FULL HEIGHT FROM FLOOR TRACK TO TRACK AT STRUCTURE ABOVE AND SHALL BE STITCH WELDED 1/8" FLARE BEVEL STITCH WELD - 3/4" PER 24", BOTH SIDES.

PARTITION PRIORITY LEGEND

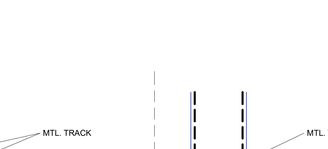
DISCRIPTION	PRIORITY RANKING
3 HOUR FIRE RATED WALLS	PRIORITY 1 - HIGHEST
2 HOUR FIRE RATED SHAFTWALLS	PRIORITY 2
2 HOUR FIRE RATED PARTITIONS	PRIORITY 3
1 HOUR FIRE RATED SHAFTWALLS	PRIORITY 4
1 HOUR FIRE RATED PARTITIONS	PRIORITY 5
SMOKE PARTITIONS	PRIORITY 6
SOUND PARTITIONS	PRIORITY 7
NON-FIRE RATED; NON-SOUND RATED	PRIORITY 8 - LOWEST



FRAMING



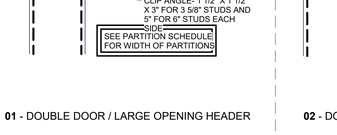
CJ1 - INTERIOR PARTITION NON-EXPOSED EDGE



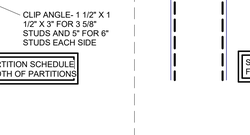
CJ2 - CONTROL JOINT FOR GYPSUM BOARD CEILING

NOT USED

CJ3 - PARTITION ATTACHMENT TO CEILING GRID

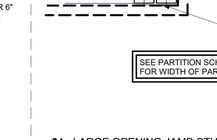


CJ4 - CONTROL JOINT AT PARTITION INTERSECTION/CHANGE IN CONSTRUCTION

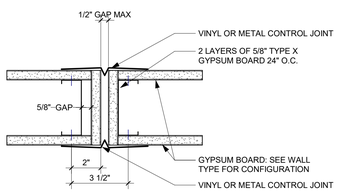


APPLICABLE RATED WALL TYPES (RE: A-102 FOR WALL TYPES; RE: PLANS FOR JOINT LOCATIONS):
DXb, DXby, DXl, DXs, FXb, FXz

CJ5 - INTERSECTION/CHANGE IN CONSTRUCTION



CJ6 - DOOR CONTROL JOINT

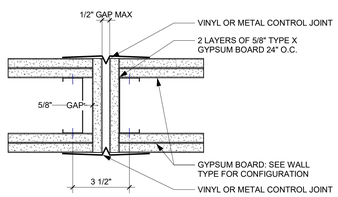


NOTE: LOCATE CONTROL JOINTS IN UNINTERRUPTED WALL SPANNING MORE THAN 30'-0" & WHERE INDICATED ON DRAWINGS, OR AT A CHANGE IN MATERIALS, FINISH, BACKING.

TYPICAL CONTROL JOINT FOR PARTITION TYPE REQUIRING (1) LAYER OF GYPSUM BOARD

CJ7 - 1 HR. PARTITION CONTROL JOINT SECTION

APPLICABLE WALL TYPES (RE: A-102 FOR WALL TYPES; RE: PLANS FOR JOINT LOCATIONS):
D1b, D1by, D1l, D1X, D1Xy, F1b, J1b

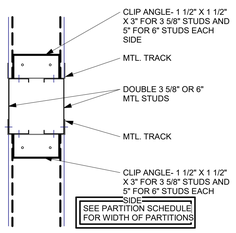


NOTE: LOCATE CONTROL JOINTS IN UNINTERRUPTED WALL SPANNING MORE THAN 30'-0" & WHERE INDICATED ON DRAWINGS, OR AT A CHANGE IN MATERIALS, FINISH, BACKING.

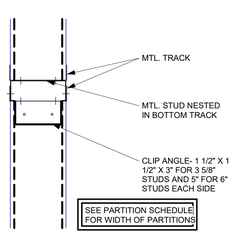
TYPICAL CONTROL JOINT FOR PARTITION TYPE REQUIRING (2) LAYERS OF GYPSUM BOARD

CJ8 - 2 HR. PARTITION CONTROL JOINT SECTION

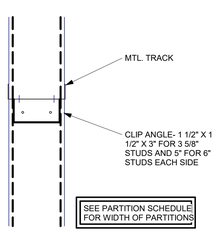
CONTROL JOINT DETAILS



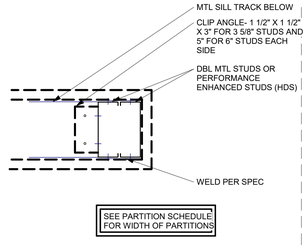
01 - DOUBLE DOOR / LARGE OPENING HEADER



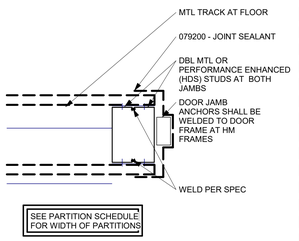
02 - DOOR OPENING HEADER



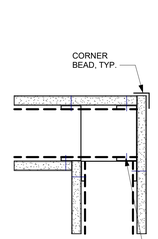
03 - OPENING HEADER



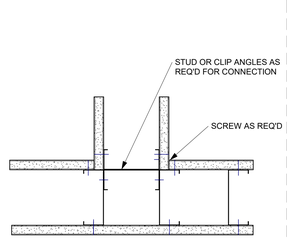
04 - LARGE OPENING JAMB STUDS



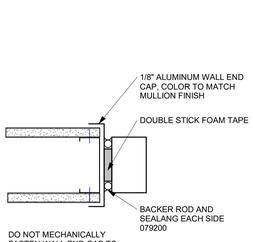
05 - DOOR OPENING JAMB STUDS



06 - CORNER FRAMING

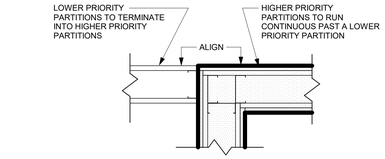


07 - WALL INTERSECTION FRAMING

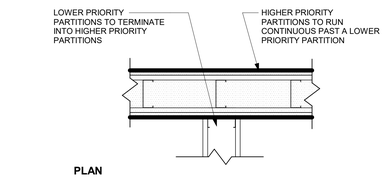


08 - GYPSUM TO CURTAINWALL / STOREFRONT MULLION

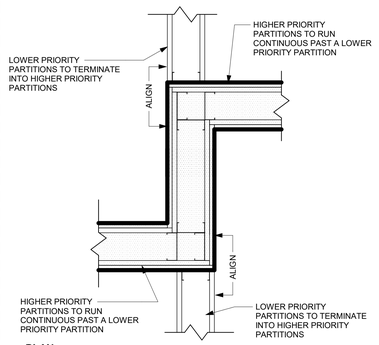
PARTITION FRAMING DETAILS



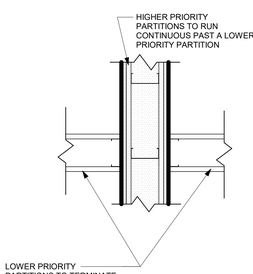
PLAN



PLAN



PLAN



PLAN

NOTES:

1. REFER TO PARTITION PLANS FOR PARTITION TYPES, NUMBER OF LAYERS OF GYP, STUD SIZE, UL LISTING ETC.
2. THE HIGHER PRIORITY PARTITION MUST PASS THROUGH THE LESSER PRIORITY PARTITION. THE COMPLETE WALL ASSEMBLY MUST BE CONTINOUS THROUGH INTERSECTION.
3. TAPE AND SEAL JOINTS IN GYP. BOARD IN PARTITION BEHIND INTERSECTIONG PARTITIONS.

PARTITION PRIORITY INTERSECTION DETAILS

DAVIS PARTNERSHIP ARCHITECTS
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303.861.8555

Consultant(s)

Stamp

STATE OF COLORADO · J.D. DREHER · 403337 · 11/30/2022 · REGISTERED ARCHITECT

Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
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RANGELY, CO 81648

Sheet Information

Sheet Title:
PARTITION DETAILS

Sheet Number:
A-711

DPA Project: 21303.00.000

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DOOR GENERAL NOTES

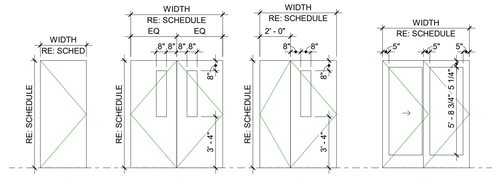
1. NUMBER INDICATED IN THE "REV" CORRESPONDS TO THE ISSUE/REVISION TAG NUMBER CONTAINED IN THE TITLEBLOCK.
2. REFER TO SPECIFICATION SECTION 08 8000 - GLAZING FOR GLAZING TYPES.

DOOR ABBREVIATIONS

ABBREVIATION	DESCRIPTION
AL	ALUMINUM
CA	CLEAR ANODIZED
DR1	INPRO DOOR FINISH -SEE FINISH LEGEND
HM	HOLLOW METAL
PT	PAINT
ST	STAIN
WD	WOOD

DOOR SCHEDULE

twtwwtt w	ROOM NAME	DOOR PANEL WIDTH	HEIGHT	THICKNESS	TYPE	MATERIAL	FINISH	GLAZING TYPE	DOOR FRAME TYPE	FINISH	LIFE SAFETY FIRE RATING	CLEAR OPENING WIDTH	_Door STC Rating	HARDWARE SET	WALL WIDTH	REMARKS	REV.
LEVEL 1																	
1603	PUBLIC TLT	36"	84"	1 3/4"	WD1	WD			HM1		20 Mins	33 1/8"		04	4 7/8"	SALVAGED 20 MIN DOOR	
1605	OFFICE	36"	84"	1 3/4"	WD1	WD			HM1		20 Mins	33 1/8"		05	4 7/8"	SALVAGED 20 MIN DOOR	
1607	ED CLEAN UTILITY	42"	84"	1 3/4"	WD1	WD	STN		HM1		20 Mins	39 1/8"		09	4 7/8"		
1620	HSKG	36"	84"	1 3/4"	WD1	WD	STN		HM1		20 Mins	33 1/8"		06	4 7/8"		
1635A	SOILED WORK	36"	84"	1 3/4"	WD1	WD			HM1		0 Mins	33 1/8"		03	4 7/8"	SALVAGED DOOR	
1635B	SOILED WORK	36"	84"	1 3/4"	WD1	WD			HM1		0 Mins	33 1/8"		07	4 7/8"	SALVAGED 20 MIN DOOR	
1636B	CLEAN WORK	36"	84"	1 3/4"	WD1	WD			HM1		45 Mins	33 1/8"		02	4 7/8"	SALVAGED 45 MIN DOOR	
1636C	CLEAN WORK	42"	84"	1 3/4"	WD1	WD			HM1		45 Mins	39 1/8"		06	4 7/8"	SALVAGED 45 MIN DOOR	
1637	DI CLOSET	42"	84"	1 3/4"	WD1	WD	STN		HM1		20 Mins	39 1/8"		06.1	4 7/8"		
1640	EQUIPMENT STORAGE	48"	84"	1 3/4"	WD1	WD	STN		HM1		45 Mins	45 1/8"		02	4 7/8"		
1641	OR	60"	84"	1 3/4"	WD7	WD	STN		HM2		0 Mins			01			
1642B	HSKP	36"	84"	1 3/4"	WD1	WD			HM1		0 Mins	33 1/8"		06.2	4 7/8"	SALVAGED DOOR	
1650C	PRE/POST RECOV.	82 1/4"	84"	1 3/4"	AES1	CA			A1		None			SL-01			
C-1641	SCRUB	84"	84"	1 3/4"	WD1	HM			HM2		0 Mins	81 1/8"		08	4 7/8"	SALVAGED 20 MIN DOOR	



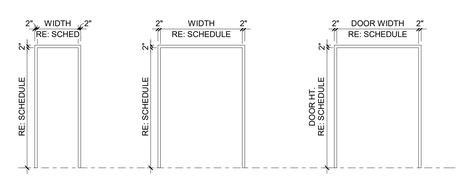
WD1 SOLID CORE WOOD FLUSH SINGLE DOOR

WD6 SOLID CORE WOOD SLIVER WINDOW DOUBLE DOOR

WD7 SOLID CORE WOOD SLIVER WINDOW UNEVEN DOUBLE DOOR

AES1 ALUM. STOREFRONT SLIDING FULL GLASS DOUBLE DOOR

DOOR PANEL TYPES
Not To Scale



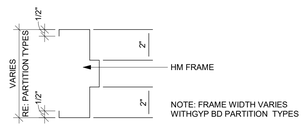
HM1 SINGLE DOOR

HM2 DOUBLE DOOR

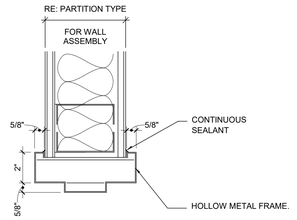
A1 ALUMINIUM TELESCOPING FRAME W/ BREAKOUT

DOOR FRAME TYPES
Not To Scale

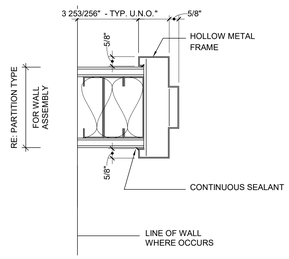
NOTES:
1. RE: DOOR SCHEDULE FOR FRAME RATING
2. PROVIDE 3/4" OVERLAP AT MASONRY RETURNS



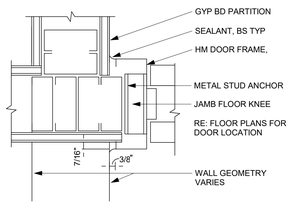
1 TYP HM DOOR FRAME
SCALE : 3" = 1'-0"



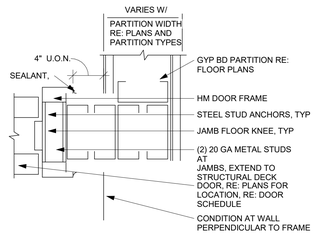
2 HM DOOR HEAD
SCALE : 3" = 1'-0"



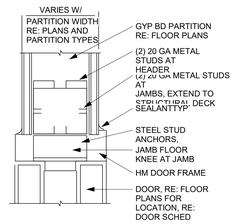
3 HM DOOR JAMB
SCALE : 3" = 1'-0"



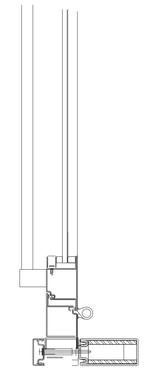
4 HM DOOR JAMB
SCALE : 3" = 1'-0"



5 TYPICAL CORNER HM DOOR JAMB
SCALE : 3" = 1'-0"



6 HM DOOR HEAD/JAMB @ GYP BD WALL
SCALE : 3" = 1'-0"



7 TGP FIRE RATED DOOR JAMB HINGE PLAN
SCALE : 3" = 1'-0"

A3 DOOR JAMB DETAILS
Not To Scale

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STATE OF COLORADO
J.D. DREYER
#20337
11/30/2022
LICENSED ARCHITECT

Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
RANGELY, CO 81648

Sheet Information

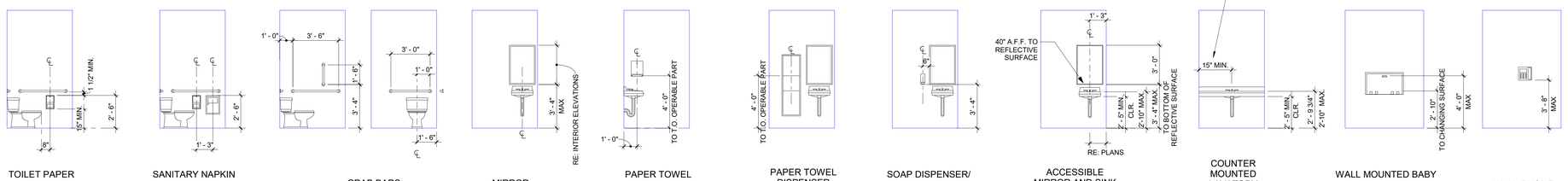
Sheet Title:
DOOR SCHEDULE, TYPES, AND DETAILS

Sheet Number:
A-720

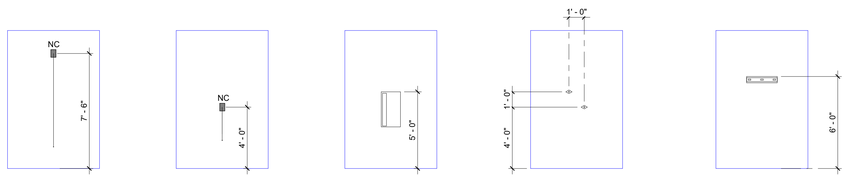
DPA Project: 21303.00.000

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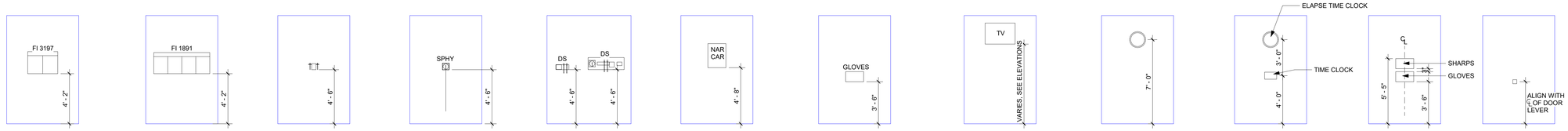
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ACCESSORY	TOILET PAPER DISPENSER	SANITARY NAPKIN DIPOSAL	GRAB BARS	MIRROR	PAPER TOWEL DISPENSER	PAPER TOWEL DISPENSER	SOAP DISPENSER/ HAND SANITIZER	ACCESSIBLE MIRROR AND SINK	COUNTER MOUNTED LAVATORY	WALL MOUNTED BABY CHANGING TABLE	WALL PHONE
MOUNTING DETAIL (2/A-500)	A	A	C	B	A	A	A	B		B	



ACCESSORY	NURSE CALL @ SHOWER	NURSE CALL BY TOILET	FIRE EXTINGUISHER	COAT HOOKS	MOP / BROOM HOLDER
MOUNTING DETAIL (2/A-500)	A	A	B	A	B



ACCESSORY	2-PANEL FILM ILLUMINATOR SURFACE MOUNTED	4-PANEL FILM ILLUMINATOR SURFACE MOUNTED	OTOSCOPE	SPHYGOMOMANOMETER	DIAGNOSTIC SET	NARCOTICS CABINET	SHARPS/ TRIPLE GLOVE DISPENSER	TV	CLOCK	ELAPSE TIME CLOCK AND TIME COCK	GLOVES AND SHARPS STACKED	WALL STOP
MOUNTING DETAIL (2/A-500)	A	A	A	A	A	A	A	B	A	A	A	A

A1 ACCESSORIES - TYPICAL MOUNTING HEIGHTS

1/4" = 1'-0"

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11/30/2022
LICENSED ARCHITECT

Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
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RANGELY, CO 81648

Sheet Information

Sheet Title:
INTERIOR MOUNTING HEIGHTS

Sheet Number:
A-760

DPA Project: 21303.00.000

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GENERAL DRAWING NOTES

1. WHERE DIFFERENCES APPEAR BETWEEN PLUMBING DRAWINGS AND ARCHITECTURAL DRAWINGS IN THE QUANTITIES AND LOCATIONS OF PLUMBING FIXTURES, THE ARCHITECTURAL DRAWINGS SHALL BE USED FOR PRICING. WHERE NECESSARY, THE CONTRACTOR SHALL USE UNIT PRICING FOR WASTE AND VENT PIPING TO EACH PLUMBING FIXTURE.

GENERAL PLUMBING CONTRACT REQUIREMENTS

1. PREPARE SHOP DRAWINGS OF ALL NEW WORK (INCLUDING SLEEVE LOCATIONS) TO VERIFY LOCATIONS AND COORDINATION OF WORK BETWEEN TRADES PRIOR TO INSTALLATION.

2. ALL DRAIN GRATES, CLEANOUT COVERS, AND OTHER FINISHED OR EXPOSED COMPONENTS SHALL BE PROTECTED FROM DAMAGE. DAMAGED COMPONENTS SHALL BE REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

3. COORDINATE ROUTING OF ALL PLUMBING PIPING BELOW SLAB WITH STRUCTURAL GRADE BEAMS, TIE BEAMS, ETC. ALLOW FOR REROUTING OF PIPING AS REQUIRED.

4. PIPING ROUTING ON DRAWINGS IS GENERALLY DIAGRAMMATIC WITH EFFORTS DURING DESIGN TO AVOID STRUCTURAL CONFLICTS. CONTRACTOR SHALL COORDINATE ROUTING OF ALL PIPING THROUGH BUILDING WITH STRUCTURAL AND EXISTING CONDITIONS. CONTRACTOR COORDINATION DRAWINGS SHALL REFLECT ALL PIPE ROUTING AND PIPING THAT MAY HAVE TO BE SHIFTED OR MOVED TO AVOID CONFLICTS. SHIFTED OR MOVED PIPING SHALL REFLECT NO ADDITIONAL COST TO THE PROJECT.

5. ALL REQUIRED OPENINGS IN CONCRETE BEAMS AND STRUCTURAL WALLS ARE TO BE ACCOMPLISHED USING SLEEVES PROPERLY SIZED FOR THE PIPE THEY SERVE. CORE DRILLING IN BEAMS IS NOT ALLOWED. CORE DRILLING IN PANS IS ALLOWED UPON PRIOR APPROVAL OF ARCHITECT AND STRUCTURAL ENGINEER.

6. ALL HORIZONTAL SANITARY PIPING 3" AND SMALLER WHETHER BELOW OR ABOVE GRADE SHALL SLOPE AT 1/4"/FT. ALL PIPING 4" AND LARGER SHALL SLOPE AT 1/8"/FT UNLESS OTHERWISE NOTED.

7. WHERE SHOWN, MINIMIZE THE NUMBER OF JOINTS ON ANY PRESSURIZED PIPING BELOW CONCRETE SLABS. ALL BELOW GRADE PIPING TO BE PRESSURE TESTED AND WITNESSED BY ARCHITECT PRIOR TO BACKFILLING.

8. ALL CLEANOUTS SHALL BE PIPE SIZE OR MAXIMUM 6" FOR LARGER PIPE.

9. IN ADDITION TO THE CLEANOUT LOCATIONS SHOWN ON DRAWINGS, CLEANOUTS SHALL BE PROVIDED IN ACCORDANCE WITH THE LOCAL GOVERNING CODE. ADDITIONAL CLEANOUTS SHALL BE PROVIDED AS FOLLOWS:
   - A. EACH RUN OF PIPING WHICH IS MORE THAN 75 FEET IN LENGTH OR FRACTION THEREOF.
   - B. HORIZONTAL LINES 5 FEET OR MORE.
   - C. HORIZONTAL LINES FOR EACH AGGREGATE CHANGE OF DIRECTION EXCEEDING 135 DEGREES.
   - D. AT THE BASE OF ALL SANITARY AND STORM RISERS. ALL VERTICAL CLEANOUTS SHALL BE SIZED TO ACCOMMODATE THE LARGEST PIPE ON THAT BRANCH LINE, BUT NEVER LARGER THAN 4".
   - E. ALL GREASE WASTE PIPING SHALL HAVE CLEANOUTS EVERY 50 FEET OR FRACTION THEREOF AND AS NOTED ABOVE.
   - F. AT THE END OF FIXTURE BANKS INCLUDING WATER CLOSETS, URINALS, AND LAVATORIES. CLEANOUT PLUG SHALL BE A MINIMUM OF 24" AFF

10. PROVIDE ISOLATION VALVES ON ALL PIPING SERVING HOSE BIBBS.

11. WATER HAMMER ARRESTORS SHALL BE INSTALLED BETWEEN THE LAST 2 FLUSH VALVE FIXTURES. WHEN THE COLD WATER HEADER IS 20 FEET OR LONGER, A SECOND ARRESTOR SHALL BE INSTALLED HALFWAY DOWN THE HEADER. THE SIZES OF THE ARRESTORS SHALL BE BASED ON PDI SIZING.

12. ALL FLOOR DRAINS IN BUILDING EXCEPT DRAINS IN SHOWERS AND SHOWER AREAS SHALL BE INSTALLED WITH A PRIMER TAP AND A 1/2" COLD WATER LINE ROUTED FROM FLOOR DRAIN PRIMER TAP AND STUBBED UP AT PLUMBING CHASES +12"AFF FOR CONNECTION TO TRAP PRIMER UNIT. COLD WATER PIPING IN OR BELOW FLOOR SLAB SHALL BE WRAPPED WITH POLYWRAP OR APPROVED EQUAL MATERIAL TO PROVIDE PROTECTION TO PIPING. ALL PIPING SHALL BE ONE PIECE FROM PRIMER TAP TO STUBUP. PROSET TRAP GUARDS (OR APPROVED EQUALS) MAY BE UTILIZED IF ACCEPTABLE TO THE AHJ AND OWNER.

13. ALL DOMESTIC WATER PIPING SERVING TOILET OR RESTROOM GROUPS SHALL BE INSTALLED WITH ISOLATION VALVES IN ORDER TO ISOLATE THESE AREAS WITHOUT CLOSING DOWN ANY OTHER PORTION OF THE BUILDING WATER SUPPLY SYSTEMS. ALL ISOLATION VALVES SHALL BE ACCESSIBLE WITH ACCESS PANELS. MINIMUM ACCESS PANEL SIZE SHALL BE 12"x12". ACCESS PANELS SHALL BE OF THE SAME RATING AS THE STRUCTURAL ELEMENT IN WHICH THEY ARE INSTALLED.

14. THROUGHOUT THE DRAWINGS, NUMBERS ARE SHOWN IN BRACKETS TO INDICATE QUANTITIES OF UNITS CARRIED WITHIN THE DIFFERENT PIPING SYSTEMS. THEY REPRESENT THE FOLLOWING:

    CW (X) = (CWFU)
    GAS (X) = (MBH)
    SAN (X) = (DFU)
    VENT (X) = (DFU)
    ST/OD (X) = (FT^2)

    FOR CALCULATION PURPOSES OF ALL PIPE SIZES, VALUES SHOWN ARE WITHIN 10 PERCENT OF ACTUAL LOAD VALUES.

15. ALL EQUIPMENT AND PIPING SHALL BE BRACED FOR SEISMIC REQUIREMENTS APPLICABLE FOR SEISMIC ZONE REQUIREMENTS FOR THIS PROJECT.

16. PROVIDE DIELECTRIC FITTINGS AT ALL CONNECTIONS BETWEEN DISSIMILAR METALS AND AS SHOWN ON DRAWINGS.

17. ALL TEMPERING VALVES TO BE SET FOR 110° F WATER TEMPERATURE MAXIMUM UNLESS OTHERWISE NOTED.

18. PROVIDE WATER HAMMER ARRESTORS FOR ALL FIXTURES/EQUIPMENT THAT HAVE QUICK CLOSING VALVES INCLUDING:
    - A. WATER CLOSET AND URINAL FLUSH VALVES
    - B. ELECTRONIC FAUCETS
    - C. REFRIGERATORS AND ICE MAKERS
    - D. DISHWASHERS
    - E. DI FEED WATER SUPPLY
    - F. DISINFECTORS AND STERILIZERS

19. REFER TO MECHANICAL PLANS FOR ALL EQUIPMENT REQUIRING MAKE-UP WATER. PROVIDE A REDUCED PRESSURE BACKFLOW, PRV, AND WATER HAMMER ARRESTOR FOR EACH REQUIRED LINE.

PLUMBING LEGEND

(NOT ALL SYMBOLS LISTED BELOW ARE BEING USED IN THIS SET OF PLUMBING DRAWINGS)

SYMBOL	ABBR	DESCRIPTION
MEDICAL		
—MA—	MA	MEDICAL AIR
—O2—	O2	OXYGEN
—MV—	MV	MEDICAL VACUUM
—WAGD—	WAGD	WASTE ANESTHESIA GAS DISPOSAL
—CO2—	CO2	CARBON DIOXIDE
—N2O—	N2O	NITROUS OXIDE
—N2—	N2	NITROGEN
—CA—	CA	COMPRESSED AIR (NONMEDICAL)
—DI—	DI	DEIONIZED WATER
SPRINKLER HEADS		
		EXISTING SPRINKLER HEAD TO REMAIN
		EXISTING SPRINKLER HEAD TO RELOCATED
A		EXISTING SPRINKLER HEAD TO NEW LOCATION
A		NEW SPRINKLER HEAD TO MATCH EXISTING
PIPING:		
—(E)—	(E)	EXISTING PIPING
(E)		EXISTING PIPING TO BE REMOVED
—CW—	CW	DOMESTIC COLD WATER
—HW—	HW	DOMESTIC HOT WATER
—T—	T	TEMPERED WATER
—HWC—	HWC	DOMESTIC HOT WATER CIRCULATING
—SAN—	SAN	SANITARY WASTE ABOVE FLOOR
—SAN—	SAN	SANITARY WASTE BELOW FLOOR
—GW—	GW	GREASE WASTE BELOW FLOOR
—V—	V	SANITARY VENT
—ST—	ST	STORM PIPING ABOVE FLOOR
—ST—	ST	STORM PIPING BELOW FLOOR
—OD—	OD	STORM OVERFLOW ABOVE FLOOR
—OD—	OD	STORM OVERFLOW BELOW FLOOR
—G—	G	NATURAL GAS
—F—	F	FIRE
—DR—	DR	EQUIP. DRAIN
—CA—	CA	COMPRESSED AIR
—2"SAN—		PIPE SIZE/ PIPE TYPE
FITTINGS:		
EJ	EJ	EXPANSION JOINT
	U	UNION
		THERMOMETER W/THERMOWELL
	AV	AIR VENT
	FC	FLEXIBLE PIPE CONNECTOR
FS	FS	FLOW SWITCH
PS	PS	PRESSURE SWITCH
	PG	PRESSURE GAUGE W/GAUGE COCK

SYMBOL	ABBR	DESCRIPTION
FITTINGS:		
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		PIPE CAP OR PLUG
	GC	GAS COCK
	CO	CLEANOUT PLUG
	HB WH	HOSE BIBB WALL HYDRANT
	VB	VACUUM BREAKER
	RD	ROOF DRAIN
	OD	OVERFLOW ROOF DRAIN
	DSN	DOWNSPOUT NOZZLE
	SA	SHOCK ARRESTOR W/BALL VALVE
	FD	FLOOR DRAIN
	AD	AREA DRAIN
	FCO GCO	FLOOR CLEANOUT GRADE CLEANOUT
	WCO CO	WALL CLEANOUT CLEANOUT PLUG
	VTR	VENT THRU ROOF
VALVES:		
	GV	GATE VALVE
	OS&Y	OUTSIDE STEM AND YOKE
	DV	DRAIN VALVE W/ HOSE END CONN.
		BALL VALVE W/ HOSE CONNECTION
	CV	CHECK VALVE WITH FLOW DIRECTION
	PRV	PRESSURE REDUCING VALVE
S	SV	SOLENOID VALVE
FC	FCV	AUTO FLOW CONTROL VALVE W/ TEST PORT
	CS	CIRCUIT SETTER
	GLV	GLOBE VALVE (STRAIGHT PATTERN)
	GLV	GLOBE VALVE (ANGLE PATTERN)
	BFV	BUTTERFLY VALVE
	BV	BALL VALVE
	TCV	AUTO TEMP CONTROL VALVE, 2-WAY
	TCV	AUTO TEMP CONTROL VALVE, 3-WAY
	PV	PLUG VALVE
	TPR	TEMP/PRESSURE RELIEF VALVE
		VALVE IN RISER
	STR	STRAINER W/ BLOW-OFF & CAPPED HOSE-END CONNECTION
		STEAM TRAP

SYMBOL	ABBR	DESCRIPTION
SYMBOLS: 1 / P1		SECTION NO. / SECTION VIEW SHEET NO.
F / M1		DETAIL DESIGNATION
F / 1 / F / 1		EQUIPMENT DESIGNATION
1		SHEET KEY NOTES
	POC	POINT OF CONN. (CONN. NEW TO EXISTING)
	POD	POINT OF DISCONNECTION
		ARROW INDICATES DIRECTION OF FLOW
UP		RISE IN DIRECTION OF FLOW
DN		DROP IN DIRECTION OF FLOW
	TB	THRUST BLOCK
	DN	DOWN
	AFF	ABOVE FIN. FLOOR
	AFG	ABOVE FIN. GRADE
	TOP	TOP OF PIPE (AFF)
	BOP	BOT. OF PIPE (AFF)
	I.E.	INVERT ELEVATION
	VBF	VENT BELOW FLOOR
	NTS	NOT TO SCALE
(E)	(E)	EXISTING
(N)	(N)	NEW
(R)	(R)	REMOVE OR RELOCATE

EQUIPMENT DESIGNATIONS

EWH — INDICATES TYPE OF EQUIPMENT

1 — INDICATES UNIT NUMBER

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Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.
(E)	(E)	EXISTING
(N)	(N)	NEW
(R)	(R)	REMOVE OR RELOCATE

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
RANGELY, CO 81648

Sheet Information

Sheet Title:
PLUMBING LEGEND

Sheet Number:
P-000

DPA Project: 21303.00.000

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PLUMBING FIXTURE SCHEDULE

CODE	FIXTURE	DESCRIPTION	LOCATION	MIN CW CONN	MIN HW CONN	MIN SAN CONN	MIN VENT CONN	MANUFACTURER / MODEL NUMBER	FAUCET / FLUSH VALVE	REMARKS
CS-1	CLINIC SINK	WALL MOUNTED FLUSHING RIM SINK	SOILED WORK 1635	1"	-	4"	2"	ZURN Z5410	ZURN Z60843AV-BWN-BG	WH, WO, FV, VC, 6.5 GPF
WC-1	WATER CLOSET	ADA WALL MOUNTED FLUSH VALVE	PUBLIC TLT 1603	1"	-	4"	2"	RELOCATED EXISTING	RELOCATED EXISTING	RELOCATED EXISTING
L-1	LAVATORY	WALL HUNG ADA	SEE PLANS	1/2"	1/2"	1-1/2"	1-1/2"	RELOCATED EXISTING	RELOCATED EXISTING	RELOCATED EXISTING
S-1	SINK	COUNTER MOUNTED	ED CLEAN UTILITY 1607	1/2"	1/2"	1-1/2"	1-1/2"	RELOCATED EXISTING	RELOCATED EXISTING	RELOCATED EXISTING
MSB-1	MOP SINK	FLOOR MOUNTED	JANITOR CLOSETS	3/4"	3/4"	3"	2"	JUST B-33213	CHICAGO 897-CRCF	WITH HOSE AND MOP BRACKET, SEE NOTE #7
FD-1	FLOOR DRAIN	EMERGENCY DRAIN	SEE PLANS	SIZES AS NOTED				ZURN ZN415-BZ1-NH-TSP		DCCI BODY, POLISHED NICKEL BRONZE GRATE, ASSE 1072 TRAP GUARD
FS-1	FLOOR SINK	WASTE RECEPTOR	SEE PLANS	SIZES AS NOTED				ZURN Z1851-NH-2		SS, HALF GRATE, ASSE 1072 TRAP GUARD
ICENC-039	ICE MAKER	COUNTERTOP ICE MAKER	PRE/POST RECOV 1650E	1/2"	-	-	-	RE: EQUIPMENT PACKAGE	RE: EQUIPMENT PACKAGE	RE: EQUIPMENT PACKAGE
SNKTS-002	SCRUB SINK	DUPLEX SURGEON SCRUB SINK	SCRUB C-1600E	1/2"	1/2"	2"	1-1/2"	RE: EQUIPMENT PACKAGE	RE: EQUIPMENT PACKAGE	RE: EQUIPMENT PACKAGE
SNKCR-030	REPROCESSING SINK	TRIPLEX WITH CA, CW, AND DI NOZZLES	SOILED WORK 1635	1/2"	1/2"	2"	1-1/2"	RE: EQUIPMENT PACKAGE	RE: EQUIPMENT PACKAGE	RE: EQUIPMENT PACKAGE
STESE-002	STERILIZER	STEAM STERILIZER	CLEAN WORK 1636B	1"	1/2"	-	-	RE: EQUIPMENT PACKAGE	RE: EQUIPMENT PACKAGE	RE: EQUIPMENT PACKAGE
TINAS-025	ASSEMBLY TABLE	PREP AND PACK TABLE WITH CA NOZZLE	CLEAN WORK 1636B	-	-	-	-	RE: EQUIPMENT PACKAGE	RE: EQUIPMENT PACKAGE	RE: EQUIPMENT PACKAGE
WSREL-017	WASHER	WASHER DISINFECTOR WITH CA AND DI CONNECTIONS	SOILED WORK 1635	1/2"	1/2"	-	-	RE: EQUIPMENT PACKAGE	RE: EQUIPMENT PACKAGE	RE: EQUIPMENT PACKAGE

GENERAL NOTES
1. PLUMBING DESIGN AND SIZES ARE BASED ON THE INTERNATIONAL PLUMBING CODE.
2. ALL EXPOSED PIPING SERVING PLUMBING FIXTURES THAT MAY BE USED FOR ADA PURPOSES SHALL HAVE TRAPS AND SUPPLIES INSULATED PER ADA REQUIREMENTS.
3. ALL FIXTURES ARE WHITE UNLESS OTHERWISE NOTED.
4. FLUSHING MECHANISMS SHALL BE LOCATED TO THE WIDE SIDE OF ADA ACCESS.
5. PROVIDE AN ASSE 1070 APPROVED TEMPERING VALVE AT ALL PUBLIC LAVATORIES USED FOR HAND WASHING SET TO 110°F PER IPC 607.1.
6. ALL SHOWER VALVES SHALL BE ASSE 1016 APPROVED AND SET TO NO GREATER THAN 120°F PER IPC 424.3
7. RPZ BACKFLOW PROTECTION SHALL BE PROVIDED ON EACH WATER LINE SERVING THE MOP SINK UNLESS ALL CONNECTED CHEMICAL DISPENSERS COMPLY WITH ASSE 1055.

DEFINITIONS

ADA	AMERICANS WITH DISABILITIES ACT APPROVED
CI	CAST IRON
CT	COUNTER TOP
BO	BOTTOM OUTLET
EB	ELONGATED BOWL
EBF	ELECTRONIC BATTERY OPERATED FAUCET
EBFV	ELECTRONIC BATTERY OPERATED FLUSH VALVE
FM	FLOOR MOUNTED
FP	FREEZE PROOF
FT	FLUSH TANK
FV	FLUSH VALVE
MV	MIXING VALVE
MF	METERING FAUCET
PB	PRESSURE BALANCING
PTB	PRESSURE TEMPERATURE BALANCING
S	SOLID WHITE ELONGATED OPEN FRONT SEAT LESS COVER WITH CHECK HINGE
SC	SOLID WHITE ELONGATED OPEN FRONT SEAT WITH COVER
SS	STAINLESS STEEL
VB	VACUUM BREAKER
VC	VITREOUS CHINA
VR	VANDAL RESISTANT
WC	WALL FIXTURE CARRIER
WH	WALL HUNG
WO	WALL OUTLET

MEDICAL GAS SCHEDULE

CODE	MANUFACTURER	MODEL NUMBER	SERVICE	LOCATION	TYPE	REMARKS
MGM-1	BEACON MEDAES	MNE-HH2X2-CO2-AS	CARBON DIOXIDE	MED GAS ROOM	AUTOMATIC CHANGEOVER MANIFOLD	2x2 HIGH PRESSURE X HIGH PRESSURE CYLINDER
AAP-1	BEACON MEDAES	M3-A10-OAVWC	MEDICAL GAS AREA	SEE PLANS	AREA ALARM	WIRE TO ALARM SENSORS LOCATED IN ZVB-1
ZVB-1	BEACON MEDAES	ZVB5-AAABC-ENG	OR MEDICAL GAS ISOLATION	SEE PLANS	ZONE VALVE BOX	VALVES SHALL BE IDENTIFIED ON PANEL COVER, PROVIDE WITH GAUGES AND INTEGRAL ALARM SENSORS
ZVB-2	BEACON MEDAES	ZVB1-A-ENG	ENDO MEDICAL GAS ISOLATION	SEE PLANS	ZONE VALVE BOX	VALVES SHALL BE IDENTIFIED ON PANEL COVER, PROVIDE WITH GAUGES AND INTEGRAL ALARM SENSORS. CONNECT NEW ALARM SENSOR TO THE ADJACENT EXISTING AREA ALARM PANEL SERVING ENDO ROOM.
CO2-1	RE: MEDICAL EQUIPMENT PLANS	RE: MEDICAL EQUIPMENT PLANS	CARBON DIOXIDE	OR BOOM LTSMB-008	CHEMETRON / LATCH KEY	COORDINATE EXACT LOCATION AND CONNECTION WITH OR EQUIPMENT LAYOUT
MV-1	RE: MEDICAL EQUIPMENT PLANS	RE: MEDICAL EQUIPMENT PLANS	MEDICAL VACUUM	OR BOOM LTSMB-008	CHEMETRON / LATCH KEY	COORDINATE EXACT LOCATION AND CONNECTION WITH OR EQUIPMENT LAYOUT
MA-2	RE: MEDICAL EQUIPMENT PLANS	RE: MEDICAL EQUIPMENT PLANS	MEDICAL AIR	OR COLUMN CSCRE-008	DISS	COORDINATE EXACT LOCATION AND CONNECTION WITH OR EQUIPMENT LAYOUT
MV-2	RE: MEDICAL EQUIPMENT PLANS	RE: MEDICAL EQUIPMENT PLANS	MEDICAL VACUUM	OR COLUMN CSCRE-008	DISS	COORDINATE EXACT LOCATION AND CONNECTION WITH OR EQUIPMENT LAYOUT
O2-2	RE: MEDICAL EQUIPMENT PLANS	RE: MEDICAL EQUIPMENT PLANS	OXYGEN	OR COLUMN CSCRE-008	DISS	COORDINATE EXACT LOCATION AND CONNECTION WITH OR EQUIPMENT LAYOUT
WAGD-2	RE: MEDICAL EQUIPMENT PLANS	RE: MEDICAL EQUIPMENT PLANS	WASTE ANESTHESIA GAS DISPOSAL	OR COLUMN CSCRE-008	DISS	COORDINATE EXACT LOCATION AND CONNECTION WITH OR EQUIPMENT LAYOUT
CO2-3	RE: MEDICAL EQUIPMENT PLANS	RE: MEDICAL EQUIPMENT PLANS	CARBON DIOXIDE	ENDO BOOM	CHEMETRON / LATCH KEY	COORDINATE EXACT LOCATION AND CONNECTION WITH ENDO EQUIPMENT LAYOUT

GENERAL NOTES
1. ALL COMPONENTS AND COMPLETE INSTALLATION SHALL MEET THE REQUIREMENTS OF NFPA 99.
2. CONNECT NEW SOURCE EQUIPMENT TO BOTH EXISTING MASTER ALARM PANELS, LOCATED IN THE 24/7 NURSES' STATION AND FACILITY DIRECTOR OFFICE.

PURE WATER SCHEDULE

CODE	MANUFACTURER	MODEL NUMBER	SERVICE	LOCATION	TYPE	FLOW [GPM]	PRESSURE [PSI]	STORAGE [GAL]	REMARKS	ELECTRICAL							
										POWER [W]	VOLTAGE	PHASE	FLA	FUSE	DISCONNECT	NEMA	FEEDER
PW-1	CULLIGAN	10" CULLAR	DI WATER	DI CLOSET 1637	CARBON FILTER	-	-	-		185	120	1	2	N/A	$T.O.	5-20	(2#12,1#12G) 3/4"C
PW-2	CULLIGAN	E1-3S	DI WATER	DI CLOSET 1637	REVERSE OSMOSIS	0.52	50	-	A	250	120	1	7.2	N/A	$T.O.	5-20	(2#12,1#12G) 3/4"C
PW-3	NORWESCO	41856	DI WATER	DI CLOSET 1637	STORAGE TANK	-	-	200		-	-	-	-	-	-	-	-
PW-4	GRUNDFOS	SCALA2 3-45 A	DI WATER	DI CLOSET 1637	FORWARDING PUMP	8	15	-		550	208	1	2.8	5A FRN-R	30A/2P	HARDWIRED	(3#12,1#12G) 3/4"C
PW-5	CULLIGAN	PEDI 14" x 65"	DI WATER	DI CLOSET 1637	EXCHANGE DI TANKS	8	-	-	B	-	-	-	-	-	-	-	-
PW-6	CULLIGAN	CUV6-151A	DI WATER	DI CLOSET 1637	UV LAMP	8	-	-		62	120	1	1	N/A	$T.O.	5-20	(2#12,1#12G) 3/4"C
PW-7	GLOBAL FILTER	GFHD121N2630MC	DI WATER	DI CLOSET 1637	0.2 MICRON FILTER	8	-	-	C	-	-	-	-	-	-	-	-

GENERAL NOTES
1. PROVIDE COMPLETE SYSTEM AT START UP, INCLUDING INITIAL INSTALLATION OF CARTRIDGE FILTERS, SERVICE DEIONIZATION TANKS, AND PIPING AS REQUIRED.
2. PROVIDE (1) COMPLETE SPARE SET OF CONSUMABLES, INCLUDING CARTRIDGE FILTERS AND UV LIGHT.

REMARKS
A. PROVIDE WITH OPTIONAL FLOOR STAND
B. PORTABLE EXCHANGE DI TANKS BY VENDOR.
C. PROVIDE WITH 0.2 MICRON GLOBAL FILTER 0.2A20"C4B.

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COLORADO LICENSED PROFESSIONAL ENGINEER KYLE W. HAZE 44812

Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
RANGELY, CO 81648

Sheet Information

Sheet Title:
PLUMBING SCHEDULES

Sheet Number:
P-001

DPA Project: 21303.00.000

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GENERAL NOTES:

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5. ALL CIRCUIT SETTERS SHALL BE SET AT 1.0 GPM UNLESS NOTED OTHERWISE.

KEY NOTES:

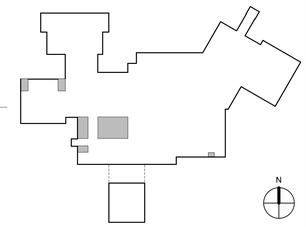
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1 LEVEL ONE PLUMBING REFERENCE PLAN
1/16" = 1'-0"

Key Plan



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RDH - SURGERY DEPT
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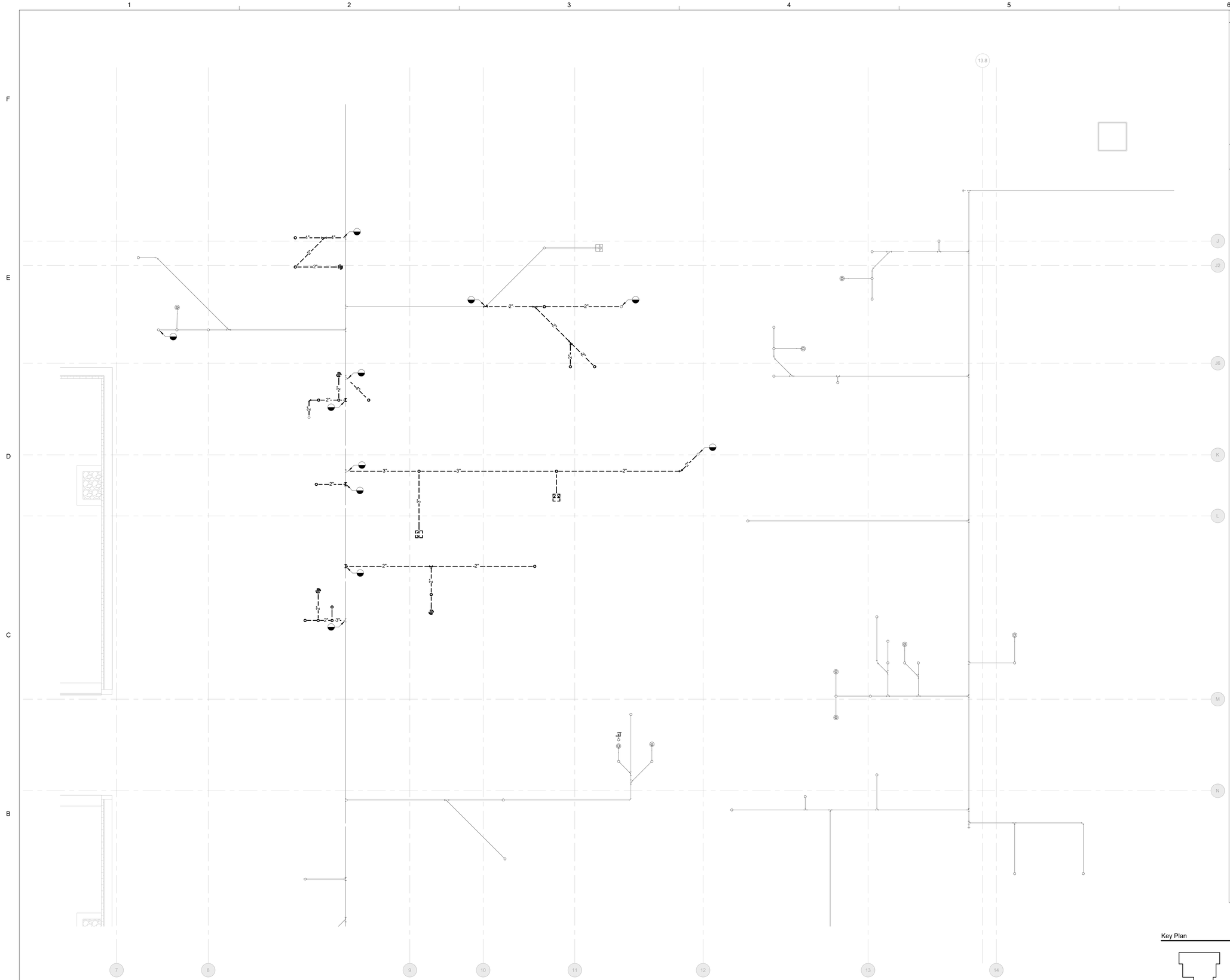
Sheet Title:
LEVEL ONE PLUMBING REFERENCE PLAN

Sheet Number:
P-011

DPA Project: 21303.00.000

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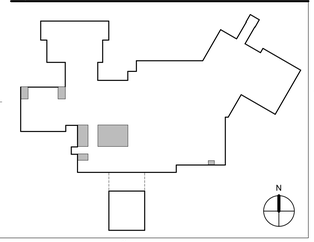
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1 UNDERGROUND PLUMBING DEMO FLOOR PLAN
1/4" = 1'-0"

Key Plan



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Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
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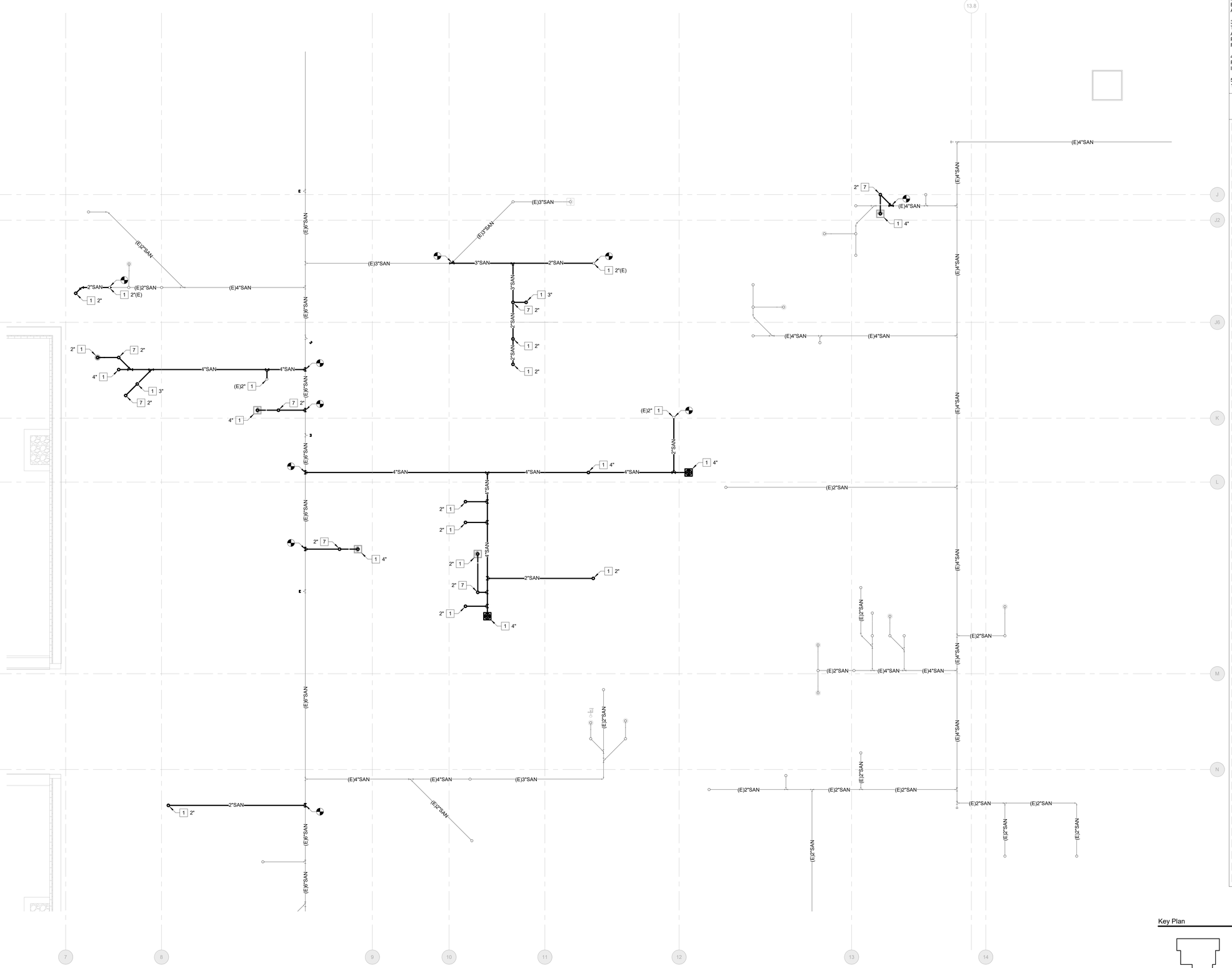
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UNDERGROUND PLUMBING DEMO PLAN

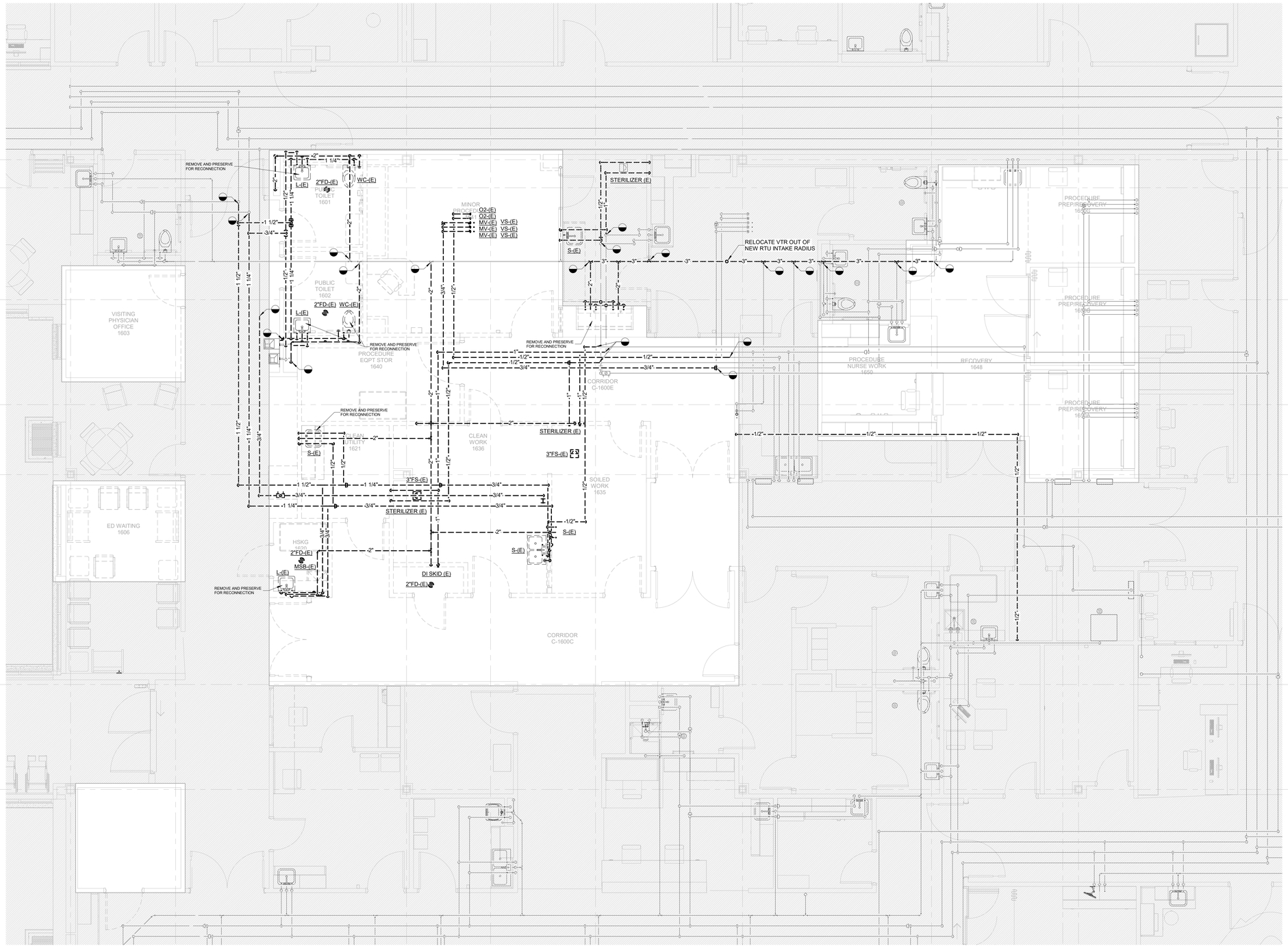
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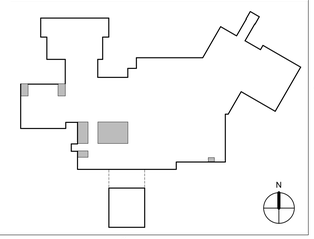
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1 LEVEL ONE PLUMBING DEMO FLOOR PLAN

1/4" = 1'-0"

Key Plan



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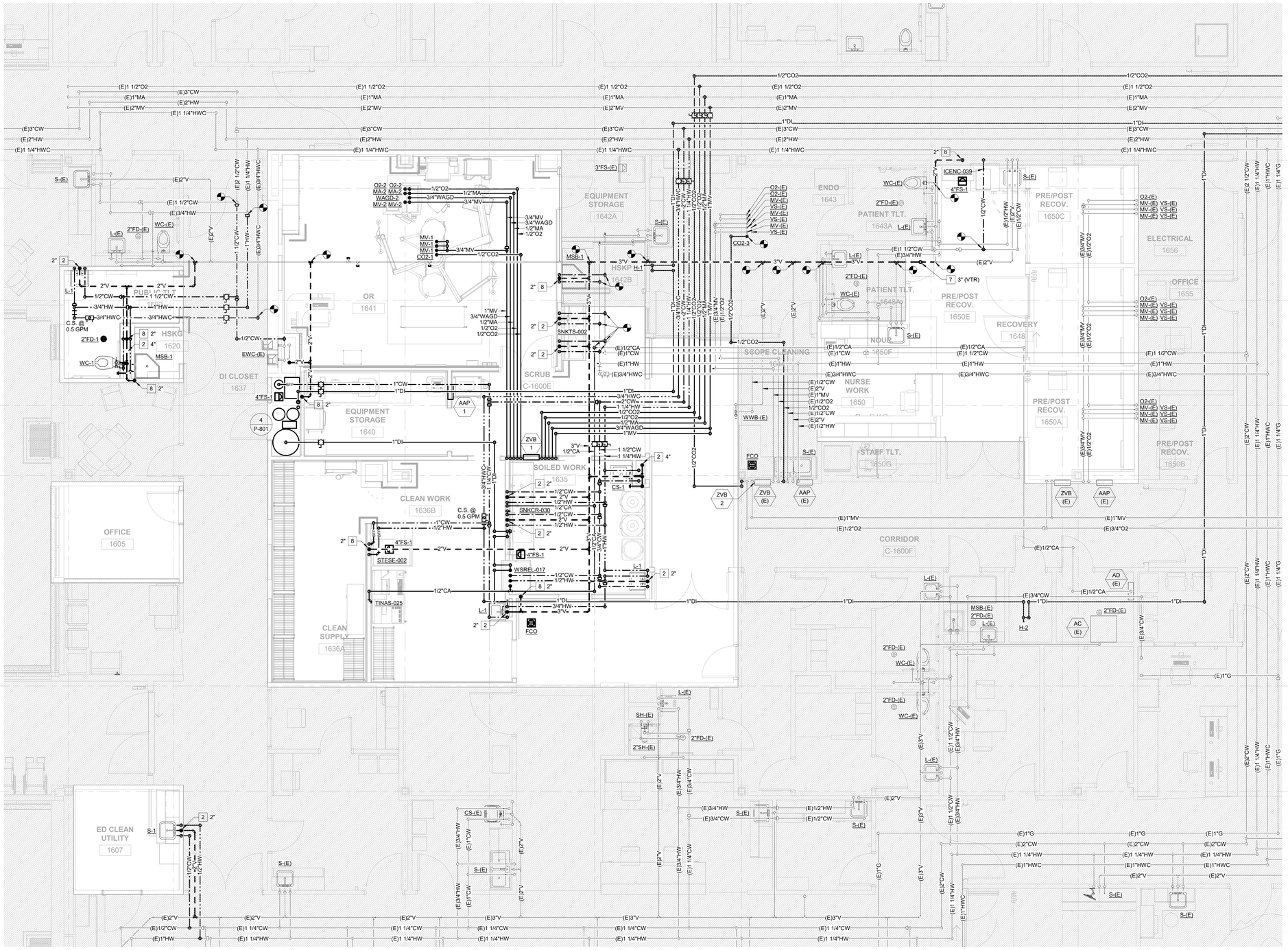
Sheet Title:
LEVEL ONE PLUMBING DEMO PLAN

Sheet Number:
P-101D

DPA Project: 21303.00.000

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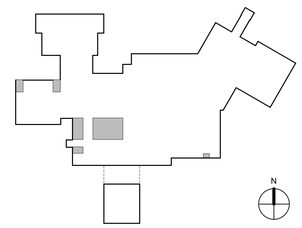
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62	O2 VALVED AND CAPPED
63	N2O VALVED AND CAPPED
64	N2 VALVED AND CAPPED
65	CO2 VALVED AND CAPPED
66	CA VALVED AND CAPPED

Key Plan



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Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

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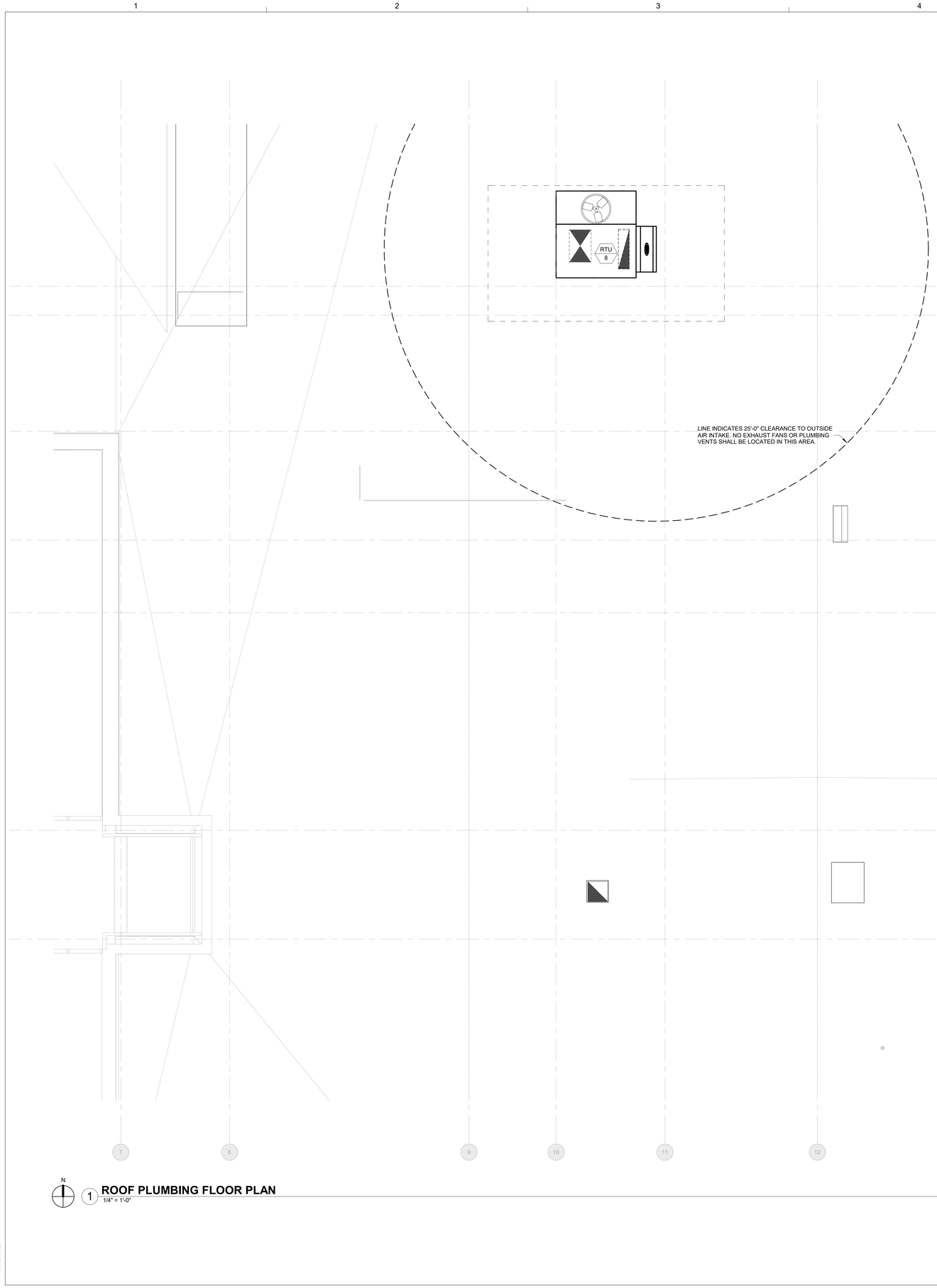
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LEVEL ONE PLUMBING PLAN

Sheet Number:
P-101

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GENERAL NOTES:

1. REQUIRED PIPE SIZES ARE SHOWN NEXT TO KEY NOTE.

2.PROVIDE BALL VALVE SHUTOFF AND 12"X12" ACCESS PANEL AT EACH WATER HAMMER ARRESTER. PANEL LOCATION TO BE VERIFIED AND COORDINATED WITH ARCHITECT.

3. PROVIDE 12"X12" ACCESS PANEL AT ALL TRAP PRIMER VALVES. COORDINATE WITH ARCHITECT. IF POSSIBLE, LOCATE TRAP PRIMER VALVES NEAR SHOCK ABSORBERS FOR USE WITH (1) ACCESS PANEL.

4. ALL INVERT ELEVATIONS (IE) SHALL BE FIELD VERIFIED BEFORE ANY PIPING IS INSTALLED.

5. ALL CIRCUIT SETTERS SHALL BE SET AT 1.0 GPM UNLESS NOTED OTHERWISE.

KEY NOTES:

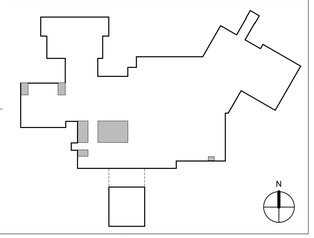
(SOME KEY NOTES MAY NOT APPLY TO THIS SHEET)

1 SANITARY PIPING UP
2 SANITARY PIPING DN
3 SANITARY PIPING UP & DN
4 GW PIPING UP
5 GW PIPING DN
6 GW PIPING UP & DN
7 SANITARY VENT UP
8 SANITARY VENT DN
9 SANITARY VENT UP & DN
10 CW PIPING UP
11 CW PIPING DN
12 CW PIPING UP & DN
13 HW PIPING UP
14 HW PIPING DN
15 HW PIPING UP & DN
16 HWC PIPING UP
17 HWC PIPING DN
18 HWC PIPING UP & DN
19 DI PIPING UP
20 DI PIPING DN
21 DI PIPING UP & DN
22 GAS PIPING UP
23 GAS PIPING DN
24 GAS PIPING UP & DN
25 FIRE PIPING UP
26 FIRE PIPING DN
27 FIRE PIPING UP & DN
28 STORM PIPING UP
29 STORM PIPING DN
30 STORM PIPING UP & DN
31 OVERFLOW PIPING UP
32 OVERFLOW PIPING DN
33 OVERFLOW PIPING UP & DN
34 MV PIPING UP
35 MV PIPING DN
36 MV PIPING UP & DN
37 MA PIPING UP
38 MA PIPING DN
39 MA PIPING UP & DN
40 O2 PIPING UP
41 O2 PIPING DN
42 O2 PIPING UP & DN
43 N2O PIPING UP
44 N2O PIPING DN
45 N2O PIPING UP & DN
46 N2 PIPING UP
47 N2 PIPING DN
48 N2 PIPING UP & DN
49 CO2 PIPING UP
50 CO2 PIPING DN
51 CO2 PIPING UP & DN
52 CA PIPING UP
53 CA PIPING DN
54 CA PIPING UP & DN
55 CW HEADER
56 HW HEADER
57 CW VALVED AND CAPPED
58 HW VALVED AND CAPPED
59 HWC VALVED AND CAPPED
60 MV VALVED AND CAPPED
61 MA VALVED AND CAPPED
62 O2 VALVED AND CAPPED
63 N2O VALVED AND CAPPED
64 N2 VALVED AND CAPPED
65 CO2 VALVED AND CAPPED
66 CA VALVED AND CAPPED

N

1 **ROOF PLUMBING FLOOR PLAN**
1/4" = 1'-0"

Key Plan



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Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

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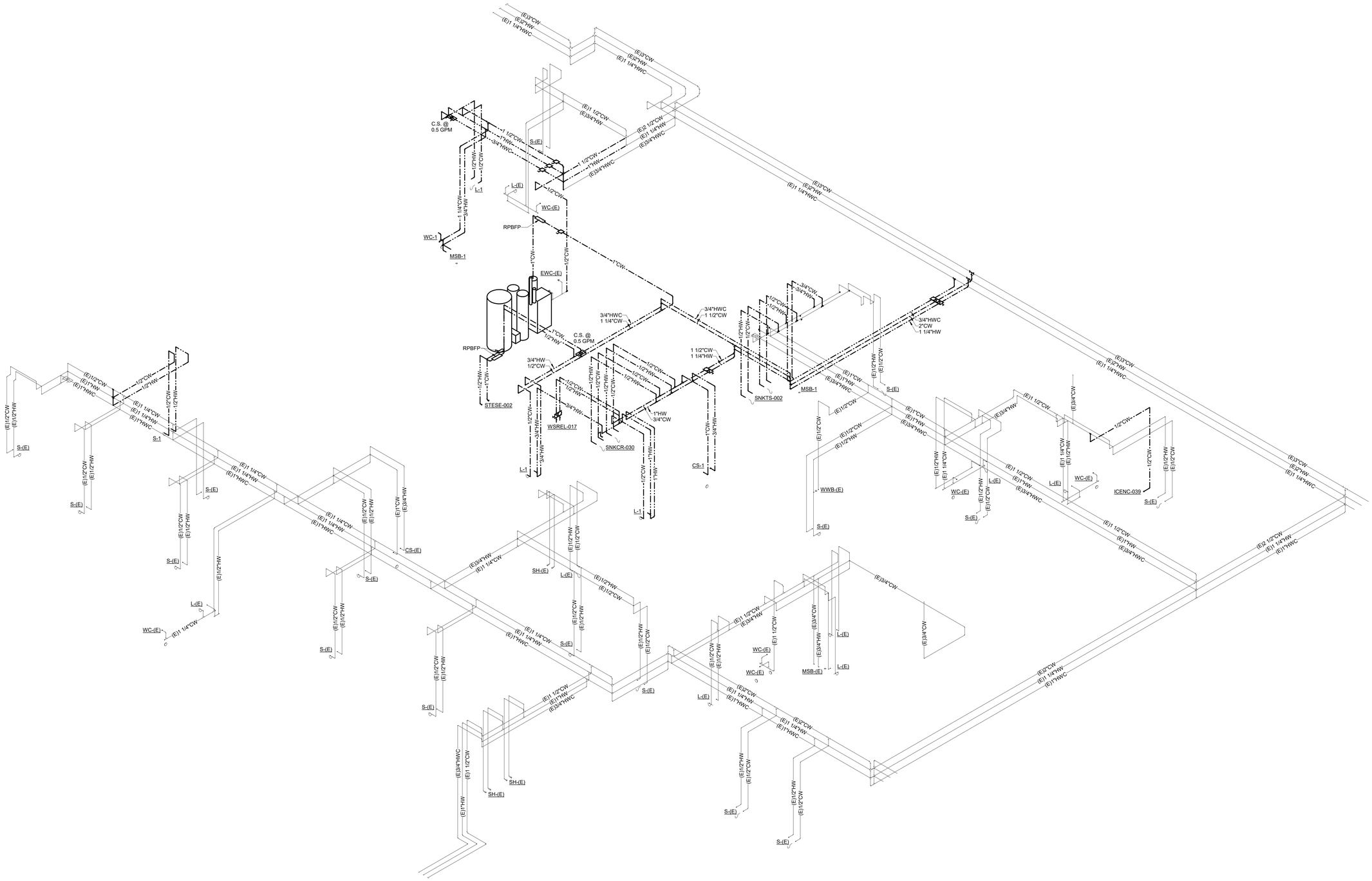
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Sheet Title:
ROOF PLUMBING PLAN

Sheet Number:
P-102

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1 **WATER ISOMETRIC**
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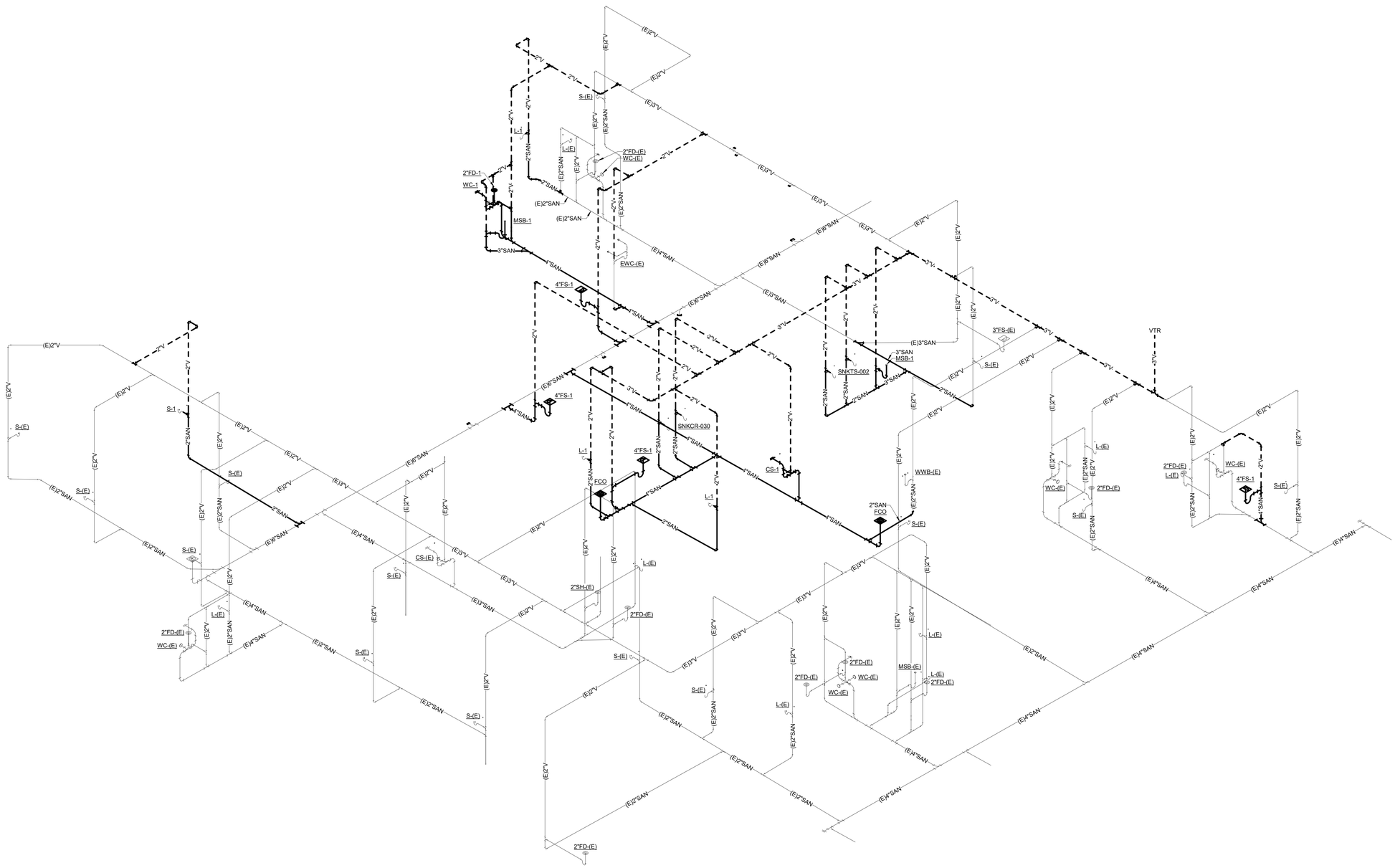
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Sheet Number:
P-600

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1 **SANITARY / VENT ISOMETRIC**
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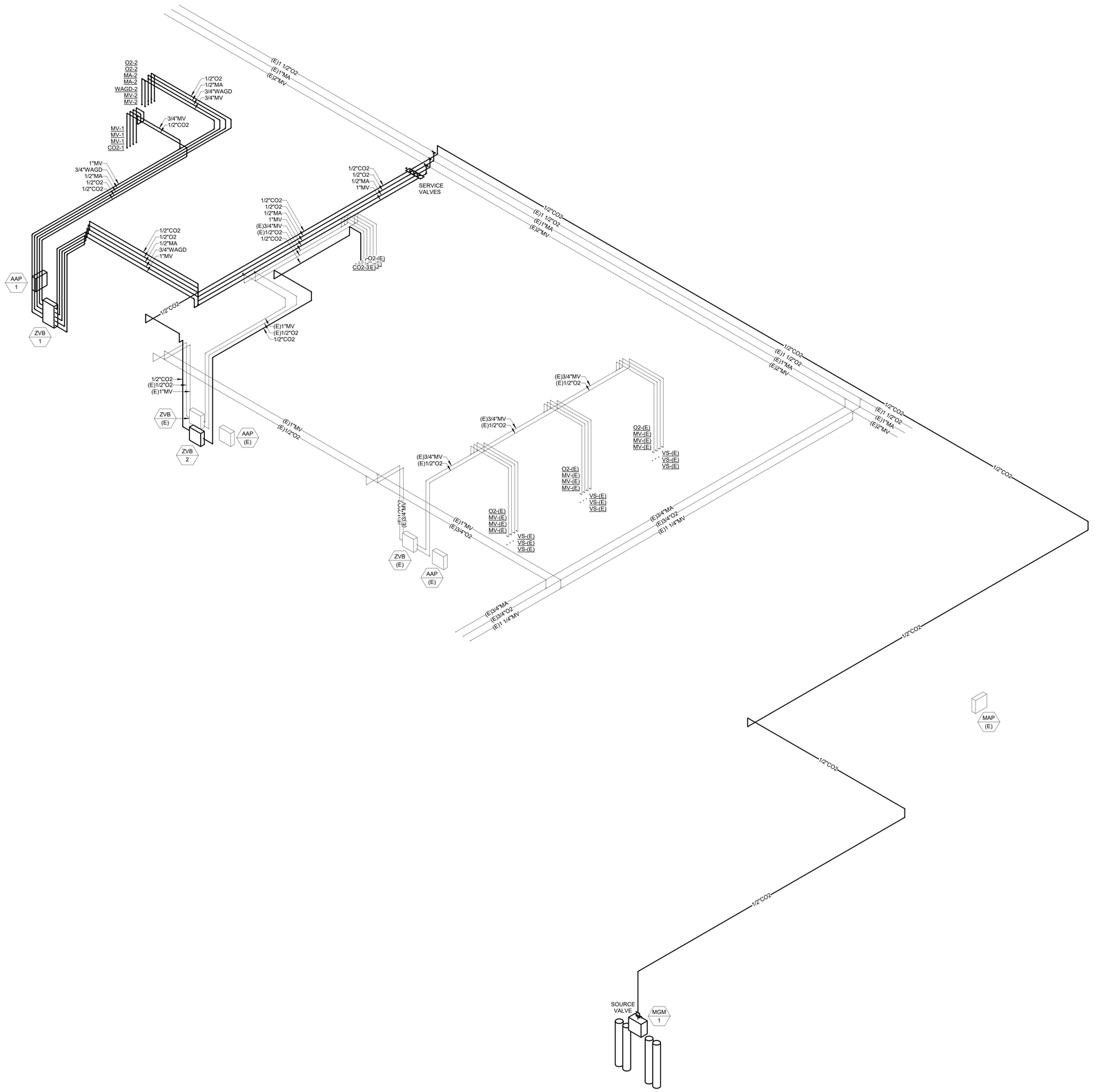
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Sheet Title:
SANITARY VENT ISOMETRIC

Sheet Number:
P-601

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1 **MEDICAL GAS ISOMETRIC**
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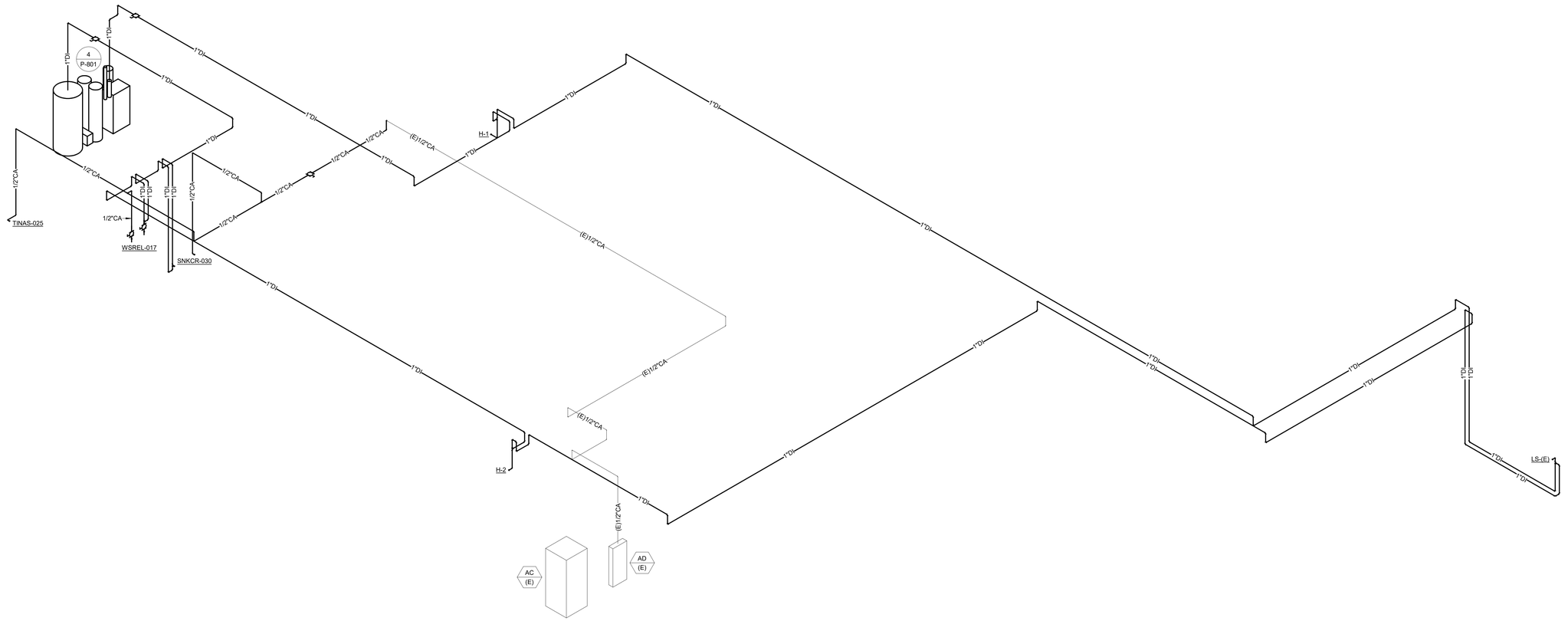
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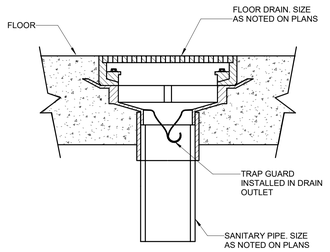
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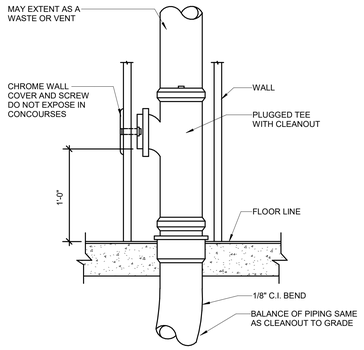
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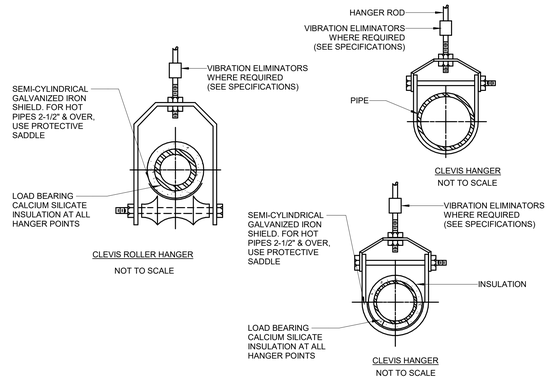

4
P-801
1"DI
1"DI
1"DI



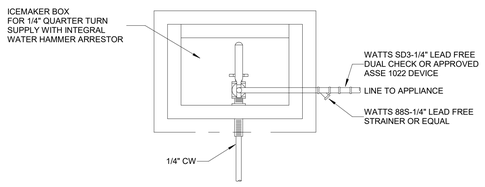
9 **TRAP GUARD DETAIL**
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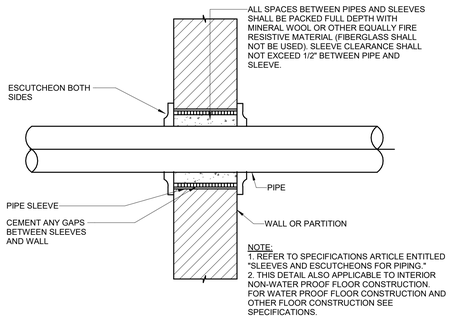
5 **WALL CLEANOUT DETAIL**
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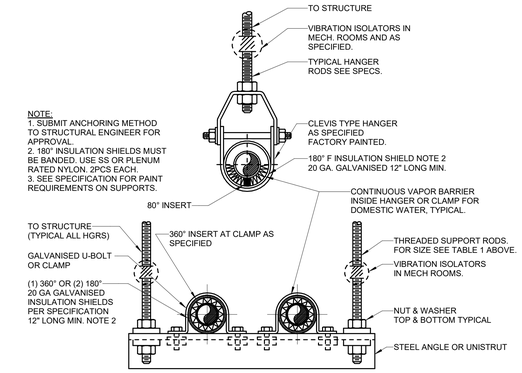
1 **CLEVIS HANGER DETAIL**
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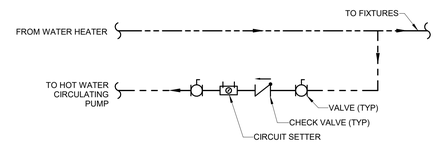
10 **WATER BOX DETAIL**
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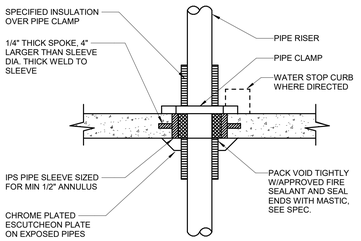
6 **PIPE THRU FIRE RATED PART. & WALL DETAIL**
Not To Scale



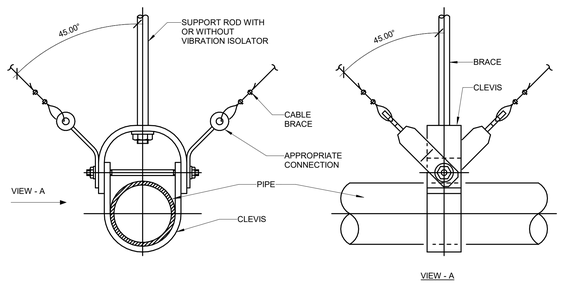
2 **DOMESTIC PIPING HANGER DETAIL**
Not To Scale



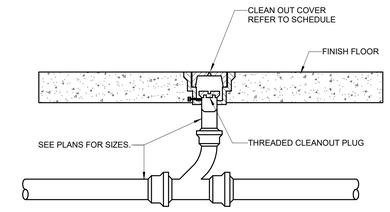
11 **HOT WATER RECIRC DETAIL**
Not To Scale



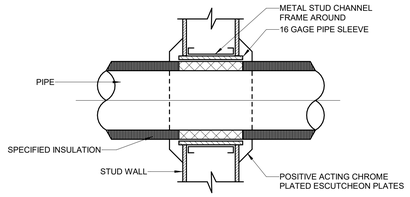
7 **PIPE THRU FLOOR SLAB DETAIL**
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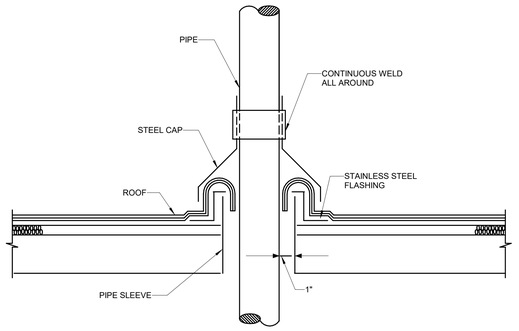
3 **PIPE MOUNTING SEISMIC CABLE BRACE DETAIL**
Not To Scale



12 **FINISHED FLOOR CLEANOUT INSTALLATION**
Not To Scale



8 **PIPE THRU STUD WALL DETAIL**
Not To Scale



4 **UNINSULATED PIPE THRU ROOF DETAIL**
Not To Scale

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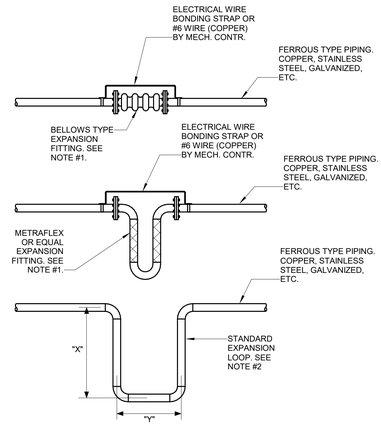
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Sheet Number:
P-800

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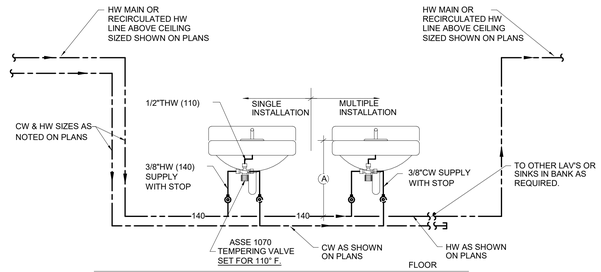
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NOTES:
1. (3) OPTIONAL TYPE EXPANSION TYPE JOINTS ARE SHOWN. SIZING FOR EXPANSION JOINTS USING FITTINGS SHALL BE SIZED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
2. EXPANSION LOOP TYPE JOINTS SHALL BE SIZED IN ACCORDANCE WITH STANDARD ENGINEERING PRACTICES.
3. PIPE ANCHORS AND GUIDES FOR ALL EXPANSION JOINTS AND LOOPS SHALL BE AS REQUIRED BY MANUFACTURERS RECOMMENDATIONS AND STANDARD ENGINEERING PRACTICES.

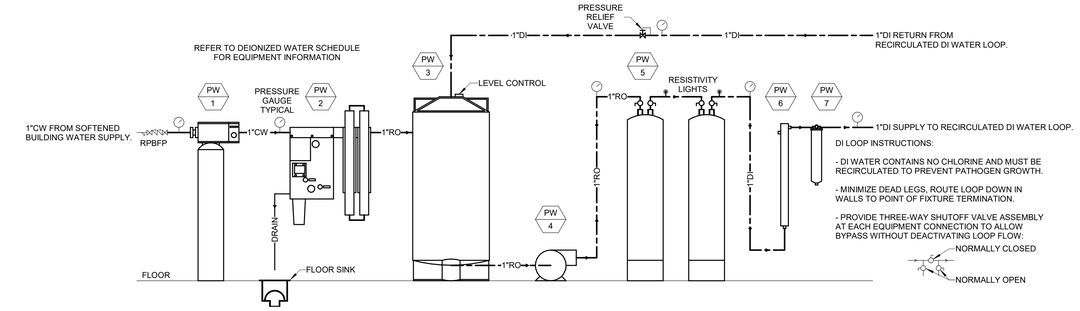
1 PIPING EXPANSION TYPES
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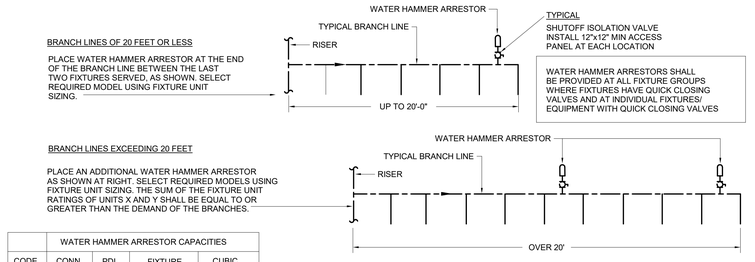
NOTES:
1. ALL WATER PIPING BEFORE STOPS SHALL BE INSTALLED IN CHASE BEHIND FIXTURES.
2. DETAIL APPLIES TO SINGLE APPLICATION ALSO. DELETE ALL FIXTURES AFTER FIRST LAV OR SINK SHOWN.
3. FOR SINGLE TEMP FAUCETS WITHOUT INTEGRAL MIXING VALVES: DISTANCE "A" FROM HOT WATER MAIN THRU TEMPERING VALVE AND TEMPERED WATER AFTER VALVE TO BE NO MORE THAN 2 FEET TO WATER INLET OF FAUCET.

   FOR FAUCETS WITH INTEGRAL MIXING VALVES: DISTANCE "A" FROM HOT WATER MAIN TO HOT WATER INLET OF INTERGRAL MIXING VALVE TO BE NO MORE THAN 2 FEET.
4. P-TRAP AND HW SUPPLY LINES TO BE INSULATED ON ALL ADA LAVS.

2 AUTOMATIC PUBLIC LAV TEMPERING VALVE DETAIL
Not To Scale



4 DEIONIZED WATER SYSTEM
Not To Scale



BRANCH LINES OF 20 FEET OR LESS

PLACE WATER HAMMER ARRESTOR AT THE END OF THE BRANCH LINE BETWEEN THE LAST TWO FIXTURES SERVED, AS SHOWN. SELECT REQUIRED MODEL USING FIXTURE UNIT SIZING.

BRANCH LINES EXCEEDING 20 FEET

PLACE AN ADDITIONAL WATER HAMMER ARRESTOR AS SHOWN AT RIGHT. SELECT REQUIRED MODELS USING FIXTURE UNIT SIZING. THE SUM OF THE FIXTURE UNIT RATINGS OF UNITS X AND Y SHALL BE EQUAL TO OR GREATER THAN THE DEMAND OF THE BRANCHES.

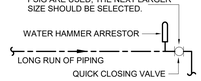
WATER HAMMER ARRESTOR CAPACITIES				
CODE	CONN. SIZE	PDI SIZE	FIXTURE UNIT CAPACITY	CUBIC INCH VOLUME
SA-1	1/2"	A	1 TO 11	5
SA-2	3/4"	B	12 TO 32	7
SA-3	1"	C	33 TO 60	11
SA-4	1"	D	61 TO 113	20
SA-5	1"	E	114 TO 154	29
SA-6	1"	F	155 TO 330	34

NOTE: MATCH TOTAL FIXTURE UNITS OF BRANCH LINE TO CORRECT SIZE OF WATER HAMMER ARRESTOR.

P.D.I. WATER HAMMER ARRESTORS						
LENGTH OF PIPE	NOMINAL PIPE DIAMETERS					
	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
25'	A	A	B	C	D	E
50'	A	B	C	D	E	F
75'	B	C	D	AE	F	EF
100'	C	D	E	F	CF	FF
125'	C	D	F	AF	EF	EFF
150'	D	E	F	DF	FF	FFF

WHEN LONG RUNS OF PIPING ARE EMPLOYED TO SERVE REMOTE EQUIPMENT, WATER HAMMER ARRESTOR SHOULD BE LOCATED AS CLOSE AS POSSIBLE TO THE POINT OF QUICK CLOSURE.

THE SIZE AND QUANTITY OF WATER HAMMER ARRESTORS TO BE INSTALLED IN BRANCH LINES IS SHOWN IN TABLE. WHEN FLOW PRESSURES OF 65 TO 85 PSIG ARE USED, THE NEXT LARGER SIZE SHOULD BE SELECTED.



3 WATER HAMMER ARRESTOR INSTALLATION AND SIZING DETAIL
Not To Scale

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Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

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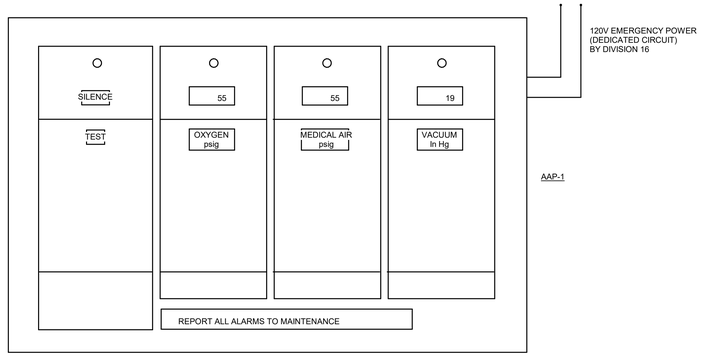
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PLUMBING DETAILS

Sheet Number:
P-801

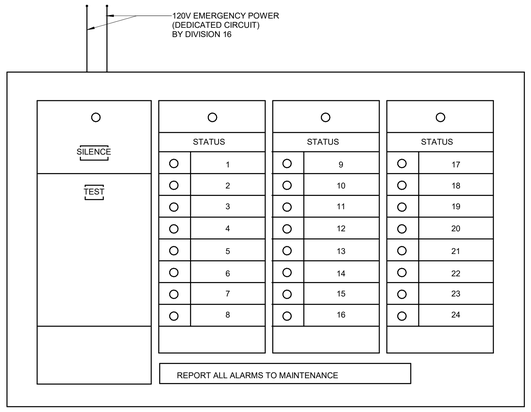
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1 MED GAS AND VACUUM AREA ALARM PANEL
Not To Scale



1 MEDICAL AIR
-LINE PRESSURE HIGH

2 MEDICAL AIR
-LINE PRESSURE LOW

3 MEDICAL AIR
-RESERVE SUPPLY IN USE

4 MEDICAL AIR
-RESERVE SUPPLY LOW

5 SPARE

6 SPARE

7 SPARE

8 SPARE

9 OXYGEN
-LINE PRESSURE HIGH

10 OXYGEN
-LINE PRESSURE LOW

11 OXYGEN
-RESERVE SUPPLY IN USE

12 OXYGEN
-RESERVE SUPPLY LOW

5 SPARE

6 SPARE

7 SPARE

8 SPARE

17 MEDICAL VACUUM
-LINE VACUUM HIGH

18 MEDICAL VACUUM
-LINE VACUUM LOW

19 SPARE

20 SPARE

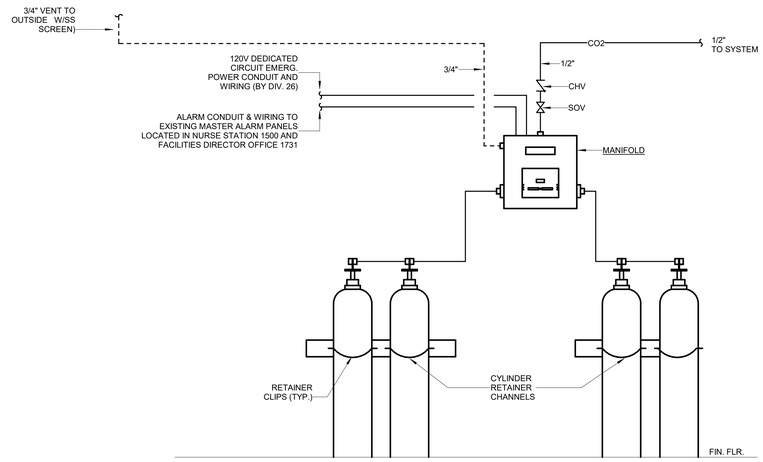
21 SPARE

22 SPARE

23 SPARE

24 SPARE

2 MED GAS AND VACUUM MASTER ALARM PANEL
Not To Scale



3 CO2 CYLINDER MANIFOLD W/ RESERVE SUPPLY TANKS
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CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
RANGELY, CO 81648

Sheet Information

Sheet Title:
PLUMBING
DETAILS

Sheet Number:
P-802

DPA Project: 21303.00.000

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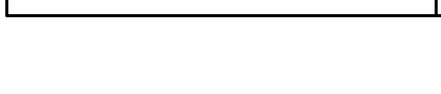
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MISCELLANEOUS

SYMBOL	DESCRIPTION
1 / A101 SIM	SECTION NO. / SECTION VIEW SHEET NO.
A / M1-01	DETAIL DESIGNATION
AHU / 1.01	POWERED EQUIPMENT DESIGNATION
VAV / 1.01	NON POWERED EQUIPMENT DESIGNATION
TYPE / LENGTH	BASEBOARD EQUIPMENT DESIGNATION
2" 1	SHEET KEY NOTES
	POINT OF DISCONNECTION
	ARROW INDICATES DIRECTION OF FLOW
	EXTERIOR WALL LOUVER (UNDER ARCH. SECTION)
UC	UNDERCUT DOOR (UNDER ARCH. SECTION)
D/L	DOOR LOUVER (UNDER ARCH. SECTION)
L/D	LOUVER DOOR FULL HEIGHT. (UNDER ARCH. SECTION)

SYMBOL	DESCRIPTION
	SUPPLY DIFFUSER-4-WAY THROW
	SUPPLY DIFFUSER-3-WAY THROW
	SUPPLY DIFFUSER-2-WAY THROW
	SUPPLY DIFFUSER-1-WAY THROW
	CEILING ACCESS PANEL
	RETURN DIFFUSER
	EXHAUST DIFFUSER
H	HUMIDIFIER
	FLEXIBLE DUCT CONNECTION
	SUPPLY AIR FLOW SYMBOL
	RETURN/EXHAUST AIR FLOW SYMBOL
	HEAT TRACE

EQUIPMENT DESIGNATION



DUCTWORK

PIPING TYPES

DOUBLE LINE PIPING (2" AND ABOVE)	SINGLE LINE PIPING (UP TO 2")	PIPE TYPE
CHS	CHS	CHILLED WATER SUPPLY
CHR	CHR	CHILLED WATER RETURN
HWS	HWS	HEATING WATER SUPPLY
HWR	HWR	HEATING WATER RETURN
CWS	CWS	CONDENSER WATER SUPPLY
CWR	CWR	CONDENSER WATER RETURN
D	D	CONDENSATE DRAIN
HPS	HPS	HIGH PRESSURE STEAM SUPPLY
MPS	MPS	MEDIUM PRESSURE STEAM SUPPLY
LPS	LPS	LOW PRESSURE STEAM SUPPLY
HPR	HPR	HIGH PRESSURE CONDENSATE RETURN
MPR	MPR	MEDIUM PRESSURE CONDENSATE RETURN
LPR	LPR	LOW PRESSURE CONDENSATE RETURN
RS	RS	REFRIGERANT SUCTION
RL	RL	REFRIGERANT LIQUID
RHG	RHG	REFRIGERANT HOT GAS
A	A	CONTROL AIR (PNEUMATIC)
BD	BD	BOILER BLOW DOWN
BF	BF	BOILER FEED
BO	BO	BLOW OFF
CF	CF	CHEMICAL FEEDER
PCS/R	PCS/R	PROCESS COOLING WATER SUPPLY/RETURN
HTWS/R	HTWS/R	HIGH TEMP. HOT WATER SUPPLY/RETURN
PHWS/R	PHWS/R	PRIMARY OR DISTRICT HEATING WATER SUPPLY/RETURN
PCHS/R	PCHS/R	PRIMARY OR DISTRICT CHILLED WATER SUPPLY/RETURN
PR	PR	PUMPED CONDENSATE RETURN
(E)	(E)	EXISTING PIPING
(E)	(E)	EXISTING PIPING TO BE REMOVED

APPLICABLE CODES

DESIGNED UNDER THE FOLLOWING CODES AND STANDARDS:
[2021 INTERNATIONAL BUILDING CODE]
[2021 INTERNATIONAL MECHANICAL CODE]
[2018 INTERNATIONAL PLUMBING CODE]
[2018 INTERNATIONAL FUEL GAS CODE]
[2021 INTERNATIONAL FIRE CODE]
[2021 INTERNATIONAL ENERGY CONSERVATION CODE]
[2021 NFPA 101]
[2020 NATIONAL ELECTRIC CODE]

PIPING SYMBOLS

SYMBOL	ABBREVIATION	DESCRIPTION
FITTINGS:		
	P&T	PRESSURE/TEMPERATURE PORT TAPS
	CR	CONCENTRIC REDUCER
	ER	ECCENTRIC REDUCER
EJ	EJ	EXPANSION JOINT
	U	UNION
	T	THERMOMETER W/ THERMOWELL
	AV	AIR VENT
	FC	FLEXIBLE PIPE CONNECTOR
FS	FS	FLOW SWITCH
PS	PS	PRESSURE SWITCH
	PG	PRESSURE GAUGE W/ GAUGE COCK
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		PIPE CAP OR PLUG
	IV	ISOLATION VALVE, RE: SPECS
	OS&Y	OUTSIDE STEM AND YOKE
	DV	DRAIN VALVE W/ HOSE END CONNECTION
		BALL VALVE W/ HOSE CONNECTION
	CV	CHECK VALVE WITH INDICATION OF FLOW DIRECTION
	PRV	PRESSURE REDUCING VALVE
S	SV	SOLENOID VALVE
F C	FCV	AUTO FLOW CONTROL VALVE W/ TEST PORTS
	CS.BV	CIRCUIT SETTER OR BALANCING VALVE
	GLV	GLOBE VALVE (STRAIGHT PATTERN)
	GLV	GLOBE VALVE (ANGLE PATTERN)
	BFV	BUTTERFLY VALVE
	BV	BALL VALVE
	TCV	AUTOMATIC TEMPERATURE CONTROL VALVE, 2-WAY
	TCV	AUTOMATIC TEMPERATURE CONTROL VALVE, 3-WAY
	BV	BALANCING VALVE
	TMP	TEMPERATURE/PRESSURE RELIEF VALVE
		VALVE IN RISER
	STR	STRAINER W/ BLOW-OFF & CAPPED HOSE END CONNECTION
	ST	STEAM TRAP

ABBREVIATIONS:

A

ABBREVIATION	DESCRIPTION
A	AIR (COMPRESSED)
ABV	ABOVE
A/C	AIR CONDITIONING
AC	ALTERNATING CURRENT AIR COMPRESSOR
ACCH	AIR COOLED CHILLER
ACCU	AIR COOLED CONDENSING UNIT
ACFM	ACTUAL CUBIC FEET PER MINUTE
AD	ACCESS DOOR AREA DRAIN
ADJ	ADJUSTABLE
AF	AIR FILTER
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHRI	AIR-CONDITIONING, HEATING, AND REFRIGERATION INSTITUTE
AHU	AIR HANDLING UNIT
AL	ALUMINUM
AMB	AMBIENT
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
ARI	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR-CONDITIONING ENGINEERS
ARCH	ARCHITECT
AS	AIR SEPARATOR
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR-CONDITIONING ENGINEERS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
AV	ACID VENT AIR VENT
AVG	AVERAGE
AW	ACID WASTE
AWS	AMERICAN WELDING SOCIETY
AUX	AUXILIARY

B

ABBREVIATION	DESCRIPTION
B	BOILER
BC	BELOW COUNTER
BFV	BUTTERFLY VALVE
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BM	BENCHMARK
BOD	BOTTOM OF DUCT (AFF)
BOF	BOTTOM OF FOOTING
BOS	BOTTOM OF STRUCTURE
BT	BATH TUB BREAK TANK
BTU	BRITISH THERMAL UNIT
BV	BALL VALVE
BWV	BACK WATER VALVE

C

ABBREVIATION	DESCRIPTION
C	CELSIUS
CAB	CABINET
CAV	CONSTANT AIR VOLUME
CB	CATCH BASIN
CC	COOLING COIL
CD	CONDENSATE DRAIN LINE
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CIRC	CIRCULATING
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR
CMP	CORRIGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CPVC	CHLORINATED POLYVINYL CHLORIDE
CO	CLEANOUT
COL	COLUMN
COMB	COMBINATION
COMP	COMPRESSOR
CONC	CONCRETE CONCENTRIC
COND	CONDENSER CONDENSATE
CONN	CONNECTION
CONT	CONTINUOUS CONTINUATION
CONTR	CONTROLLER CONTRACTOR
COP	COEFFICIENT OF PERFORMANCE
CRAC	COMPUTER ROOM A/C UNIT
CRU	CONDENSATE RETURN UNIT
CT	COOLING TOWER
CTR	CENTER
CU	COPPER
CW	COLD WATER
CWP	CONDENSER WATER PUMP
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
CV	CONSTANT VOLUME

D

ABBREVIATION	DESCRIPTION
dB	DECIBEL
DB	DRY-BULB
DC	DIRECT CURRENT
DDC	DIRECT DIGITAL CONTROL
DESIG	DESIGNATION
DEFL	DEFLECTION
DTL	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIFF	DIFFUSER
DIM	DIMENSION
DISC	DISCONNECT
DN	DOWN
DP	DISCHARGE PLENUM
DPR	DAMPER
DS	DOUNSPOUT DOUBLE SUCTION
DW	DISHWASHER
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DWP	DOMESTIC WATER PUMP
DX	DIRECT EXPANSION

E

ABBREVIATION	DESCRIPTION
(E)	EXISTING
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR ELECTRONICALLY COMMUTATED
ECC	ECCENTRIC
ECM	ELECTRONICALLY COMMUTATED MOTOR
EDB	ENTERING DRY BULB
EDF	ELECTRIC DRINKING FOUNTAIN
EDH	ELECTRIC DUCT HEATER
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF	EFFICIENCY
EJ	EXPANSION JOINT
EL	ELEVATION
EMRG	EMERGENCY
ENCL	ENCLOSURE
ENGR	ENGINEER
ENT	ENTERING
ES	END SUCTION EMERGENCY SHOWER
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
ETR	EXISTING TO REMAIN
EVAP	EVAPORATOR
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
EX	EXPLOSION PROOF
EXT	EXTERNAL
EXTG	EXISTING

F

ABBREVIATION	DESCRIPTION
F	DEGREE FAHRENHEIT
FBO	FURNISHED BY OTHERS
FCO	FLOOR CLEAN OUT
FCS	FLOOR CONTROL SWITCH
FCU	FAN COIL UNIT
FD	FLOOR DRAIN FIRE DAMPER
FDS	FIRE DEPARTMENT SIAMESE
FDV	FIRE DEPARTMENT VALVE
FG	FIBEGLASS
FF	FINAL FILTER
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FHR	FIRE HOSE RACK
FIXT	FIXTURE
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLR	FLOOR
FP	FAN POWERED MIXING BOX FIRE PUMP
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FRIC	FRICTION
FRZR	FREEZER
FS	FLOW SWITCH FIRE SPRINKLER
FSK	FLOOR SINK
FT	FOOT FEET
FT WC	FEET, WATER COLUMN
FUT	FUTURE

G

ABBREVIATION	DESCRIPTION
G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GLV	GLOBE VALVE
GND	GROUND
GPD	GALLONS PER DAY
GPM	GALLONS PER MINUTE
GV	GATE VALVE

H

ABBREVIATION	DESCRIPTION
HB	HOSE BIBB
HC	HEATING COIL
HD	HEAD HUB DRAIN
HF	HUMIDIFIER
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPU	HEAT PUMP UNIT
HKP	HOUSEKEEPING PAD
HSC	HORIZONTAL SPLIT CASE
HSTAT	HUMIDISTAT
HT	HEIGHT
HTG	HEATING
HTR	HEATER
HU	HUMIDIFIER SECTION
HW	HOT WATER
HWC	HOT WATER CIRCULATOR
HWP	HOT WATER PUMP
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HX	HEAT EXCHANGER
HZ	HERTZ

I

ABBREVIATION	DESCRIPTION
ID	INSIDE DIAMTER
IE	INVERT ELEVATION
IH	INFRARED HEATER
IN	INCH
IN WC	INCH, WATER COLUMN
INSUL	INSULATION
INT	INTERNAL INTERIOR
IW	INDIRECT WASTE

J

ABBREVIATION	DESCRIPTION
JB	JUNCTION BOX
JP	JOCKEY PUMP

K

ABBREVIATION	DESCRIPTION
KEC	KITCHEN EQUIPMENT CONTRACTOR
KO	KNOCKOUT
KVA	KILOVOLT AMPS
KW	KILOWATT

L

ABBREVIATION	DESCRIPTION
L	LENGTH
LAT	LEAVING AIR TEMPERATURE
LAV	LAVATORY
LBS	POUNDS
LBS/HR	POUNDS PER HOUR
LF	LINEAR FEET
LP	LOW PRESSURE
LRA	LOCKED ROTOR AMPS
LVG	LEAVING
LVL	LEVEL
LWB	LEAVING WET BULB
LWCO	LOW WATER CUT OFF
LWT	LEAVING WATER TEMPERATURE

M

ABBREVIATION	DESCRIPTION
MA	MAKE-UP AIR
MAT	MIXED AIR TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BTUH
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPACITY
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MI	MALLEABLE IRON
MIN	MINIMUM
MOCP	MAXIMUM OVER CURRENT PROTECTION
MP	MEDIUM PRESSURE
MS	MOP SINK
MTD	MOUNTED
MTL	METAL
MU	MAKE-UP
MUA	MAKE-UP AIR UNIT
MVD	MANUAL VOLUME DAMPER

N

ABBREVIATION	DESCRIPTION
(N)	NEW
NC	NORMALLY CLOSED
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NO	NUMBER
NTS	NOT TO SCALE

O

ABBREVIATION	DESCRIPTION
OA	OUTSIDE AIR
OAF	OUTSIDE AIR FAN
OAHU	OUTSIDE AIR HANDLING UNIT
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER
OD	OUTSIDE DIAMETER OVERFLOW DRAIN
OFCU	OUTSIDE AIR FAN COIL UNIT
OPG	OPENING
OS&Y	OPEN STEM AND YOLK

P

ABBREVIATION	DESCRIPTION
P	PUMP
PC	PLUMBING EQUIPMENT PLUMBING CONTRACTOR
PCR	PUMPED CONDENSATE RETURN
PD	PRESSURE DROP PLANTER DRAIN
PF	PRE-FILTER
PH	PHASE POST HYDRANT
PIV	POST INDICATOR VALVE
PLBG	PLUMBING
PNEU	PNEUMATIC
PNL	PANEL
PNTH	PENTHOUSE
PP	POLYPROPYLENE
PPM	PARTS PER MILLION
PRESS	PRESSURE
PRI	PRIMARY
PRS	PRIMARY REDUCING STATION
PRV	PRESSURE REDUCING VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH, GAUGE
PT	PLUMBING TRIM
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
PWL	SOUND POWER LEVEL

Q

ABBREVIATION	DESCRIPTION
QTY	QUANTITY

R

ABBREVIATION	DESCRIPTION
(R)	REMOVE RELOCATE
RA	RETURN AIR
RAD	REFRIGERATED AIR DRYER
RAF	RETURN AIR FAN
RAG	RETURN AIR GRILLE
RAT	RETURN AIR TEMPERATURE
RCP	REFLECTED CEILING PLAN REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RE	REFERENCE REFER
RECIRC	RECIRCULATE
RED	REDUCER
REFR	REFRIGERATOR
REG	REGISTER
REINF	REINFORCING
REQD	REQUIRED
REV	REVISION REVISE
RF	RETURN FAN
RH	RELATIVE HUMIDITY
RHG	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID
RLA	RUNNING LOAD AMPS
RM	ROOM REFRIGERANT MACHINE
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
RTU	ROOFTOP UNIT
RV	RELIEF VALVE

S

ABBREVIATION	DESCRIPTION
SA	SUPPLY AIR
SAF	SUPPLY AIR FAN
SAG	SUPPLY AIR GRILLE
SAN	SANITARY SEWER
SAR	SUPPLY AIR REGISTER
SCHED	SCHEDULE
SCFM	STANDARD AIR CUBIC FEET PER MINUTE
SCR	SILICON CONTROLLED RECTIFIER
SD	STORM DRAIN
SE	SEWAGE EJECTOR
SEC	SECONDARY
SECT	SECTION
SENS	SENSIBLE
SF	SQUARE FEET
SH	SHOWER
SHT	SHEET
SIM	SIMILAR
SK	SINK
SM	SHEET METAL
SP	STATIC PRESSURE SUMP PUMP
SPEC	SPECIFICATION
SPR	SPRINKLER
SQ	SQUARE
SS	STAINLESS STEEL SERVICE SINK
SSD	SUBSURFACE DRAIN
SSFU	SANITARY SEWER FIXTURE UNITS
SSSC	SOLID STATE SPEED CONTROL
STD	STANDARD
STL	STEEL
STR	STRAINER
SURF	SURFACE
SUSP	SUSPEND
SV	SANITARY VENT
ST	SOUND TRAP

T

ABBREVIATION	DESCRIPTION
TC	TEMPERATURE CONTROL
TD	TRENCH DRAIN
TDH	TOTAL DYNAMIC HEAD
TF	TRANSFER FAN
TG	TRANSFER GRILLE
TH BLK	THRUST BLOCK
TOD	TOP OF DUCT (AFF)
TOP	TOP OF PIPE (AFF)
TP	TRAP PRIMER
TPD	TRAP PRIMER DEVICE
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
TYP	TYPICAL

U

ABBREVIATION	DESCRIPTION
U	URINAL
U/F	UNDERFLOOR
U/S	UNDERSLAB
UCD	UNDERCUT DOOR
UG	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
UTR	UP THROUGH ROOF

V

ABBREVIATION	DESCRIPTION
V	VOLT, VENT
VA	VOLT-AMPERE
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VB	VALVE BOX VACUUM BREAKER
VCP	VITRIFIED CLAY PIPE
VD	VOLUME DAMPER
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREUENCY DRIVE
VIB	VALVE IN BOX
VOV	VALVE ON VERTICAL
VP	VACUUM PUMP
VR	VARIABLE AIR VOLUME REHEAT
VSD	VARIABLE SPEED DRIVE
VTR	VENT THROUGH ROOF

W

ABBREVIATION	DESCRIPTION
W	WATT, WASTE, WIDTH
W/	WITH
W/O	WITHOUT
WB	WETBULB
WC	WATER CLOSET
WCO	WALL CLEANOUT
WF	WATER FILTER
WH	WALL HYDRANT
WM	WATER METER
WMS	WELDED WIRE MESH SCREEN
WP	WEATHERPROOF
WPD	WATER PRESSURE DROP
WWF	WELDED WIRE FABRIC
WT	WATER TIGHT WEIGHT

Y

ABBREVIATION	DESCRIPTION
Y	YARD HYDRANT

Z

ABBREVIATION	DESCRIPTION
Z	ZONE

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COLORADO LICENSED PROFESSIONAL ENGINEER — 44812

Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
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Sheet Information

Sheet Title:
MECHANICAL LEGEND

Sheet Number:
M-000

DPA Project: 21303.00.000

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GENERAL MECHANICAL CONTRACT REQUIREMENTS:

GENERAL:

1. UNLESS OTHERWISE NOTED, THE WORK DESCRIBED ON THE PLANS AND SPECIFICATIONS SHALL INCLUDE THE FURNISHING AND INSTALLATION OF ALL LABOR AND MATERIALS NECESSARY FOR COMPLETE AND OPERATIONAL HVAC, FIRE PROTECTION AND PLUMBING SYSTEMS. CONTRACTOR SHALL FURNISH THESE EVEN IF ITEMS REQUIRED TO ACHIEVE THIS (I.E. OFFSETS, ISOLATION AND BALANCING DEVICES, MAINTENANCE CLEARANCES, ETC.) ARE NOT SPECIFICALLY SHOWN.

2. DATA GIVEN ON THE DRAWINGS IS AS EXACT AS COULD BE SECURED. ABSOLUTE ACCURACY IS NOT GUARANTEED AND THE CONTRACTOR SHALL OBTAIN AND VERIFY EXACT LOCATIONS, MEASUREMENTS, LEVELS, SPACE REQUIREMENTS, POTENTIAL CONFLICTS WITH OTHER TRADES, ETC. AT THE SITE AND SHALL SATISFACTORILY ADAPT HIS WORK TO THE ACTUAL CONDITIONS OF THE JOB.

3. THE DRAWINGS ARE DIAGRAMMATICAL IN NATURE AND SHALL NOT BE SCALED. THEY SHOW CERTAIN PHYSICAL RELATIONSHIPS WHICH MUST BE ESTABLISHED WITHIN THE DIVISION 21,22 AND 23 WORK AND ITS INTERFACE WITH OTHER WORK. ESTABLISHING THIS RELATIONSHIP IN THE FIELD IS THE EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR. THIS DIVISION SHALL COORDINATE ITS WORK WITH ALL DIVISIONS OF THE WORK AND ADJUST ITS WORK AS REQUIRED BY THE ACTUAL CONDITIONS OF THE PROJECT.

   A. THE CONTRACTOR SHALL VISIT THE SITE BEFORE SUBMITTING A BID TO BECOME THOROUGHLY FAMILIAR WITH THE ACTUAL CONDITIONS OF THE PROJECT. NO EXTRAS WILL BE ALLOWED DUE TO LACK OF KNOWLEDGE OF EXISTING CONDITIONS.

   B. CERTAIN SYSTEMS REQUIRE ENGINEERING OF INSTALLATION DETAILS BY CONTRACTOR. UNLESS FULLY DETAILED IN THE CONTRACT DOCUMENTS, SUCH ENGINEERING IS THE EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR.

   C. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE WHERE CLEARANCES ARE LIMITED, AND WHERE INSTALLATION DRAWINGS OR SCHEMATICS, "CONSTRUCTION DRAWINGS", OR COORDINATION DRAWINGS MAY BE REQUIRED IN EXCESS OF THOSE REQUIRED BY THE SPECIFICATIONS. THE CONTRACTOR SHALL PREPARE ALL SUCH COORDINATION DRAWINGS AS PART OF THE BASE CONTRACT. SUCH DRAWINGS MAY BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR RECORD AND COMMENT. ANY WORK INSTALLED WITHOUT APPROVED COORDINATION DRAWINGS IS DONE AT THE CONTRACTOR'S RISK.

EXISTING BUILDING:

1. EXISTING CONDITIONS REPRESENTED ON MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS HAVE BEEN DEVELOPED USING VARIOUS EXISTING DESIGN DRAWINGS AND SITE OBSERVATIONS. EXISTING DESIGN DRAWINGS MAY OR MAY NOT REFLECT THE ACTUAL INSTALLED CONDITION FOR SYSTEMS INDICATED. SITE OBSERVATIONS MAY BE INCOMPLETE AS CONCEALED CONDITIONS CANNOT BE VISUALLY VERIFIED. WHILE SITE INVESTIGATION HAS BEEN CONDUCTED, THE ENGINEER CANNOT ASSURE THE OWNER OR THE CONTRACTOR THAT THE EXISTING DESIGN DRAWINGS AND INFORMATION GATHERED DURING SITE INVESTIGATION COMPLETELY AND ACCURATELY REFLECT EXISTING CONDITIONS. FOR THIS REASON, THE SCOPE INCLUDED IN THIS DRAWING PACKAGE CANNOT BE ASSURED TO INCLUDE ALL CONTINGENCIES. FIELD COORDINATION DURING CONSTRUCTION IS REQUIRED TO FULLY UNDERSTAND AND EXECUTE THE PROJECT SCOPE OF WORK. REASONABLE CONTINGENCIES SHALL BE INCLUDED FOR UNFORESEEN SCOPE ITEMS.

2. THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE EXISTING BUILDING WILL BE OCCUPIED BY THE OWNER DURING CONSTRUCTION. CONTINUED OPERATION OF THE FACILITY SHALL NOT BE HINDERED BY THIS WORK. THE CONTRACTOR SHALL ACCOUNT FOR ALL ADDITIONAL COSTS WHICH MAY BE INCURRED BY THE CONTRACTOR DUE TO THE DIFFICULTY OF WORKING OVER AND AROUND EMPLOYEES, DESKS, EQUIPMENT, ETC.; AND DUE TO THE HOURS OF THE DAY IN WHICH AN AREA MAY BE AVAILABLE. CONTRACTOR'S BID SHALL TAKE THESE FACTORS INTO ACCOUNT.

3. MAINTAIN A MARK-UP SET OF DRAWINGS WHICH INDICATE VARIATIONS IN THE ACTUAL INSTALLATION FROM THE ORIGINAL DESIGN. SURRENDER DRAWINGS TO OWNER UPON COMPLETION.

4. COORDINATE ALL PENETRATIONS OF FLOOR SLABS, CONCRETE WALLS, AND OTHER STRUCTURAL ELEMENTS WITH ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO COMMENCING WORK. UTILIZE X-RAY AND VISUAL INVESTIGATION OF EXISTING CONDITIONS AS REQUIRED TO DETERMINE PENETRATION LOCATIONS. SUBMIT PENETRATION SHOP DRAWINGS TO ARCHITECT AND ENGINEER FOR REVIEW PRIOR TO DRILLING OR CUTTING. COORDINATE ALL NEW PENETRATIONS WITH OTHER DIVISIONS OF THE WORK. ALL CONTRACTORS ARE INDIVIDUALLY RESPONSIBLE FOR ALL PENETRATIONS REQUIRED BY THEIR DIVISIONS.

ELECTRICAL/FIRE ALARM COORDINATION:

1. VERIFY THE ELECTRICAL SERVICE PROVIDED BY THE ELECTRICAL CONTRACTOR BEFORE ORDERING ANY MECHANICAL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS.

2. SMOKE DETECTORS: FOR INDIVIDUAL FAN SYSTEMS AND COMBINED RETURN AIR SYSTEMS WITH A RETURN AIR CAPACITY EXCEEDING 2000 CFM, PROVIDE UL LISTED SMOKE DETECTORS IN RETURN AIR SYSTEMS IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE AND ELSEWHERE AS SHOWN ON THE DRAWINGS. CONNECT RELAY(S) TO FAN CONTROL CIRCUIT TO STOP FAN WHEN SMOKE IS DETECTED, UNLESS NOTED OTHERWISE.

GENERAL INSTALLATION:

1. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE SUPPORT FOR ALL DIVISION 23 WORK. SUSPEND EACH TRADE'S WORK SEPARATELY FROM THE STRUCTURE. DO NOT SHARE HANGERS BETWEEN PIPING, DUCTWORK, CONDUIT, AND EQUIPMENT. DUCTWORK, PIPING, AND CONDUIT SHALL BE HELD TIGHT TO STRUCTURE EXCEPT WHERE OTHERWISE SHOWN.

2. EXCEPT WHERE MORE STRINGENT REQUIREMENTS ARE INDICATED OR LOCAL CODE TAKES PRECEDENCE, COMPLY WITH THE PRODUCT MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS.

3. PROVIDE MANUFACTURER'S RECOMMENDED SERVICE CLEARANCE AROUND ALL EQUIPMENT REQUIRING SAME. PROVIDE A MEANS OF ACCESS (ACCESS PANELS, ACCESS DOORS, REMOVABLE CEILING TILES, ETC.) WHERE REQUIRED FOR ADEQUATE MAINTENANCE AND EQUIPMENT/COMPONENT REPLACEMENT.

4. ALL CURBS, ROOF JACKS, ROOF THIMBLES, SANITARY VENTS, ROOF DRAINS, ETC. SHALL BE COMPATIBLE WITH ROOFING SYSTEM TO BE PROVIDED. REFERENCE ARCHITECTURAL DIVISION FOR REQUIRED FLASHING DETAILS.

5. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL CONCRETE EQUIPMENT PAD DIMENSIONS, BASED ON THE FINAL EQUIPMENT SELECTION, TO THE STRUCTURAL ENGINEER AND GENERAL CONTRACTOR FOR INCLUSION IN THE STRUCTURAL AND/OR SUPPORT SCOPE OF WORK AS DIRECTED BY GENERAL CONTRACTOR.

DUCTWORK INSTALLATION:

1. DUCT DIMENSIONS INDICATED ON DRAWINGS ARE INSIDE CLEAR. CONSTRUCT DUCTWORK TO ALLOW FOR INSIDE CLEAR DIMENSIONS AS INDICATED ON DRAWINGS.

2. FLEXIBLE DUCT SIZE SHALL BE SAME AS DIFFUSER NECK SIZE.

3. ALL MITERED ELBOWS AND 1.0 RADIUS ELBOWS SHALL BE PROVIDED WITH TURNING VANES. TRANSFER DUCTS ARE EXCLUDED.

4. ALL FLEXIBLE DUCTS SHALL NOT BE LESS THAN 4', OR MORE THAN 8' IN LENGTH. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

5. RETURN AIR PLENUM: THE HVAC SYSTEM WILL USE THE SPACE ABOVE THE CEILING AS A RETURN AIR PLENUM. CONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF NFPA AND LOCAL CODE REQUIREMENTS FOR ALL MATERIAL INSTALLED IN THE RETURN AIR PLENUM.

6. THE CONTRACTOR SHALL PROVIDE A COMPLETE RETURN AIR PATH BETWEEN ALL RETURN AIR DEVICES (GRILLES ETC.) AND THEIR RESPECTIVE FAN UNIT. MAXIMUM VELOCITY OF RETURN AIR IN PLENUM SHALL GENERALLY NOT EXCEED 250 FEET PER MINUTE, NOR EXCEED 750 FEET PER MINUTE AT ANY CROSS-SECTION OF THE RETURN AIR PATH.

7. PROVIDE BALANCING DAMPERS IN BRANCH DUCTS, WHERE SHOWN ON THE DRAWINGS, AND WHERE OTHERWISE REQUIRED FOR BALANCING.

8. PROVIDE ALL OPEN-ENDED DUCTWORK AND OPEN-ENDED EQUIPMENT WITH 1/4" WIRE MESH SCREEN OVER OPENINGS, TRANSFER AIR DUCTWORK EXCLUDED.

PIPE INSTALLATION:

1. ALL PIPING SHALL BE ADEQUATELY SUPPORTED FROM THE BUILDING STRUCTURE TO PREVENT SAGGING, POCKETING, SWAYING OR DISPLACEMENT BY MEANS OF HANGERS AND SUPPORTS. PIPING IS NOT TO BE SUPPORTED BY EQUIPMENT.

2. NO PRESSURIZED PIPING SYSTEMS (DOMESTIC WATER, CHILLED WATER, HEATING WATER, ETC.) SHALL BE LOCATED EXPOSED IN FINISHED SPACES OR BELOW THE BUILDING SLAB UNLESS SHOWN OTHERWISE ON THE DRAWINGS.

3. ISOLATE ALL PRESSURIZED PIPE AT EACH RISER, BRANCH, PIECE OF EQUIPMENT, AND AREA SERVED.

4. PROVIDE DIELECTRIC UNIONS BETWEEN DISSIMILAR PIPING MATERIALS. PROVIDE DIELECTRIC SEPARATION BETWEEN DISSIMILAR PIPE HANGER MATERIAL AND PIPE MATERIAL.

5. PROVIDE MANUAL AIR VENTS AT PIPING HIGH POINTS. PROVIDE CAPPED HOSE-END DRAINS WITH ISOLATION VALVES AT PIPING LOW POINTS.

6. CONTRACTOR SHALL BE RESPONSIBLE FOR EXPANSION AND CONTRACTION PROVISIONS. INSTALL ALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHIN THE PIPING SYSTEM. ENSURE ALL REQUIRED PIPE EXPANSION WILL OCCUR IN THE PROPER DIRECTION AND SEGMENT OF PIPE. PROPERLY ANCHOR (RE: SPECIFICATIONS) ALL PIPING REQUIRING EXPANSION/CONTRACTION ISOLATION.

CONDENSATE DRAINAGE:

1. PROVIDE CONDENSATE DRAINAGE FOR ALL COOLING COILS, OVERFLOW PANS, AND DRAIN PANS.

2. ROUTE CONDENSATE PIPING, FULL SIZE OF DRIP PAN CONNECTION, TO NEAREST CODE APPROVED RECEPTACLE WITH INDIRECT DRAIN CONNECTION.

3. HEAT TRACE CONDENSATE LINES FROM FOOD SERVICE EQUIPMENT.

LOUVERS:

1. ALL LOUVERS LOCATED ON EXTERIOR WALLS SHALL BE PROVIDED BY ARCHITECTURAL DIVISION. REQUIRED LOUVER FREE AREAS ARE INDICATED ON DIVISION 23 DRAWINGS. IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO CONFIRM THAT THE REQUIRED FREE AREA HAS BEEN PROVIDED, PRIOR TO CONNECTION TO THAT LOUVER. DIVISION 23 SHALL PROVIDE ALL LOUVER PLENUMS.

CUTTING, PATCHING AND DEMOLITION:

1. KEEP DEMOLITION & CUTTING TO MINIMUM REQUIRED FOR PROPER EXECUTION OF WORK.

2. BE RESPONSIBLE FOR ALL CUTTING AND PATCHING NECESSARY FOR THE COMPLETION OF THE WORK.

3. NO CUTTING (NOT SHOWN ON THE CONTRACT DOCUMENTS) SHALL BE DONE WITHOUT THE APPROVAL OF THE ARCHITECT AS TO LOCATIONS, METHOD AND EXTENT OF THE CUTTING.

4. REPAIR ALL ACCIDENTAL OR INTENTIONAL DAMAGE TO MATCH EXISTING CONSTRUCTION WITH NO NOTICEABLE DIFFERENCE IN CONTINUITY, APPEARANCE OR FUNCTION.

SEISMIC RESTRAINTS:

1. LOCATE, SELECT, DESIGN AND INSTALL SEISMIC RESTRAINTS FOR ALL MECHANICAL SYSTEMS. INCLUDE RESTRAINTS FOR DUCTWORK, PIPING AND EQUIPMENT.

2. COMPLY WITH THE REQUIREMENTS OF LOCAL BUILDING CODE AND ASCE 7-10, CHAPTER 13.

3. REFER TO STRUCTURAL PLANS FOR SEISMIC LOAD DESIGN CRITERIA.

STRUCTURE:

1. DO NOT PENETRATE STRUCTURAL MEMBERS. ALL EQUIPMENT SUPPORTS SHALL BE ATTACHED TO THE LOAD BEARING MEMBERS OF STRUCTURAL ELEMENTS. DO NOT OVER-STRESS ANY STRUCTURAL MEMBERS. CONTACT STRUCTURAL ENGINEER FOR ALLOWABLE LOADS FOR SPECIFIC MEMBERS.

2. DO NOT UTILIZE POWER DRIVEN ANCHORS.

3. REFER ALSO TO STRUCTURAL DIVISION FOR ACCEPTABLE ANCHORING AND SUPPORT MEANS, METHODS, AND LOCATIONS.

4. PROVIDE FLEXIBLE CONNECTORS, EXPANSION LOOPS, EXPANSION JOINTS, ADDITIONAL FITTINGS OR EQUIVALENT TO ACCOMMODATE THE THERMAL EXPANSION OF THE BUILDING THROUGH STRUCTURAL EXPANSION JOINTS. PROVIDE SUCH FITTING AT EVERY PIPE, DUCT, CONDUIT, ETC. CROSSING OF A STRUCTURAL EXPANSION JOINT.

FIRE STOPPING:

1. PENETRATIONS THROUGH FIRE RATED WALLS AND FIRE RATED HORIZONTAL ASSEMBLIES SHALL BE PROVIDED WITH AN APPROVED FIRE STOPPING SYSTEM.

2. PENETRATIONS THROUGH NON-FIRE RATED FLOOR OR FLOOR/CEILING ASSEMBLIES SHALL BE PROVIDED WITH AN APPROVED FIRE STOPPING SYSTEM.

3. INSTALL FIRE STOPPING MATERIALS IN ACCORDANCE WITH THEIR UL AND ASTM TESTED METHODS.

GENERAL SYSTEM DESCRIPTION:

VAV SYSTEM WITH DUCTED RETURN. HYDRONIC HEATING HOT WATER SYSTEM FOR VAVS.

1. THE BUILDING IS PROVIDED WITH A CENTRAL CHILLED WATER SYSTEM WITH CHILLERS AND COOLING TOWERS AND A CENTRAL HEATING HOT WATER SYSTEM WITH CONDENSING BOILERS.

2. THE HEATING AND COOLING SYSTEM TYPE FOR EACH TENANT FLOOR IS A WATER-COOLED, HEAT RECOVERY, VARIABLE REFRIGERANT FLOW (VRF) SYSTEM. THE CONDENSER WATER LOOP SERVING EACH TENANT FLOOR IS PROVED WITH CLOSED LOOP FLUID COOLERS AND ELECTRIC BOILERS.

3. THE HEATING AND COOLING SYSTEM TYPE FOR EACH TENANT AREA IS AN AIR-COOLED, HEAT RECOVERY, VARIABLE REFRIGERANT FLOW (VRF) SYSTEM. ALL TENANT PROVIDED VRF EQUIPMENT SHALL BE PROVIDED FROM AN OWNER APPROVED MANUFACTURER.

4. THE HVAC SYSTEM SERVING TENANT AREAS IS AN OVERHEAD VAV SYSTEM WITH FAN POWERED VAV BOXES AND SINGLE-DUCT VAV BOXES. EACH PERIMETER AND CORE ZONE SHALL BE PROVIDED WITH ELECTRIC REHEAT.

5. THE VENTILATION SYSTEM FOR TENANT OFFICE LEVELS IS AN ENERGY RECOVERY VENTILATOR (ERV) WITH AIR-COOLED DX COOLING, HEAT PUMP HEATING, SUPPLEMENTAL ELECTRIC RESISTANCE HEATING, AND ENERGY RECOVERY.

6. VENTILATION FOR LEVEL 1 TENANT SPACES SHALL BE PROVIDED UNDER TENANT IMPROVEMENT SCOPE INCLUDING ALL VENTILATION EQUIPMENT, DUCTWORK TO PERIMETER LOUVERS, AND CONTROLS. REFER TO ARCHITECTURAL PLANS FOR PERIMETER LOUVER DETAILS.

ENERGY CODE COMPLIANCE:

1. THE PROJECT HAS BEEN DESIGNED UNDER THE ENERGY CODE INDICATED ON THE LEGEND SHEET.

2. THE PROJECT IS UTILIZING THE PRESCRIPTIVE PATH OF [THE INTERNATIONAL ENERGY CONSERVATION CODE] [ASHRAE 90.1] INCLUDING ALL APPLICABLE MANDATORY AND PRESCRIPTIVE CODE PROVISIONS.

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Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

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Sheet Information

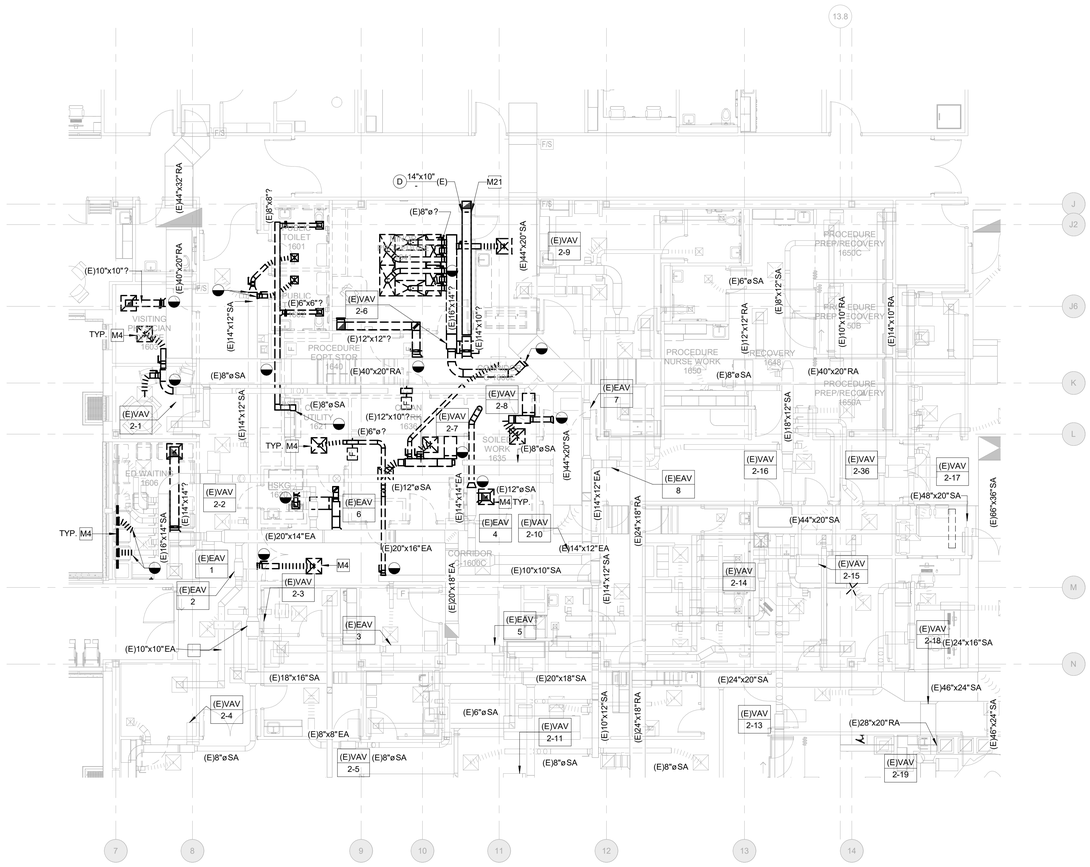
Sheet Title:
MECHANICAL GENERAL NOTES

Sheet Number:
M-001

DPA Project: 21303.00.000

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1 **LEVEL ONE MECHANICAL DEMO FLOOR PLAN**

1/8" = 1'-0"

GENERAL NOTES:

1. EXISTING DUCTWORK, PIPING, EQUIPMENT, ETC. SHOWN HAS BEEN COMPILED FROM RECORD DRAWINGS AND PREVIOUS DESIGN PLANS. NEITHER THE ACCURACY OF THESE PLANS NOR THE EXTENT OF UNDOCUMENTED CHANGES SINCE HAS BEEN FIELD VERIFIED. THIS INFORMATION IS SHOWN TO HELP IDENTIFY THE "SCOPE OF WORK," BUT ANY PRICING EXERCISE OR BID SHOULD INVOLVE A THOROUGH REVIEW OF FIELD CONDITIONS PRIOR TO FINALIZING.

2. THE DRAWINGS IS DIAGRAMMATIC IN NATURE. DEMOLISHED WORK IS SHOWN BOLD AND DASHED TO REFLECT THE GENERAL DEMOLITION SCOPE. UTILIZE THE ARCHITECTURAL DRAWINGS AND MECHANICAL PLANS TO FURTHER DEFINE THE LIMITS OF DEMOLITION WORK.

3. SOME NOTES AND CALLOUTS ARE FROM RECORD DRAWINGS AND REFLECT EXISTING DUCTWORK, PIPING, AND EQUIPMENT FOR CLARITY.

4. PATCH AND SEAL EXISTING DUCTS TO REMAIN AT ALL POINTS OF DISCONNECTION NOT OTHERWISE BEING RECONNECTED WITH NEW WORK.

5. CAP ALL EXISTING PIPING TO REMAIN AT ALL POINTS OF DISCONNECTION NOT OTHERWISE
BEING RECONNECTED WITH NEW WORK.

6. CAP OR COVER DUCT OPENINGS DURING DEMOLITION AND CONSTRUCTION (TYPICAL).

7. CONTRACTOR TO COORDINATE ALL NEW WORK WITH EXISTING SYSTEMS, RELOCATING AS NECESSARY.

8. DEMO GRDs IN ALL LOCATIONS WHERE CEILINGS ARE TO BE DEMOLISHED, RE: ARCHITECTURAL DEMO PLANS.

9. CONTRACTOR TO PROVIDE FULL AIR AND WATER BALANCE FOR ALL AFFECTED SYSTEMS, PROVIDE BALANCING PRIOR TO CONSTRUCTION AND FOR FINAL TAB REPORT AT END OF CONSTRUCTION, RE: SCHEDULE.

10. REBALANCE ALL AFFECTED (E) EXHAUST FAN SYSTEMS, WHERE DEMO/REWORK IS SHOWN ON THE DRAWINGS, REFER TO PLANS FOR LOCATIONS.

11. RECONNECT (E) PIPING TO REPLACED EQUIPMENT.

12. EXTEND (E) PIPING TO RELOCATED EQUIPMENT.

13. MAINTAIN SYSTEM CONTINUITY FOR ALL SYSTEMS THAT PASS THROUGH DEMO SCOPE AREA AND SERVE OTHER AREAS OUTSIDE THE SCOPE OF WORK.

KEYNOTES

M4	REMOVE AIR DEVICE FROM CEILING GRID. MAINTAIN FOR REUSE IN NEW CONSTRUCTION.
M21	REMOVE EXISTING RETURN GRILLE.

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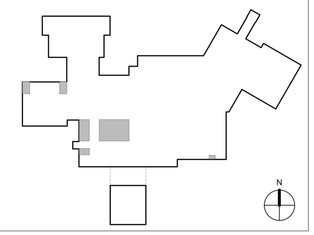
Issuance	Date
CONSTRUCTION DOCUMENTS	11/04/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
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Key Plan



Sheet Information

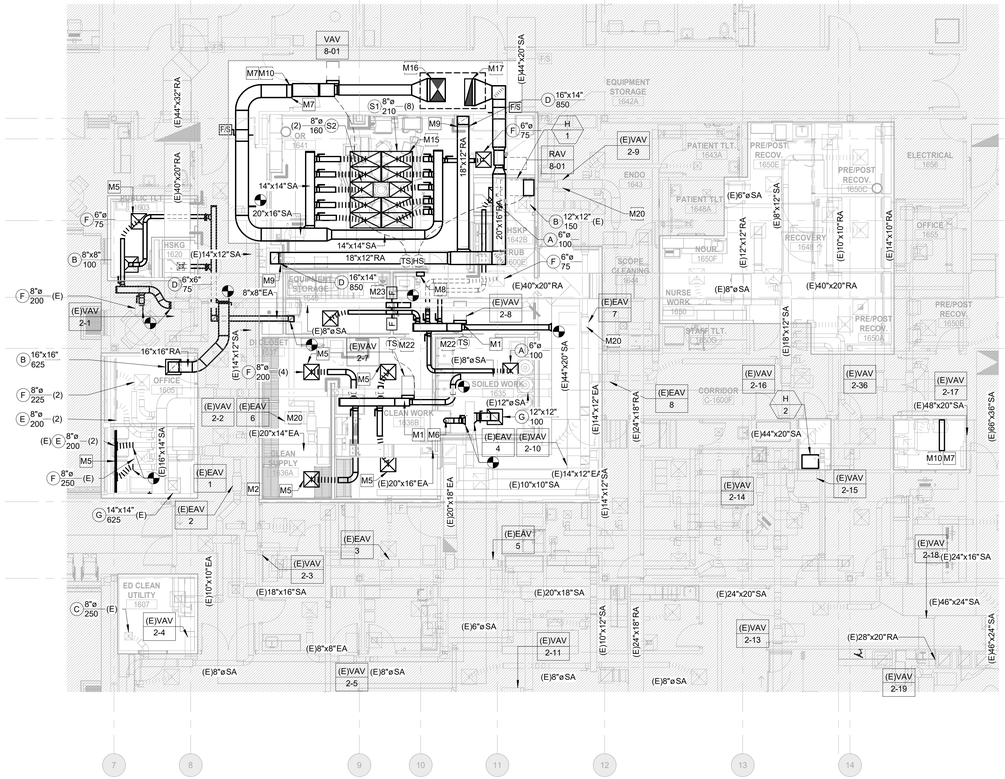
Sheet Title:
LEVEL ONE MECHANICAL DEMO PLANS

Sheet Number:
M-101D

DPA Project: 21303.00.000

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1 LEVEL ONE MECHANICAL FLOOR PLAN

1/8" = 1'-0"

GENERAL NOTES:

1. THE DRAWINGS ARE DIAGRAMMATIC IN NATURE. THE CONTRACTOR IS RESPONSIBLE FOR ALL OFFSETS, TRANSITIONS, ELBOWS, ETC. AS REQUIRED IN DUCTWORK, PIPING, SUPPORTS, ETC. TO COMPLETE THE WORK IN A CLEAN, FUNCTIONAL INSTALLATION THAT IS FULLY COORDINATED WITH ALL OTHER TRADES. ANY PRICING EFFORT SHALL TAKE THESE FACTORS INTO ACCOUNT.

2. MAINTAIN CODE REQUIRED AREA OF SEPARATION FROM OUTSIDE AIR INTAKES TO TERMINATIONS OF EXHAUST, COMBUSTION AIR, PLUMBING VENTS, ETC.

3. COORDINATE EQUIPMENT HOUSEKEEPING PAD DIMENSIONS AND LAYOUT WITH THE GENERAL CONTRACTOR BASED ON FINAL EQUIPMENT SIZES.

4. PROVIDE MANUAL BALANCE DAMPERS IN ALL SUPPLY DUCT BRANCH TAPS DOWNSTREAM OF VAV BOXES.

5. PROVIDE MANUAL BALANCE DAMPERS IN ALL EXHAUST DUCT BRANCH TAPS.

6. PROVIDE TRANSFER "Z" BOOT DUCTS IN FULL HEIGHT WALLS WHERE A PLENUM RETURN SYSTEM IS UTILIZED. BOOTS SHALL BE SIZED TO MAINTAIN A MAXIMUM OF 400 FPM. PROVIDE A GRILLE FOR ALL TRANSFERS IN EXPOSED AREAS. RE: ARCH.

7. COORDINATE SPACE TEMPERATURE SENSORS AND THERMOSTAT LOCATIONS TO ALIGN VERTICALLY WITH LIGHT SWITCHES.

8. TEMPERATURE CONTROLS CONTRACTOR SHALL SUBMIT PLANS INDICATING ALL SPACE TEMPERATURE SENSORS, T-STATS, HUMIDITY SENSORS, ETC. AS PART OF SUBMITTAL PROCESS FOR A/E REVIEW PRIOR TO ROUGH-IN.

9. PROVIDE THROUGH FACE BALANCING FOR ALL DIFFUSERS, REGISTERS, AND GRILLES ABOVE INACCESSIBLE AREAS.

10. PROVIDE TURNING VANES IN ALL 90° DUCT ELBOWS.

11. INSTALL EXPOSED DUCTWORK AS HIGH AS POSSIBLE.

13. ALL DUCT/PIPE PENETRATIONS THROUGH FIRE RATED/SMOKE RATED PARTITIONS SHALL BE CAULKED AND SEALED TO MEET THE RATING REQUIRED. REFER TO LIFE SAFETY DRAWINGS FOR FIRE/SMOKE RATING REQUIREMENTS.

14. PROVIDE ISOLATION VALVES AT EACH BRANCH LINE OFF OF RISER.

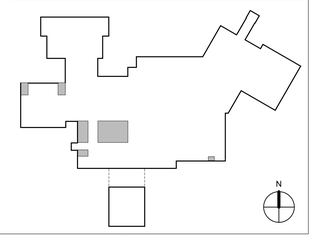
15. PROVIDE 3/4" BRANCH PIPING TO ALL TERMINAL UNITS, UNLESS NOTED OTHERWISE.

16. PROVIDE CONDENSATE DRAIN FROM ALL CHILLED WATER COILS AND DX EVAPORATOR COILS TO NEAREST MOP SINK OR MECHANICAL ROOM FLOOR DRAIN. PROVIDE CONDENSATE PUMP FOR WALL MOUNTED UNITS AND CONCEALED UNITS THAT CANNOT BE GRAVITY DRAINED TO TERMINATION LOCATION

KEYNOTES

M1	EXISTING VAV TO BE REUSED AND RELOCATED IN LOCATION SHOWN.
M2	RESET EXISTING EAV-2 AIRFLOW SETPOINT TO 100 CFM
M5	REUSE EXISTING AIR DEVICE. INSTALL IN NEW CEILING.
M6	8"Ø EA DUCT DOWN THRU CEILING TO WASHER EXHAUST LOCATION. PROVIDE 2" AIR GAP. BALANCE BRANCH DUCT TO 200 CFM.
M7	PROVIDE STAINLESS STEEL DUCTWORK FOR 10' DOWNSTREAM OF HUMIDIFIER.
M8	ROOM PRESSURE MONITOR OUTSIDE OR. ROOM PRESSURE MONITIRO SHALL BE CONNTECTED TO THE BAS.
M9	BOTTOM OF RETURN GRILLE TO BE MOUNTED 12" ABOVE FINISH FLOOR.
M10	DUCT MOUNTED HUMIDIFIER DISPERSION TUBE.
M15	OR SUPPLY DIFFUSERS TO BE PRECISION AIR CEILING SYSTEM ALL SUPPLY DIFFUSERS SHALL HAVE HEPA FILTERS.
M16	SUPPLY AIR DUCT UP. TRANSITION TO UNIT OPENING SIZE. PROVIDE FLEXIBLE CONNECTION TO RTU.
M17	RETURN AIR DUCT UP. TRANSITION TO UNIT OPENING SIZE. PROVIDE FLEXIBLE CONNECTION TO RTU.
M20	RESET EXHAUST VAV SET POINT WITH MODIFIED LOAD. SEE VAV BOX SCHEDULE FOR DETAILS.
M22	RELOCATED T-STAT.
M23	EXISTING FIRE SMOKE DAMPER TO BE RELOCATED WITH NEW WALL LOCATION.

Key Plan



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Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
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Sheet Information

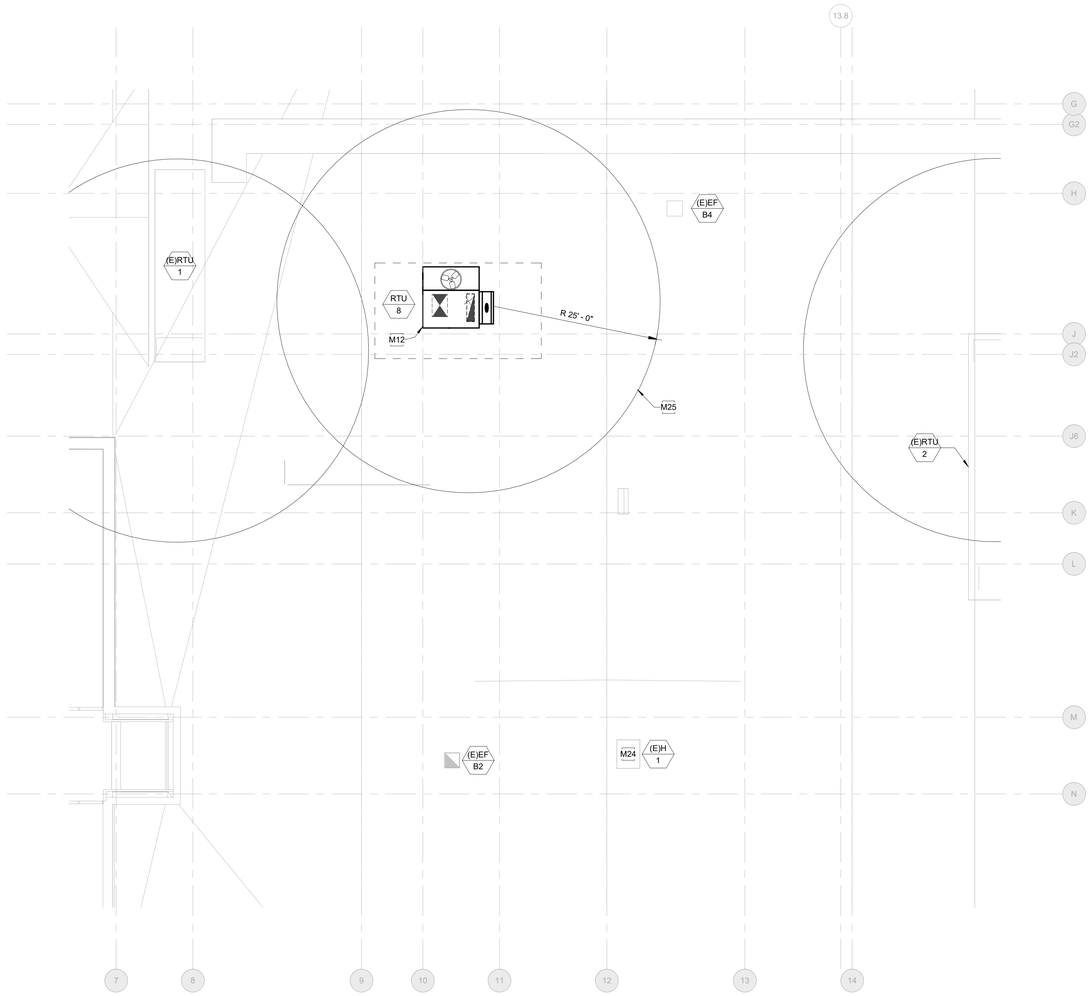
Sheet Title:
LEVEL ONE MECHANICAL PLANS

Sheet Number:
M-101

DPA Project: 21303.00.000

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1 **ROOF MECHANICAL FLOOR PLAN**
1/8" = 1'-0"

GENERAL NOTES:

1. THE DRAWINGS ARE DIAGRAMMATIC IN NATURE. THE CONTRACTOR IS RESPONSIBLE FOR ALL OFFSETS, TRANSITIONS, ELBOWS, ETC. AS REQUIRED IN DUCTWORK, PIPING, SUPPORTS, ETC. TO COMPLETE THE WORK IN A CLEAN, FUNCTIONAL INSTALLATION THAT IS FULLY COORDINATED WITH ALL OTHER TRADES. ANY PRICING EFFORT SHALL TAKE THESE FACTORS INTO ACCOUNT.

2. MAINTAIN CODE REQUIRED AREA OF SEPARATION FROM OUTSIDE AIR INTAKES TO TERMINATIONS OF EXHAUST, COMBUSTION AIR, PLUMBING VENTS, ETC.

3. COORDINATE EQUIPMENT HOUSEKEEPING PAD DIMENSIONS AND LAYOUT WITH THE GENERAL CONTRACTOR BASED ON FINAL EQUIPMENT SIZES.

4. PROVIDE MANUAL BALANCE DAMPERS IN ALL SUPPLY DUCT BRANCH TAPS DOWNSTREAM OF VAV BOXES.

5. PROVIDE MANUAL BALANCE DAMPERS IN ALL EXHAUST DUCT BRANCH TAPS.

6. PROVIDE TRANSFER "Z" BOOT DUCTS IN FULL HEIGHT WALLS WHERE A PLENUM RETURN SYSTEM IS UTILIZED. BOOTS SHALL BE SIZED TO MAINTAIN A MAXIMUM OF 400 FPM. PROVIDE A GRILLE FOR ALL TRANSFERS IN EXPOSED AREAS. RE: ARCH.

7. COORDINATE SPACE TEMPERATURE SENSORS AND THERMOSTAT LOCATIONS TO ALIGN VERTICALLY WITH LIGHT SWITCHES.

8. TEMPERATURE CONTROLS CONTRACTOR SHALL SUBMIT PLANS INDICATING ALL SPACE TEMPERATURE SENSORS, T-STATS, HUMIDITY SENSORS, ETC. AS PART OF SUBMITTAL PROCESS FOR A/E REVIEW PRIOR TO ROUGH-IN.

9. PROVIDE THROUGH FACE BALANCING FOR ALL DIFFUSERS, REGISTERS, AND GRILLES ABOVE INACCESSIBLE AREAS.

10. PROVIDE TURNING VANES IN ALL 90° DUCT ELBOWS.

11. INSTALL EXPOSED DUCTWORK AS HIGH AS POSSIBLE.

13. ALL DUCT/PIPE PENETRATIONS THROUGH FIRE RATED/SMOKE RATED PARTITIONS SHALL BE CAULKED AND SEALED TO MEET THE RATING REQUIRED. REFER TO LIFE SAFETY DRAWINGS FOR FIRE/SMOKE RATING REQUIREMENTS.

14. PROVIDE ISOLATION VALVES AT EACH BRANCH LINE OFF OF RISER.

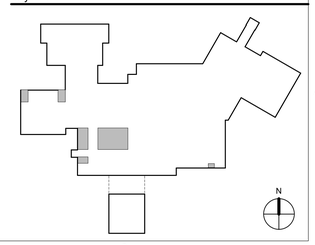
15. PROVIDE 3/4" BRANCH PIPING TO ALL TERMINAL UNITS, UNLESS NOTED OTHERWISE.

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KEYNOTES

M12	RTU-8 EXACT INSTALLATION LOCATION TO BE COORDINATED WITH STRUCTURAL
M24	EXISTING NATURAL GAS STEAM GENERATOR TO REMAIN.
M25	RELOCATE EXISTING VTRS ON ROOF TO BE A MINIMUM OF 25' FROM NEW AND EXISTING RTU OUTSIDE AIR INTAKES.

Key Plan



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Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

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Sheet Information

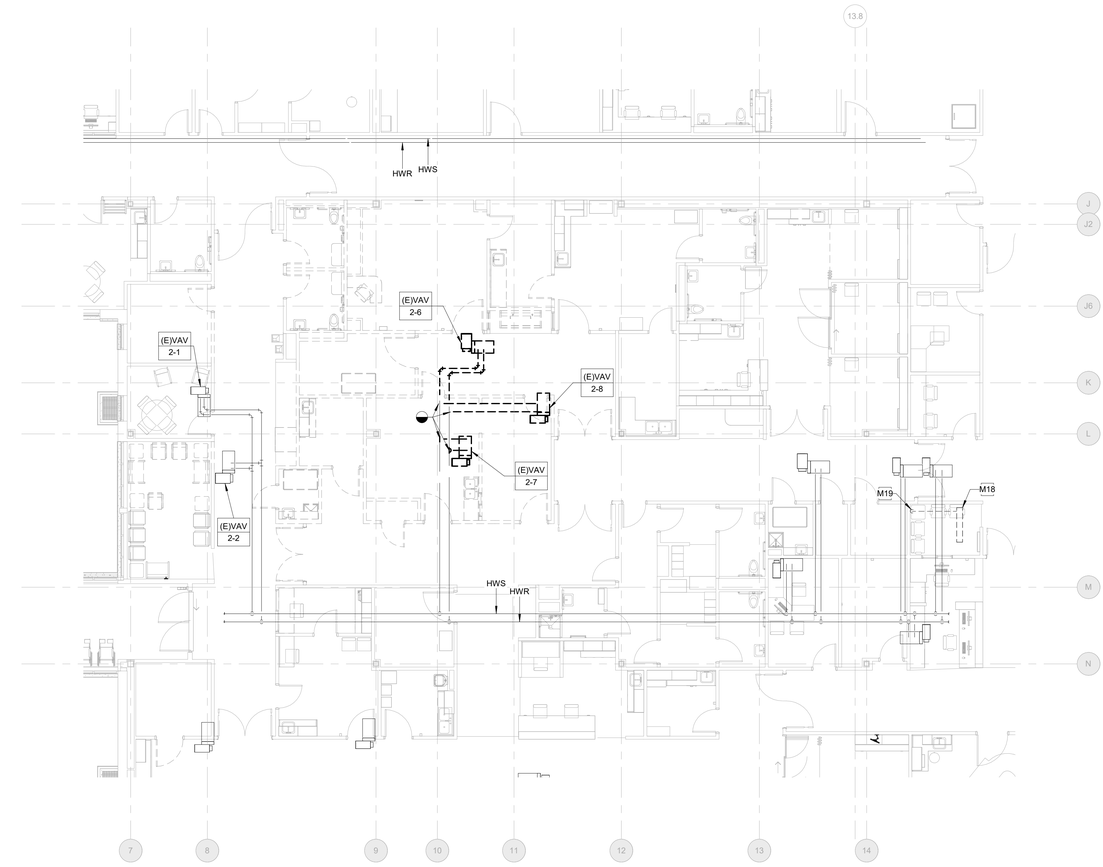
Sheet Title:
ROOF MECHANICAL PLANS

Sheet Number:
M-102

DPA Project: 21303.00.000

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1 **LEVEL ONE MECHANICAL PIPING DEMO FLOOR PLAN**
1/8" = 1'-0"

GENERAL NOTES:

1. EXISTING DUCTWORK, PIPING, EQUIPMENT, ETC. SHOWN HAS BEEN COMPILED FROM RECORD DRAWINGS AND PREVIOUS DESIGN PLANS. NEITHER THE ACCURACY OF THESE PLANS NOR THE EXTENT OF UNDOCUMENTED CHANGES SINCE HAS BEEN FIELD VERIFIED. THIS INFORMATION IS SHOWN TO HELP IDENTIFY THE "SCOPE OF WORK," BUT ANY PRICING EXERCISE OR BID SHOULD INVOLVE A THOROUGH REVIEW OF FIELD CONDITIONS PRIOR TO FINALIZING.

2. THE DRAWINGS IS DIAGRAMMATIC IN NATURE. DEMOLISHED WORK IS SHOWN BOLD AND DASHED TO REFLECT THE GENERAL DEMOLITION SCOPE. UTILIZE THE ARCHITECTURAL DRAWINGS AND MECHANICAL PLANS TO FURTHER DEFINE THE LIMITS OF DEMOLITION WORK.

3. SOME NOTES AND CALLOUTS ARE FROM RECORD DRAWINGS AND REFLECT EXISTING DUCTWORK, PIPING, AND EQUIPMENT FOR CLARITY.

4. PATCH AND SEAL EXISTING DUCTS TO REMAIN AT ALL POINTS OF DISCONNECTION NOT OTHERWISE BEING RECONNECTED WITH NEW WORK.

5. CAP ALL EXISTING PIPING TO REMAIN AT ALL POINTS OF DISCONNECTION NOT OTHERWISE
BEING RECONNECTED WITH NEW WORK.

6. CAP OR COVER DUCT OPENINGS DURING DEMOLITION AND CONSTRUCTION (TYPICAL).

7. CONTRACTOR TO COORDINATE ALL NEW WORK WITH EXISTING SYSTEMS, RELOCATING AS NECESSARY.

8. DEMO GRDs IN ALL LOCATIONS WHERE CEILINGS ARE TO BE DEMOLISHED, RE: ARCHITECTURAL DEMO PLANS.

9. CONTRACTOR TO PROVIDE FULL AIR AND WATER BALANCE FOR ALL AFFECTED SYSTEMS, PROVIDE BALANCING PRIOR TO CONSTRUCTION AND FOR FINAL TAB REPORT AT END OF CONSTRUCTION, RE: SCHEDULE.

10. REBALANCE ALL AFFECTED (E) EXHAUST FAN SYSTEMS, WHERE DEMO/REWORK IS SHOWN ON THE DRAWINGS, REFER TO PLANS FOR LOCATIONS.

11. RECONNECT (E) PIPING TO REPLACED EQUIPMENT.

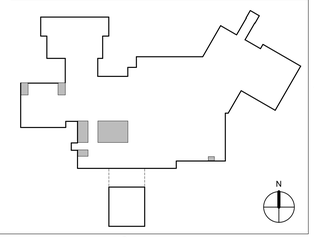
12. EXTEND (E) PIPING TO RELOCATED EQUIPMENT.

13. MAINTAIN SYSTEM CONTINUITY FOR ALL SYSTEMS THAT PASS THROUGH DEMO SCOPE AREA AND SERVE OTHER AREAS OUTSIDE THE SCOPE OF WORK.

KEYNOTES

M18	DEMO EXISTING STEAM DISPERSION MANIFOLD.
M19	DEMO STEAM SUPPLY LINE FROM ABANDONED STEAM HUMIDER AT ROOF TO STEAM DISPERSION MANIFOLD. CAP STEAM LINE BELOW ROOF FROM ABANDONED HUMIDIFIER.

Key Plan



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Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
RANGELY, CO 81648

Sheet Information

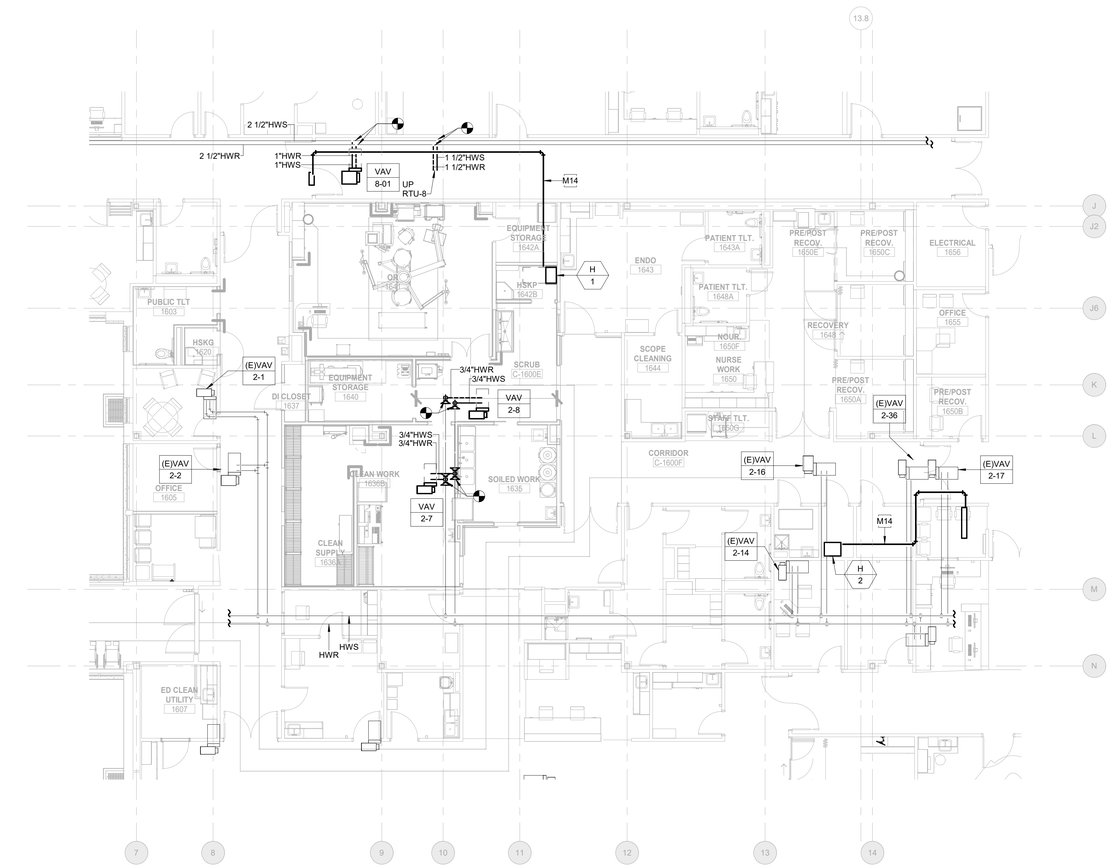
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LEVEL ONE MECHANICAL PIPING DEMO PLANS

Sheet Number:
M-201D

DPA Project: 21303.00.000

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N

1 **LEVEL ONE MECHANICAL PIPING FLOOR PLAN**
1/8" = 1'-0"

GENERAL NOTES:

1. THE DRAWINGS ARE DIAGRAMMATIC IN NATURE. THE CONTRACTOR IS RESPONSIBLE FOR ALL OFFSETS, TRANSITIONS, ELBOWS, ETC. AS REQUIRED IN DUCTWORK, PIPING, SUPPORTS, ETC. TO COMPLETE THE WORK IN A CLEAN, FUNCTIONAL INSTALLATION THAT IS FULLY COORDINATED WITH ALL OTHER TRADES. ANY PRICING EFFORT SHALL TAKE THESE FACTORS INTO ACCOUNT.

2. MAINTAIN CODE REQUIRED AREA OF SEPARATION FROM OUTSIDE AIR INTAKES TO TERMINATIONS OF EXHAUST, COMBUSTION AIR, PLUMBING VENTS, ETC.

3. COORDINATE EQUIPMENT HOUSEKEEPING PAD DIMENSIONS AND LAYOUT WITH THE GENERAL CONTRACTOR BASED ON FINAL EQUIPMENT SIZES.

4. PROVIDE MANUAL BALANCE DAMPERS IN ALL SUPPLY DUCT BRANCH TAPS DOWNSTREAM OF VAV BOXES.

5. PROVIDE MANUAL BALANCE DAMPERS IN ALL EXHAUST DUCT BRANCH TAPS.

6. PROVIDE TRANSFER "Z" BOOT DUCTS IN FULL HEIGHT WALLS WHERE A PLENUM RETURN SYSTEM IS UTILIZED. BOOTS SHALL BE SIZED TO MAINTAIN A MAXIMUM OF 400 FPM. PROVIDE A GRILLE FOR ALL TRANSFERS IN EXPOSED AREAS. RE: ARCH.

7. COORDINATE SPACE TEMPERATURE SENSORS AND THERMOSTAT LOCATIONS TO ALIGN VERTICALLY WITH LIGHT SWITCHES.

8. TEMPERATURE CONTROLS CONTRACTOR SHALL SUBMIT PLANS INDICATING ALL SPACE TEMPERATURE SENSORS, T-STATS, HUMIDITY SENSORS, ETC. AS PART OF SUBMITTAL PROCESS FOR A/E REVIEW PRIOR TO ROUGH-IN.

9. PROVIDE THROUGH FACE BALANCING FOR ALL DIFFUSERS, REGISTERS, AND GRILLES ABOVE INACCESSIBLE AREAS.

10. PROVIDE TURNING VANES IN ALL 90° DUCT ELBOWS.

11. INSTALL EXPOSED DUCTWORK AS HIGH AS POSSIBLE.

13. ALL DUCT/PIPE PENETRATIONS THROUGH FIRE RATED/SMOKE RATED PARTITIONS SHALL BE CAULKED AND SEALED TO MEET THE RATING REQUIRED. REFER TO LIFE SAFETY DRAWINGS FOR FIRE/SMOKE RATING REQUIREMENTS.

14. PROVIDE ISOLATION VALVES AT EACH BRANCH LINE OFF OF RISER.

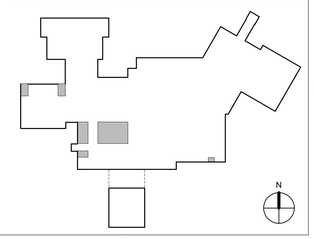
15. PROVIDE 3/4" BRANCH PIPING TO ALL TERMINAL UNITS, UNLESS NOTED OTHERWISE.

16. PROVIDE CONDENSATE DRAIN FROM ALL CHILLED WATER COILS AND DX EVAPORATOR COILS TO NEAREST MOP SINK OR MECHANICAL ROOM FLOOR DRAIN. PROVIDE CONDENSATE PUMP FOR WALL MOUNTED UNITS AND CONCEALED UNITS THAT CANNOT BE GRAVITY DRAINED TO TERMINATION LOCATION

KEYNOTES

M14	STEAM PIPING FROM STEAM GENERATOR TO HUMIDIFIER DISPERSION TUBE.

Key Plan



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Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
RANGELY, CO 81648

Sheet Information

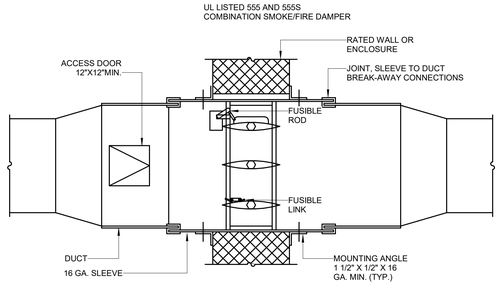
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LEVEL ONE MECHANICAL PIPING PLANS

Sheet Number:
M-201

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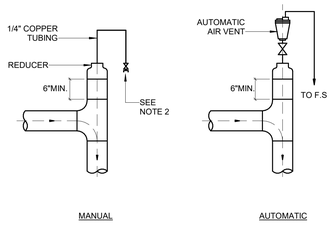
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NOTES:

1. DAMPER DETAILS FOR REFERENCE ONLY. REFER TO MANUFACTURER INSTALLATION MANUAL.
2. COMBINATION SMOKE/FIRE DAMPERS SHALL BE STATE FIRE MARSHALL (SF) APPROVED (LISTING NO. 3225-245:102) INSTALLED STRICTLY PER MANUFACTURER'S PRINTED INSTRUCTIONS
3. LABEL ACCESS DOOR "SMOKE/FIRE DAMPER".
4. COMBINATION SMOKE/FIRE DAMPERS SHALL COMPLY WITH THE REQUIREMENTS OF IC.
5. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE MADE AVAILABLE TO INSPECTING AUTHORITIES.
6. COORDINATE POWER REQUIREMENT AND LOCAL DISCONNECT SWITCH LOCATION WITH DIVISION 16.
7. PROVIDE COMBINATION SMOKE/FIRE DAMPER 4 INCHES LARGER IN LENGTH AND IN WIDTH THAN THE CONNECTING DUCT. PROVIDE CONCENTRIC DUCT TRANSITIONS AS REQUIRED.
8. SEE SPECIFICATION AND SEQUENCE OF CONTROLS UNDER CONTROL DRAWING SECTION FOR DAMPER CONTROL SEQUENCE.

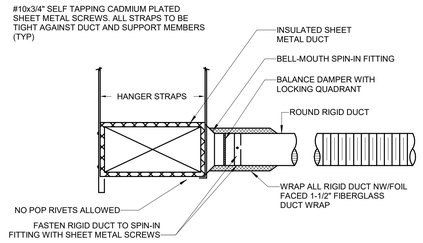
3 COMBINATION SMOKE/FIRE DAMPER
Not To Scale



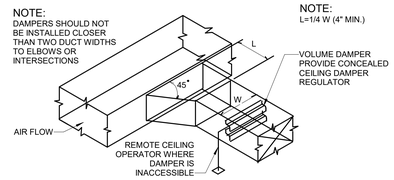
NOTE:

1. INSTALL MANUAL AIR VENT AT HIGH POINTS WHERE FLOW CHANGES DIRECTION. INSTALL AUTOMATIC AIR VENT TO PIPING WHICH INSTALLED IN EXPOSED AREA INCLUDING FAN ROOM AND MECHANICAL ROOM.
2. INSTALL HOSE VALVE ABOVE CEILING IN AN ACCESSIBLE LOCATION.
3. WELDED PIPE FITTING SHOWN. SCREWED FITTING SIMILAR.

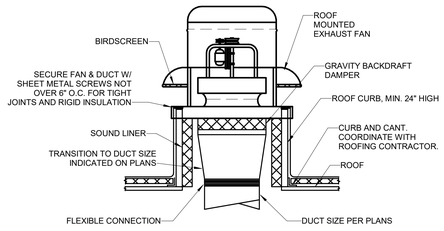
4 AIR VENT-P
Not To Scale



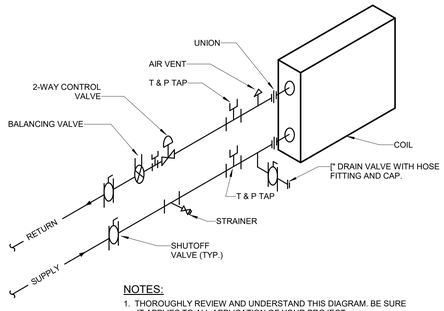
5 FLEX DUCT/ SPIN-IN FITTING DETAIL
Not To Scale



6 BRANCH DUCT TAKE-OFF DETAIL
Not To Scale



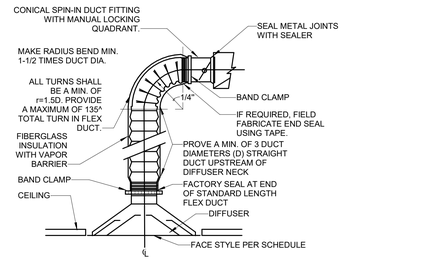
7 ROOF MOUNTED CENTRIFUGAL EXHAUST
Not To Scale



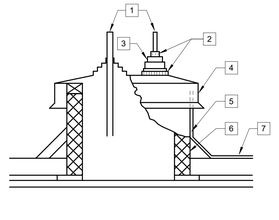
NOTES:

1. THOROUGHLY REVIEW AND UNDERSTAND THIS DIAGRAM. BE SURE IT APPLIES TO ALL APPLICATION OF YOUR PROJECT.
2. ADD A STRAINER TO INLET SIDE DOWNSTREAM OF THE ISOLATION VALVE FOR SMALLER COILS.
3. CHANGE "NOTE....." AND TITLE FOR HW AND/OR CHW AS APPLICABLE

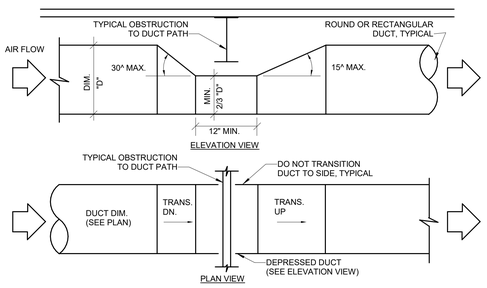
8 TYPICAL WATER COIL CONNECTION DETAIL (2 WAY CONTROL)
Not To Scale



9 CEILING DIFFUSER DETAIL
Not To Scale



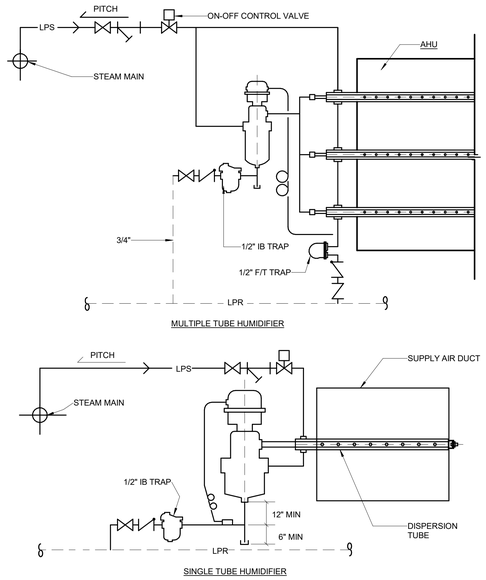
1 ROOF CURB FOR REFRIGERANT, GAS AND CONDUIT PENETRATIONS
Not To Scale



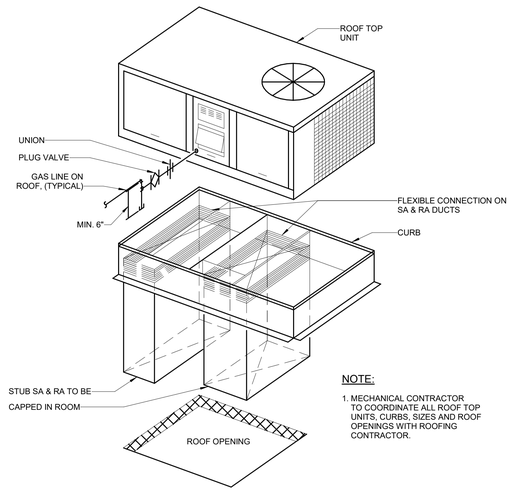
NOTE:

1. USE DETAIL WHERE REQUIRED BY FIELD CONDITIONS.

2 DUCT "VENTURI" DEPRESSION DETAIL
Not To Scale



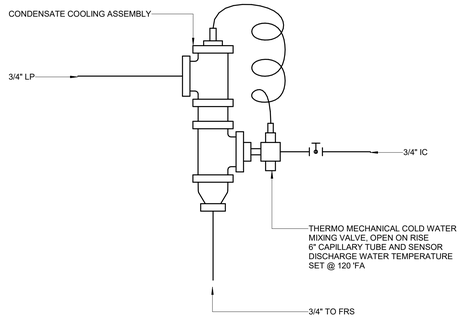
10 HUMIDIFIER PIPING CONNECTION - P
Not To Scale



NOTE:

1. MECHANICAL CONTRACTOR TO COORDINATE ALL ROOF TOP UNITS, CURBS, SIZES AND ROOF OPENINGS WITH ROOFING CONTRACTOR.

11 ROOFTOP UNIT AND CURB DETAIL
Not To Scale



NOTES:

1. UNIT MAY BE INSTALLED HORIZONTALLY WITH 1" PER FT SLOPE TOWARD DRAIN.

12 CONDENSATE COOLING UNIT
Not To Scale

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Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
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Sheet Information

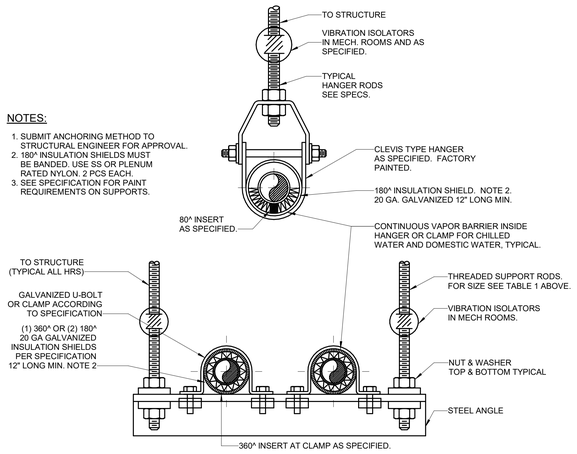
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MECHANICAL DETAILS

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M-300

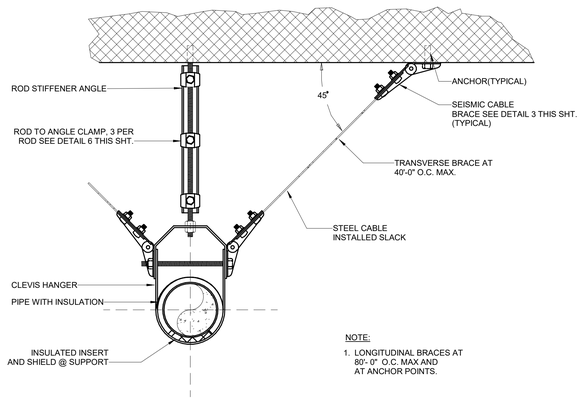
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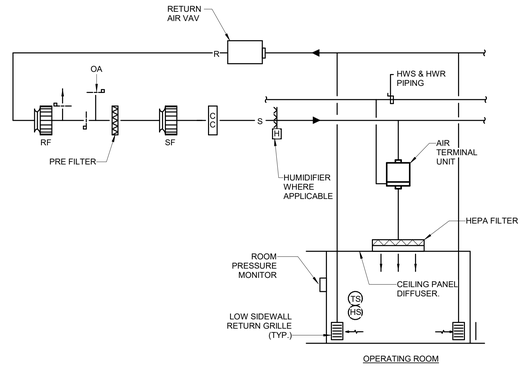
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1 **TYPICAL PIPE HANGER DETAIL**
Not To Scale



2 **PIPE SUPPORT WITH ISOLATION SEISMIC RESTRAINT**
Not To Scale



3 **VARIABLE VOLUME SINGLE DUCT SYSTEM AIR FLOW DIAGRAM FOR OPERATING ROOM 2**
Not To Scale

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Issuance	Date
CONSTRUCTION DOCUMENTS	11/04/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
RANGELY, CO 81648

Sheet Information
Sheet Title:
MECHANICAL DETAILS

Sheet Number:
M-301

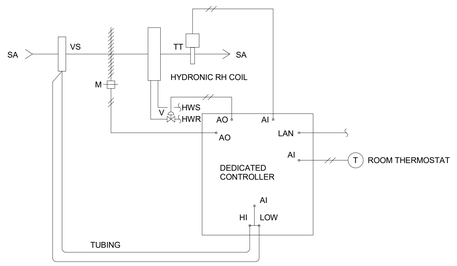
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CONTROL LEGEND

ABBR	DESCRIPTION
AI	ANALOG INPUT
AO	ANALOG OUTPUT
BDD	BACKDRAFT DAMPER
BTU	BTU METER
C	CONTROLLER
CC	COOLING COIL
CD	CONTROL DAMPER
CFM	AIRFLOW MEASURING SENSOR
CHR	CHILLED WATER RETURN
CHS	CHILLED WATER SUPPLY
CO2	CARBON DIOXIDE
COND	CONDENSATE OVERFLOW
COV	CHANGE OF VALUE
CSEN	CURRENT SENSOR
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
DP	DIFFERENTIAL PRESSURE
EA	EXHAUST AIR
ES	END SWITCH
F	FILTER ASSEMBLY OR FAIL
FACP	FIRE ALARM CONTROL PANEL
FAS	FIRE ALARM SYSTEM
FC	FAIL CLOSED
FCU	FAN COIL UNIT
FM	FLOW METER
FO	FAIL OPEN
FR	FREEZESTAT
FRN	FURNACE
FS	FLOW SWITCH
FSCP	FIREFIGHTER SMOKE CONTROL PANEL
FSPD	FAN SPEED
FT	FLOW TRANSMITTER
H	HUMIDITY OR HIGH
HC	HEATING COIL
HI/L	HIGH/LOW
HH	HIGH LIMIT HUMIDITY SWITCH
HS	HUMIDITY SENSOR
HT	HUMIDITY TRANSMITTER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
IR	INTERLOCK RELAY
L	LEVEL OR LOW
LAN	LOCAL AREA NETWORK CONNECTION
M	MOTORIZED CONTROL
MIN	MINIMUM
ND	NITROGEN DIOXIDE
OA	OUTSIDE AIR
OS	OCCUPANCY SENSOR
P	SPACE STATIC PRESSURE
P-E	PNEUMATIC ELECTRIC SWITCH
PHC	PREHEAT COIL
PT	PRESSURE TRANSMITTER
PZ	PIEZOMETER RING
RA	RETURN AIR
RF	RETURN FAN
S	SPACE TEMPERATURE SENSOR
S/S	START/STOP
SA	SUPPLY AIR
SC	SPEED CONTROL
SD	SMOKE DETECTOR
SF	SUPPLY FAN
SPT	STATIC PRESSURE TRANSMITTER
SR	SWITCHING RELAY
T	THERMOSTAT
TM	THERMAL MASS METER
TO	TIMED OVERRIDE SWITCH
TS	TEMPERATURE SENSOR
TT	TEMPERATURE TRANSMITTER
TTAB W/AVERAGING BULB	TEMPERATURE TRANSMITTER
V	VALVE
VFD	VARIABLE FREQUENCY DRIVE
VP	VIRTUAL POINT
VS	VELOCITY SENSOR
WBT	WET BULB TEMPERATURE TRANSMITTER



A OR SUPPLY VARIABLE AIR VOLUME (VAV) BOX
NONE

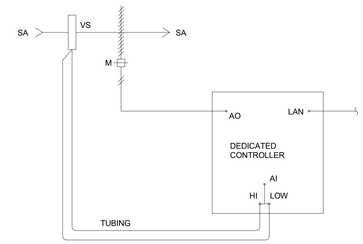
SEQUENCE OF OPERATION:

A. OCCUPIED MODE:
1. VARIABLE VOLUME UNITS - OCCUPANCY CONTROL: WHEN THE OPERATING ROOM IS IN OCCUPIED MODE, UNIT SHALL MODULATE TO MAXIMUM AIRFLOW SETPOINT.
2. UNIT SHALL REPORT CONTROL DAMPER POSITION AND PRIMARY AIRFLOW AS SEPARATE VALUES TO THE BMS. REPORT DAMPER POSITION AS PERCENTAGE OPEN. REPORT PRIMARY AIRFLOW IN CFM.

B. UNOCCUPIED MODE:
1. UNIT VOLUME DAMPER SHALL MODULATE TO THE MINIMUM AIRFLOW SETPOINT.

C. HOT WATER COIL:
1. UPON A DECREASE IN SPACE TEMPERATURE BELOW SETPOINT , THE HEATING WATER CONTROL VALVE SHALL OPEN AND MODULATE TO MAINTAIN SPACE HEATING SETPOINT

D. ALARMS:
1. ALARM THE TIME, VAV BOX DESIGNATION, AND DURATION OF ALL VAV OVER-RIDES.
2. ALARM THE BMS WHEN SPACE CO2 LEVEL RISES ABOVE SETPOINT AT ANY CO2 SENSOR SERVED BY THE VAV BOX.



A OR RETURN VARIABLE AIR VOLUME (VAV) BOXES
NONE

SEQUENCE OF OPERATION:

A. OCCUPIED MODE:
1. VARIABLE VOLUME UNITS - OCCUPANCY CONTROL: WHEN THE OPERATING ROOM IS IN OCCUPIED MODE, UNIT SHALL MODULATE TO MAXIMUM AIRFLOW SETPOINT.
2. UNIT SHALL REPORT CONTROL DAMPER POSITION AND PRIMARY AIRFLOW AS SEPARATE VALUES TO THE BMS. REPORT DAMPER POSITION AS PERCENTAGE OPEN. REPORT PRIMARY AIRFLOW IN CFM.

B. UNOCCUPIED MODE:
1. UNIT VOLUME DAMPER SHALL MODULTE TO IT'S MINIMUM AIRFLOW SETPOINT.

C. OPERATING ROOM SPACE PRESSURE:
1. OCCUPIED AIRFLOW SETPOINT AND UNOCCUPIED AIRFLOW SETPOINT SHALL BE ESTABLISHED DURING BALANCING TO MAINTAIN POSITIVE PRESSURE IN THE OPERATING ROOM. REFER TO ROOM PRESSURE MONITORING CONTROL DIAGRAM FOR ADDITIONAL INFORMATION.

D. ALARMS:
1. ALARM THE TIME, VAV BOX DESIGNATION, AND DURATION OF ALL VAV OVER-RIDES.

CONTROL SYSTEM GENERAL NOTES:

DESIGN INTENT:

A. THE CONTROL DRAWINGS AND SEQUENCES ARE PROVIDED TO COMMUNICATE A DESIGN INTENT FOR CONTROL OF INDICATED SYSTEMS. ALTERNATIVE CONTROL METHODS MAY BE USED WHERE PRACTICAL OR WHERE NECESSARY TO MEET REQUIRED SYSTEM PERFORMANCE. WHERE ALTERNATIVE CONTROL METHODS ARE USED TO MEET THE DESIGN INTENT, THESE METHODS SHALL BE INDICATED IN SUBMITTAL TO ENGINEER FOR EVALUATION. ENGINEER SHALL DETERMINE IF A SUBMITTED ALTERNATIVE CONTROL METHOD MEETS THE DESIGN INTENT.

B. ALTHOUGH THE MECHANICAL DRAWINGS MAY INDICATE A PRODUCT AS BASIS OF DESIGN, THE CONTROL DRAWINGS AND SEQUENCES ARE PROVIDED TO INDICATE A DESIGN INTENT FOR THE COMPLETE SYSTEM THAT IS APPLICABLE TO MULTIPLE POTENTIAL PRODUCTS OR MANUFACTURERS. CONTROL METHODS SHALL BE DEVELOPED BY THE TEMPERATURE CONTROLS CONTRACTOR AND/OR EQUIPMENT PROVIDER IN ORDER TO ACHIEVE THE REQUIRED SYSTEM PERFORMANCE.

REQUIRED COORDINATION:

A. THE DIVISION 23 CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION BETWEEN EQUIPMENT PROVIDERS AND TEMPERATURE CONTROLS CONTRACTOR IN ORDER TO FULLY SATISFY THE DESIGN INTENT. INTERFACE BETWEEN THE BMS AND CONTROLLED EQUIPMENT, INCLUDING ITEMS PROVIDED BY EACH ENTITY, COMMUNICATION PROTOCOL, SIGNAL TYPE, ETC., SHALL BE COORDINATED PRIOR TO RELEASE OF EQUIPMENT FOR PRODUCTION.

B. THE TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE SUBMITTAL DRAWINGS AND PRODUCT DATA FOR THE ENTIRE CONTROL SYSTEM TO ENGINEER FOR REVIEW. THE DIVISION 230900 SUBMITTAL SHALL DISTINGUISH WHERE SPECIFIC SEQUENCE ELEMENTS ARE PROVIDED WITHIN THE BUILDING MANAGEMENT SYSTEM OR WITHIN PACKAGED EQUIPMENT CONTROLLERS. RE: SPECIFICATIONS FOR REQUIREMENTS.

C. REFER TO SPECIFICATION SECTION 23 05 01 MECHANICAL AND ELECTRICAL COORDINATION.

SEQUENCE OF OPERATION GENERAL NOTES:

GENERAL:

A. ALTHOUGH EACH SEPARATE CONTROL DIAGRAM MAY INDICATE AN OUTDOOR AIR TEMPERATURE SENSOR, OUTDOOR AIR HUMIDITY SENSOR, AND/OR OUTSIDE AIR CARBON DIOXIDE SENSOR, TEMPERATURE CONTROLS CONTRACTOR MAY UTILIZE ONE OF EACH SENSOR AS A COMMON INPUT TO THE SYSTEM FOR USE IN MULTIPLE SEQUENCES. COORDINATE LOCATION WITH ARCHITECT/ENGINEER PRIOR TO INSTALLATION.

B. PROVIDE INDIVIDUAL INPUTS OR OUTPUTS FOR EACH POINT LISTED IN THE POINTS LISTS OR CONTROL DIAGRAM. PROVIDE ANY ADDITIONAL POINTS NOT LISTED IN THE POINTS LIST OR CONTROL DIAGRAM, BUT REQUIRED TO MEET THE SEQUENCE OF OPERATION, AT NO ADDITIONAL COST TO THE OWNER. ALL ANALOG OUTPUTS SHALL BE 4-20MA, 0-10VDC OR 0-20VDC UNLESS OTHERWISE INDICATED.

C. ALL SETPOINTS SHALL BE FULLY ADJUSTABLE AT THE OPERATOR WORKSTATION UNLESS NOTED OTHERWISE.

D. PROVIDE OVERRIDE CONTROL OF ALL POINTS AT THE OPERATOR WORKSTATION UNLESS NOTED OTHERWISE OR WHERE PROHIBITED BY EQUIPMENT PACKAGED CONTROLLERS.

E. IN THE EVENT OF A POWER OUTAGE OR OTHER MALFUNCTION, THE CURRENTLY ENABLED CONTROLS SEQUENCES SHALL BE MAINTAINED. RE: SPECIFICATIONS. IN ADDITION, CHILLED WATER VALVES SHALL FAIL CLOSED AND HEATING WATER VALVES SHALL FAIL OPEN.

OCCUPANCY SCHEDULES:

A. THE FOLLOWING SPECIAL OCCUPANCY SCHEDULE MODES ARE HEREBY DEFINED: [DESIGNER NOTE: EDIT THESE MODES CAREFULLY TO MATCH YOUR PROJECT. REMOVE MODES THAT DO NOT APPLY.]
1. EVENT OCCUPANCY MODE
2. CONCERT OCCUPANCY MODE
3. OCCUPIED MODE
4. UNOCCUPIED MODE

B. ANY DEVICE UTILIZING ON/OFF CONTROL OR SCHEDULING VIA BMS SHALL BE CAPABLE OF BEING PROGRAMMED TO CONFORM TO ANY OF THE ABOVE SEQUENCES.

C. THE BMS SHALL STAGE AIR HANDLERS TO/FROM OCCUPIED MODE TO MINIMIZE SUDDEN CHANGES IN SYSTEM FLOW REQUIREMENTS.

INITIAL SPACE THERMOSTAT SEPOINTS

A. INITIAL SPACE THERMOSTAT SETPOINTS SHALL BE AS FOLLOWS:

1. OCCUPIED OFFICE AND CONFERENCE ROOM SPACES:
COOLING: 76F
HEATING: 70F
2. MECHANICAL AND ELECTRICAL ROOMS:
COOLING: 80F
HEATING: 65F
3. BUILDING ENTRY VESTIBULES:
COOLING: 85F (WHERE COOLING IS PROVIDED)
HEATING: 60F
4. MISCELLANEOUS HEATING-ONLY AREAS:
HEATING: 65F

ALL SPACE THERMOSTAT SETPOINTS CORRESPONDING TO EQUIPMENT CONTROLLED BY THE BMS SHALL BE ADJUSTABLE FROM THE BMS OPERATOR STATION.

MISCELLANEOUS DDC CONTROL:

A. AUTOMATED INTERFACE: PROVIDE WEB-BASED INTERFACE FOR REMOTE ACCESS TO THE BMS. INTERFACE SHALL BE PASSWORD PROTECTED AND SHALL ALLOW FOR FULL CONTROL OF ALL BMS FUNCTIONALITY.

B. FIRE ALARM SYSTEM INTERFACE: PROVIDE CONNECTION TO FIRE ALARM SYSTEM AND REPORT FIRE ALARM CONDITION AT BMS OPERATOR STATION.

C. SMOKE EVACUATION FANS: TO BE CONTROLLED PER THE SCHEDULE AND SMOKE EVACUATION DIAGRAMS.

D. PUMPS SHALL OPERATE PER OTHER APPLICABLE CONTROL SECTIONS. BMS SHALL MONITOR ALL PUMPS INCLUDING GLYCOL FEED PUMPS. DOMESTIC HOT WATER RECIRCULATION PUMP(S) ARE EXCLUDED.

E. REFERENCE MECHANICAL EQUIPMENT SCHEDULES (ESPECIALLY "FANS") FOR ADDITIONAL CONTROL SEQUENCES.

F. FANS:
1. UNLESS NOTED OTHERWISE, PROVIDE START, STOP, AND STATUS AT BMS OPERATOR STATION FOR ALL FANS. PROVIDE STATUS ONLY FOR FANS OPERATED VIA LINE VOLTAGE THERMOSTAT, MANUAL SWITCH, OR LOCAL TIMER. FAN STATUS SHALL BE INDICATED VIA CURRENT SENSOR AT FAN ELECTRICAL CONNECTION.
2. RE: MECHANICAL SCHEDULES FOR ADDITIONAL REQUIREMENTS.

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Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
RANGELY, CO 81648

Sheet Information

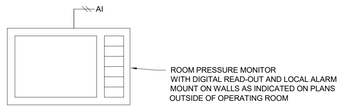
Sheet Title:
MECHANICAL CONTROLS

Sheet Number:
M-400

DPA Project: 21303.00.000

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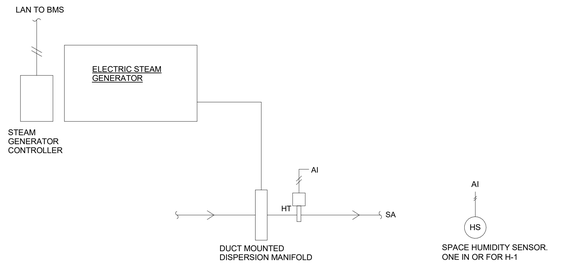


ROOM PRESSURE MONITORING:

A. ROOM PRESSURE MONITORING SHALL CONTINUOUSLY MONITOR SPACE PRESSURE OF THE OPERATING ROOM.
B. FINAL SUPPLY AIR VAV AND RETURN AIR VAV AIRFLOW SETPOINT OFFSET SHALL BE CONFIRMED AT THE THE TIME OF BALANCING TO MAINTAIN A POSITIVE PRESSURE IN THE OPERATING ROOM OF 0.02" W.C. (ADJ.)
C. SETPOINT SHALL BE ESTABLISHED FOR BOTH OCCUPIED AND UNOCCUPIED MODE.
D. ROOM MONITOR SHALL PROVIDE A LOCAL VISUAL AND AUDIBLE ALARM IF PRESSURE DROPS BELOW SETPOINT FOR AN ADJUSTABLE PERIOD OF TIME TO ALLOW FOR OPENING AND CLOSING OF DOORS.
E. ROOM PRESSURE MONITOR SHALL BE PROVIDED WITH A BACNET MSTP INTERFACE. BMS SHALL MONITOR THE ROOM PRESSURE MONITOR. BMS SHALL BE ALARMED IF THE ROOM PRESSURE MONITOR IS IN ALARM FOR MORE THAN 5 MINUTES (ADJ) .

C ROOM PRESSURE MONITORING

NO SCALE

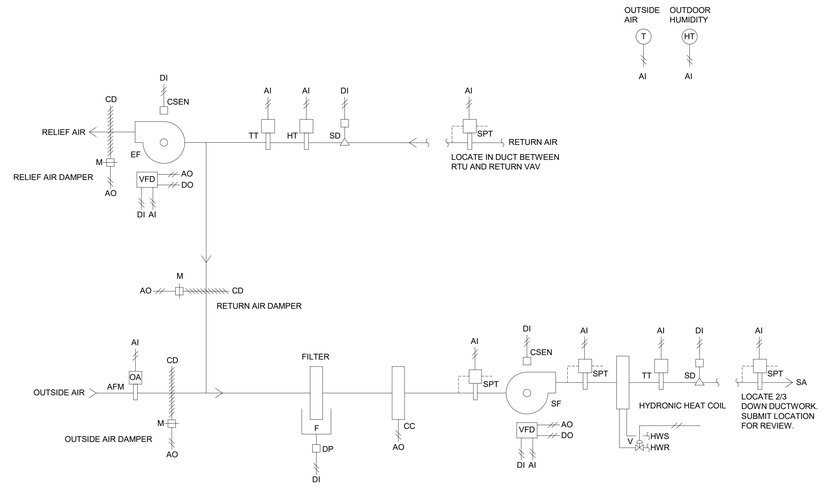


HUMIDIFIER CONTROL:

A. ELECTRIC STEAM HUMIDIFIER SHALL BE PROVIDED WITH STAND ALONE PACKAGED CONTROLLER. CONTROLLER SHALL PROVIDE ALL MODULATION, WATER FILL, DRAIN DOWN, FREEZE PROTECTION, ETC. CONTROLLER SHALL BE PROVIDED WITH A BACNET INTERFACE FOR COMMUNICATION WITH THE BMS.
B. BMS SHALL SIGNAL CONTROLLER TO MODULATE OUTPUT TO MAINTAIN SPACE HUMIDITY AT 40%RH (ADJ.) +/- 5% THROUGH ALL MODES OF OPERATION.
C. BMS SHALL MONITOR ALL SPACE HUMIDITY SENSORS AND ALARM IF SPACE HUMIDITY DROPS BELOW 30%RH OR RISES ABOVE 60%RH.
D. PROVIDE HIGH LIMIT CONTROL WHEN DUCT RH DOWNSTREAM OF THE DISPERSION MANIFOLD IS 90%RH. MODULATE STEAM HUMIDIFER TO 50% OUTPUT UNTIL DUCT RH DROPS BELOW 80%, THEN RETURN TO NORMAL MODULATING MODE TO MAINTAIN SPACE HUMIDITY SET POINTS.
E. HUMIDIFIER SHALL BE DISABLED WHEN ITS ASSOCIATED RTU IS OFF.
F. BMS SHALL MONITOR STEAM GENERATOR STATUS AND ALARMS VIA UNIT CONTROLLER COMMUNICATION INTERFACE.

B HUMIDIFIER CONTROL

NO SCALE



A PACKAGED ROOFTOP UNIT - VARIABLE AIR VOLUME - EXHAUST FAN
NONE

SEQUENCE OF OPERATION:

A. GENERAL:
1. THE FOLLOWING SEQUENCE OF OPERATION INCLUDES REQUIRED FUNCTIONALITY OF THE AIR HANDLING SYSTEM. POINTS REQUIRED TO EXECUTE THIS SEQUENCE SHALL BE COORDINATED BETWEEN THE EQUIPMENT PROVIDER AND TEMPERATURE CONTROLS CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. SUBMIT LIST OF ITEMS TO BE PROVIDED BY THE TEMPERATURE CONTROLS CONTRACTOR IN ORDER TO EXECUTE THIS SEQUENCE.
2. THE BUILDING AUTOMATION SYSTEM SHALL PROVIDE THE FOLLOWING SETPOINTS FOR THE PACKAGED CONTROLLER:
2.1. DUCT STATIC PRESSURE SETPOINT
2.2. SUPPLY AIR TEMPERATURE SETPOINT BASED ON SPACE TEMPERATURE AND SPACE RELATIVE HUMIDITY

B. OCCUPIED MODE:
1. WHEN THE UNIT IS IN THE OCCUPIED MODE, THE SUPPLY FAN SHALL OPERATE CONTINUOUSLY. THE SUPPLY FAN VFD SHALL MODULATE TO MAINTAIN THE SUPPLY DUCT STATIC PRESSURE. THE EXHAUST FAN VFD SHALL MODULATE IN SEQUENCE WITH THE RELIEF AIR DAMPER TO MAINTAIN POSITIVE BUILDING STATIC PRESSURE. COOLING, HEAT, AND ECONOMIZER DAMPERS SHALL MODULATE IN SEQUENCE TO MAINTAIN DISCHARGE AIR TEMPERATURE (DAT).

C. UNOCCUPIED MODE:
1. WHEN THE UNIT ENTERS UNOCCUPIED MODE THE RTU SHALL REMAIN ACTIVE. AIRFLOW WILL BE REDUCED AT AT ZONE TERMINAL UNIT LEVEL WITH SPACE TEMPERATURES CONTROLLED TO UNOCCUPIED MODE SETPOINTS.

D. FAN SAFETY CONTROLS:
1. DE-ENERGIZE THE SUPPLY AND EXHAUST FANS WHENEVER EITHER SMOKE DETECTOR HAS TRIPPED OR A FAN STATUS INDICATES A FAILURE (AFTER A TWO-MINUTE DELAY). THE SMOKE DETECTORS AND THE FAN FAILURES REQUIRE A MANUAL RESET.
2. DE-ENERGIZE THE SUPPLY AND EXHAUST FANS WHEN THE DISCHARGE STATIC PRESSURE REACHES A HIGH-LIMIT OF 4.0 INCHES WC (ADJ.).
3. DE-ENERGIZE THE SUPPLY AND EXHAUST FANS WHEN THE SUPPLY FAN SUCTION STATIC PRESSURE REACHES A LOW-LIMIT OF -4.0 INCHES WC (ADJ.).
4. ALARM THE BMS WITH THE APPROPRIATE ALARM MESSAGE.

E. VFD CONTROL:

1. WHEN THE SUPPLY FAN IS ENABLED, THE VFD SHALL SLOWLY RAMP UP TO SETPOINT AND MODULATE TO MAINTAIN PROPER DUCT STATIC SETPOINT 1.5" W.C., (ADJ). THE STATIC PRESSURE SENSORS SHALL BE LOCATED BY THIS DIVISION.
2. THE EXHAUST FAN SHALL MODULATE TO MAINTAIN RETURN AIR DUCT STATIC PRESSURE SETPOINT 0.5" W.C. (ADJ). THE RELIEF AIR DAMPER SHALL MODULATE N UNISON WITH THE EXHAUST FAN.
3. SUPPLY DUCT STATIC PRESSURE SENSOR SHALL BE LOCATED BETWEEN THE UNIT DISCHARGE AND THE SUPPLY AIR VAV BOX.
4. RETURN DUCT STATIC PRESSURE SENSOR SHALL BE LOCATED BETWEEN THE UNIT INLET AND THE RETURN AIR VAV BOX.
5. DUCT MOUNTED SENSING DEVICE SHALL BE MULTIPLE POINT, NON-PULSATING STATIC SENSING SECTION WITH SELF AVERAGING MANIFOLD.

F. OUTSIDE AIR CONTROL:
1. THE OUTSIDE AIRFLOW SHALL REMAIN CONSTANT AS THE SUPPLY FAN MODULATES. MEASURE, CONTROL AND TREND THE OUTDOOR AIRFLOW THROUGH THE OUTDOOR AIRFLOW MEASURING STATION LOCATED AT THE INTAKE OF THE UNIT. ALARM BMS IF OUTDOOR AIRFLOW VARIES BY 15% OR MORE FROM SETPOINT.

G. ECONOMIZER CONTROL:
1. WHEN THE OUTSIDE AIR TEMPERATURE IS LESS THAN THE RETURN AIR TEMPERATURE, AND COOLING IS REQUIRED, THE ECONOMIZER CONTROL SHALL BE ENABLED. THE ECONOMIZER DAMPERS SHALL MODULATE BETWEEN THE ADJUSTABLE MINIMUM POSITION AND FULL OPEN TO MAINTAIN THE DISCHARGE AIR TEMPERATURE. COOLING SHALL BE ENABLED WITH THE OUTSIDE AIR DAMPERS FULLY OPEN AS LONG AS OUTSIDE AIR TEMPERATURE IS LESS THAN RETURN AIR TEMPERATURE. HEATING SHALL BE LOCKED OUT UNTIL THE ECONOMIZER DAMPERS HAVE RETURNED TO THE MINIMUM VENTILATION POSITION. WHEN OUTSIDE AIR TEMPERATURE EXCEEDS 70F, ECONOMIZER CONTROL SHALL BE DISABLED.
2. PROVIDE ECONOMIZER FAULT DETECTION INCLUDING FAULT INDICATION AT THE BMS FOR THE FOLLOWING: AIR TEMPERATURE SENSOR FAILURE/FAULT, NOT ECONOMIZING WHEN THE UNIT SHOULD BE ECONOMIZING, ECONOMIZING WHEN THE UNIT SHOULD NOT BE ECONOMIZING, DAMPER NOT MODULATING, EXCESS OUTDOOR AIR.

K. EXHAUST FAN AND BUILDING STATIC PRESSURE CONTROL:
1. THE EXHAUST FAN AND RELIEF AIR DAMPER SHALL OPERATE IN SEQUENCE TO MAINTAIN SPACE STATIC PRESSURE SETPOINT OF 0.05" W.C. (ADJ.). THE EXHAUST FAN VFD SHALL MODULATE TO MAINTAIN SPACE STATIC PRESSURE SETPOINT. WHEN THE EXHAUST FAN HAS MODULATED TO ITS MINIMUM SPEED AND SPACE STATIC PRESSURE IS BELOW SETPOINT, THE RELIEF AIR DAMPER SHALL REMAIN OPEN AND THE EXHAUST FAN SHALL CYCLE OFF. EXHAUST FAN SHALL CYCLE ON AS NECESSARY TO MAINTAIN SPACE STATIC PRESSURE SETPOINT.

L. DISCHARGE AIR TEMPERATURE:
1. MAINTAIN 47F (ADJ.) DISCHARGE AIR TEMPERATURE WHEN COOLING IS ENABLED.
2. BAS SHALL RESET THE DISCHARGE AIR TEMPERATURE SETPOINT BASED ON SPACE TEMPERATURE AND SPACE RELATIVE HUMIDITY.
3. IF DAT DROPS BELOW 40F (ADJ) DE-ENERGIZE FANS AND CLOSE OA AND RELIEF AIR DAMPERS. ALARM BAS

M. HEATING CONTROL:
1. THE HOT WATER COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE DAT. HEATING SHALL BE DISABLED IF THE FANS ARE OFF.

N. COOLING CONTROL:
1. THE UNIT SHALL MODULATE COOLING THROUGH ITS INTERNAL CONTROLS TO MAINTAIN THE DAT. COOLING SHALL BE DISABLED IF THE UNIT IS IN HEATING MODE, THE FANS ARE OFF, OR THE DISCHARGE AIR TEMPERATURE SENSOR HAS FAILED.

O. DEHUMIDIFICATION MODE
1. DEHUMIDIFICATION MODE BEGINS WHEN THE SPACE HUMIDITY RISES ABOVE THE SETPOINT, 50%RH (ADJ) AND ENDS WHEN THE HUMIDITY FALLS BELOW THE SPACE HUMIDITY SETPOINT.
2. IN DEHUMIDIFICATION MODE, THE UNIT SUPPLY DISCHARGE AIR TEMPERATURE SETPOINT SHALL BE 47F. THE VAV BOX HEATING COIL SHALL MODULATE TO MAINTAIN SPACE TEMPERATURE.

A RTU CONTROL

NO SCALE

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Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
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Sheet Information

Sheet Title:
MECHANICAL CONTROLS

Sheet Number:
M-401

DPA Project: 21303.00.000

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VAV BOX SCHEDULE

CODE	AREA SERVED	MANUFACTURER/ MODEL NO.	INLET SIZE	DESIGN CFM			BOX CAPACITY (CFM)		HEATING COIL				OUTLET SIZE	CONTROL TRACK VAV BOX	REMARKS
				MAX COOLING	MIN COOLING/ HEATING	UNOCCUPIED MIN. CFM	MIN.	MAX.	E.A.T.	CAP. MBH	GPM	WPD FT			
(VAV) 2-1	VISITING PHYSICIAN/CONSULTATION	PRICE / SDV 8	8	400	135	135	135	800	55.0	4.8	0.5	0.3	12 x 8	-	A
(VAV) 2-2	ED WAITING 1604	PRICE / SDV 12	12	1300	405	0	305	2100	55.0	14.4	1.6	0.3	12 x 8	-	A
(VAV) 2-4	TREATMENT/SECURED HOLDING	PRICE / SDV 8	8	610	610	135	135	800	55.0	21.7	2.4	0.3	12 x 8	-	A
(VAV) 2-6	MINOR PROCEDURE 1636	PRICE / SDV 12	12	1350	1150	350	305	2100	55.0	41.0	4.5	0.3	12 x 8	-	A
(VAV) 2-7	CLEAN WORK 1634	PRICE / SDV 8	8	640	220	190	135	800	55.0	7.8	0.9	0.3	12 x 8	-	A
(VAV) 2-8	DECONTAMINATION 1635	PRICE / SDV 8	8	400	355	135	135	800	55.0	12.7	1.4	0.3	12 x 8	-	A
(VAV) 2-9	SCOPE CLEANING, HSKP, ENDO	PRICE / SDV 10	10	910	910	325	300	1350	55.0	32.4	3.5	0.3	12 X 8	-	A
(VAV) 8-01	OPERATING ROOM	PRICE / SDV 14	14	2000	2000	1000	440	3000	55.0	53.5	5.8	0.3	12 x 8	-	B.C
(RAV)8-01	OPERATING ROOM	PRICE / SDV 14	14	1700	0	1000	440	3000	-	-	-	0.3	12 x 8	-	B.C
(EAV) 3	PUBLIC TLT 1603 & HSKG 1620	PRICE / SDE 8	8	175	0	175	135	800	-	-	-	0.3	12 X 8	2.5	D
(EAV) 4	HSKP	PRICE / SDE 10	10	300	0	300	225	1350	-	-	-	0.3	12 X 8	2.8	D
(EAV) 7	SOILED WORK	PRICE / SDE 8	8	150	0	150	135	800	-	-	-	0.3	12 X 8	2.8	D

GENERAL NOTES:
1. CONTROLS SHALL BE BY CONTROL MANUFACTURER AND INSTALLED AT THE FACTORY (SEE SPECIFICATIONS).
2. MOUNT WITH 3 STRAIGHT DUCT DIAMETERS UPSTREAM OF THE BOX.
3. MAXIMUM INLET S.P.= 2.0" W.G.
4. EWT = 130˚F, LWT = 110˚F, 30% PROPYLENE GLYCOL.
5. UNLESS NOTED OTHERWISE BELOW, BOX SHALL BE OPERATE IN OCCUPIED MODE CONTINUOUSLY.

REMARK NOTES:
A. EXISTING VAV BOX. MODIFY DESIGN SETPOINTS AT BAS TO NEW SCHEDULED CFM VALUES.
B. BOX OCCUPANCY MODE CONTROLLED BY BMS SCHEDULE.
C. NEW VAV BOX.
D. EXISTING EAV BOX. MODIFY DESIGN SETPOINTS AT BAS TO NEW SCHEDULED CFM VALUES.

GRILLE REGISTER DIFFUSER SCHEDULE

CODE	MANUFACTURER/ MODEL NO.	SERVICE	TYPE	ACCESSORIES	FACE SIZE	REMARKS
A	PRICE / SMDA	SUPPLY	LOUVERED	LAY-IN CEILING FRAME	24X24	A
B	PRICE / PDDR	RETURN	PERFORATED	LAY-IN CEILING FRAME	24X24	
D	PRICE / APDDR	RETURN	PERFORATED	GYP BOARD CEILING FRAME	12X12	C
E	EXISTING	SUPPLY	LINEAR SLOT	48" 2-SLOT, 1" SLOT WIDTH	SEE PLANS	E
F	EXISTING	SUPPLY	LOUVERED	LAY-IN CEILING FRAME	24X24	E
G	EXISTING	EXHAUST	PERFORATED	LAY-IN CEILING FRAME	24X24	E
S1	PRECISION AIR	SUPPLY	LAMINAR	HEPA-VENT HEP-DS A SERIES	48X24	F,G
S2	PRECISION AIR	SUPPLY	LAMINAR	HEPA-VENT HEP-DS A SERIES	36X24	F,G

GENERAL NOTES:
1. SEE PLANS FOR CFM AND NECK SIZE.
2. MAXIMUM NOISE CRITERIA (NC) SHALL BE 30 UNLESS OTHERWISE NOTED.
3. COLOR TO BE COORDINATED WITH ARCHITECT.
4. MATERIAL IS STEEL UNLESS OTHERWISE NOTED.
5. PROVIDE BALANCING DEVICE FOR ALL GRIDS UNLESS OTHERWISE NOTED.
6. BORDER TYPES LISTED ARE FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY CEILING SYSTEMS AND PROVIDE APPROPRIATE FRAME AND BORDER TYPE AS REQUIRED.

REMARK NOTES:
A. 24 X 24 MODULE W/ 17-1/2 X 17-1/2 LOUVERED FACE.
B. 12 X 12 MODULE W/FULL FACE LOUVERED FACE.
C. ALUMINUM CONSTRUCTION.
D. HEPA FILTER GRILLE WITH INLET DIFFUSION BASKET AND FIELD INSTALLED AND CALIBRATED LED FILTER INDICATOR.
E. EXISTING GRD TO BE RELOCATED TO NEW CEILING
F. SUPPLY DIFFUSERS PART OF GASKETED INTEGRATED CEILING SYSTEM. 1-1/2" FASK BACKED INSULATION.
G. PRECISION AIR PRODUCT. INSTALL PER MANUFACTURER'S REQUIREMENTS.

PACKAGED / DX ROOF TOP UNIT SCHEDULE

CODE	MANUFACTURER/ MODEL	AREA SERVED	SUPPLY FAN					EXHAUST FAN					MIN. OSA	COOLING CAP.					HW COIL CAP. (MBH)							ELECTRICAL							
			CFM	ESP (IN.)	CONTROL	BHP	MOTOR HP	CFM	ESP (IN.)	CONTROL	BHP	MOTOR HP	CFM	CONDITION	EAT (˚F) DB	EAT (˚F) WB	NET TOTAL MBH	NET SENS MBH	UNIT LAT (˚F) DB/WB	DESIGN CFM	MAT (˚F)	LAT (˚F)	MBH	GPM	WPD (FT)	ROWS	FPI	VOLT	PH	MCA	MOCP	DISC.	FUSE	FEEDER	EM.POWER
RTU-8	AAON / RN-009	OPERATING ROOM	2,000	4.1	VFD	3.25	5	1,800	0.8	VFD	0.72	1	700	DRY BULB	83.0	60.4	74.9	62.0	47.1/44.2	2,000	43.3	84.5	96.0	12.0	3.6	2	10	480	3	30	35	60A/3P	35A FRS-R	(3#8, 1#10G)3/4"C	Y
														ENTHALPY	78.6	61.9	82.3	54.0	47.5/44.6															

GENERAL NOTES:
1. PROVIDE PREMIUM EFFICIENCY MOTORS FOR MOTORS 1 HP AND OVER PER MENA STANDARD MG1-2003, TABLES 12-12 AND 12-13.
2. PROVIDE MERV 8 FILTERS. HEPA FILTERS WILL BE PROVIDE AT CEILING GRILLES IN OR
3. UNIT COOLING CAPACITY SHALL BE SELECTED TO MEET BOTH DRY BULB AND ENTHALPY CONDITIONS. EQUIPMENT SUBMITTAL SHALL BE INCLUDE UNIT COOLING PREFORMANCE AT BOTH CONDITIONS.
4. REFRIGERANT SHALL BE R-410A OR R-134A.
5. JOB SITE ELEVATION = 5300 FT.
6. RTU SHALL HAVE SINGLE POINT ELECTRICAL CONNECTION. EXCEPT FOR DEDICATED 120 VOLT, 20 AMP CIRCUIT FOR LIGHTS AND CONVENIENCE RECEPTACLE.
7. DUCT SMOKE DETECTORS IN THE RETURN AIR STREAM BY DIV. 26.
8. PROVIDE MANUFACTURERS RECOMMENDED SERVICE CLEARANCE AROUND ENTIRE UNIT.
9. HEATING AND COOLING CAPACITIES AND FAN STATIC PRESSURES ARE AT JOB SITE ALTITUDE.
10. PROVIDE 100% OSA MODULATING ECONOMIZER.
11. CAPACITY BASED ON 105˚F AMBIENT TEMPERATURE.
12. PROVIDE 14" HIGH ROOF CURB. COORDINATE CURB PITCH WITH ROOF SLOPE.
13. HW COIL: EWT: 140˚F, LWT: 110˚F , 30% PROPYLENE GLYCOL.

HUMIDIFIER SCHEDULE (ELECTRIC)

CODE (H)	MANUFACTURER/ MODEL NO.	OUTPUT (LBS/HR)	ELEC INPUT (KW)	CONTROLS	DISPERSION MANIFOLDS	CFM	AIR TEMP. (˚F)	DUCT SIZE (W*2H*)	ELECTRICAL VOLT	PH	FLA	DISC	FUSE	FEEDER
1	DRI-STEEM / RTS-63-1	63	25	SCR	ULTRA-SORB LV	2,000	55	20 X 16	480	3	30.1	60A/3P	40A FRS-R	(3#8, 1#10G)3/4"C
2	DRI-STEEM / RTS-144-2	144	48	SCR	ULTRA-SORB LV	7,000	55	44 X 20	480	3	57.8	100A/3P	80A FRS-R	(3#4, 1#8G)1-1/4"C

GENERAL NOTES:
1. JOB SITE ELEVATION = 5300 FT.
2. SUBMIT ABSORPTION DISTANCES.
3. PROVIDE RTS UNIT CONTROLLER WITH BACNET INTERFACE. CONTROLS SHALL INCLUDE HIGH-LIMIT HUMIDISTAT AND AIR FLOW PROVING SWITCH
4. PROVIDE ULTRA-SORB LV DISPERSION GRID WITH INSULATED TUBES FOR MOUNTING IN SUPPLY AIR DUCT.
5. PROVIDE UNIT FOR USE WITH DI WATER.
6. PROVIDE CONDENSATE COOLER IN HUMIDIFIER. PROVIDE CONTROLS FOR COOLER OPERATION.
7. EMERGENCY POWER

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COLORADO REGISTERED PROFESSIONAL ENGINEER — KEVIN W. MAYS — 44812

Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
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Sheet Information

Sheet Title:
MECHANICAL SCHEDULES

Sheet Number:
MEP-000

DPA Project: 21303.00.000

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NOTES

1. ALL EXPOSED RACEWAYS ARE TO BE INSTALLED PARALLEL OR PERPENDICULAR TO WALLS OR STRUCTURAL MEMBERS SUCH THAT THEY FOLLOW STRUCTURAL SURFACE CONTOURS AND SHALL BE INSTALLED SUCH THAT THEY DO NOT OBSTRUCT PASSAGEWAYS OR ACCESS TO EQUIPMENT. MULTIPLE RACEWAYS SHOULD BE INSTALLED GROUPED TOGETHER. THE LOCATION OF PUBLICLY VISIBLE RACEWAYS SHALL BE APPROVED BY THE ARCHITECT PRIOR TO INSTALLATION. (EXTRA TIME SHOULD BE ALLOWED FOR THIS REVIEW AND APPROVAL.)
2. THE DISCONNECTING MEANS FOR ALL MECHANICAL EQUIPMENT SHALL BE ACCESSIBLE AND HAVE THE CLEARANCE IN FRONT AS REQUIRED BY NEC AMENDMENTS.
3. ALL CEILING ATTACHED OBJECTS AND FLOOR ATTACHED EQUIPMENT INCLUDING BUT NOT LIMITED TO PENDANT LIGHTING FIXTURES, GENERAL LIGHTING, MULTIPLE RACEWAYS, GENERATOR, TRANSFORMER ELECTRICAL SWITCHGEAR, AND SWITCHBOARDS SHALL BE INSTALLED IN ACCORDANCE WITH SUPPORTING OBJECTS FOR SEISMIC ZONE AS REQUIRED BY STATE AND LOCAL CODES.
4. ALL SWITCHGEAR, SWITCHBOARDS AND TRANSFORMERS SHALL HAVE A 4 INCH HOUSE KEEPING PAD. UNDER NO CONDITION SHALL THE HIGHEST SWITCH OR BREAKER EXCEED 6'-6" AFF.
5. DATA GIVEN ON THE DRAWINGS IS AS EXACT AS COULD BE SECURED. ABSOLUTE ACCURACY IS NOT GUARANTEED AND THE CONTRACTOR SHALL OBTAIN AND VERIFY EXACT LOCATIONS, MEASUREMENTS, LEVELS, SPACE REQUIREMENTS, POTENTIAL CONFLICTS WITH OTHER TRADES, ETC. AT THE SITE AND SHALL SATISFACTORILY ADAPT THEIR WORK TO ACTUAL CONDITIONS AT THE BUILDINGS. THE DRAWINGS ARE DIAGRAMMATICAL IN NATURE AND SHALL NOT BE SCALED. HOWEVER THIS DOES NOT RELIEVE ANY SUB-CONTRACTOR FROM COORDINATING THEIR WORK WITH ALL OTHER TRADES AND FROM ADJUSTING THEIR WORK AS REQUIRED BY THE ACTUAL CONDITIONS OF THE PROJECT. THE CONTRACTOR SHALL VISIT THE SITE BEFORE SUBMITTING COSTS TO BECOME THOROUGHLY FAMILIAR WITH THE ACTUAL CONDITIONS OF THE PROJECT.
6. COORDINATE AND ADJUST ALL WORK BETWEEN TRADES AND EXISTING CONDITIONS IN ORDER TO ACCOMPLISH A NEAT, INTEGRATED AND EFFICIENT INSTALLATION WHICH INCLUDE BUT ARE NOT LIMITED TO:

   a. EXAMINE THE CONTRACT DOCUMENTS OF ALL TRADES (IE. THE ARCHITECTURAL REFLECTED CEILING PLAN, MECHANICAL HVAC DRAWINGS, ELECTRICAL LIGHTING PLAN, FIRE PROTECTION PLAN, ETC.).

   b. COORDINATE NECESSARY EQUIPMENT, FIXTURES, ETC. SO THAT THE FINAL INSTALLATION IS COMPATIBLE WITH THE MATERIALS AND EQUIPMENT OF THE OTHER TRADES.

   c. THIS CONTRACTOR SHALL ASSIST THE DIVISION 23 CONTRACTOR IN PREPARING SHOP DRAWINGS FOR COORDINATING INSTALLATION OF ALL WORK (IE. LOCATING ALL LIGHTING FIXTURES IN CEILING WITH CEILING CLEARANCES, RACEWAYS, PIPING, EQUIPMENT FOR CLEARANCE THROUGHOUT).

   d. THE ELECTRICAL DRAWINGS INDICATE THE ELECTRICAL REQUIREMENTS FOR A SIGNIFICANT PORTION OF THE MECHANICAL AND PLUMBING SYSTEMS. ADDITIONAL MECHANICAL AND PLUMBING EQUIPMENT IS INDICATED ON THE DIVISION 23 DRAWINGS. REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. PROVIDE COMPLETE WIRING AND FUSIBLE DISCONNECTING MEANS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT.
7. DEFINITIONS:

   a. "FURNISH" MEANS TO "SUPPLY" AND USUALLY REFERS TO AN ITEM OF EQUIPMENT.

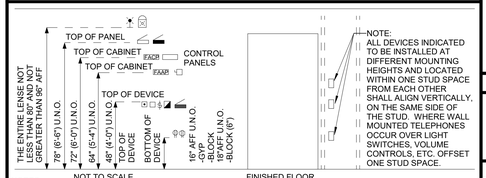
   b. "INSTALL" MEANS TO "SET IN PLACE, CONNECT AND PLACE IN FULL OPERATIONAL ORDER".

   c. "PROVIDE" MEANS TO "FURNISH AND INSTALL".

   d. "EQUIVALENT" MEANS "MEETS THE SPECIFICATIONS OF THE REFERENCE PRODUCT OR ITEM IN ALL SIGNIFICANT ASPECTS." SIGNIFICANT ASPECTS SHALL BE DETERMINED BY THE ENGINEER.

   e. "RE:_____DIVISION", AND SIMILAR EXPRESSIONS MEANS WORK TO BE PERFORMED UNDER THE CONTRACT DOCUMENTS, BUT NOT NECESSARILY UNDER THE DIVISION OR SECTION OF THE WORK ON WHICH THE NOTE APPEARS. IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO COORDINATE THE WORK OF THE CONTRACT BETWEEN THEIR SUPPLIERS, SUBCONTRACTORS, AND EMPLOYEES. IF CLARIFICATION IS REQUIRED, CONSULT ARCHITECT.
8. "FIRESTOPPING" REQUIREMENT. ALL PENETRATIONS THROUGH RATED WALLS AND FLOORS SHALL BE SEALED WITH MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASSES WHEN SUBJECTED TO THE REQUIREMENTS OF THE TEST STANDARD SPECIFIC FOR FIRE STOPS ASTM-E-814. ALL PENETRATIONS SHALL MEET F AND T RATINGS AS REQUIRED BY THE BUILDING CODE.
9. WHERE DISCONNECTS ARE INDICATED ON DRAWINGS CONTRACTOR SHALL PROVIDE FINAL CONNECTION FROM DISCONNECT TO EQUIPMENT BEING SERVED.
10. CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTS AS REQUIRED FOR A COMPLETE OPERABLE ELECTRICAL INSTALLATION INCLUDING MISCELLANEOUS STEEL, UNI-STRUT, ALL-THREAD, AIRCRAFT CABLE, ETC.
11. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR ALL SINGLE PHASE CIRCUITS. A SHARED NEUTRAL CONDUCTOR IS NOT ACCEPTABLE ON SINGLE PHASE CIRCUITS.
12. EQUIPMENT INTERRUPTING RATINGS INDICATED ON THE DRAWINGS ARE BASED ON PRELIMINARY INFORMATION AND ARE SHOWN FOR BIDDING PURPOSES ONLY. VERIFY EQUIPMENT INTERRUPTING CAPACITY REQUIREMENTS PRIOR TO ORDERING ANY RELATED ELECTRICAL DISTRIBUTION EQUIPMENT.
13. PROVIDE NEW TYPE WRITTEN DIRECTORIES FOR ALL PANELBOARDS INSTALLED OR MODIFIED UNDER THIS CONTRACT.
14. ALL CIRCUIT BREAKER LUGS SHALL BE RATED FOR A MINIMUM OF 75 DEGREES CELSIUS.
15. ALL MATERIALS IN CEILING PLENUMS NOT ENCLOSED IN METALLIC CONDUIT SHALL HAVE CLASS, FLAME SPREAD AND SMOKE DEVELOPMENT RATINGS AS REQUIRED FOR USE IN OPEN PLENUMS.
16. VOLTAGE DROP: THE ELECTRICAL CONTRACTOR SHALL ENSURE THAT VOLTAGE DROP FOR FEEDERS TO DISTRIBUTION EQUIPMENT DOES NOT EXCEED 2% AND VOLTAGE DROP IN BRANCH CIRCUITING DOES NOT EXCEED 3% FOR OVERALL VOLTAGE DROP OF 5% (MAXIMUM). FEEDERS LISTED ON SCHEDULES AND THE ELECTRICAL ONE-LINE DIAGRAM ARE A BASE FEEDER/BRANCH CIRCUIT SIZE AND SHALL BE ADJUSTED AS NEEDED BASED ON ACTUAL LENGTH OF CONDUCTORS.
17. REFER TO GENERAL NOTES FOR NUMBER OF PANEL SECTIONS AND QUANTITY OF CIRCUIT BREAKERS PANEL SCHEDULES SUPERCEDE ALL NOTES.
18. REFER TO SPECIFICATIONS FOR ADDITIONAL PROJECT REQUIREMENTS.

TYPICAL DEVICE MOUNTING HEIGHTS



NOTES:

1. MOUNTING HEIGHTS SHOWN ON ARCHITECTURAL ELEVATIONS SHALL GOVERN OVER THOSE SHOWN ABOVE.
2. CONTRACTOR SHALL ENSURE THAT ALL MOUNTING HEIGHTS COMPLY WITH CURRENT ADA AND A117.1 REQUIREMENTS.
3. WHERE EVER DEVICES ARE INDICATED TO BE ABOVE DOORS, DEVICE SHALL BE CENTERED BETWEEN TOP OF DOOR TRIM AND CEILING LINE.
4. ALL ABOVE COUNTER (DESIGNATED BY "AC") SHALL BE MOUNTED 8" ABOVE COUNTER OR MAXIMUM HEIGHT OF 44" TO TOP OF DEVICE. VERIFY HEIGHTS WITH ARCHITECT.
5. FOR CEILINGS BELOW 7'-4", FIRE ALARM STROBE OR HORN/STROBES SHALL BE WALL MOUNTED 6" BELOW FINISHED CEILING.
6. SWITCH TO BE MOUNTED ON LATCH SIDE OF THE DOOR WITHIN 12" OF THE DOOR.
7. DEVICES AT SAME HEIGHT LOCATED NEXT TO EACH OTHER TO BE ALIGNED VERTICALLY TO THE BOTTOM OF THE DEVICE.

CODES AND STANDARDS

DESIGNED UNDER THE FOLLOWING CODES AND STANDARDS:
2020 NATIONAL ELECTRICAL CODE
2021 INTERNATIONAL BUILDING CODE
2021 INTERNATIONAL ENERGY CONSERVATION CODE
2021 INTERNATIONAL FIRE CODE
2009 ANSI A117.1, ACCESSIBILITY REQUIREMENTS
ANSI/ASME A17.1, SAFETY CODE FOR ELEVATORS
NFPA 72 NATIONAL FIRE ALARM CODE

CITY OF RANGELY REQUIREMENTS

NO ELECTRICAL MATERIALS, APPARATUS, DEVICES, APPLIANCES, FIXTURES OR EQUIPMENT SHALL BE SOLD OR INSTALLED IN THE CITY UNLESS THEY ARE IN CONFORMANCE WITH PROVISIONS OF THIS CODE, THE LAWS OF THE STATE OF COLORADO AND ANY APPLICABLE RULES AND REGULATIONS ISSUED UNDER THE AUTHORITY OF THE STATE STATUTES. THE MAKER'S NAME, TRADEMARK, OR OTHER IDENTIFICATION SYMBOL SHALL BE PLACED ON ALL ELECTRICAL MATERIALS, APPARATUS, DEVICES, APPLIANCES, FIXTURES AND EQUIPMENT USED OR INSTALLED UNDER THE PROVISIONS OF THIS CODE. ALL ELECTRICAL MATERIAL AND EQUIPMENT SHALL BE LISTED AND LABELED FOR THE INTENDED USE AND SHALL BE INCLUDED IN A LIST PUBLISHED BY AN APPROVED AGENCY.

ABBREVIATIONS

A

A/AMP	AMPERE
AC	ABOVE COUNTER
AF	AMPERE FUSE/FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AVAILABLE INTERRUPT CURRENT
AL	ALUMINUM
AM	AMMETER
ANN	ANNUNCIATOR
ANT	ANTENNA
ASC	AVAILABLE SHORT-CIRCUIT CURRENT
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE

B

BFC	BELOW FINISHED CEILING
BFG	BELOW FINISHED GRADE
BKR	BREAKER
BOH	BACK OF HOUSE
BW	BUS-WAY

C

C	CONDUIT
CAB	CABINET
CAM	CAMERA
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CO	CONDUIT ONLY
COMB	COMBINATION
COMP	COMPUTER
COND	CONDUCTOR
CT	CURRENT TRANSFORMER
CU	COPPER

D

D	DEMOLISH
DAS	DISTRIBUTED ANTENNA SYSTEM
dB	DECIBEL
DEMARC	DEMARCATION
DISC	DISCONNECT
DL	DAMP LABEL
DP	DISTRIBUTION PANEL
DPDT	DOUBLE POLE, DOUBLE THROW
DWG	DRAWING
DVR	DIGITAL VIDEO RECORDER

E

E/EX	EXISTING
EA	EACH
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EG	EQUIPMENT GROUND
EHC	ELECTRIC HEATING COIL
ELEC	ELECTRIC OR ELECTRICAL
ELEV	ELEVATOR
EM	EMERGENCY
EMT	ELECTRIC METALLIC TUBING
ENG	ELECTRONIC NEWS GATHERING
EOL	F/A END OF LINE RESISTOR
EPO	EMERGENCY POWER OFF
EQP	EQUIPMENT
ER	EXISTING TO BE REMOVED/RELOCATED
EV	ELECTRIC VEHICLE
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EXH	EXHAUST

F

F	FUSE
F/A	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FAPS	FIRE ALARM POWER SUPPLY
FATC	FIRE ALARM TERMINAL CABINET
FBO	FURNISHED BY OTHERS
FC	FOOTCANDLES
FDR	FEEDER
FCU	FAN COIL UNIT
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLR	FLOOR
FPB	FAN POWERED BOX
FUT	FUTURE

G

GALV	GALVANIZED
GB	GROUNDING BUS
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND

H

HC	HORIZONTAL CROSS CONNECT
HD	HEAVY DUTY
HH	HAND HOLE
HOA	HAND-OFF-AUTO
HP	HORSEPOWER
HPF	HIGH POWER FACTOR
HTR	HEATER

I

IC	INTERMEDIATE CROSS CONNECT
ID	INSIDE DIAMETER
IDF	INTERMEDIATE DISTRIBUTION FRAME
IMC	INTERMEDIATE GRADE METALLIC CONDUIT

J

J-BOX	JUNCTION BOX
JBA	AUDIO CONNECTION BOX
JBC	COACHES JUNCTION BOX
JBE	ENG BROADCAST BOX
JBT	NETWORK BROADCAST CONNECTION BOX

K

KCMIL/MCM	THOUSAND OF CIRCULAR MILLS
KVA	KILOVOLT AMPERE
KW	KILOWATT
KWH	KILOWATT HOUR

L

LA	LIGHTNING ARRESTOR
LAN	LOCAL AREA NETWORK
LCP	LIGHTING CONTROL PANEL
LED	LIGHT EMITTING DIODE
LFC	LIQUID TIGHT FLEXIBLE CONDUIT
LT	LOW TEMPERATURE RATED DEVICES OR SIMILAR
LTG	LIGHTING
LV	LOW VOLTAGE

M

MA	MILLIAMPERE
MAX	MAXIMUM
MB	MAIN BREAKERS
MC	MECHANICAL CONTRACTOR OR METAL CLAD
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MDF	MAIN DISTRIBUTION FRAME
MDP	MAIN DISTRIBUTION PANEL
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
MOV	MOTOR OPERATED VALVE
MPOE	MAIN POINT OF ENTRY
MTG	MOUNTING HEIGHT
MTS	MANUAL TRANSFER SWITCH
MS	MOTOR STARTER
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
MTG	MOUNTING
MTGB	MAIN TELECOMMUNICATIONS GROUND BUS
MTR	MAIN TELECOM ROOM
MV	MEDIUM VOLTAGE

N

N	NEUTRAL
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NF	NON FUSED
NIC	NOT IN CONTRACT
NC	NORMALLY CLOSED
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NTS	NOT TO SCALE

O

OC	ON CENTER
OCP	OVERCURRENT PROTECTION
OD	OUTSIDE DIAMETER
OH	OVERHEAD

P

P	POLE
PA	PUBLIC ADDRESS
PB	PUSH BUTTON
PE	PHOTOELECTRIC
PF	POWER FACTOR
PH	PHASE
PNL	PANEL
PR	PAIR
PRI	PRIMARY
PT	POTENTIAL TRANSFORMER
PV	PHOTOVOLTAIC
PVC	POLYVINYL CHLORIDE
PWR	POWER

Q

QE	QUADRANT ELECTRICAL (ARENA SPECIFIC)
QT	QUADRANT TELECOM (ARENA SPECIFIC)

R

R	EXISTING TO RELOCATE
REC	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
RM	ROOM
RPM	REVOLUTIONS PER MINUTE

S

SCP	SECURITY CONTROL PANEL
SEC	SECONDARY/SECOND
SECT	SECTION
SHT	SHEET
SEC	SECONDARY CONNECTION CABINET
SMPOE	SECONDARY MAIN POINT OF ENTRY
SP	SERVICE PROVIDER
SPD	SURGE PROTECTIVE DEVICE
SPDT	SINGLE POLE, DOUBLE THROW
ST	SHUNT TRIP
STD	STANDARD
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHEAR

T

T	TWIST LOCK
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TBD	TO BE DETERMINED
TC	TIME CLOCK
TEL	TELEPHONE
TELCO	TELEPHONE COMPANY
TELCOM	TELECOMMUNICATIONS
TEMP	TEMPERATURE
TGB	TELECOMMUNICATIONS GROUND BUS
TO	THERMAL OVERLOAD
TR	TAMPER RESISTANT
TYP	TYPICAL

U

UC	UNDER COUNTER
UG	UNDERGROUND
UGP	UNDERGROUND PRIMARY
UGS	UNDERGROUND SECONDARY
UH	UNIT HEATER
UL	UNDERWRITER LABORATORIES
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
USB	UNIVERSAL SERIAL BUS

V

V	VOLT
VA	VOLT-AMPERE
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
VM	VOLTMETER

W

W	WATT
W/	WITH
W/O	WITHOUT
WH	WATT HOUR
WHM	WATT HOUR METER
WLAN	WIRELESS-LOCAL AREA NETWORK
WP	WEATHERPROOF
WPL	WEATHER PROOF LOCKABLE ENCLOSURE.
WT	WATERTIGHT

X

XFMR	TRANSFORMER
XP	EXPLOSION PROOF

SYMBOLS

LIGHTING

- STRIP LIGHT
- WALL MOUNTED STRIP LIGHT
- WALL MOUNTED LINEAR
- RECESSED LINEAR
- RECESSED LIGHTING FIXTURE W/DOWNLIGHTS
- RECESSED 2'X2'
- RECESSED 2'X4'
- SURFACE MOUNTED 2'X4'
- SURFACE MOUNTED 2'X2'
- SURFACE MOUNTED 1'X4'
- RECESSED WALL / STEP LIGHT
- WALL MOUNTED FLOODLIGHT
- WALL MOUNTED SCONCE
- SURFACE MOUNTED DOWN LIGHT
- SURFACE MOUNTED WALL WASH
- RECESSED DOWN LIGHT
- RECESSED WALL WASH
- RECESSED 1X4 WALL WASH
- LINEAR PENDANT
- LINEAR PENDANT W/DOWNLIGHTS
- PENDANT LIGHT
- MONOPOINT TRACKHEAD
- LINEAR LIGHT
- TRACK WITH TRACKHEADS
- BURIAL FIXTURE
- POLE MOUNTED LIGHT WITH ARM
- POLE MOUNTED LIGHT POST TOP MOUNTING/BOLLARD
- CEILING MOUNTED EXIT SIGN
- EXIT SIGN WITH DIRECTIONAL
- WALL MOUNTED EXIT SIGN ARROWS (CHEVRONS)
- EMERGENCY LIGHTING UNIT
- UL924 EMERGENCY AUTOMATIC TRANSFER DEVICE
- POWER SUPPLY
- OCCUPANCY SENSOR - CEILING MOUNTED
- DAYLIGHT SENSOR - CEILING MOUNTED
- OCCUPANCY SENSOR - 180°
- OCCUPANCY SENSOR - WALL SWITCH
- DIMMER SWITCH / STATION
- DIMMER / OCCUPANCY SENSOR COMBINATION SWITCH
- DIMMER SWITCH LOW VOLTAGE OVERRIDE
- SCENE CONTROL STATION
- TOUCH PANEL CONTROL STATION
- SINGLE POLE SWITCH
- 3-WAY SWITCH
- 4-WAY SWITCH
- SHADED SYMBOLS DENOTE EMERGENCY FIXTURES

FIRE ALARM

- SMOKE DETECTOR
- WALL SMOKE DETECTOR
- SMOKE/CARBON MONOXIDE DETECTOR
- WALL SMOKE/CARBON MONOXIDE DETECTOR
- HEAT DETECTOR
- DUCT DETECTOR
- BEAM DETECTOR RECEIVER
- BEAM DETECTOR TRANSMITTER
- VOICE EVAC PANEL
- ELEVATOR STATUS PANEL
- CEILING MOUNTED SPEAKER
- WALL MOUNTED SPEAKER
- CEILING MOUNTED SPEAKER/STROBE
- WALL MOUNTED SPEAKER/STROBE
- WALL MOUNTED SILENTONE
- FIRE SERVICE PHONE
- FIREMAN'S PHONE JACK
- ROTATING BEACON
- MANUAL PULL STATION
- MAGNETIC DOOR HOLD OPEN DEVICE
- TAMPER SWITCH
- FLOW SWITCH
- CEILING MOUNTED REMOTE INDICATOR LIGHT
- WALL MOUNTED REMOTE INDICATOR LIGHT
- WALL MOUNTED ADA STROBE
- CEILING MOUNTED STROBE
- ADDRESSABLE INPUT MODULE
- FIRE ALARM ADDRESSABLE RELAY
- ALARM BELL
- FIRE SMOKE DAMPER
- SMOKE CONTROL DAMPER
- CARBON MONOXIDE DETECTOR
- FIRE ALARM ANNUNCIATOR PANEL
- FIRE ALARM CONTROL PANEL
- TWO-WAY COMMUNICATION / AREA OF RESCUE ASSISTANCE CALL BUTTON
- TWO-WAY COMMUNICATION / AREA OF RESCUE ASSISTANCE (BASE STATION)

POWER

- WALL SIMPLEX RECEPTACLE
- WALL DUPLEX RECEPTACLE
- WALL DUPLEX WITH USB
- WALL DUPLEX WITH CONTROL OF ONE OUTLET
- WALL DUPLEX RECEPTACLE (EMERGENCY)
- WALL FOURPLEX RECEPTACLE
- WALL FOURPLEX RECEPTACLE (EMERGENCY)
- WALL SPECIAL RECEPTACLE (FOR "X" SEE RECEPTACLE MODIFER TAGS TABLE)
- WALL SPECIAL RECEPTACLE (EMERGENCY) (FOR "X" SEE RECEPTACLE MODIFER TAGS TABLE)
- FLAT PANEL BACK BOX - POWER MOUNTED WITHIN AV BACK BOX
- WALL COMBINATION TV / POWER OUTLET
- WALL CLOCK RECEPTACLE
- WALL JUNCTION BOX
- WALL FURNITURE FEED
- FLOOR DUPLEX RECEPTACLE
- FLOOR FOURPLEX RECEPTACLE (POWER/DATA/COMBO DEVICE. REFER TO TECHNOLOGY DRAWINGS)
- FLOOR FOURPLEX RECEPTACLE WITH AV (POWER/DATA/AV COMBO DEVICE. REFER TO TECH. DRAWINGS)
- CONVENTION CENTER FLOOR BOX.
- JUNCTION BOX
- FLOOR FURNITURE FEED
- CEILING RECEPTACLE
- CEILING DUPLEX RECEPTACLE
- CEILING FOURPLEX RECEPTACLE
- CEILING / FLOOR SPECIAL RECEPTACLE (FOR "X" SEE RECEPTACLE MODIFER TAGS TABLE)
- CEILING JUNCTION BOX
- CEILING TV OUTLET
- POWER POLE
- SINGLE TOGGLE SWITCH
- PLUGMOLD
- EMERGENCY POWER OFF
- SINGLE PUSH BUTTON
- DUPLEX PUSH BUTTON
- TRIPLE PUSH BUTTON
- WALL BUZZER

DEVICE GENERAL NOTES:

1. REFER TO SPECIFICATION SECTION 26 27 26 FOR SPECIFIC FLOOR DEVICE PRODUCT INFORMATION.
2. REFER TO TECHNOLOGY AND/OR AV LEGEND AND FLOOR PLANS TO CONFIRM ALL LOCATIONS THAT HAVE DATA OR DATA/AV REQUIREMENTS COMBINED WITH POWER IN FLOOR BOXES.
3. REFER TO TECHNOLOGY (AND/OR AV) DRAWINGS FOR DEDICATED LOW VOLTAGE CONDUIT AND FLOOR BOX DEVICE MOUNTING PLATE REQUIREMENTS. LOW VOLTAGE CONDUIT REQUIREMENTS ARE NOT DOCUMENTED ON POWER DRAWINGS.
4. REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHTS OF TVS. MOUNT BEHIND TV DISPLAY OR ON TV MOUNTING BRACKET/SUPPORT".

EQUIPMENT

- MOTOR
- MOTOR AND DISCONNECT
- MOTOR AND FUSED DISCONNECT
- MOTOR AND CIRCUIT BREAKER DISCONNECT
- VARIABLE FREQUENCY DRIVE/MOTOR CONTROLLER
- NON-FUSED DISCONNECT
- FUSED DISCONNECT
- CIRCUIT BREAKER
- BRANCH CIRCUIT OR POWER PANEL
- LIGHTING CONTROL PANEL
- ELECTRICAL EQUIPMENT FREESTANDING OR WALL MOUNT
- METER
- CURRENT TRANSFORMER
- GROUND
- DELTA/WYE WITH GROUND
- POWER TRANSFORMER
- FUSE & SWITCH
- CIRCUIT BREAKER
- DRAWOUT CIRCUIT BREAKER
- KIRK-KEY INTERLOCK
- GROUND FAULT INTERRUPTER BREAKER
- CIRCUIT MONITORING DEVICE
- MECHANICAL EQUIPMENT IDENTIFICATION TAG
- SHORT CIRCUIT FAULT CALCULATION TAG REFER TO TABLE ON ONE-LINE DIAGRAM
- SURGE PROTECTION DEVICE
- THERMAL OVERLOAD
- MOTOR AND THERMAL OVERLOAD
- COMPANY SWITCH OR CAM-LOK PANEL
- AUTOMATIC TRANSFER SWITCH
- GENERATOR DOCKING STATION
- ELECTRICAL PLANEL (NUMBER OF SECTIONS)
- EQUIPMENT IDENTIFICATION TAG REFER TO ELECTRICAL EQUIPMENT SCHEDULE

RACEWAY LEGEND

- BRANCH CIRCUIT HOMERUN TO PANELBOARD, NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS, NUMERICAL INDICATES CIRCUIT NUMBER.
- BRANCH CIRCUIT HOMERUN CONTROLLED BY LIGHTING CONTROL SYSTEM. FIRST HEXAGON LETTER CORRESPONDS TO FIRST CIRCUIT NUMBER. (ie. CIRCUIT #2 IS ON ZONE A). REFER TO LIGHTING CONTROL MATRIX FOR LIGHTING ZONES.
- MOTOR CONNECTION
- UNDERGROUND FEEDER
- UNDERGROUND BRANCH CIRCUIT HOMERUN
- CONDUIT UP
- CONDUIT DOWN
- CONDUIT RUNS UNDERFLOOR OR BELOW GRADE
- CONDUIT RUN CONCEALED IN WALLS OR CEILING, OR EXPOSED WHEN CEILING ARE NOT PRESENT.

RECEPTACLE MODIFIER TAGS

TAG	OUTLET RATING	NEMA/CAT NO	FEEDER (NOTE 1)	WIRING NOTES
A	NOT USED	-	-	-
B	NON-LOCKING, 30A, 125V, 1PH	5-30R	2#10,#10G,3/4"C (60FT)	HOT-NEUT-GND
C	NON-LOCKING, 20A, 250V, 1PH	6-20R	2#12,#12G,3/4"C (100FT)	HOT-NEUT-GND
D	NON-LOCKING, 30A, 250V, 1PH	6-30R	2#10,#10G,3/4"C (120FT)	HOT-NEUT-GND
E	NON-LOCKING, 50A, 250V, 1PH	6-50R	2#6,#10G,3/4"C (150FT)	HOT-NEUT-GND
F	NOT USED	-	-	-
G	NON-LOCKING, 20A, 125/250V, 1PH	14-20R	3#12,#12G,3/4"C (100FT)	HOT-HOT-NEUT-GND
H	NON-LOCKING, 50A, 125/250V, 1PH	14-50R	3#6,#10G,1"C (100FT)	HOT-HOT-NEUT-GND
I	NOT USED	-	-	-
J	LOCKING, 20A, 125V, 1PH	L5-20R	2#12,#12G,3/4"C (50FT)	HOT-NEUT-GND
K	LOCKING, 30A, 125V, 1PH	L5-30R	2#10,#10G,3/4"C (60FT)	HOT-NEUT-GND
L	LOCKING, 20A, 250V, 1PH	L6-20R	2#12,#12G,3/4"C (100FT)	HOT-NEUT-GND
M	LOCKING, 30A, 250V, 1PH	L6-30R	2#10,#10G,3/4"C (120FT)	HOT-NEUT-GND
N	NOT USED	-	-	-
O	NOT USED	-	-	-
P	LOCKING, 20A, 125/250V, 1PH	L14-20R	3#12,#12G,3/4"C (100FT)	HOT-HOT-NEUT-GND
Q	LOCKING, 30A, 125/250V, 1PH	L14-30R	3#10,#10G,3/4"C (120FT)	HOT-HOT-NEUT-GND
R	NOT USED	-	-	-
S	LOCKING, 20A, 208Y/120V, 3PH	L21-20R	4#12,#12G,3/4"C (120FT)	HOT-HOT-HOT-NEUT-GND
T	LOCKING, 30A, 208Y/120V, 3PH	L21-30R	4#10,#10G,3/4"C (130FT)	HOT-HOT-HOT-NEUT-GND
V	LOCKING, 50A, 250V, 3PH	HBL CS8369	3#6,#10G,1"C (175FT)	HOT-HOT-HOT-GND
W	PIN & SLEEVE, 60A, 208Y/120V, 3PH	HBL 560R9W	4#4,#10G,1-1/4"C (200FT)	HOT-HOT-HOT-NEUT-GND
X	PIN & SLEEVE, 100A, 208Y/120V, 3PH	HBL 5100R9W	4#1,#8G,1-1/2"C (250FT)	HOT-HOT-HOT-NEUT-GND
Y	NOT USED	-	-	-
Z	NOT USED	-	-	-

NOTE: DISTANCE NOTED IS MAXIMUM RUN LENGTH FOR WIRE SIZE. INCREASE PER NEC, INCLUDING GROUND, FOR LONGER RUNS OR FOR DERATING FACTORS (AMB TEMP, EXTERIOR, ETC.)

SECURITY & COMMUNICATION SYMBOLS

- TELE/DATA WALL OUTLET MOUNTED AT 18" AFF, U.N.O. (# = PORT QUANTITY, NO / # = 1-PORT)
- TELE WALL OUTLET MOUNTED AT 18" AFF, U.N.O.
- DATA OUTLET WALL MOUNTED AT 18"AFF, U.N.O. (# = PORT QUANTITY, NO / # = 1-PORT)
- DATA OUTLET MOUNTED AT CEILING

DEVICE GENERAL NOTES:

1. REFER TO DETAILS AND SPECIFICATIONS FOR ADDITIONAL RACEWAY AND/OR DEVICE INFORMATION.
2. J-HOOK PATHWAY: ROUTE AND TERMINATE CONDUIT WITHIN NEAREST ACCESSIBLE CEILING SPACE. PROVIDE DEDICATED J-HOOKS AT 48-INCHES ON CENTER FOR REMAINING CABLE RUN TO NEAREST CABLE TRAY (AS APPLICABLE) OR SECURITY ROOM / TELECOM ROOM, UNLESS NOTED OTHERWISE. PROVIDE CONDUIT PATHWAY THROUGH WALLS AND ACCROSS NON-ACCESSIBLE OR EXPOSED CEILING AREAS TO ENSURE UNOBSTRUCTED CABLE PATHWAY FOR ENTIRE CABLE RUN.
3. CONTINUOUS CONDUIT PATHWAY: ROUTE CONTINUOUS CONDUIT FROM EACH

MDB	BUS:	2500AMP
	MAINS:	2500 Amp Main Bkr
	VOLTAGE:	480 Delta
LOAD SUMMARY		
	TOTAL KVA	TOTAL AMPS
BRANCH CKTS ON MDB	153	184
M2A	71	85
M1A	94	113
L4A	41	50
KIT	49	59
H3A	124	149
H2A	109	131
H1A	202	243
ELSH	32	39
EED	401	482
ECD	556	669
CONNECTED TOTALS	1,832	2,204
	-	-
CALCULATED TOTALS	1,663	2,000

TRANSFORMER TABLE - 480V PRIMARY - 208Y/120V SECONDARY

KVA	FL AMPS	BKR SIZE	FDR	TRANSFORMER GROUNDING ELECTRODE	FL AMPS	BKR SIZE	FDR
3PH	480V	(1)	(2)	(WIRE) PIPE	208V	(1)	(2)
15	18	30	F30	(#8 CU) 3/4"C	42	50	FN50A
30	36	50	F50	(#6 CU) 3/4"C	83	100	FN100A
45	54	70	F70	(#6 CU) 3/4"C	125	150	FN150
75	90	125	F125	(#2 CU) 3/4"C	208	250	FN250A
112.5	135	175	F175	(#1/0 CU) 1"C	312	400	FN400A
150	180	225	F225	(#1/0 CU) 1"C	416	500	FN500A
225	271	350	F350	(#2/0 CU) 1"C	626	800	FN800A
300	361	450	F450	(#3/0 CU) 1"C	833	1000	FN1000A
500	601	800	F800	(#250 KCMIL CU) 1"C	1388	1600	FN1600A

1 USE DEVICE TYPES INDICATED ON SINGLE LINE DIAGRAM.
2 REFERENCE FEEDER TABLE FOR FEEDER SIZE

FAULT CALCULATION SCHEDULES (AMPS)

ALL THE EQUIPMENT MUST BE FULLY RATED FOR SHORT CIRCUIT VALUES SHOWN BELOW. SERIES RATING EQUIPMENT SHALL NOT BE PERMITTED.

KEY	AVAILABLE
1	51208
2	46541
3	48143
4	36575
5	46976
6	19546
7	10149
8	41963
9	19545

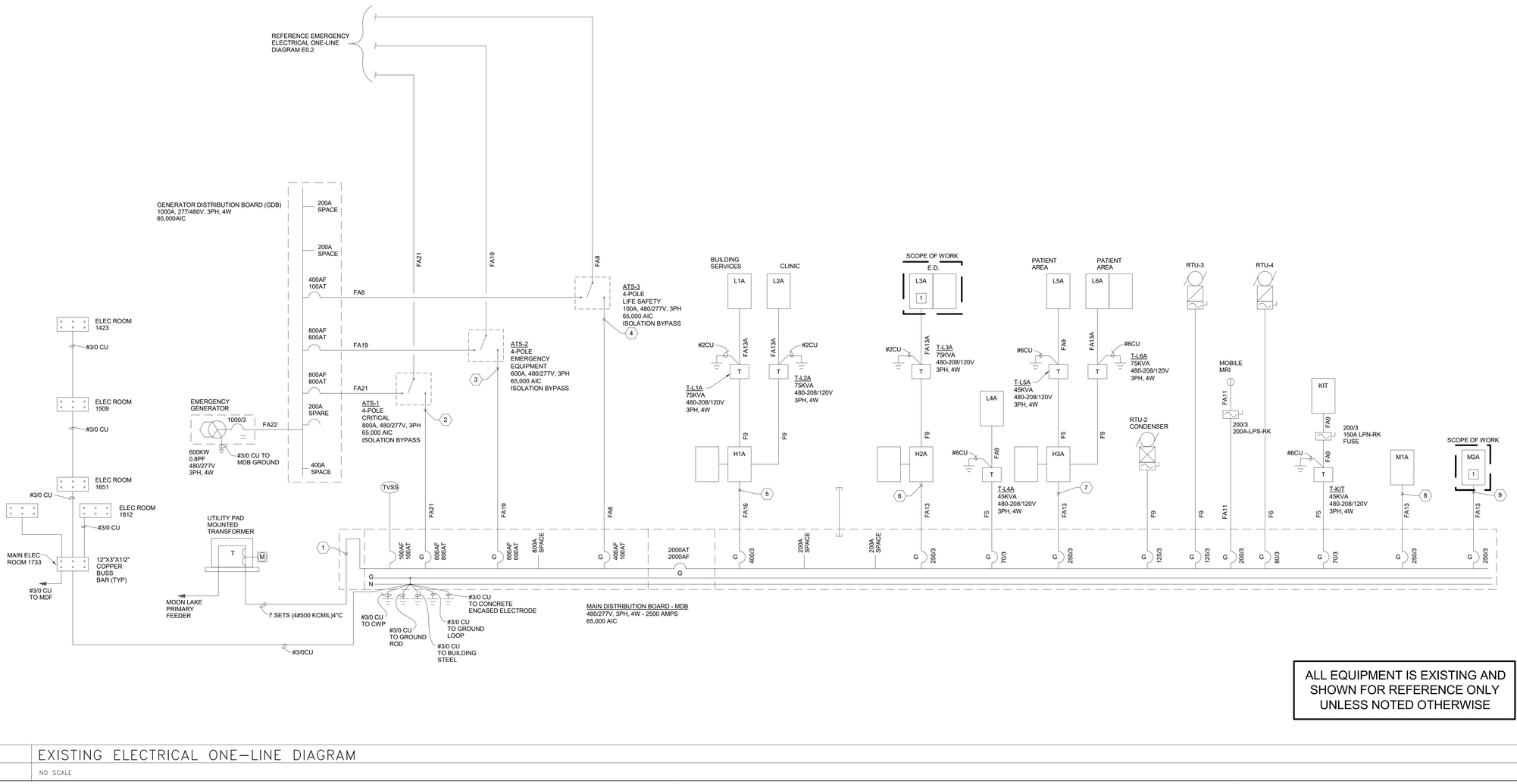
TRANSFORMERS (150KVA OR LESS)

BASED ON INFINITE IMPEDANCE ON THE PRIMARY. THE AVAILABLE FAULT CURRENTS ON THE SECONDARY OF A TRANSFORMER IS AS FOLLOWS:
30 KVA (5.3%Z)= 1572A
45KVA (4.9%Z)= 2551A
75KVA (5.4%Z)= 3858A
112.5KVA (4.9%Z)=6378A
150KVA (5.3%Z)= 7862A

FEEDER TABLE - CONDUCTORS

			COPPER				COPPER
Bkr/OCPD	TAG	Sets	PIPE	FDR/PIPE [3W]	TAG	Sets	PIPE	FDR/PIPE [4 W]
20	F1	1	3/4"	3#12,#12G	FA1	1	3/4"	4#12,#12G
30	F2	1	3/4"	3#10,#10G	FA2	1	3/4"	4#10,#10G
40	F3	1	3/4"	3#8,#10G	FA3	1	1"	4#8,#10G
50	F4	1	1"	3#6,#10G	FA4	1	1"	4#6,#10G
50	-	-	-	-	FA4A	1	1-1/4"	4#6,#8G
60	F5	1	1-1/4"	3#4,#8G	FA5	1	1-1/4"	4#4,#8G
70	F5	1	1-1/4"	3#4,#8G	FA5	1	1-1/4"	4#4,#8G
80	F6	1	1-1/4"	3#3,#8G	FA6	1	1-1/4"	4#3,#8G
90	F7	1	1-1/4"	3#2,#8G	FA7	1	1-1/2"	4#2,#8G
100	F8	1	1-1/2"	3#1,#8G	FA8	1	2"	4#1,#6G
100	-	-	-	-	FA8A	1	2"	4#1,#6G
110	F8A	1	1-1/2"	3#1,#6G	-	-	-	-
125	F9	1	1-1/2"	3#1/0,#6G	FA9	1	2"	4#1/0,#6G
150	F9	1	1-1/2"	3#1/0,#6G	FA9	1	2"	4#1/0,#6G
175	F10	1	2"	3#2/0,#6G	FA10	1	2"	4#2/0,#6G
200	F11	1	2"	3#3/0,#6G	FA11	1	2-1/2"	4#3/0,#6G
225	F12	1	2-1/2"	3#4/0,#4G	FA12	1	2-1/2"	4#4/0,#4G
250	F13	1	2-1/2"	3#250,#4G	FA13	1	3"	4#250,#4G
250	-	-	-	-	FA13A	1	3	4#250,#2G
300	F14	1	3"	3#350,#4G	FA14	1	3"	4#350,#4G
350	F15	1	3"	3#500,#3G	FA15	1	3-1/2"	4#500,#3G
400	F16	2	2"	3#3/0,#3G	FA16	2	2-1/2"	4#3/0,#3G
400	-	-	-	-	FA16A	2	2-1/2"	4#3/0,#1/0G
450	F17	2	2-1/2"	3#4/0,#2G	FA17	2	2-1/2"	4#4/0,#2G
500	F18	2	2-1/2"	3#250,#2G	FA18	2	3"	4#250,#2G
500	-	-	-	-	FA18A	2	3"	4#250,#1/0G
600	F19	2	3"	3#350,#1G	FA19	2	3"	4#350,#1G
700	F20	2	3"	3#500,#1/0G	FA20	2	3-1/2"	4#500,#1/0G
750	F20	2	3"	3#500,#1/0G	-	-	-	-
800	F21	3	3"	3#300,#1/0G	FA21	3	3"	4#300,#1/0G
800	-	-	-	-	FA21A	3	3"	4#300,#2/0G
1000	F22	3	3"	3#400,#2/0G	FA22	3	3-1/2"	4#400,#2/0G
1000	-	-	-	-	FA22A	3	3-1/2"	4#400,#3/0G
1200	F23	4	3"	3#350,#3/0G	FA23	4	3"	4#350,#3/0G
1200	F23C	3	3-1/2"	3#600,#3/0G	FA23C	3	4"	4#600,#3/0G
1600	F24	5	3"	3#400,#4/0G	FA24	5	3-1/2"	4#400,#4/0G
1600	-	-	-	-	FA24A	5	3-1/2"	4#400,#250G
1600	F24C	4	3-1/2"	3#600,#4/0G	FA24C	4	4"	4#600,#4/0G
2000	F25	6	3"	3#400,#250G	FA25	6	3-1/2"	4#400,#250G
2000	F25C	5	4"	3#600,#250G	FA25C	5	4"	4#600,#250G
2500	F26	7	3-1/2"	3#500,#350G	FA26	7	3-1/2"	4#500,#350G
2500	-	-	-	-	FA26A	7	4"	4#500,#500G
2500	F26C	6	4"	3#600,#350G	FA26C	6	4"	4#600,#350G
3000	F27	8	3-1/2"	3#500,#400G	FA27	8	4"	4#500,#400G
3500	F28	10	3-1/2"	3#500,#500G	FA28	10	4"	4#500,#500G
3500	F28C	9	4"	3#600,#500G	FA28C	9	4"	4#600,#500G
4000	F29	11	4"	3#500,#500G	FA29	11	4"	4#500,#500G
4000	F29C	10	4"	3#600,#500G	FA29C	10	4"	4#600,#500G

	ALL CONDUCTORS ARE WITH THHN/THWN WIRE WITH 60DEG TERMINATIONS UP TO #1AWG AND 75DEG FOR LARGER SIZES.
	CONDUIT SIZES MAY BE ALTERED BY CONTRACTOR WHEN IN ACCORDANCE WITH NEC
	ALL ALUMINUM FEEDERS SHALL INCLUDE COPPER EQUIPMENT GROUND CONDUCTORS



GENERAL NOTES:

1. ALL FEEDERS SHALL BE COPPER 75 DEGREE RATED INSULATION.
2. FEEDER LENGTHS ARE INDICATED FOR CALCULATION PURPOSES ONLY. CONTRACTOR SHALL NOT BASE ACTUAL FEEDER LENGTHS ON QUANTITIES INDICATED ON THIS DRAWING.
3. ALL CONDUIT RUNS SHALL BE RAN PERPENDICULAR AND PARALLEL TO COLUMNS AND BEAMS. ALL EXPOSED CONDUIT RUNS SHALL BE COORDINATED WITH ARCHITECT PRIOR TO INSTALLATION.
4. PROVIDE FULL BUSSING FOR ALL SPACES INDICATED ON PANEL BOARDS AND DISTRIBUTION BOARDS.
5. CONNECT ALL TRANSFORMER GROUNDING ELECTRODE TO GROUND BUS RISER.
6. REFER TO FEEDER TABLE FOR FEEDER SIZE CORRESPONDING TO OVERCURRENT PROTECTION DEVICE (BREAKER OR FUSE) SHOWN ON ONE-LINE.
7. ALL EQUIPMENT TO BE FULLY RATED FOR THE AVAILABLE FAULT.
8. THIS CONTRACTOR SHALL REFER TO "MEP" SERIES DRAWINGS FOR ALL MECHANICAL EQUIPMENT ELECTRICAL CONNECTIONS.

KEY NOTES:

1 REVISED LOADS ON EXISTING PANELBOARD.

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Consultant(s)

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303.421.6655
www.me-engineers.com

Stamp

COLORADO LICENSED ELECTRICAL ENGINEER 38874 PROFESSIONAL ENGINEER

Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
RANGELY, CO 81648

Sheet Information

Sheet Title:
ELECTRICAL ONE-LINE

Sheet Number:
E-001

DPA Project: 21303.00.000

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11/30/2022 8:50:41 PM

A EXISTING ELECTRICAL ONE-LINE DIAGRAM
NO SCALE

ECD	BUS:	800AMP
	MAINS:	M.L.O.
	VOLTAGE:	480Y/277
LOAD SUMMARY		
	TOTAL KVA	TOTAL AMPS
BRANCH CKTS ON ECD	150	180
T-ESERV BUS	62	75
RAD	247	297
ECH2	40	48
ECH1	57	68
CONNECTED TOTALS	556	669
	-	-
CALCULATED TOTALS	543	653

TRANSFORMER TABLE - 480V PRIMARY - 208Y/120V SECONDARY

KVA	FL AMPS	BKR SIZE	FDR	TRANSFORMER GROUNDING ELECTRODE	FL AMPS	BKR SIZE	FDR
3PH	480V	(1)	(2)	(WIRE) PIPE	208V	(1)	(2)
15	18	30	F30	(#8 CU) 3/4"C	42	50	FN50A
30	36	50	F50	(#6 CU) 3/4"C	83	100	FN100A
45	54	70	F70	(#6 CU) 3/4"C	125	150	FN150
75	90	125	F125	(#2 CU) 3/4"C	208	250	FN250A
112.5	135	175	F175	(#1/0 CU) 1"C	312	400	FN400A
150	180	225	F225	(#1/0 CU) 1"C	416	500	FN500A
225	271	350	F350	(#2/0 CU) 1"C	626	800	FN800A
300	361	450	F450	(#3/0 CU) 1"C	833	1000	FN1000A
500	601	800	F800	(#250 KCMIL CU) 1"C	1388	1600	FN1600A

1 USE DEVICE TYPES INDICATED ON SINGLE LINE DIAGRAM.
2 REFERENCE FEEDER TABLE FOR FEEDER SIZE

FAULT CALCULATION SCHEDULES (AMPS)

ALL THE EQUIPMENT MUST BE FULLY RATED FOR SHORT CIRCUIT VALUES SHOWN BELOW. SERIES RATING EQUIPMENT SHALL NOT BE PERMITTED.

KEY	AVAILABLE
1	46541
2	48143
3	36575
4	16227
5	8143
6	5949
7	44242

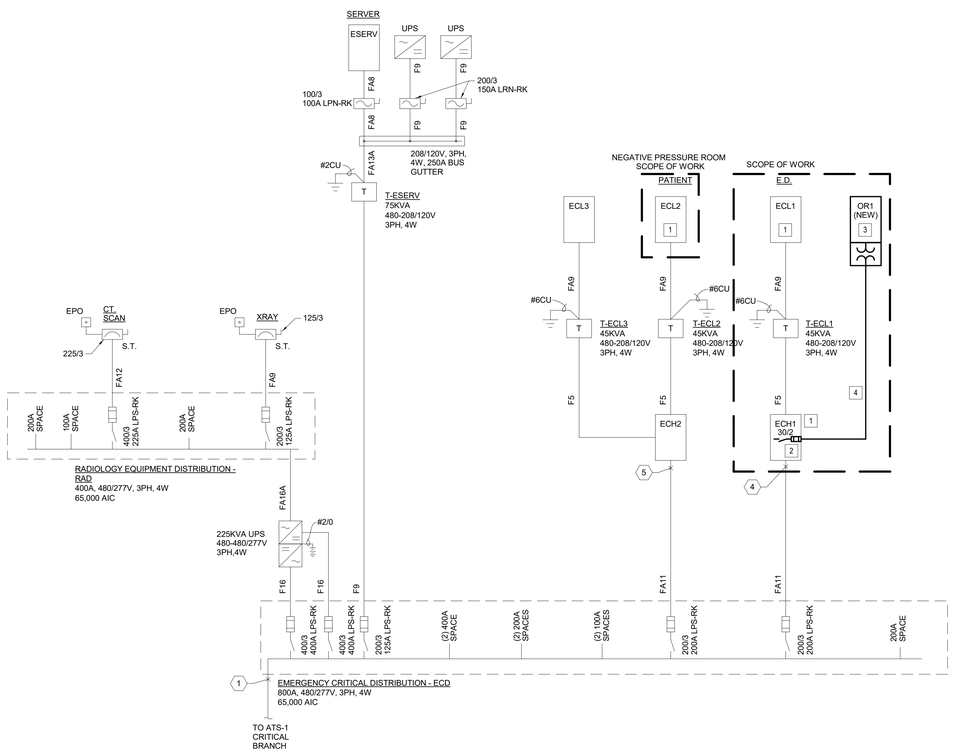
TRANSFORMERS (150KVA OR LESS)

BASED ON INFINITE IMPEDANCE ON THE PRIMARY. THE AVAILABLE FAULT CURRENTS ON THE SECONDARY OF A TRANSFORMER IS AS FOLLOWS:
30 KVA (5.3%Z)= 1572A
45KVA (4.9%Z)= 2551A
75KVA (5.4%Z)= 3858A
112.5KVA (4.9%Z)=6378A
150KVA (5.3%Z)= 7862A

FEEDER TABLE - CONDUCTORS

Bkr/OCPD	TAG	Sets	PIPE	COPPER FDR/PIPE [3W]	TAG	Sets	PIPE	COPPER FDR/PIPE [4 W]
20	F1	1	3/4"	3#12,#12G	FA1	1	3/4"	4#12,#12G
30	F2	1	3/4"	3#10,#10G	FA2	1	3/4"	4#10,#10G
40	F3	1	3/4"	3#8,#10G	FA3	1	1"	4#8,#10G
50	F4	1	1"	3#6,#10G	FA4	1	1"	4#6,#10G
50	-	-	-	-	FA4A	1	1-1/4"	4#6,#8G
60	F5	1	1-1/4"	3#4,#8G	FA5	1	1-1/4"	4#4,#8G
70	F5	1	1-1/4"	3#4,#8G	FA5	1	1-1/4"	4#4,#8G
80	F6	1	1-1/4"	3#3,#8G	FA6	1	1-1/4"	4#3,#8G
90	F7	1	1-1/4"	3#2,#8G	FA7	1	1-1/2"	4#2,#8G
100	F8	1	1-1/2"	3#1,#8G	FA8	1	2"	4#1,#6G
100	-	-	-	-	FA8A	1	2"	4#1,#6G
110	F8A	1	1-1/2"	3#1,#6G	-	-	-	-
125	F9	1	1-1/2"	3#1/0,#6G	FA9	1	2"	4#1/0,#6G
150	F9	1	1-1/2"	3#1/0,#6G	FA9	1	2"	4#1/0,#6G
175	F10	1	2"	3#2/0,#6G	FA10	1	2"	4#2/0,#6G
200	F11	1	2"	3#3/0,#6G	FA11	1	2-1/2"	4#3/0,#6G
225	F12	1	2-1/2"	3#4/0,#4G	FA12	1	2-1/2"	4#4/0,#4G
250	F13	1	2-1/2"	3#250,#4G	FA13	1	3"	4#250,#4G
250	-	-	-	-	FA13A	1	3	4#250,#2G
300	F14	1	3"	3#350,#4G	FA14	1	3"	4#350,#4G
350	F15	1	3"	3#500,#3G	FA15	1	3-1/2"	4#500,#3G
400	F16	2	2"	3#3/0,#3G	FA16	2	2-1/2"	4#3/0,#3G
400	-	-	-	-	FA16A	2	2-1/2"	4#3/0,#1/0G
450	F17	2	2-1/2"	3#4/0,#2G	FA17	2	2-1/2"	4#4/0,#2G
500	F18	2	2-1/2"	3#250,#2G	FA18	2	3"	4#250,#2G
500	-	-	-	-	FA18A	2	3"	4#250,#1/0G
600	F19	2	3"	3#350,#1G	FA19	2	3"	4#350,#1G
700	F20	2	3"	3#500,#1/0G	FA20	2	3-1/2"	4#500,#1/0G
750	F20	2	3"	3#500,#1/0G	-	-	-	-
800	F21	3	3"	3#300,#1/0G	FA21	3	3"	4#300,#1/0G
800	-	-	-	-	FA21A	3	3"	4#300,#2/0G
1000	F22	3	3"	3#400,#2/0G	FA22	3	3-1/2"	4#400,#2/0G
1000	-	-	-	-	FA22A	3	3-1/2"	4#400,#3/0G
1200	F23	4	3"	3#350,#3/0G	FA23	4	3"	4#350,#3/0G
1200	F23C	3	3-1/2"	3#600,#3/0G	FA23C	3	4"	4#600,#3/0G
1600	F24	5	3"	3#400,#4/0G	FA24	5	3-1/2"	4#400,#4/0G
1600	-	-	-	-	FA24A	5	3-1/2"	4#400,#250G
1600	F24C	4	3-1/2"	3#600,#4/0G	FA24C	4	4"	4#600,#4/0G
2000	F25	6	3"	3#400,#250G	FA25	6	3-1/2"	4#400,#250G
2000	F25C	5	4"	3#600,#250G	FA25C	5	4"	4#600,#250G
2500	F26	7	3-1/2"	3#500,#350G	FA26	7	3-1/2"	4#500,#350G
2500	-	-	-	-	FA26A	7	4"	4#500,#500G
2500	F26C	6	4"	3#600,#350G	FA26C	6	4"	4#600,#350G
3000	F27	8	3-1/2"	3#500,#400G	FA27	8	4"	4#500,#400G
3500	F28	10	3-1/2"	3#500,#500G	FA28	10	4"	4#500,#500G
3500	F28C	9	4"	3#600,#500G	FA28C	9	4"	4#600,#500G
4000	F29	11	4"	3#500,#500G	FA29	11	4"	4#500,#500G
4000	F29C	10	4"	3#600,#500G	FA29C	10	4"	4#600,#500G

ALL CONDUCTORS ARE WITH THHN/THWN WIRE WITH 60DEG TERMINATIONS UP TO #1AWG AND 75DEG FOR LARGER SIZES.
CONDUIT SIZES MAY BE ALTERED BY CONTRACTOR WHEN IN ACCORDANCE WITH NEC
ALL ALUMINUM FEEDERS SHALL INCLUDE COPPER EQUIPMENT GROUND CONDUCTORS



ALL EQUIPMENT IS EXISTING AND SHOWN FOR REFERENCE ONLY UNLESS NOTED OTHERWISE

A EXISTING ELECTRICAL ONE-LINE DIAGRAM

NO SCALE

GENERAL NOTES:

1. ALL FEEDERS SHALL BE COPPER 75 DEGREE RATED INSULATION.
2. FEEDER LENGTHS ARE INDICATED FOR CALCULATION PURPOSES ONLY. CONTRACTOR SHALL NOT BASE ACTUAL FEEDER LENGTHS ON QUANTITIES INDICATED ON THIS DRAWING.
3. ALL CONDUIT RUNS SHALL BE RAN PERPENDICULAR AND PARALLEL TO COLUMNS AND BEAMS. ALL EXPOSED CONDUIT RUNS SHALL BE COORDINATED WITH ARCHITECT PRIOR TO INSTALLATION.
4. PROVIDE FULL BUSSING FOR ALL SPACES INDICATED ON PANEL BOARDS AND DISTRIBUTION BOARDS.
5. CONNECT ALL TRANSFORMER GROUNDING ELECTRODE TO GROUND BUS RISER.
6. REFER TO FEEDER TABLE FOR FEEDER SIZE CORRESPONDING TO OVERCURRENT PROTECTION DEVICE (BREAKER OR FUSE) SHOWN ON ONE-LINE.
7. ALL EQUIPMENT TO BE FULLY RATED FOR THE AVAILABLE FAULT.
8. THIS CONTRACTOR SHALL REFER TO "MEP" SERIES DRAWINGS FOR ALL MECHANICAL EQUIPMENT ELECTRICAL CONNECTIONS AND DISCONNECT REQUIREMENTS.

KEY NOTES:

1. REVISED LOADS ON EXISTING PANELBOARD.
2. PROVIDE (2) NEW FUSED SWITCHES TO FEED NEW DUAL SYSTEM ISOLATION PANEL.
3. PROVIDE NEW DUAL SYSTEM ISOLATION PANELBOARD, BENDER INC OR APPROVED EQUAL. PANEL SHALL BE (2) 10KW WITH 480V PRIMARY AND 120V SECONDARY.
4. PROVIDE (2#10,1#10G) 3/4"C TO EACH ISOLATION PANEL TRANSFORMER, TOTAL OF TWO.

DAVIS PARTNERSHIP ARCHITECTS
2901 Blake Street, Suite 100
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Consultant(s)

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303.421.6655
www.me-engineers.com

Stamp

COLORADO LICENSED ELECTRICAL ENGINEER 38874 PROFESSIONAL ENGINEER

Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
RANGELY, CO 81648

Sheet Information

Sheet Title:
ELECTRICAL ONE-LINE

Sheet Number:
E-002

DPA Project: 21303.00.000

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LED

Type	Lamp	Description	Finish	Voltage	Mounting	Manufacturer	Catalog Number	Alternate 1	Alternate 2	Control	Location	Comments
L1	24W, 3000 LUMENS, 3000K, 80+ CRI, 85000 HOURS L70	RECESSED DIRECT/INDIRECT 2X2 LED, DIFFUSE ACRYLIC LENS	WHITE, VERIFY WITH ARCHITECT	120-277	RECESSSED	DAY-BRITE	2FG-30L-830-2-DS-UNV-DIM			0-10V DIMMING	CLEAN WORK/STORAGE	
L2	32W, 3800 LUMENS, 3000K, 80+ CRI, 70000 HOURS L70	RECESSED DIRECT/INDIRECT 2X4 LED, DIFFUSE ACRYLIC LENS	WHITE, VERIFY WITH ARCHITECT	120-277	RECESSED	DAY-BRITE	2FG-G-38L-830-4-DS-UNV-DIM			0-10V DIMMING		
L3A	50W, 6250 LUMENS, 4000K, 90+ CRI	RECESSED 2X4 LED SURGICAL TROFFER, .125 PRISMATIC ACRYLIC LENS, INTEGRAL BATTERY BACKUP, COLD ROLLED STEEL HOUSING	WHITE, VERIFY WITH ARCHITECT	120-277	RECESSED	DAY-BRITE	SSTR24-U-62L-940-HST-DST-12F-UNV-DIM1-EMLED			0-10V DIMMING	OPERATING ROOM	
L3B	50W, 6250 LUMENS, 4000K, 90+ CRI	SAME AS L3A EXCEPT 2X2	WHITE, VERIFY WITH ARCHITECT	120-277	RECESSED	DAY-BRITE	SSTR24-U-62L-940-HST-DST-12F-UNV-DIM1-EMLED			0-10V DIMMING	OPERATING ROOM	
L4	23W, 1500 LUMENS, 3000K, 80+ CRI	RECESSED LED DOWNLIGHT, 4" ROUND APERTURE, WIDE DISTRIBUTION, SPECULAR REFLECTOR	WHITE, VERIFY WITH ARCHITECT	120-277	RECESSED	LIGHTOLIER	4R-N/C4L-15-8-30-W-Z10-U/C4-R-DL-XX			0-10V DIMMING	RESTROOMS	
L5	60W, 2900 LUMENS, 93 CRI, 3000K, 30000 HOURS L70	LED WALL SCONCE, 22.8" WIDTH, 4.8" HEIGHT, ETCHED WHITE GLASS, STEEL HOUSING	VERIFY WITH ARCHITECT	120	SURFACE	HINKLEY LIGHTING	AIDEN 53062 SERIES			CL TYPE DIMMER		

EMERGENCY

Type	Lamp	Description	Finish	Voltage	Mounting	Manufacturer	Catalog Number	Alternate 1	Alternate 2	Control	Location	Comments
X1	5W LED GREEN	EDGE LIT EXIT SIGN, PROVIDE WHITE OR MIRROR BACKING BETWEEN PANELS, GREEN LETTERING, DIE CAST ALUMINUM HOUSING	VERIFY WITH ARCHITECT	277	UNIVERSAL	LITHONIA	LRP SERIES					VERIFY NUMBER OF FACES WITH PLANS. VERIFY NUMBER OF CHEVRONS WITH PLANS.

LIGHTING CONTROL SCHEDULE - RDH SURGERY

THE FOLLOWING CHART OUTLINES AREAS OF LIGHTING CONTROL INCLUDING ZONING

ZONE TAG	ZONE DESCRIPTION	OS	DIM	LS	DL	TC	LOAD (VA)	NOTES	CIRCUIT
a	PUBLIC TLT 1603 - TYPE L4A, L5	X					83		EXISTING
b	OFFICE 1605 - TYPE L1	X	X	X			48		EXISTING
c	ED CLEAN UTILITY 1607 - TYPE L2	X		X			32		EXISTING
d	OR 1641 - TYPE L3A - EMERGENCY			X			550	EMERGENCY.	EXISTING
e	OR 1641 - TYPE L3B - EMERGENCY			X			100	EMERGENCY.	EXISTING
f	OR 1641 - SURGICAL LIGHT - EMERGENCY			X			500	EMERGENCY.	EXISTING
g	EQUIPMENT STORAGE 1640 - TYPE L2	X		X			32		EXISTING
h	SCRUB C-1600E - TYPE L2	X					64		EXISTING
h*	SCRUB C-1600E - TYPE L2 - EMERGENCY	X					32	EMERGENCY ZONE TO BE CONTROLLED WITH PARENT ZONE "h" USING UL924-DIM DEVICE.	EXISTING
i	CLEAN SUPPLY 1636A/CLEAN WORK 1636B - TYPE L2	X		X			168		EXISTING
j	SOILED WORK 1635 - TYPE L2	X		X			64		EXISTING
k	CORRIDOR C-1600F - TYPE L2	X					32		EXISTING
k*	CORRIDOR C-1600F - TYPE L2 - EMERGENCY	X					64	EMERGENCY ZONE TO BE CONTROLLED WITH PARENT ZONE "k" USING UL924-DIM DEVICE.	EXISTING
l	CORRIDOR C-1600G - TYPE L2	X					32		EXISTING
l*	CORRIDOR C-1600G - TYPE L2 - EMERGENCY	X					32	EMERGENCY ZONE TO BE CONTROLLED WITH PARENT ZONE "l" USING UL924-DIM DEVICE.	EXISTING
m	HSKG 1620 - TYPE L1	X		X			24		EXISTING

GENERAL NOTES:
1. LOW VOLTAGE OVERRIDE SWITCHES SHALL BE PROVIDED FOR EACH SPACE AS INDICATED ON SCHEDULES.
2. COORDINATE EXACT TIMECLOCK SCHEDULE WITH OWNER.
3. COORDINATE LIGHTING SCENES WITH OWNER.
4. CORRIDORS & RESTROOMS WITH OCCUPANCY CONTROL ARE TO BE OF AUTOMATIC ON, AUTOMATIC OFF FUNCTIONALITY. ALL OTHER ZONES WITH OCCUPANCY CONTROL ARE TO BE OF VACANCY FUNCTION (MANUAL ON, AUTOMATIC OFF) UNLESS NOTED OTHERWISE.
5. PROVIDE UL924 DEVICE FOR EACH CONTROL ZONE CONTAINING EMERGENCY FIXTURES. ZONES WITH DIMMING REQUIRE UL924-DIM DEVICE. NIGHTLIGHTS DO NOT REQUIRE UL924 DEVICE.

LEGEND:
OS = OCCUPANCY SENSOR/VACANCY SENSOR
DIM = DIMMING
LS = LOCAL CONTROL SWITCH
DL = DAYLIGHTING
TC = AUTOMATIC TIME CLOCK WITH LOW VOLTAGE OVERRIDE SWITCH

DAVIS PARTNERSHIP ARCHITECTS
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Stamp

COLORADO LICENSED
LEONARD STOLTENBERG
38874
PROFESSIONAL ENGINEER

Issuance **Date**
11/30/2022

Revisions **Date** **No.**

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
RANGELY, CO 81648

Sheet Information

Sheet Title:
LIGHTING SCHEDULES

Sheet Number:
E-003

DPA Project: 21303.00.000

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11/30/2022 8:50:42 PM

RDH - SURGERY DEPT

M-E Engineers Inc.

208Y/120
3PHASE,4WIRE+GND
50K AIC

BUS: 225 Amps Copper
MAINS: M.L.O.

PANEL: ECH1
SECTION: 1 OF 1
LOCATION: ELECTRICAL 1656
EXISTING PANEL
DATE: 11/30/22
FED FROM: ECD
MOUNTING: SURFACE
ISSUE:

NOTES:
1. EXISTING LOAD ON EXISTING BREAKER
2. NEW LOAD ON EXISTING BREAKER
3. NEW LOAD ON NEW BREAKER

OPTIONS:

N	ID	DESCRIPTION	V-A	P	BKR	CKT	PH	CKT	BKR	P	V-A	DESCRIPTION	ID	N
1	L	ED NURSE STATION LTG	386	1	20	1	A	2	20	1	100	HELI-PAD PATHWAY LTG	L	1
1	L	ED CORRIDOR LTG	1050	1	20	3	B	4	20	1	444	FAMILY MED NURSE STATION	L	1
1	L	ED PATIENT TREATMENT	2252	1	20	5	C	6	20	1		--SPARE--	P	
1	M	CRAC-B1	500	3	20	7	A	8	20	3	3241	CU-B1	M	1
1	M	-----	500	<		9	B	10		>	3241	-----	M	1
1	M	-----	500	<		11	C	12		>	3241	-----	M	1
1	M	CRAC-B2	500	3	20	13	A	14	20	3	3241	CU-B2	M	1
1	M	-----	500	<		15	B	16		>	3241	-----	M	1
1	M	-----	500	<		17	C	18		>	3241	-----	M	1
3	S	OR1A	1440	2	30	19	A	20	20	3	500	KITCHEN HOOD FAN	M	1
3	S	--CONNECTED LOAD--	1440	<		21	B	22		>	500	-----	M	1
3	S	OR1B	1986	2	30	23	C	24		>	500	-----	M	1
3	S	--CONNECTED LOAD--	1986	<		25	A	26	20	1		--SPARE--	P	
P		--SPARE--		1	20	27	B	28	20	1		--SPARE--	P	
P		--SPARE--		1	20	29	C	30	20	1		--SPARE--	P	
P		--SPARE--		1	20	31	A	32	20	1		--SPARE--	P	
P		--SPARE--		1	20	33	B	34	20	1		--SPARE--	P	
P		--SPARE--		1	20	35	C	36	20	1		--SPARE--	P	
P		--SPARE--		1	20	37	A	38	70	3	11950	ECL1	S	1
P		--SPARE--		1	20	39	B	40		>	9942	--CONNECTED LOAD--	S	1
P		--SPARE--		1	20	41	C	42		>	10660	-------	S	1

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PER PHASE VA WITH DOWNSTREAM LOADS

A - B - C	TOTAL VA
CALC'D	22074 - 21248 - 22477
CNNCTD	23844 - 22844 - 20924
DOWNSTREAM LOADS	67,612

* ECL1 * ORTA * ORTB

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC'D V-A	AMPS @ 480Y/277 VOLTS
L - LIGHTING	4,502	125%	5,628	7
R - RECEPT	20,740	100%	10,000	12
R - RECEPT		50%	5,370	6
M - MOTOR	29,818	100%	29,818	36
LRGST MTR	9,723	25%	2,431	3
X - MISC	12,552	100%	12,552	15
K - KITCHEN		100%		
E - ELEC HEAT		100%		
TOTAL	67,612		65,798	79

ADDITIONAL NOTES

S - SUBFEED TO A PANEL P - SPARE BKR C - SPACE

RANGELY DISTRICT HOSPITAL

M-E Engineers Inc.

208Y/120
3PHASE,4WIRE+GND

BUS: 250 Amps Copper
MAINS: 150 AMP MAIN BKR

PANEL: EML
SECTION: 1 OF 1
LOCATION:
DATE: 11/30/22
FED FROM: EMH
MOUNTING: SURFACE
ISSUE:

NOTES:
1. EXISTING LOAD ON EXISTING BREAKER
2. NEW LOAD ON EXISTING BREAKER
3. NEW LOAD ON NEW BREAKER

OPTIONS:

N	ID	DESCRIPTION	V-A	P	BKR	CKT	PH	CKT	BKR	P	V-A	DESCRIPTION	ID	N
1	R	NURSE STATION 1121 REFRIG	1000	1	20	1	A	2	20	1	500	CORRIDOR C-1100B MECH CONT	X	1
1	P	--SPARE--		1	20	3	B	4	20	1	500	CORRIDOR C-1200B MECH CONT	X	1
1	L	MED GAS ROOMS	400	1	20	5	C	6	20	1	500	FUEL TANK SOLENOID	X	1
1	X	OXYGEN FARM CONTROL	1000	1	20	7	A	8	20	1	1000	SITE FUEL OIL PUMP	M	1
1	M	UHH-B1	240	1	20	9	B	10	20	1	1000	SITE FUEL OIL PUMP	M	1
1	M	EF-B6, B7, B10	1314	1	20	11	C	12	20	1	600	MAP-2	X	1
1	M	EF-B8	528	1	20	13	A	14	20	1	600	AAP-7	X	1
1	M	EF-C4	696	1	20	15	B	16	20	1	500	MECH ROOM 1735 CONTROLS	X	1
1	R	ROOF RECEPT	1080	1	20	17	C	18	20	1	500	MECH ROOM 1735 CONTROLS	R	1
1	X	GWH-1	600	1	20	19	A	20	20	1		--SPARE--	R	
1	X	GWH-2	600	1	20	21	B	22	20	1	800	MGM-1	X	2
1	X	GWH-3	600	1	20	23	C	24	20	1	180	RTU-8 RCPT	R	2
1	M	SPRINKLER SYS DRY COMPRESSR	1176	1	20	25	A	26	20	1		--SPARE--	R	
1	X	HWCP-1, 2	400	1	20	27	B	28	20	1		--SPARE--	P	
P		--SPARE--		1	20	29	C	30	20	1		--SPARE--	P	
P		--SPARE--		1	20	31	A	32	20	1		--SPARE--	P	
P		--SPARE--		1	20	33	B	34	20	1		--SPARE--	P	
P		--SPARE--		1	20	35	C	36	20	1		--SPARE--	P	
1	E	FUEL TANK HEATER	1000	3	20	37	A	38	20	1		--SPARE--	P	
1	E	-----	1000	<		39	B	40	20	1		--SPARE--	P	
1	E	-----	1000	<		41	C	42	20	1		--SPARE--	P	

Book1.xls

PER PHASE VA WITH DOWNSTREAM LOADS

A - B - C	TOTAL VA
CALC'D	93345 - 8277 - 8995
CNNCTD	11950 - 9942 - 10660
DOWNSTREAM LOADS	32,552

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC'D V-A	AMPS @ 208Y/120 VOLTS
L - LIGHTING	240	125%	300	1
R - RECEPT	20,740	100%	10,000	28
R - RECEPT		50%	5,370	15
M - MOTOR	5,872	100%	5,872	16
LRGST MTR	1,500	25%	375	1
X - MISC	5,700	100%	5,700	16
K - KITCHEN		100%		
E - ELEC HEAT		100%		
TOTAL	32,552		27,617	77

ADDITIONAL NOTES

S - SUBFEED TO A PANEL P - SPARE BKR C - SPACE

RANGELY DISTRICT HOSPITAL

M-E Engineers Inc.

480Y/277
3Phase,4Wire + Gnd

BUS: 400 Amps Copper
MAINS: M.L.O.

PANEL: EMH
SECTION: 1 OF 1
LOCATION:
DATE: 11/30/22
FED FROM: EED
MOUNTING: Surface
ISSUE:

NOTES:
1. EXISTING LOAD ON EXISTING BREAKER
2. NEW LOAD ON EXISTING BREAKER
3. NEW LOAD ON NEW BREAKER

OPTIONS:

N	ID	DESCRIPTION	V-A	P	BKR	CKT	PH	CKT	BKR	P	V-A	DESCRIPTION	ID	N
1	L	UTILITY PLANT AREA LTG	2368	1	20	1	A	2	20	3	1385	B-1	M	1
1	L	UTILITY SPACES LTG	832	1	20	3	B	4		>	1385	-----	M	1
1	L	DENTIST AREA ELEC/TELE LTG	320	1	20	5	C	6		>	1385	-----	M	1
1	M	-----	942	<		7	A	8	20	3	1385	B-2	M	1
1	M	-----	942	<		9	B	10		>	1385	-----	M	1
1	M	-----	942	<		11	C	12		>	1385	-----	M	1
1	E	GENERATOR JACKET HEATER	3210	2	20	13	A	14	20	3	1385	B-3	M	1
1	E	-----	3210	<		15	B	16		>	1385	-----	M	1
1	M	MA-1	2576	3	20	17	C	18		>	1385	-----	M	1
1	M	-----	2576	<		19	A	20	30	3	5817	HWP-1	M	1
1	M	-----	2576	<		21	B	22		>	5817	-----	M	1
1	M	VP-1	8725	3	50	23	C	24		>	5817	-----	M	1
1	M	-----	8725	<		25	A	26	30	3	5817	HWP-2	M	1
1	M	-----	8725	<		27	B	28		>	5817	-----	M	1
2	X	RTU-8	6648	3	40	29	C	30		>	5817	-----	M	1
2	X	-----	6648	<		31	A	32	30	3	5817	HWP-3	M	1
2	X	-----	6648	<		33	B	34		>	5817	-----	M	1
P		--SPARE--		1	20	35	C	36		>	5817	-----	M	1
1	S	HTP1	850	3	100	37	A	38	70	3	7404	EML	S	1
1	S	--CONNECTED LOAD--	350	<		39	B	40		>	5736	--CONNECTED LOAD--	S	1
1	S	-------		<		41	C	42		>	6174	-------	S	1

Book1.xls

PER PHASE VA WITH DOWNSTREAM LOADS

A - B - C	TOTAL VA
CALC'D	57102 - 53014 - 49352
CNNCTD	54329 - 50625 - 46991
DOWNSTREAM LOADS	151,945

* EML * HTP1

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC'D V-A	AMPS @ 480Y/277 VOLTS
L - LIGHTING	3,920	125%	4,900	6
R - RECEPT	2,260	100%	2,260	3
R - RECEPT		50%		
M - MOTOR	107,500	100%	107,500	129
LRGST MTR	26,175	25%	6,544	8
X - MISC	27,644	100%	27,644	33
K - KITCHEN		100%		
E - ELEC HEAT	10,620	100%	10,620	13
TOTAL	151,944		159,468	192

ADDITIONAL NOTES

S - SUBFEED TO A PANEL P - SPARE BKR C - SPACE

RDH - SURGERY DEPT

M-E Engineers Inc.

208Y/120
3PHASE,4WIRE+GND
50K AIC

BUS: 250 Amps Copper
MAINS: 150 AMP MAIN BKR

PANEL: ECL1
SECTION: 1 OF 1
LOCATION: ELECTRICAL 1656
EXISTING PANEL
DATE: 11/30/22
FED FROM: ECH1
MOUNTING: SURFACE
ISSUE:

NOTES:
1. EXISTING LOAD ON EXISTING BREAKER
2. NEW LOAD ON EXISTING BREAKER
3. NEW LOAD ON NEW BREAKER
4. EXISTING LOAD MADE SPARE

OPTIONS:

N	ID	DESCRIPTION	V-A	P	BKR	CKT	PH	CKT	BKR	P	V-A	DESCRIPTION	ID	N
1	L	FAA OBSTRUCTION LTG	240	1	20	1	A	2	20	1	360	MINOR PROCEDURE 1641	R	1
1	R	ENDO 1643	720	1	20	3	B	4	20	1	120	SCRUB C-1600C CAPRE-046	R	2
1	R	ENDO 1643 BOOM	360	1	20	5	C	6	20	1	500	SCRUB C-1600E AAP-1	X	2
2	M	OR 1641 MOTORIZED DOOR	1500	1	20	7	A	8	20	1	360	PROCEDURE PREP 1650B EQUIP	R	1
1	R	PROCEDURE PREP 1650C EQUIP	360	1	20	9	B	10	20	1	360	PROCEDURE PREP 1650A EQUIP	R	1
1	R	PROCEDURE PREP 1650C EQUIP	360	1	20	11	C	12	20	1	360	PROCEDURE PREP 1650A EQUIP	R	1
1	R	PROCEDURE PREP 1650B EQUIP	360	1	20	13	A	14	20	1	900	CORRIDOR C-1600F OXY CONT PNL	R	1
1	R	TREATMENT-GENERAL 1609 EQUIP	360	1	20	15	B	16	20	1	720	TRIAGE-1 1623-1	R	1
1	R	TREATMENT-GENERAL 1609 EQUIP	360	1	20	17	C	18	20	1	360	BONE DENSITY 1649	R	1
1	R	TREATMENT-GYN 1610 EQUIP	360	1	20	19	A	20	20	1	360	TREATMENT-CAST 1611 EQUIP	R	1
1	R	TREATMENT-GYN 1610 EQUIP	360	1	20	21	B	22	20	1	360	TREATMENT-CAST 1611 EQUIP	R	1
1	R	CORRIDOR C-1600B OXY CONT	360	1	20	23	C	24	20	1	360	TREATMENT-GENERAL 1612 EQUIP	R	1
1	R	CORRIDOR C-1300G MECH CONT	360	1	20	25	A	26	20	1	360	TREATMENT-GENERAL 1612 EQUIP	R	1
1	R	CORRIDOR C-1600H MECH CONT	360	1	20	27	B	28	20	1	360	CORRIDOR C-1600A MECH CONT	R	1
1	R	LAB STORAGE 1323 FREEZER	700	1	20	29	C	30	20	1	500	ED ENTRY/VESTIBULE V-4 FACP	R	1
1	R	LAB STORAGE 1323 REFRIG	700	1	20	31	A	32	20	1	720	STRESS TESTING 1219	R	1
1	R	BLOOD BANK 1324 REFRIG	700	1	20	33	B	34	20	1	700	STRESS TESTING 1219 TREADMILL	R	1
1	R	CORRIDOR-1 C-1300D-1 MECH CONT	500	1	20	35	C	36	20	1	700	STRESS TESTING 1219 BYCICLE	R	1
1	R	VESTIBULE V-6 MECH CONT	500	1	20	37	A	38	20	1	500	CORRIDOR C-1200C MECH CONT	R	1
1	M	DOOR MOTOR OPERATOR	500	1	20	39	B	40	20	1	360	CT SCAN 1636 INJECTOR HEAD	R	1
2	M	SCRUB C-1600E MOTORIZED DOOR	1500	1	20	41	C	42	20	1	1500	CORRIDOR AUTODOORS	X	1
1	M	EF-B4, B5	650	1	20	43	A	44	20	1	1500	CORRIDOR AUTODOORS	X	2
1	M	EF-B2, B3	1122	1	20	45	B	46	20	1	500	RETAIL PHARMACY 1132 REFRIG	R	1
1	M	H-1	600	1	20	47	C	48	20	1	500	RETAIL PHARMACY 1132 PYXIS	R	1
1	X	RTU-1 CONTROL + REC	600	1	20	49	A	50	20	1	500	RETAIL PHARMACY UC REFRIG	R	1
1	R	ROOF RECEPT	900	1	20	51	B	52	20	1	120	STAFF TLT. 1650C CAPRE-046	R	2
1	X	RTU-2 CONTROL + REC	600	1	20	53	C	54	20	1	360	OR 1641 RCPT	R	2
1	X	AAP-6	400	1	20	55	A	56	20	1	360	OR 1641 RCPT	R	2
1	X	IT RM PREC-AC UNIT CONTROLLER	600	1	20	57	B	58	20	1	360	OR 1641 RCPT	R	2
P		--SPARE--		1	20	59	C	60	20	1	180	OR 1641 RCPT	R	2
P		--SPARE--		1	20	61	A	62	20	1	360	OR 1641 RCPT	R	2
P		--SPARE--		1	20	63	B	64	20	1		--SPARE--	P	
P		--SPARE--		1	20	65	C	66	20	1		--SPARE--	P	
P		--SPARE--		1	20	67	A	68	20	1		--SPARE--	P	
P		--SPARE--		1	20	69	B	70	20	1		--SPARE--	P	
P		--SPARE--		1	20	71	C	72	20	1		--SPARE--	P	
P		--SPARE--		1	20	73	A	74	20	1		--SPARE--	P	
P		--SPARE--		1	20	75	B	76	20	1		--SPARE--	P	
P		--SPARE--		1	20	77	C	78	20	1		--SPARE--	P	
P		--SPARE--		1	20	79	A	80	20	1		--SPARE--	P	
P		--SPARE--		1	20	81	B	82	20	1		--SPARE--	P	
P		--SPARE--		1	20	83	C	84	20	1		--SPARE--	P	

Book1.xls

PER PHASE VA WITH DOWNSTREAM LOADS

A - B - C	TOTAL VA
CALC'D	19215 - 18548 - 17307
CNNCTD	30952 - 31160 - 29044
DOWNSTREAM LOADS	

* L3A_2

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC'D V-A	AMPS @ 208Y/120 VOLTS
L - LIGHTING	2,900	125%	3,625	10
R - RECEPT	62,520	100%	10,000	28
R - RECEPT		50%	36,260	101
M - MOTOR	600	100%	600	2
LRGST MTR	600	25%	150	0
X - MISC	4,236	100%	4,236	12
K - KITCHEN		100%		
E - ELEC HEAT		100%		
TOTAL	90,256		54,871	152

ADDITIONAL NOTES

S - SUBFEED TO A PANEL P - SPARE BKR C - SPACE

RANGELY DISTRICT HOSPITAL

M-E Engineers Inc.

480Y/277
3PHASE,4WIRE+GND
30K AIC

BUS: 250 Amps Copper
MAINS: M.L.O.

PANEL: M2A
SECTION: 1 OF 1
LOCATION: ELECTRICAL ROOM 1656
EXISTING PANEL
DATE: 11/29/22
FED FROM: MDB
MOUNTING: SURFACE
ISSUE:

NOTES:
1. EXISTING LOAD ON EXISTING BREAKER
2. NEW LOAD ON EXISTING BREAKER
3. NEW LOAD ON NEW BREAKER
4. NEW LOAD MADE SPARE

OPTIONS:

N	ID	DESCRIPTION	V-A	P	BKR	CKT	PH	CKT	BKR	P	V-A	DESCRIPTION	ID	N
3	X	WSREL-017	6648	3	30	1	A	2	20	3	443	KEF-C1	M	1
3	X	-----	6648	<		3	B	4		>	443	-----	M	1
3	X	-----	6648	<		5	C	6		>	443	-----	M	1
P		--SPARE--		3	20	7	A	8	50	3		--SPARE--	P	4
P		-----		<		9	B	10		>		-----	P	4
P		-----		<		11	C	12		>		-----	P	4
2	X	H1	8338	3	40	13	A	14	20	3		--SPARE--	P	4
2	X	-----	8338	<		15	B	16		>		-----	P	4
2	X	-----	8338	<		17	C	18		>		-----	P	4
P		--SPARE--		3	50	19	A	20	20	3	2105	CA-1	M	1
P		-----		<		21	B	22		>	2105	-----	M	1
P		-----		<		23	C	24		>	2105	-----	M	1
P		--SPARE--		1	20	25	A	26	20	1		--SPARE--	P	
P		--SPARE--		1	20	27	B	28	20	1		--SPARE--	P	
P		--SPARE--		1	20	29	C	30	20	1		--SPARE--	P	
P		--SPARE--		1	20	31	A	32	20	1		--SPARE--	P	
P		--SPARE--		1	20	33	B	34	20	1		--SPARE--	P	
P		--SPARE--		1	20	35	C	36	20	1		--SPARE--	P	
P		--SPARE--		1	20	37	A	38	20	1		--SPARE--	P	
P		--SPARE--		1	20	39	B	40	20	1		--SPARE--	P	
P		--SPARE--		1	20	41	C	42	20	1		--SPARE--	P	
P		--SPARE--		1	20	43	A	44	20	1		--SPARE--	P	
P		--SPARE--		1	20	45	B	46	20	1		--SPARE--	P	
P		--SPARE--		1	20	47	C	48	20	1		--SPARE--	P	
P		--SPARE--		1	20	49	A	50	20	1		--SPARE--	P	
P		--SPARE--		1	20	51	B	52	20	1		--SPARE--	P	
P		--SPARE--		1	20	53	C	54	20	1		--SPARE--	P	
P		--SPARE--		1	20	55	A	56	20	1		--SPARE--	P	
P		--SPARE--		1	20	57	B	58	20	1		--SPARE--	P	
P		--SPARE--		1	20	59	C	60	20	1		--SPARE--	P	

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PER PHASE VA WITH DOWNSTREAM LOADS

A - B - C	TOTAL VA
CALC'D	18061 - 18061 - 18061
CNNCTD	17534 - 17534 - 17534
DOWNSTREAM LOADS	52,602

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC'D V-A	AMPS @ 480Y/277 VOLTS
L - LIGHTING		125%		
R - RECEPT		100%		
R - RECEPT		50%		
M - MOTOR	7,645	100%	7,645	9
LRGST MTR	6,316	25%	1,579	2
X - MISC	44,958	100%	44,958	54
K - KITCHEN		100%		
E - ELEC HEAT		100%		
TOTAL	52,603		54,182	65

ADDITIONAL NOTES

S - SUBFEED TO A PANEL P - SPARE BKR C - SPACE

RDH - SURGERY DEPT

M-E Engineers Inc.

208Y/120
3PHASE,4WIRE+GND
10K AIC

BUS: 250 Amps Copper
MAINS: M.L.O.

PANEL: L3A
SECTION: 2 OF 2
LOCATION: ELECTRICAL 1656
EXISTING PANEL
DATE: 11/29/22
FED FROM: L3A_1
MOUNTING: SURFACE
ISSUE:

NOTES:
1. EXISTING LOAD ON EXISTING BREAKER
2. NEW LOAD ON EXISTING BREAKER
3. NEW LOAD ON NEW BREAKER
4. NEW LOAD MADE SPARE

OPTIONS:

N	ID	DESCRIPTION	V-A	P	BKR	CKT	PH	CKT	BKR	P	V-A	DESCRIPTION	ID	N
1	R	OUTPATIENT WAITING C-1300F	1080	1	20	73	A	74	20	1	720	TRAUMA-1 1616-1	R	1
1	R	EXERCISE 1350	1080	1	20	75	B	76	20	1	500	TRAUMA-1 1616-1 EQUIP	R	1
1	R	BREAK ROOM-1 1668-1	720	1	20	77	C	78	20	1	500	TRAUMA-1 1616-1 EQUIP	R	1
1	R	CORRIDOR C-1600J DOOR	500	1	20	79	A	80	20	1	1080	CENTRAL TECH WORK 1657	R	1
P		--SPARE--		1	20	81	B	82	20	1	900	CT SCAN 1664	R	1
P		--SPARE--		1	20	83	C	84	20	1	900	RADIOLOGY ROOM 1667	R	1
1	R	READING 1674	900	1	20	85	A	86	20	1	1000	BREAK ROOM-1 1668-1 REFRI	R	1
1	R	READING 1674 PRINTERS	1000	1	20	87	B	88	20	1	1500	BREAK ROOM-1 1668-1 MICRO	R	1
1	R	ULTRASOUND 1671	1080	1	20	89	C	90	20	1	1500	BREAK ROOM-1 1668-1 COFFEE	R	1
1	R	MAMMO 1673	1000	3	30	91	A	92	20	1	936	CUH-B2, B4, B5	X	1
1	R	-----	1000	<		93	B	94	20	1	1200	CUH-B1, B3	X	1
1	R	-----	1000	<		95	C	96	20	1	600	ADU-1	M	1
1	R	EXTERIOR RECPTACLE	360	1	20	97	A	98	20	1	900	STAFF TLT. 1650G CWASC-022	R	2
4	P	--SPARE--		1	20	99	B	100	20	1		--SPARE--	P	4
1	X	STERILIZER	500	1	20	101	C	102	20	1	600	FLUSH SENSOR/HEPA INDICATOR	X	1
1	X	ENDO BOOM	1000	1	20	103	A	104	20	1	1020	ICENC-039	R	2
P		--SPARE--		1	20	105	B	106	20	1		--SPARE--	P	
P		--SPARE--		1	20	107	C	108	20	1		--SPARE--	P	
P		--SPARE--		1	20	109	A	110	20	1		--SPARE--	P	
P		--SPARE--		1	20	111	B	112	20	1		--SPARE--	P	
P		--SPARE--		1	20	113	C	114	20	1		--SPARE--	P	
P		--SPARE--		1	20	115	A	116	20	1		--SPARE--	P	
P		--SPARE--		1	20	117	B	118	20	1		--SPARE--	P	
P		--SPARE--		1	20	119	C	120	20	1		--SPARE--	P	
P		--SPARE--		1	20	121	A	122	20	1		--SPARE--	P	
P		--SPARE--		1	20	123	B	124	20	1		--SPARE--	P	
P		--SPARE--		1	20	125	C	126	20	1		--SPARE--	P	
P		--SPARE--		1	20	127	A	128	20	1		--SPARE--	P	
P		--SPARE--		1	20	129	B	130	20	1		--SPARE--	P	
P		--SPARE--		1	20	131	C	132	20	1		--SPARE--	P	
P		--SPARE--		1	20	133	A	134	20	1		--SPARE--	P	
P		--SPARE--		1	20	135	B	136	20	1		--SPARE--	P	
P		--SPARE--		1	20	137	C	138	20	1		--SPARE--	P	
L		IMAGING CONTROL ROOM LTG	400	1	20	139	A	140	20	1		--SPARE--	P	
L		CT SCAN LTG	1300	1	20	141	B	142	20	1		--SPARE--	P	
L		RADIOLOGY LTG	1200	1	20	143	C	144	20	1		--SPARE--	P	
P		--SPARE--		1	20	145	A	146	20	1		--SPARE--	P	
P		--SPARE--		1	20	147	B	148	20	1		--SPARE--	P	
P		--SPARE--		1	20	149	C	150	20	1		--SPARE--	P	
P		--SPARE--		1	20	151	A	152	20	1		--SPARE--	P	
P		--SPARE--		1	20	153	B	154	20	1		--SPARE--	P	
P		--SPARE--		1	20	155	C	156	20	1		--SPARE--	P	

Book1.xls

PER PHASE VA WITH DOWNSTREAM LOADS

A - B - C	TOTAL VA
CALC'D	9339 - 7148 - 7243
CNNCTD	10896 - 8480 - 8660
DOWNSTREAM LOADS	27,976

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC'D V-A	AMPS @ 208Y/120 VOLTS
L - LIGHTING	2,900	125%	3,625	10
R - RECEPT	20,240	100%	10,000	28
R - RECEPT		50%	5,120	14
M - MOTOR	600	100%	600	2
LRGST MTR	600	25%	150	0
X - MISC	4,236	100%	4,236	12
K - KITCHEN		100%		
E - ELEC HEAT		100%		
TOTAL	27,976		23,731	66

ADDITIONAL NOTES

S - SUBFEED TO A PANEL P - SPARE BKR C - SPACE

RDH - SURGERY DEPT

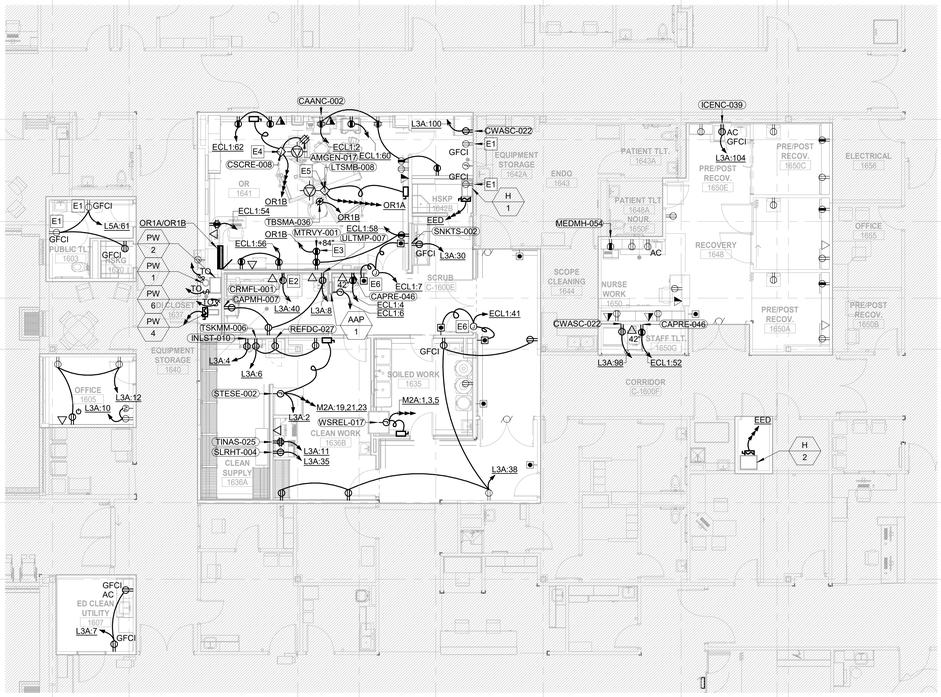
M-E Engineers Inc.

208Y/120
1PHASE,3WIRE+GND

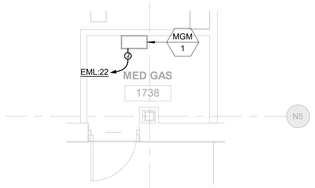
B



1 **LEVEL ONE ELECTRICAL DEMO FLOOR PLAN**
1/8" = 1'-0"



2 **LEVEL ONE ELECTRICAL FLOOR PLAN**
1/8" = 1'-0"



3 **LEVEL ONE ELECTRICAL MED GAS ROOM**
1/4" = 1'-0"

GENERAL NOTES:

1. THE LOCATION OF EXISTING EQUIPMENT AND DEVICES ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR. ACCURACY OF THE INFORMATION SHOWN IS NOT GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL EXISTING CONDITIONS PRIOR TO SUBMITTING THE PROJECT BID. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CHANGES WHICH OCCUR AFTER BIDS ARE SUBMITTED WHICH ARE A RESULT OF EXISTING CONDITIONS. SITE VISITS PRIOR TO SUBMISSION OF BIDS MUST BE FULLY COORDINATED WITH THE OWNER.
2. DURING DEMOLITION AND NEW CONSTRUCTION THE CONTINUATION OF BUILDING SYSTEMS MAY BE NECESSARY. TRACE AND IDENTIFY EXISTING ELECTRICAL SYSTEM (POWER, LIGHTING AND FIRE ALARM) WIRING IN AREAS PRIOR TO DEMOLITION. ELECTRICAL CONTRACTOR SHALL DISCONNECT ALL NECESSARY EQUIPMENT TO MAKE IT SAFE FOR DEMOLITION. WHERE LIVE BRANCH CIRCUITS OR FEEDERS PASS THROUGH A REMODEL AREA, CONTRACTOR SHALL MAINTAIN ELECTRIC CONTINUITY TO AND PROTECT BRANCH CIRCUITS AND/OR FEEDERS PASSING THROUGH. WHERE FEEDERS AND/OR BRANCH CIRCUITS FEED BOTH LOADS IN A REMODELED AREA AND OUTSIDE OF A REMODELED AREA, CONTRACTOR SHALL DISCONNECT AND REMOVE PORTIONS OF THE ELECTRICAL BRANCH CIRCUITS AND/OR FEEDERS WITHIN THE REMODELED AREA AND REWORK BRANCH CIRCUITS AND/OR FEEDERS TO MAINTAIN ELECTRICAL CONTINUITY TO LOADS OUTSIDE OF THE REMODELED AREA.
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4. THE OWNER HAS THE RIGHT TO RETAIN ALL SALVAGEABLE MATERIAL. ANY MATERIAL THE OWNER CHOOSES NOT TO ACCEPT SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR.
5. FULLY COORDINATE MECHANICAL EQUIPMENT ELECTRICAL CONNECTION REMOVAL AND RELOCATION WITH THE MECHANICAL CONTRACTOR.
6. REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING DEMOLITION DRAWINGS FOR ADDITIONAL DEMOLITION INFORMATION.
7. DASHED DEVICES ARE EXISTING TO BE DEMOLISHED. DASHED DEVICES AND TAGGED WITH (R) ARE EXISTING TO BE RELOCATED. SOLID THIN LINE WEIGHT DEVICES ARE EXISTING TO REMAIN. SOLID DEVICES AND TAGGED WITH (N) ARE NEW DEVICES. SOLID THIN LIGHTWEIGHT DEVICES AND TAGGED WITH '(E)' ARE EXISTING TO REMAIN.
8. WHERE DEVICES OR EQUIPMENT IS TO BE RELOCATED, CONTRACTOR SHALL EXTEND EXISTING CIRCUITING TO NEW LOCATION. ENSURE CIRCUIT CONTINUITY FOR OTHER DEVICES OR EQUIPMENT ON THE SAME BRANCH CIRCUIT.

GENERAL NOTES:

1. ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL MECHANICAL UNITS WITH MECHANICAL CONTRACTOR.
2. ALL EXPOSED CONDUIT SHALL BE ROUTED PERPENDICULAR, PARALLEL, AND TIGHT TO COLUMNS AND BEAMS. ALL EXPOSED CONDUIT ROUTING SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION AND INSTALLED IN A NEAT AND CONSISTENT MANNER. NO ADDITIONAL COST TO OWNER WILL BE ALLOWED FOR RELOCATING CONDUIT DUE TO THE LACK OF COORDINATION WITH ARCHITECT. ALL SURFACE MOUNTED CONDUIT WHERE EXPOSED TO PUBLIC AREAS SHALL BE PAINTED. PAINT COLOR TO BE DETERMINED BY THE ARCHITECT.
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5. CIRCUITS TO ALL MECHANICAL EQUIPMENT SHALL BE DEDICATED UNLESS NOTED OTHERWISE.

KEYNOTES

E1	REPLACE EXISTING RECEPTACLE WITH NEW GFCI RECEPTACLE.
E2	PROVIDE DEDICATED 120V, 20A RECEPTACLE.
E3	PROVIDE DEDICATED 120V, 20A CRITICAL BRANCH RECEPTACLE.
E4	PROVIDE (5) DEDICATED CIRCUITS FOR RETRACTABLE COLUMN. REFER TO PANEL SCHEDULE FOR CIRCUIT DESIGNATIONS.
E5	PROVIDE (8) DEDICATED ISOLATION PANEL CIRCUITS FOR BOOM. (1) CIRCUIT FOR ACTIVE ASSIST, (4) CIRCUITS FOR RECEPTACLES, (1) CIRCUIT FOR SURGICAL LIGHT, AND (2) CIRCUITS FOR MONITORS. REFER TO PANEL SCHEDULE FOR CIRCUIT DESIGNATIONS.
E6	PROVIDE CONNECTION TO MOTORIZED DOORS.

DAVIS PARTNERSHIP ARCHITECTS
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303.861.8555

Consultant(s)

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14143 Denver West Pkwy
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Golden, CO 80401
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www.me-engineers.com

Stamp

COLORADO LICENSED
LICENSED PROFESSIONAL ENGINEER
38874
PROFESSIONAL ENGINEER

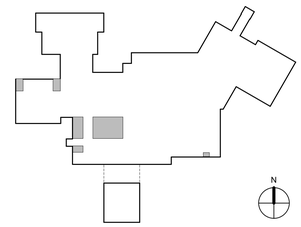
Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
RANGELY, CO 81648

Key Plan



Sheet Information

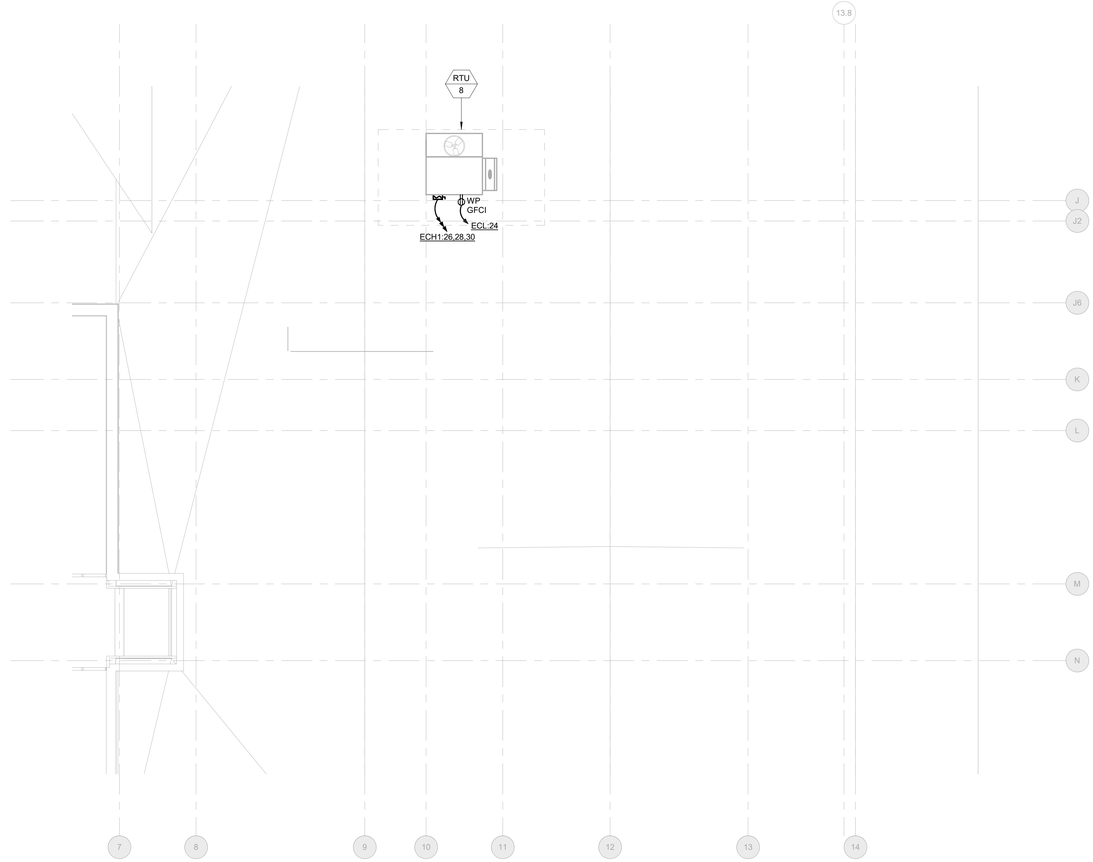
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LEVEL ONE ELECTRICAL PLANS

Sheet Number:
E-101

DPA Project: 21303.00.000

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N

2 **ROOF ELECTRICAL FLOOR PLAN**
1/8" = 1'-0"

GENERAL NOTES:

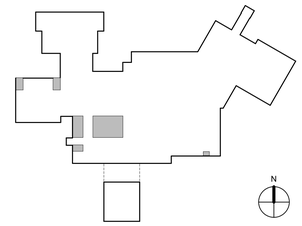
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KEYNOTES

Key Plan



DAVIS PARTNERSHIP ARCHITECTS
2901 Blake Street, Suite 100
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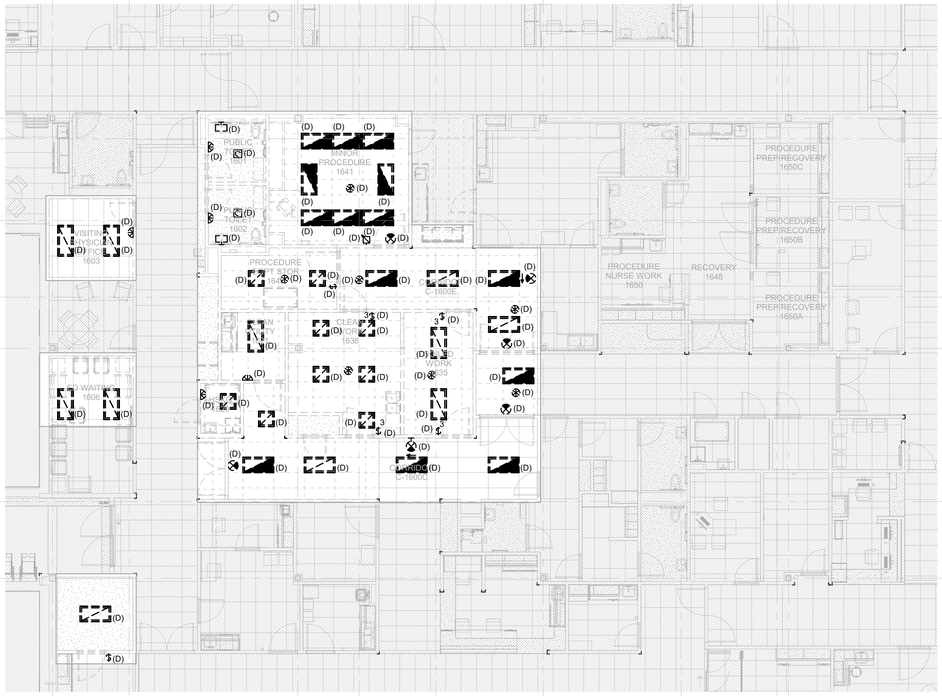
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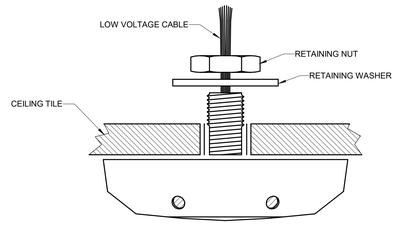
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E-102

DPA Project: 21303.00.000

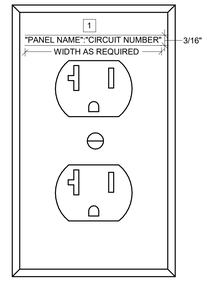
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PUBLIC
1601
MINOR PROCEDURE
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PROCEDURE
1642
PROCEDURE PREP/RECOVERY
1650C
PROCEDURE PREP/RECOVERY
1650B
PROCEDURE PREP/RECOVERY
1650A
PROCEDURE NURSE WORK
1650
RECOVERY
1648
VISITING PHYSICIAN
1603
CLEAN WORK
1636
WORK
1635
SOILED WORK
1639
CLEAN SUPPLY
1638
CLEAN WORK
1638B
CORRIDOR
C-1600E
CORRIDOR
C-1600F
CORRIDOR
C-1600G
OFFICE
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1-WAITING
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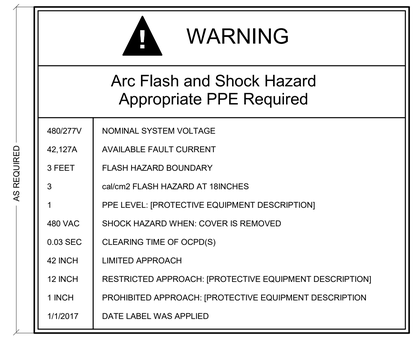
1 SENSOR - CEILING MOUNTED
Not To Scale



KEYNOTES:

1 PROVIDE BLACK LETTERING ON CLEAR LABEL FOR NORMAL CIRCUITS AND RED LETTERING ON CLEAR LABEL FOR EMERGENCY/STANDBY CIRCUITS.

2 RECEPTACLE IDENTIFICATION
Not To Scale

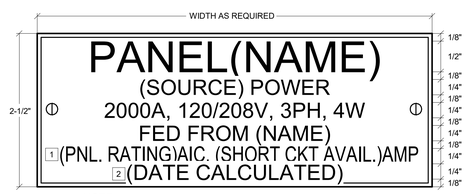


NOTE:
1. SEE SPECIFICATIONS FOR ADDITIONAL NAMEPLATE INFORMATION.
2. ARC FLASH LABELS ON ALL EQUIPMENT SHALL INDICATE LEVEL OF PPE OR PPE DESCRIPTION ON LABEL. IF MANUFACTURER DOES NOT PROVIDE THIS, ARCH FLASH LABELS TO BE PROVIDED BY ELECTRICAL CONTRACTOR CONTAINING THIS INFORMATION.

3 ARC FLASH LABEL
Not To Scale

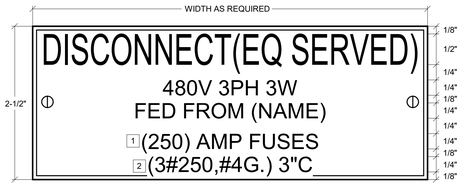
MEDICAL EQUIPMENT ELECTRICAL SCHEDULE

ID	DESCRIPTION	VOLTAGE	AMPS	PHASE	WATTS	KVA	CONNECTION	CIRCUIT	DEDICATED?	EM?	NOTES
AMGEN-017	ANETHESIA MACHINE	120	2.3	1	276		NEMA 5-15	(2#12, 1#12G)3/4"C	N		
CAANC-002	ANETHESIA CART	120	3	1			NEMA 5-15	(2#12, 1#12G)3/4"C	N		
CAPMH-007	MALIGNANT HYPERTHERMIA CART	120	0.8	1			NEMA 5-15	(2#12, 1#12G)3/4"C	N	N	
CAPRE-046	DEFIBRILLATOR MONITOR	120	1	1		0.12	NEMA 5-15	(2#12, 1#12G)3/4"C	N		
CRMFL-001	X-RAY UNIT	120	15	1	1800		NEMA 5-15	(2#12, 1#12G)3/4"C	N	N	
CSCRE-008	RETRACTABLE COLUMN	120		1			HARDWIRE	(2#12, 1#12G)3/4"C	Y		PROVIDE 5 DEDICATED CIRCUITS
CWASC-022	WARMING CABINET	120	7.5	1	750		NEMA 5-15	(2#12, 1#12G)3/4"C	N	N	
ICENC-039	ICE MACHINE	120	8.5	1			NEMA 5-15	(2#12, 1#12G)3/4"C	Y	N	
INLST-019	STEAM INCUBATOR	120	15	1			NEMA 5-15	(2#12, 1#12G)3/4"C	Y	N	
LTSMB-008	SURGICAL LIGHT AND BOOM	120		1			HARDWIRE	(2#12, 1#12G)3/4"C	Y		PROVIDE 8 DEDICATED CIRCUITS
MEDMH-054	MEDICATION DISPENSER	120	3	1			NEMA 5-15	(2#12, 1#12G)3/4"C	N	N	
MTRVY-001	VIDEO MONITOR	120	3.6	1	290		NEMA 5-15	(2#12, 1#12G)3/4"C	N	N	
REFDC-027	REFRIGERATOR	120	5	1			NEMA 5-15	(2#12, 1#12G)3/4"C	N	N	
SLRHT-004	HEAT SEALER	120	5	1			NEMA 5-15	(2#12, 1#12G)3/4"C	N	N	
SNKTS-002	SCRUB SINK	120	1.2	1			NEMA 5-15	(2#12, 1#12G)3/4"C	N	N	
STESE-002	STERILIZER CONTROL	120	9.5	1			HARDWIRE	(2#12, 1#12G)3/4"C	N	N	
STESE-002	STERILIZER	480	37	3			HARDWIRE	(3#8, 1#10G)3/4"C	N	N	
TBSMA-071	SURGICAL TABLE	120	3.75	2		0.45	NEMA 5-15	(2#12, 1#12G)3/4"C	Y		
TINAS-025	INSTRUMENT TABLE	120	15	1			NEMA 5-15	(2#12, 1#12G)3/4"C	N	N	
TSKMM-006	MAGNIFYING LAMP	120	0.05	1	6		NEMA 5-15	(2#12, 1#12G)3/4"C	N	N	
ULTMP-007	ULTRASOUND	120	2	1			NEMA 5-15	(2#12, 1#12G)3/4"C	N	N	
WSREL-017	WASHER/DISINFECTOR	480	24	3			HARDWIRE	(3#10, 1#10G)3/4"C	Y	N	



NOTE:
1. SEE SPECIFICATIONS FOR ADDITIONAL NAMEPLATE INFORMATION.
1 INDICATE BUS BRACING VALUE AND AVAILABLE FAULT CURRENT.
2 PROVIDE AND INDICATE DATE OF CALCULATION.

5 SUB DIST. BOARD & PANEL NAMEPLATE
Not To Scale



NOTE:
1. SEE SPECIFICATIONS FOR ADDITIONAL NAMEPLATE INFORMATION.
1 INDICATE FUSE SIZE, IF APPLICABLE
2 INDICATE BRANCH CIRCUIT WIRE SIZE

4 DISCONNECT NAMEPLATE
Not To Scale

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Issuance	Date
CONSTRUCTION DOCUMENTS	11/30/2022

Revisions	Date	No.

Project Information

RDH - SURGERY DEPT
225 EAGLE CREST DR
RANGELY, CO 81648

Sheet Information

Sheet Title:
ELECTRICAL DETAILS

Sheet Number:
E-800

DPA Project: 21303.00.000

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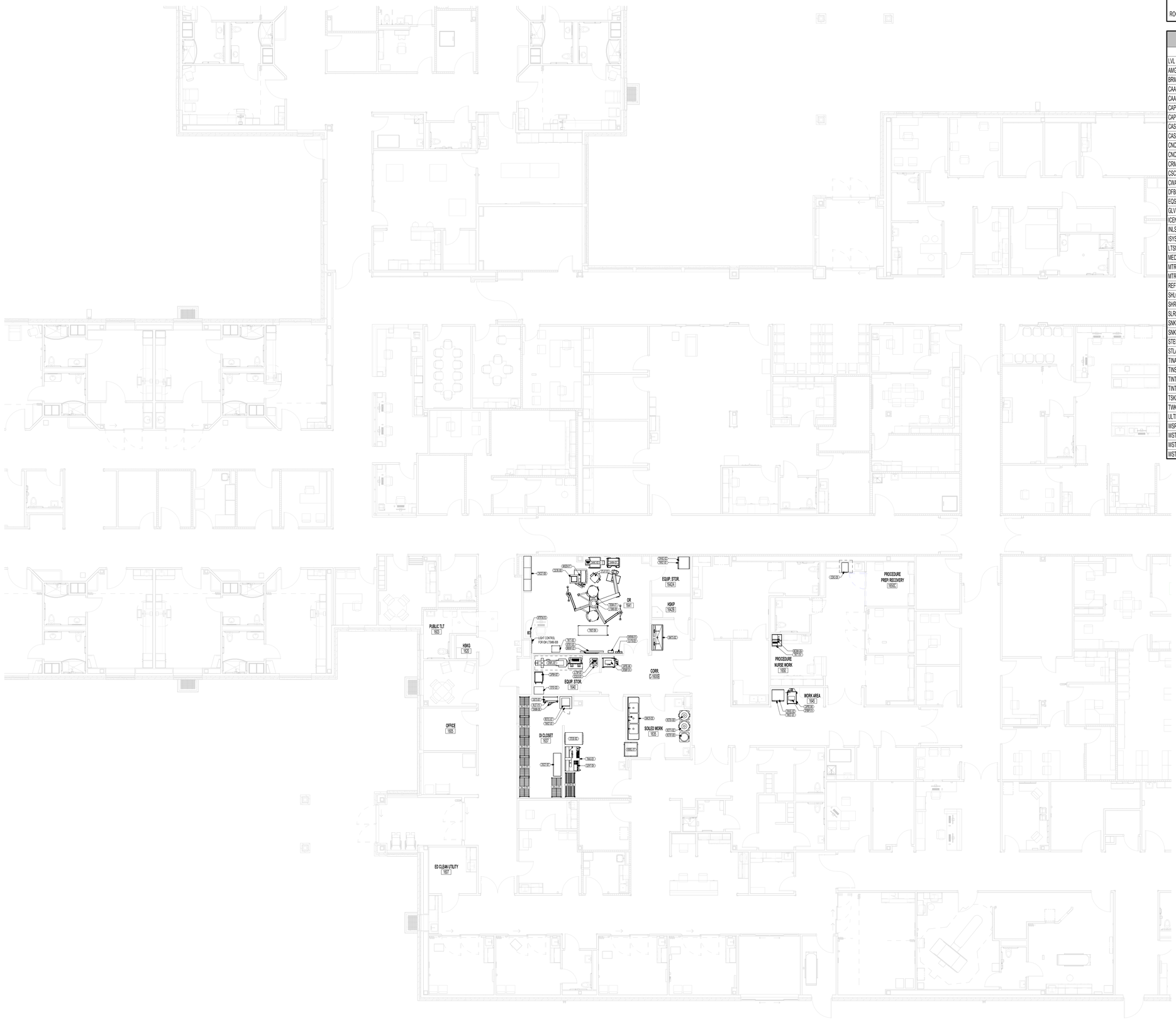
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EQUIPMENT LEGEND:

EQUIPMENT CLEARANCE AREA	EQUIPMENT TAG — XXXXX.000
EQUIPMENT MOUNTED TO CEILING	EQUIPMENT CONFLICT TAG:
EQUIPMENT DOOR SWING AREA	CASEWORK CLASH: 1
ROOM TAG — ROOM NAME (.000)	CASEWORK REQ'D: 2
	SPATIAL CLASH: 3
	OTHER: 4

EQ-01.00 - EQUIPMENT SCHEDULE

EQP:	DESCRIPTION:	COUNT:
LVL 01.0		
AMGEN-017	GENERAL ANESTHESIA MACHINE	1
BRMWF-021	MONITOR WALL BRACKET MOUNT FLAT	1
CAANA-037	ANESTHESIA CART	1
CAANC-002	ANESTHESIA CART	1
CAPMH-007	PROCEDURE CART	1
CAPRE-046	RESUSCITATION CART	2
CASSW-002	STERILE WRAP CART	1
CASTS-007	DESCRIPTION	1
CNCST-006	CLINICAL CABINET	3
CNCST-007	CLINICAL CABINET	1
CRMFL-001	MOBILE X-RAY UNIT, C-ARM	1
CSCRE-008	ANESTHESIA BOOM	2
CWASC-022	COUNTERTOP WARMING CABINET	2
DFBMP-014	DEFIBRILLATOR, MONITOR, W/ PACING	2
EQSUS-001	ULTRASOUND STAND	1
GLVTB-025	GLOVE BOX DISPENSER	1
ICENC-039	NUGGET ICE MACHINE	1
INLST-019	BIOLOGICAL LAB INCUBATOR	1
ISYSV-025	SURGICAL VIDEO INTEGRATION	1
LTSMB-008	DESCRIPTION	2
MEDMH-054	MEDICATION DISPENSER	1
MTRTM-010	DESCRIPTION	1
MTRVY-001	MEDICAL GRADE MONITOR	1
REFDC-027	COMPACT REFRIGERATOR	1
SHLCE-019	CHROME WIRE SHELVING	6
SHRWM-015	SHARPS DISPOSAL	1
SLRHT-004	HEAT PACKAGING SEALER	1
SNKCR-030	SINK CLEAN UP WORKSTATION	1
SNKTS-002	DOUBLE SCRUB SINK	1
STESE-002	STEAM STERILIZER	1
STLAT-010	ANESTHETIST STOOL	1
TINAS-025	INSTRUMENT TABLE	1
TINST-004	INSTRUMENT TABLE	1
TINTT-003	INSTRUMENT TABLE	1
TINTT-014	INSTRUMENT TABLE	1
TSKMM-006	TASK LAMP W/ MAGNIFYING GLASS	1
TWKST-001	STAINLESS STEEL WORK TABLE	3
ULTMP-007	MULTIPURPOSE ULTRASOUND	1
WSREL-017	STEAM WASHER / DISINFECTOR	1
WSTBV-008	44-55 GALLON WASTE CAN	1
WSTFV-002	44-55 GALLON WASTE CAN	1
WSTRF-009	44-55 GALLON WASTE CAN	1



1 **FIRST FLOOR EQUIPMENT PLAN**
1/8" = 1'-0"

0 5' 10' 20' 30'
1/8" = 1'-0" - GRAPHIC SCALE

PLAN NORTH

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225 EAGLE CREST DR
RANGELY, CO 81648

Sheet Information

Sheet Title:
FIRST FLOOR EQUIPMENT PLAN

Sheet Number:
EQ-01.00

DPA Project: 21041