HYBRID OR #1

MULTICARE GOOD SAMARITAN HOSPITAL

401 15TH AVE SE
PUYALLUP, WA 98372

11/17/2022

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building | Planning
Engineering | Public Works
Fire | Traffic

NOTE 03.08.2023 - LATE REVISION TO THE PLANS INCLUDED REMOVING ONE OR SCRUB SINK AND RELOCATING THE ENTRY DOOR INTO THE NEW OR SLIGHTLY NORTH ON THE PLAN. THE COMPLETE SET OF PLANS (STRUCT, MECH, ELEC AND PLUMBING) HAS NOT CAPTURED THE APPROVED REVISION SHOWN ON SHEET A1.2A. (jes)

APPROVED PLAN
CITY OF PUYALLUP
PLANNING DIVISION
APPROVED BY: NComstock
DATE: 01/04/2023
CASE NO.: PR CTI 202 217 88
CONDITIONS: N/A

PROJECT INFORMATION

PERMIT #: PRCTI20221788

DOH CRS #: 61364387

PROJECT NAME: MULTICARE GOOD SAMARITAN HOSPITAL HYBRID OR #1

SITE ADDRESS: 401 15TH AVE SE, PUYALLUP, WA 98372

PARCEL NUMBER: 9810000016

LEGAL DESCRIPTION: SECTION 34 TOWNSHIP 20 RANGE 04 QUARTER 23 WOODS 1ST CANNOT BE SOLD OR SUBD WITHOUT 001-&-001-5 LOT 1 OF BLA 2010-06-15-5001 DESC AS BEG AT A PT 30 FT E & 151.05 FT N OF INTER OF 15TH AV SE & 3RD ST SE TH N 322.08 FT TH N 305.27 FT TH E 692.45 FT TH S 78 DEG 58 MIN 52 SEC E 0.44 FT TH S 49.97 FT TH E 40.98 FT TH S 43.29 FT TH N 41.04 FT TH S 191.78 FT TH W 30 FT TH S 196.6 FT TO BEG CURVE CONCAVE TO NW HAVING A RAD OF 19.5 FT & C/A OF 59 DEG 50 MIN 20 SEC & BEING SUBTENDED BY A CHORD WHICH BEARS S 56 DEG 53 MIN 06 SEC W 19.45 FT TH SWLY & WLY ALG SD CURVE 20.37 FT TO PT OF REVERSE CURV TH WLY & SWLY & SLY 90.9 FT CONCAVE TO SE HAVING A RAD OF 60.5 FT & C/A OF 86 DEG 05 MIN 15 SEC TH S 3.26 FT TH SLY, SWLY & WLY 14.92 FT ALG CURVE CONCAVE TO NW HAVING A RAD OF 9.5 FT & C/A OF 89 DEG 59 MIN 59 SEC TH W 107.24 FT TO BEG OF CURVE CONCAVE TO NW HAVING A RAD OF 55.98 FT & C/A OF 81 DEG 37 MIN 04 SEC & BEING SUBTENDED BY CHORD WHICH BEARS S 49 DEG 34 MIN 17 SEC W 73.42 FT TH SLY, SWLY & WLY ALG SD CURVE 80.07 FT TH W 6.43 FT TH S 131.8 FT TH SLY & SELY 14.27 FT ALG SD CURVE CONCAVE TO E HAVING A RAD OF 25 FT & C/A OF 32 DEG 42 MIN 11 SEC TH N 88 DEG 06 MIN 01 SEC W 77.46 FT TO BEG OF CURVE CONCAVE TO N HAVING A RAD OF 40 FT & A C/A OF 43 DEG 31 MIN 52 SEC & BEING SUBTENDED BY CHORD WHICH BEARS S 70 DEG 08 MIN 03 SEC W 29.66 FT TH SWLY & WLY ALG SD CURVE 30.39 FT TH N 88 DEG 06 MIN 01 SEC W 238.87 FT TO BEG OF A CURVE CONCAVE TO NE HAVING A RAD OF 63 FT & A C/A OF 65 DEG 47 MIN 29 SEC & BEING SUBTENDED BY CHORD WHICH BEARS N 48 DEG 11 MIN 19 SEC W 68.43 FT TH WLY, NWLY & NLY ALG SD CURVE 72.34 FT TH N 12 DEG 28 MIN 32 SEC W 81.31 FT TO POB EXC POR DETER TAXABLE & EXC POR DETER EXEMPT PER DOR REG # 01777-001 TOGW VAC ORD 2668 EASE OF RECORD OUT OF 9810004-0654 SEG 2011-0091 BB 10/11/10 BB DC20354165 5/2/2014 KG

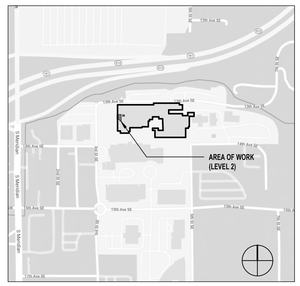
ZONING: 6510-HOSPITAL, COMMERCIAL

PROPERTY OWNER MULTICARE HEALTH SYSTEM

TENANT: MULTICARE GOOD SAMARITAN HOSPITAL

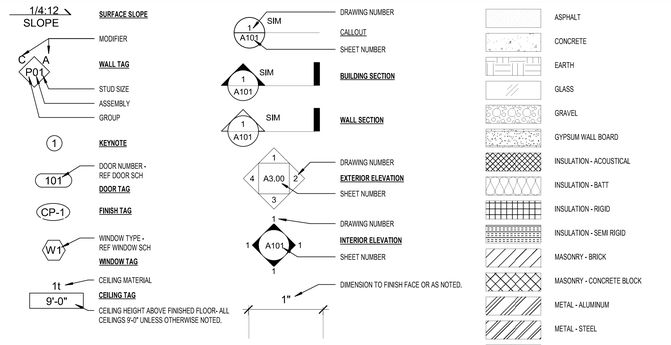
PROJECT OVERVIEW: CONVERSION OF EXISTING OR#1 SUITE AND AUXILIARY SPACES INTO A HYBRID OR SUITE; RECONFIGURATION OF EXISTING CONTROL ROOM, STORAGE, AND SUB-STERILE ROOM TO ACCOMODATE NEW HYBRID OR SUITE

VICINITY MAP



SITE LOCATION:
401 15TH AVE SE
PUYALLUP, WA 98372

SYMBOLS AND FILL PATTERNS



PROJECT CONTACTS

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ABBREVIATIONS

A	
ACOUS	ACOUSTICAL
ACT	ACOUSTICAL CEILING TILE
A.D	AREA DRAIN
ADJ	ADJUSTABLE
AFF	ABOVE FINISH FLOOR
AGGR	AGGREGATE
ALUM	ALUMINUM
APPROX.	APPROXIMATE
ARCH	ARCHITECTURAL
ASPH	ASPHALT
B	
BCS	BABY CHANGING STATION
BD	BOARD
BITUM	BITUMINOUS
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BR	BUMPER RAIL
BW	BLANKET WARMER
C	
CAB	CABINET
CB	CATCH BASIN
CER	CERAMIC
CI	CAST IRON
CIP	CAST IN PLACE
CG	CORNER GUARD
CPT	CARPET TILE
CR	CARD READER
℄	CENTERLINE
CLO	CLOSET
CLR	CLEAR
CJ	CONTROL JOINT
COL	COLUMN
CONC	CONCRETE
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
CORR	CORRIDOR
D	
DBL	DOUBLE
DEPT	DEPARTMENT
DF	DRINKING FOUNTAIN
DET	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DISP	DISPENSER
DN	DOWN
DWR	DRAWER
DS	DOWNSPOUT
DW	DISHWASHER
DWG	DRAWING
E	
E	EAST
(E)	EXISTING
EA	EACH
EJ	EXPANSION JOINT
ELEC	ELECTRICAL
ELEV	ELEVATION
EMER	EMERGENCY
ENCL	ENCLOSURE
EP	ELECTRICAL PANEL
EQ	EQUAL
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EXP	EXPOSED
EXT	EXTERIOR
F	
FA	FIRE ALARM
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FACTORY FINISH
FHC	FIRE HOSE CABINET
FIN	FINISH
FL	FLOOR
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FO	FACE OF
FOS	FACE OF STUDS
FT	FOOT/ FEET
FTG	FOOTING
FTP	FIRE-TREATED PLYWOOD
FURR	FURRING
FUT	FUTURE
G	
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR
GL	GLASS
GND	GROUND
GR	GRADE
GWB	GYPSUM WALL BOARD
H	
HB	HOSE BIB
HC	HOLLOW CORE
HDWD	HARDWOOD
HDWR	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HSD	HAND SANITIZER DISPENSER
HT	HEIGHT
I	
IBC	INTERNATIONAL BUILDING CODE
IC	INTEGRAL COVE
ID	INSIDE DIAMETER
INSUL	INSULATION
INT	INTERIOR
J	
JAN	JANITOR
JT	JOINT
L	
LAB	LABORATORY
LAM	LAMINATE
LAV	LAVATORY
LT	LIGHT
LVT	LAMINATE/LUXURY VINYL TILE
M	
MAX	MAXIMUM
MECH	MECHANICAL
MEMB	MEMBRANE
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTD	MOUNTED
MUL	MULLION
MW	MICROWAVE
N	
N	NORTH
(N)	NEW
NIC	NOT IN CONTRACT
NS	NURSE STATION
NTS	NOT TO SCALE
O	
OA	OVERALL
OC	ON CENTER
OCC	OCCUPANT
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OPNG	OPENING
OPP	OPPOSITE
ORD	OVERFLOW ROOF DRAIN
P	
P	PAINT
PP	PUSH PAD
PEB	PLASTIC EDGE BANDING
PL	PLASTIC LAMINATE
PT	PATIENT TOILET
PTD	PAPER TOWEL DISPENSER
R	
(R)	RELOCATE
RAD	RADIUS
RB	RESILIENT BASE
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REF	REFRIGERATOR
REFER	REFERENCE
REQ	REQUIRED
RM	ROOM
RO	ROUGH OPENING
S	
S	SOUTH
SCW	SOLID CORE WOOD
SCD	SEAT COVER DISPENSER
SCH	SCHEDULE
SD	SOAP DISPENSER
SECT	SECTION
SF	SQUARE FOOT/ FEET
SG	SPLASH GUARD
SHT	SHEET
SIM	SIMILAR
SND	SANITARY NAPKIN DISPENSER
SNR	SANITARY NAPKIN RECEPTACLE
SOC	STATEMENT OF CONDITIONS
SPT	SPECIMEN PASS THROUGH
SQ	SQUARE
SS	SOLID SURFACE
ST	STAFF TOILET
SST	STAINLESS STEEL
STA	STATION
STC	SOUND TRANSMISSION CLASS
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SUSP	SUSPENDED
SV	SHEET VINYL
SYM	SYMMETRICAL
T	
TB	TOWEL BAR
TBD	TO BE DETERMINED
TC	TOP OF CURB
TEL	TELEPHONE
T&G	TONGUE AND GROOVE
THK	THICK
T/O	TOP OF
TOP	TOP OF PAVEMENT
TPD	TOILET PAPER DISPENSER
TV	TELEVISION
TOW	TOP OF WALL
TYP	TYPICAL
U	
US	UNDERSIDE
UL	UNDERWRITERS LABORATORY
UNF	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
V	
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
W	
W	WEST
WI	WITH
WC	WATER CLOSET
WD	WOOD
WF	WINDOW FILM
W/O	WITHOUT
WP	WALL PROTECTION
WPR	WATERPROOF
WRB	WEATHER RESISTANT BARRIER

SHEET LIST

DoH DEFERRED SUBMITTAL

C-ARM VIBRATION CONTROL (ARCHITECTURAL, STRUCTURAL ROOF DOCUMENTS)

City of Puyallup
Development
Engineering
APPROVED

See permit for additional requirements.

Linda Lian
04/10/2023
8:39:16 AM

CITY OF PUYALLUP STATE OF WASHINGTON

Occupancy will not be granted until a civil design for the construction of the sidewalk extension on the north side of 13th Ave SE has been submitted to the city for review and has received a final approval OR until the construction of the sidewalk extension on the north side of 13th Ave SE has been completed. Also See B-21-0225

City of Puyallup
Building
APPROVED

See permit for additional requirements.

JMontgomery
04/19/2023
1:48:41 PM

CITY OF PUYALLUP STATE OF WASHINGTON

THE APPROVED CONSTRUCTION PLANS, DOCUMENTS AND ALL ENGINEERING MUST BE POSTED ON THE JOB AT ALL INSPECTIONS IN A VISIBLE AND READILY ACCESSIBLE LOCATION.

FULL SIZED LEDGIBLE COLOR PLANS ARE REQUIRED TO BE PROVIDED BY THE PERMITEE ON SITE FOR INSPECTION

Approval of submitted plans is not an approval of omissions or oversights by this office or noncompliance with any applicable regulations of local government. The contractor is responsible for making sure that the building complies with all applicable codes and regulations of the local government.

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

- See accompanying project comment form for review status and corrections.
- This is not a building permit, check with your local building department.

03/08/2023 8:20:09 PM

PRCTI20221788

CLARK\KJOS ARCHITECTS, LLC

11045 REGISTERED ARCHITECT SCOTT D COMBS STATE OF WASHINGTON

Good Samaritan
A part of MultiCare Health System

HYBRID OR #1
MULTICARE GOOD SAMARITAN HOSPITAL
401 15TH AVE SE, PUYALLUP, WA 98372

PERMIT SET
11/17/2022
REVISIONS
ASI 001 02.27.2023

23004

GENERAL NOTES, PROJECT INFORMATION & CONTACT

G0.0

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2/27/2023 8:37:32 AM

SECTION 011000 - SUMMARY

1 PROJECT
THE PROJECT CONSISTS OF THE REMODEL OF AN EXISTING OR SUITE INTO A HYBRID OR SUITE.

2 DESCRIPTION OF ALTERATIONS WORK
SCOPE OF ALTERATIONS WORK IS SHOWN ON DRAWINGS.

3 WORK BY OWNER AND/OR CONTRACTOR
ITEMS NOTED NIC (NOT IN CONTRACT) FOIO (FURNISHED BY OWNER, INSTALLED BY OWNER) OR FOIC (FURNISHED BY OWNER, INSTALLED BY CONTRACTOR) WILL BE SUPPLIED AND INSTALLED BEFORE SUBSTANTIAL COMPLETION AND WILL OCCUPY ADJACENT TENANT SPACES THE DURATION OF CONSTRUCTION. SOME ITEMS INCLUDE:
- IMAGING EQUIPMENT.
- INTEGRATED CEILING SYSTEM
- SERVICES BOOMS
- FURNISHINGS.
- SMALL EQUIPMENT.
- ARTWORK.

4 OWNER OCCUPANCY
OWNER INTENDS TO OCCUPY THE PROJECT UPON SUBSTANTIAL COMPLETION AND WILL OCCUPY ADJACENT TENANT SPACES THE DURATION OF CONSTRUCTION.

5 CONTRACTOR USE OF SITE AND PREMISES
PROVIDE ACCESS TO AND FROM SITE AS REQUIRED BY LAW AND BY OWNER.EMERGENCY BUILDING EXITS DURING CONSTRUCTION: KEEP ALL EXITS REQUIRED BY CODE OPEN DURING CONSTRUCTION PERIOD;PROVIDE TEMPORARY EXIT SIGNS IF EXIT ROUTES ARE TEMPORARILY ALTERED.

SECTION 012300 - ALTERNATES

1 ACCEPTANCE OF ALTERNATES
ALTERNATES QUOTED ON BID FORMS WILL BE REVIEWED AND ACCEPTED OR REJECTED AT OWNER'S OPTION. ACCEPTED ALTERNATES WILL BE IDENTIFIED IN THE OWNER-CONTRACTOR AGREEMENT.COORDINATE RELATED WORK AND MODIFY SURROUNDING WORK TO INTEGRATE THE WORK OF EACH ALTERNATE.

2 SCHEDULE OF ALTERNATES
NONE AT THIS TIME.

SECTION 013000 - ADMINISTRATIVE REQUIREMENTS

1 SUBMITTALS FOR REVIEW
SUBMIT TO ARCHITECT FOR REVIEW FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH INFORMATION GIVEN AND THE DESIGN CONCEPT EXPRESSED IN THE CONTRACT DOCUMENTS.PRODUCT SAMPLES USED WHICH MATCH THOSE SPECIFIED NEED NOT BE SUBMITTED FOR REVIEW.AFTER REVIEW, PROVIDE COPIES AND DISTRIBUTE IN ACCORDANCE WITH SUBMITTAL PROCEDURES ARTICLE BELOW AND FOR RECORD DOCUMENTS PURPOSES DESCRIBED IN SECTION 017800 - CLOSEOUT SUBMITTALS.

2 SUBMITTALS FOR INFORMATION
SUBMIT FOR ARCHITECT'S KNOWLEDGE AS CONTRACT ADMINISTRATOR OR FOR OWNER. NO ACTION WILL BE TAKEN.

3 SUBMITTALS FOR PROJECT CLOSEOUT
SUBMIT FOR OWNER'S BENEFIT DURING AND AFTER PROJECT COMPLETION.

4 NUMBER OF COPIES OF SUBMITTALS
DOCUMENTS FOR REVIEW:
SMALL SIZE SHEETS, NOT LARGER THAN 8-1/2" X 11": DIGITAL SUBMITTALS ARE ACCEPTABLE EXCEPT FOR PHYSICAL CONTROL SAMPLES SUCH AS, BUT NOT LIMITED TO PAINT DRAW DOWNS.
SAMPLES: SUBMIT THE NUMBER SPECIFIED IN INDIVIDUAL SPECIFICATION SECTIONS; ONE OF WHICH WILL BE RETAINED BY ARCHITECT.

5 SUBMITTAL PROCEDURES
SEQUENTIALLY NUMBER THE TRANSMITTAL FORM. REVISE SUBMITTALS WITH ORIGINAL NUMBER AND A SEQUENTIAL ALPHABETIC SUFFIX.IDENTIFY PROJECT, CONTRACTOR, SUBCONTRACTOR OR SUPPLIER; PERTINENT DRAWING AND DETAIL NUMBER, AND SPECIFICATION SECTION NUMBER, AS APPROPRIATE ON EACH COPY.
APPLY CONTRACTOR'S STAMP, SIGNED OR INITIALED CERTIFYING THAT REVIEW, APPROVAL,VERIFICATION OF PRODUCTS REQUIRED, FIELD DIMENSIONS, ADJACENT CONSTRUCTION WORK AND COORDINATION OF INFORMATION IS IN ACCORDANCE WITH THE REQUIREMENTS OF THE WORK AND CONTRACT DOCUMENTS PRIOR TO SUBMITTAL TO ARCHITECT.
FOR EACH SUBMITTAL FOR REVIEW, ALLOW 15 DAYS EXCLUDING DELIVERY TIME TO AND FROM THE CONTRACTOR.
PROVIDE SPACE FOR CONTRACTOR AND ARCHITECT REVIEW STAMPS.
WHEN REVISED FOR RESUBMISSION, IDENTIFY ALL CHANGES MADE SINCE PREVIOUS SUBMISSION.
DISTRIBUTE REVIEWED SUBMITTALS AS APPROPRIATE. INSTRUCT PARTIES TO PROMPTLY REPORT ANY INABILITY TO COMPLY WITH REQUIREMENTS.

SECTION 013300 - DELEGATED DESIGN PROCEDURES

1 SUMMARY
COORDINATE AND ASSUME FULL RESPONSIBILITY FOR DESIGN, ENGINEERING, SUBMITTALS, FABRICATION, TRANSPORTATION, AND INSTALLATION OF THIS WORK.
DELEGATED DESIGN PORTIONS INCLUDE THE FOLLOWING:
- CASEWORK
- DOOR HARDWARE
- LEAD SHIELDING REQUIREMENTS

2 PERFORMANCE REQUIREMENTS
COMPLY WITH REGULATIONS.
PROVIDE COMPLETE, OPERATIONAL SYSTEMS THAT PERFORM THEIR INTENDED USE.
ENGINEER DELEGATED DESIGN PORTIONS FOR GRAVITY, LATERAL AND SEISMIC LOADS.
LOAD CRITERIA IS INDICATED IN THE SPECIFIC PRODUCT SECTION.
INDICATE REACTIONS TO STRUCTURE.
PROVIDE SERVICES OF A QUALIFIED PROFESSIONAL ENGINEER LICENSED IN THE PROJECT JURISDICTION.
EXECUTE THE DESIGN INTENT AS INDICATED IN PROJECT DRAWINGS AND SPECIFICATIONS.
OBTAIN PERMITS AND INSPECTIONS AND PAY FEES REQUIRED BY AHJ.

3 SUBMITTALS
FINAL DESIGN: SUBMIT DRAWINGS, PRODUCT DATA AND ENGINEERING CALCULATIONS THAT DESCRIBE CONTRACTOR'S FINAL DESIGN.
PERMIT REVIEW: SUBMIT DELEGATED DESIGN DOCUMENTS TO AHJ FOR REVIEW AND APPROVAL AS A DEFERRED SUBMITTAL.
PRODUCT DATA, SHOP DRAWINGS AND SAMPLES: COMPLY WITH REQUIREMENTS IN SECTION 013300 FOR EACH PRODUCT OF DELEGATED DESIGN PORTION OF WORK. PRODUCT SUBMITTALS ARE IN ADDITION TO SUBMITTALS FOR PERMIT AND DESIGN DATA.

4 QUALITY ASSURANCE
DESIGN REQUIREMENTS SPECIFIC TO DELEGATED DESIGN PORTIONS ARE INDICATED IN DRAWINGS AND IN SECTIONS THAT SPECIFY THE COMPONENT.
ENGINEER'S QUALIFICATIONS: A PROFESSIONAL ENGINEER WHO IS LEGALLY QUALIFIED TO PRACTICE IN JURISDICTION WHERE PROJECT IS LOCATED AND WHO IS EXPERIENCED IN PROVIDING ENGINEERING SERVICES OF THE KIND INDICATED.

5 SCHEDULING
ALLOW ADEQUATE TIME FOR AHJ REVIEW. CONTACT AHJ FOR TIME ESTIMATE AND COORDINATION OF SCHEDULE.

SECTION 014000 - QUALITY REQUIREMENTS

1 CONTROL OF INSTALLATION
VERIFY THAT FIELD MEASUREMENTS ARE AS INDICATED ON SHOP DRAWINGS OR AS INSTRUCTED BY THE MANUFACTURER.

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS BARRIERS

1.01 PROVIDE BARRIERS TO PREVENT UNAUTHORIZED ENTRY TO CONSTRUCTION AREAS, TO PREVENT ACCESS TO AREAS THAT COULD BE HAZARDOUS TO WORKERS OR THE PUBLIC, TO ALLOW FOR OWNER'S USE OF SITE AND TO PROTECT EXISTING FACILITIES AND ADJACENT PROPERTIES FROM DAMAGE FROM CONSTRUCTION OPERATIONS AND DEMOLITION.

2.01 WASTE REMOVAL
PROVIDE WASTE REMOVAL FACILITIES AND SERVICES AS REQUIRED TO MAINTAIN THE SITE IN CLEAN AND ORDERLY CONDITION.

2.02 PROVIDE CONTAINERS WITH LIDS. REMOVE TRASH FROM SITE PERIODICALLY.

2.03 OPEN FREE-FALL CHUTES ARE NOT PERMITTED. TERMINATE CLOSED CHUTES INTO APPROPRIATE CONTAINERS WITH LIDS.

SECTION 015721 - INDOOR AIR QUALITY CONTROLS

1 CONSTRUCTION PROCEDURES
DO NOT STORE CONSTRUCTION MATERIALS OR WASTE IN MECHANICAL OR ELECTRICAL ROOMS.PRIOR TO USE OF RETURN AIR DUCTWORK WITHOUT INTAKE FILTERS CLEAN UP AND REMOVE DUST AND DEBRIS GENERATED BY CONSTRUCTION ACTIVITIES.
INSPECT DUCT INTAKES, RETURN AIR GRILLES, AND TERMINAL UNITS FOR DUST.
CLEAN PLENUM SPACES, INCLUDING TOP SIDES OF LAY-IN CEILINGS, OUTSIDES OF DUCTS, TOPS OF PIPES AND CONDUIT.
CLEAN TOPS OF DOORS AND FRAMES.
CLEAN MECHANICAL AND ELECTRICAL ROOMS, INCLUDING TOPS OF PIPES, DUCTS, AND CONDUIT, EQUIPMENT, AND SUPPORTS.
CLEAN RETURN PLENUMS OF AIR HANDLING UNITS.
REMOVE INTAKE FILTERS LAST, AFTER CLEANING IS COMPLETE.
DO NOT PERFORM DUSTY OR DIRTY WORK AFTER STARTING USE OF RETURN AIR DUCTS WITHOUT INTAKE FILTERS.
USE OTHER RELEVANT RECOMMENDATIONS OF SMACNA IAQ GUIDELINE FOR OCCUPIED BUILDINGS UNDER CONSTRUCTION FOR AVOIDING UNNECESSARY CONTAMINATION DUE TO CONSTRUCTION PROCEDURES.

SECTION 016000 - PRODUCT REQUIREMENTS

1 EXISTING PRODUCTS

1.01 DO NOT USE MATERIALS AND EQUIPMENT REMOVED FROM EXISTING PREMISES UNLESS SPECIFICALLY REQUIRED OR PERMITTED BY THE CONTRACT DOCUMENTS.

1.02 UNFORESEEN HISTORIC ITEMS ENCOUNTERED REMAIN THE PROPERTY OF THE OWNER; NOTIFY OWNER PROMPTLY UPON DISCOVERY; PROTECT, REMOVE, HANDLE, AND STORE AS DIRECTED BY OWNER.

1.03 EXISTING MATERIALS AND EQUIPMENT INDICATED TO BE REMOVED, BUT NOT TO BE RE-USED, RELOCATED, REINSTALLED, DELIVERED TO THE OWNER, OR OTHERWISE INDICATED AS TO REMAIN THE PROPERTY OF THE OWNER, BECOME THE PROPERTY OF THE CONTRACTOR; REMOVE FROM SITE.

2 NEW PRODUCTS

2.01 PROVIDE NEW PRODUCTS UNLESS SPECIFICALLY REQUIRED OR PERMITTED BY THE CONTRACT DOCUMENTS.

3 PRODUCT OPTIONS

3.01 PRODUCTS SPECIFIED BY REFERENCE STANDARDS OR BY DESCRIPTION ONLY: USE ANY PRODUCT MEETING THOSE STANDARDS OR DESCRIPTION.

3.02 PRODUCTS SPECIFIED BY NAMING ONE OR MORE MANUFACTURERS: USE A PRODUCT OF ONE OF THE MANUFACTURERS NAMED AND MEETING SPECIFICATIONS, NO OPTIONS OR SUBSTITUTIONS ALLOWED.

3.03 PRODUCTS SPECIFIED BY NAMING ONE OR MORE MANUFACTURERS WITH A PROVISION FOR SUBSTITUTIONS: SUBMIT A REQUEST FOR SUBSTITUTION FOR ANY MANUFACTURER NOT NAMED.

4 SUBSTITUTION PROCEDURES

4.01 SUBSTITUTION SUBMITTAL PROCEDURE:
SUBMIT SHOP DRAWINGS, PRODUCT DATA, AND CERTIFIED TEST RESULTS ATTESTING TO THE PROPOSED PRODUCT EQUIVALENCE. BURDEN OF PROOF IS ON PROPOSER.

4.02 THE ARCHITECT WILL NOTIFY CONTRACTOR IN WRITING OF DECISION TO ACCEPT OR REJECT REQUEST.

SECTION 017000 - EXECUTION AND CLOSEOUT REQUIREMENTS

1 PROJECT CONDITIONS

1.01VENTILATE ENCLOSED AREAS TO ASSIST CURE OF MATERIALS, TO DISSIPATE HUMIDITY, AND TO PREVENT ACCUMULATION OF DUST, FUMES, VAORS, OR GASES.

2 GENERAL INSTALLATION REQUIREMENTS

2.01 INSTALL PRODUCTS AS SPECIFIED IN INDIVIDUAL SECTIONS, IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS, AND SO AS TO AVOID WASTE DUE TO NECESSITY FOR REPLACEMENT.

2.02 MAKE VERTICAL ELEMENTS PLUMB AND HORIZONTAL ELEMENTS LEVEL, UNLESS OTHERWISE INDICATED.

2.03 INSTALL EQUIPMENT AND FITTINGS PLUMB AND LEVEL, NEATLY ALIGNED WITH ADJACENT VERTICAL AND HORIZONTAL LINES, UNLESS OTHERWISE NDICATED.

2.04 MAKE CONSISTENT TEXTURE ON SURFACES, WITH SEAMLESS TRANSITIONS, UNLESS OTHERWISE INDICATED.

2.05 MAKE NEAT TRANSITIONS BETWEEN DIFFERENT SURFACES, MAINTAINING TEXTURE AND APPEARANCE.

3 FINAL CLEANING

3.01 USE CLEANING MATERIALS THAT ARE NON-HAZARDOUS.

3.02 CLEAN INTERIOR AND EXTERIOR GLASS, SURFACES EXPOSED TO VIEW; REMOVE TEMPORARY LABELS, STAINS AND FOREIGN SUBSTANCES, POLISH TRANSPARENT AND GLOSSY SURFACES, VACUUM CARPETED AND SOFT SURFACES.

3.03 REMOVE ALL LABELS THAT ARE NOT PERMANENT. DO NOT PAINT OR OTHERWISE COVER FIRE TEST LABELS OR NAMEPLATES ON MECHANICAL AND ELECTRICAL EQUIPMENT.

3.04 CLEAN EQUIPMENT AND FIXTURES TO A SANITARY CONDITION WITH CLEANING MATERIALS APPROPRIATE TO THE SURFACE AND MATERIAL BEING CLEANED.

4 CLOSEOUT PROCEDURES

4.01 MAKE SUBMITTALS THAT ARE REQUIRED BY GOVERNING OR OTHER AUTHORITIES.

4.02 NOTIFY ARCHITECT WHEN WORK IS CONSIDERED READY FOR SUBSTANTIAL COMPLETION.

4.03 SUBMIT WRITTEN CERTIFICATION THAT CONTRACT DOCUMENTS HAVE BEEN REVIEWED, WORK HAS BEEN INSPECTED, AND THAT WORK IS COMPLETE IN ACCORDANCE WITH CONTRACT DOCUMENTS AND READY FOR ARCHITECT'S REVIEW.

4.04 NOTIFY ARCHITECT WHEN WORK IS CONSIDERED FINALLY COMPLETE.

4.05 COMPLETE ITEMS OF WORK DETERMINED BY ARCHITECT'S FINAL INSPECTION.

SECTION 017329 - CUTTING AND PATCHING

1.01 SECTION INCLUDES REQUIREMENTS FOR CUTTING, FITTING AND PATCHING OF THE WORK TO MAKE SEVERAL PARTS FIT PROPERLY.

1.02 UNCOVER WORK TO PROVIDE FOR INSTALLATION, INSPECTION, OR BOTH, OF OUT-OF-SEQUENCE WORK; REMOVE AND REPLACE WORK NOT CONFORMING TO REQUIREMENTS OF CONTRACT DOCUMENTS: REMOVE AND REPLACE DEFECTIVE WORK.

2.01 FOR REPLACEMENT OF WORK REMOVED, USE MATERIALS WHICH MATCH AND ARE COMPATIBLE WITH EXISTING.

3.01 INSPECT EXISTING CONDITIONS, INCLUDING ELEMENTS SUBJECT TO MOVEMENT OR DAMAGE DURING CUTTING, EXCAVATING, BACK FILLING AND PATCHING.

3.02 PERFORM CUTTING AND PATCHING IN A MANNER TO PREVENT DAMAGE TO OTHER WORK AND TO PROVIDE PROPER SURFACES FOR THE INSTALLATION OF MATERIALS, EQUIPMENT AND REPAIRS. DO NOT CUT OR ALTER STRUCTURAL MEMBERS WITHOUT PRIOR APPROVAL.

3.03 FINISH OR REFINISH AS REQUIRED, CUT AND PATCHED SURFACES TO MATCH ADJACENT FINISHES. PAINT OVER COMPLETE SURFACE PLANE, UNLESS OTHERWISE INDICATED. OVER PATCHED WALL OR CEILING SURFACES, PAINT TO NEAREST CUTOFF LINE FOR ENTIRE SURFACE, SUCH AS INTERSECTION WITH ADJACENT WALL OR CEILING, BEAM, PILASTERS OR TO NEAREST OPENING FRAME, UNLESS OTHERWISE INDICATED. PAINTED SURFACES SHALL NOT PRESENT A SPOTTY, TOUCHED-UP APPEARANCE.

SECTION 017800 - CLOSEOUT SUBMITTALS

1 SUBMITTALS

1.01 PROJECT RECORD DOCUMENTS: SUBMIT DOCUMENTS TO ARCHITECT WITH CLAIM FOR FINAL APPLICATION FOR PAYMENT.

1.02 OPERATION AND MAINTENANCE DATA:
FOR EQUIPMENT, OR COMPONENT PARTS OF EQUIPMENT PUT INTO SERVICE DURING CONSTRUCTION AND OPERATED BY OWNER, SUBMIT COMPLETED DOCUMENTS WITHIN TEN DAYS AFTER ACCEPTANCE.

1.03 SUBMIT ONE COPY OF COMPLETED DOCUMENTS 15 DAYS PRIOR TO FINAL INSPECTION. THIS COPY WILL BE REVIEWED AND RETURNED AFTER FINAL INSPECTION, WITH ARCHITECT COMMENTS. REVISE CONTENT OF ALL DOCUMENT SETS AS REQUIRED PRIOR TO FINAL SUBMISSION.

1.04 WARRANTIES AND BONDS:
FOR EQUIPMENT OR COMPONENT PARTS OF EQUIPMENT PUT INTO SERVICE DURING CONSTRUCTION WITH OWNER'S PERMISSION, SUBMIT DOCUMENTS WITHIN 10 DAYS AFTER ACCEPTANCE.

2 PROJECT RECORD DOCUMENTS

2.01 THE FOLLOWING MAY BE MAINTAINED DIGITALLY.
MAINTAIN ON SITE ONE SET OF THE FOLLOWING RECORD DOCUMENTS; RECORD ACTUAL REVISIONS TO THE WORK:
DRAWINGS.
ADDENDA.

2.02 CHANGE ORDERS AND OTHER MODIFICATIONS TO THE CONTRACT.

2.03 RECORD DRAWINGS: LEGIBLY MARK EACH ITEM TO RECORD ACTUAL CONSTRUCTION INCLUDING: FIELD CHANGES OF DIMENSION AND DETAIL.

2.04 DETAILS NOT ON ORIGINAL CONTRACT DRAWINGS.

3 OPERATION AND MAINTENANCE DATA

3.01 FOR EACH PRODUCT OR SYSTEM: LIST NAMES, ADDRESSES AND TELEPHONE NUMBERS OF SUBCONTRACTORS AND SUPPLIERS, INCLUDING LOCAL SOURCE OF SUPPLIES AND REPLACEMENT PARTS.

3.02 PRODUCT DATA: MARK EACH SHEET TO CLEARLY IDENTIFY SPECIFIC PRODUCTS AND COMPONENT PARTS, AND DATA APPLICABLE TO INSTALLATION. DELETE INAPPLICABLE INFORMATION.

3.03 DRAWINGS: SUPPLEMENT PRODUCT DATA TO ILLUSTRATE RELATIONS OF COMPONENT PARTS OF EQUIPMENT AND SYSTEMS, TO SHOW CONTROL AND FLOW DIAGRAMS. DO NOT USE PROJECT RECORD DOCUMENTS AS MAINTENANCE DRAWINGS.

3.04 OPERATING PROCEDURES: INCLUDE START-UP, BREAK-IN, AND ROUTINE NORMAL OPERATING INSTRUCTIONS AND SEQUENCES. INCLUDE REGULATION, CONTROL, STOPPING, SHUT-DOWN, AND EMERGENCY INSTRUCTIONS. INCLUDE SUMMER, WINTER, AND ANY SPECIAL OPERATING INSTRUCTIONS.

3.05 MAINTENANCE REQUIREMENTS: INCLUDE ROUTINE PROCEDURES AND GUIDE FOR PREVENTATIVE MAINTENANCE AND TROUBLE SHOOTING; DISASSEMBLY, REPAIR, AND REASSEMBLY INSTRUCTIONS; AND ALIGNMENT, ADJUSTING, BALANCING, AND CHECKING INSTRUCTIONS.

4 WARRANTIES AND BONDS

4.01 OBTAIN WARRANTIES AND BONDS, EXECUTED IN DUPLICATE BY RESPONSIBLE SUBCONTRACTORS, SUPPLIERS, AND MANUFACTURERS, WITHIN 10 DAYS AFTER COMPLETION OF THE APPLICABLE ITEM OF WORK. EXCEPT FOR ITEMS PUT INTO USE WITH OWNER'S PERMISSION, LEAVE DATE OF BEGINNING OF TIME OF WARRANTY UNTIL THE DATE OF SUBSTANTIAL COMPLETION IS DETERMINED.

SECTION 024119 - SELECTIVE DEMOLITION

1 CONSTRUCTION PROCEDURES

1.01 DEMOLISH IN AN ORDERLY AND CAREFUL MANNER AS REQUIRED TO ACCOMMODATE THE WORK. WHERE DEMOLITION EXCEEDS THAT INDICATED, VERIFY SUCH DEMOLITION WITH THE ARCHITECT AND OWNER PRIOR TO PROCEEDING.

1.02 NOTIFY THE OWNER PRIOR TO COMMENCING DEMOLITION WORK, COORDINATE WITH OWNER FOR REMOVAL OF ITEMS TO BE CLAIMED OR RE USED.

1.03 EXCEPT WHERE NOTED OR SPECIFIED OTHERWISE, TAKE POSSESSION OF MATERIALS BEING DEMOLISHED AND IMMEDIATELY REMOVE FROM SITE.

1.04 DO NOT OVERLOAD EXISTING CONSTRUCTION TO REMAIN WITH DEMOLISHED MATERIALS.PROVIDE A SMOOTH, EVEN, AND INVISIBLE TRANSITION TO NEW CONSTRUCTION. WHEN FINISHED SURFACES ARE CUT SO THAT AN INVISIBLE TRANSITION WITH NEW WORK IS NOT POSSIBLE, TERMINATE EXISTING SURFACE ALONG THE NEAREST BREAK LINE, JOINT OR CORNER.

1.05 REPAIR DEMOLITION PERFORMED IN EXCESS OF THAT REQUIRED AT NO ADDITIONAL COST TO THE OWNER.

SECTION 055000 - METAL FABRICATIONS

1.01 WELDING OPERATIONS AND WELDER CERTIFICATION SHALL COMPLY WITH AWS STANDARDS. EMPLOY REGISTERED PROFESSIONAL ENGINEER, LICENSED TO PRACTICE STRUCTURAL ENGINEERING IN JURISDICTION WHERE PROJECT IS LOCATED, TO ENGINEER EACH COMPONENT OF HANDRAIL AND RAILING SYSTEM. COMPONENTS AND ASSEMBLIES SHALL MEET ALL APPLICABLE MODEL & MUNICPAL BUILDING CODES AND STANDARDS.

1.02 SUBMIT SHOP DRAWINGS CONTAINING THE FOLLOWING:
- A. SEAL AND SIGNATURE OF PROFESSIONAL ENGINEER RESPONSIBLE FOR DESIGN.
- B. DIMENSIONS, MATERIALS (INCLUDING TYPES AND GRADES), FABRICATION AND INSTALLATION DETAILS.
- C. INDICATE SIZE AND TYPE OF FASTENERS, WELDS, ACCESSORY ITEMS, SHOP FINISH AND METHOD OF ANCHORAGE.

2.01 METALS SHALL BE FABRICATED FROM MATERIALS SPECIFIED. FABRICATE JOINTS WITH TIGHT FIT AND SECURED BY WELDING. SHOP FABRICATE IN LARGEST SECTIONS POSSIBLE FOR DELIVERY TO SITE. GRIND EXPOSED WELDS FLUSH AND SMOOTH, EASE EXPOSED EDGES TO SMALL UNIFORM RADIUS. EXPOSED MECHANICAL FASTENERS SHALL BE FLUSH, COUNTERSINK SCREWS OR BOLTS; MAKE EXPOSED JOINTS BUTT TIGHT, FLUSH AND HAIRLINE.

2.02 MATERIALS:
- A. STEEL SHAPES, BARS AND PLATES: ASTM A36

3.01 PROVIDE STEEL SHEET OF THICKNESS AND SIZE INDICATED OR REQUIRED TO SUPPORT STRUCTURAL LOADS FOR WALL-MOUNTED ACCESSORIES OR SUPPLEMENTAL SHIELDING.

SECTION 061000 - ROUGH CARPENTRY

1.01 COMPLY WITH REQUIREMENTS OF WCLIB AND WWPA FOR GRADING SOFTWOOD LUMBER; AWPA FOR PRESSURE TREATED LUMBER. COMPLY WITH PS 20 FOR LUMBER SIZING; PS 1 AND APA FOR PLYWOOD GRADES. LUMBER AND PLYWOOD SHALL BE GRADE-MARKED.

1.02 PRESSURE TREATED LUMBER SHALL COMPLY WITH AWPA STANDARDS; LUMBER SHALL HAVE AWPB CERTIFIED GRADEMARKS.

2.01 LUMBER SHALL BE S4S, BLOCKING SHALL BE CONSTRUCTION GRADE OR BETTER.

3.01 SECURELY INSTALL FRAMING MEMBERS TRUE, PLUMB AND LEVEL. INSTALL FIRE-TREATED BLOCKING AND BACKING AS NECESSARY FOR ATTACHMENT OF FINISH CARPENTRY ITEMS, HARDWARE, TOILET ACCESSORIES, CASEWORK AND RELATED ITEMS.

3.02 MAKE CONNECTIONS BETWEEN MEMBERS TIGHT, ACCURATE AND SECURE. INSTALL FASTENINGS WITHOUT SPLITTING WOOD; PRE DRILLED AS NECESSARY. DRILL BOLT HOLES SAME DIAMETER AS BOLTS. PROVIDE WASHERS UNDER EVERY BOLT HEAD AND NUT BEARING ON WOOD. RE-TIGHTEN BOLT IMMEDIATELY PRIOR TO CLOSING IN.

3.03 REFER TO STRUCTURAL GENERAL NOTES AND DRAWINGS FOR ADDITIONAL INFORMATION

SECTION 064000 - INTERIOR ARCHITECTURAL WOODWORK

ARCHITECT'S DRAWINGS ARE FOR DESIGN INTENT. MILLWORK FABRICATOR RESPONSIBLE FOR FABRICATION DETAILING. MILLWORKER TO IDENTIFY ON SHOP DRAWINGS ANY MATERIALS OR DETAILS THAT HAVE BEEN AESTHETICALLY OR NOTICEABLY ALTERED.

1.01 CUSTOM CASEWORK AND CABINETRY SHALL CONFORM TO THE STANDARDS OF THE MOST CURRENT EDITION OF THE ARCHITECTURAL WOODWORK INSTITUTE (AWI) MANUAL:
- A. PREMIUM GRADE FOR WOOD VENEER (WD)
- B. CUSTOM GRADE FOR HIGH PRESSURE LAMINATE (PL)

1.02 IF QUALITY CERTIFICATION PROGRAM SPECIFIED, PROVIDE AWI QUALITY CERTIFICATION PROGRAM LABELS OR CERTIFICATE INDICATING THAT WOODWORK COMPLIES WITH REQUIREMENTS OF GRADES SPECIFIED.

1.03 PRODUCTS / MATERIALS ARE AS FOLLOWS:
1. SOFTWOOD PLYWOOD: PSI GRADED IN ACCORDANCE WITH AWI FOR USE AS A SUBSTRATE. ALTERNATE SHALL BE MEDIUM DENSITY FIBERBOARD (MDFB) COMPLYING WITH ANSI A208.2, PRODUCT CLASS MD.
2. (WD) WOOD VENEER/ SUBSTRATE: 3/4" THICK WOOD SUBSTRATE OR MDF CORE PLYWOOD WITH WOOD VENEER ONE SIDE WITH TRANSPARENT FINISH. FIRE RESISTANCE TO BE:
   - A. FLAME SPREAD 75 OR LESS
   - B. SMOKE DEVELOPED: 450 OR LESS

1.04 SUBMITTALS:
- A. SHOP DRAWINGS SHOWING:
  1. LOCATION OF EACH ITEM, DIMENSIONED PLANS AND ELEVATIONS, LARGE SCALE DETAILS, ATTACHMENT DEVICES, AND OTHER COMPONENTS.
  2. VENEER LEAVES WITH GRAIN DIRECTION.
  3. APPLY WIC CERTIFIED COMPLIANCE LABEL TO FIRST PAGE OF SHOP DRAWINGS.
- B. SAMPLES:
  1. SUBMIT TWO (2) SAMPLES OF ALL PLASTIC LAMINATES AS SCHEDULED, AND TWO (2) MOCK-UPS OF EDGE BAND CONDITION AT DOOR/DRAWER.
  2. SUBMIT TWO 12" X 12" FINISHED SAMPLES OF EACH TYPE OF VENEER AND HARDWOOD WITH TRANSPARENT FINISH AND SPECIFIED STAIN FOR APPROVAL.
  3. EXPOSED CABINET HARDWARE (ONE UNIT OF EACH TYPE AND FINISH).
  4. SUBMIT DATA FOR EACH TYPE OF PRODUCT SPECIFIED.

1.05 COORDINATE BLOCKING LOCATIONS AND ELECTRICAL AND PLUMBING WORK INTEGRAL WITH CASEWORK.

1.06 ALL VENEERS TO BE BALANCED AND BOOK MATCHED UNO.

2.01 LAMINATED PLASTIC SHALL BE NEMA LD-3, HORIZONTAL GRADE
- A. COLOR AND PATTERN (PL): SEE FINISH SCHEDULE FOR SPECIFICATIONS

2.02 FINISH HARDWARE SHALL COMPLY WITH AWI MANUAL.
- A. HINGES: CONCEALED EURO-STYLE; SELF CLOSING
- B. DRAWERS SLIDES: BALL BEARING TYPE FULL EXTENSION SLIDES BY ACCURIDE OR APPROVED SIMILAR
- C. PULLS: (HW) - SEE FINISH SCHEDULE FOR SPECIFICATIONS
- D. ADJUSTABLE SHELVING HARDWARE: 5 MM DIAMETER METAL L-SHAPED SHELF SUPPORTS
- E. DECORATIVE SHELF BRACKET: (SB) - SEE FINISH SCHEDULE FOR SPECIFICATIONS
- F. SUPPORT LEG: (LEG) - SEE FINISH SCHEDULE FOR SPECIFICATIONS

2.03 ACCESSORIES
PLASTIC EDGE BANDING: EXTRUDED PVC, FLAT SHAPED; SMOOTH FINISH; OF WIDTH TO MATCH COMPONENT THICKNESS.COLOR: TO MATCH ADJACENT PLASTIC LAMINATE SURFACE, INCLUDING WOOD GRAIN PLASTIC LAMINATE.
GROMMETS: STANDARD PLASTIC GROMMETS FOR CUT-OUTS,2-INCH DIAMETER, IN COLOR BLACK, LOCATE IN FIELD.

2.04 FABRICATION
CABINET STYLE: FLUSH OVERLAY.
CABINET DOORS AND DRAWER FRONTS: FLUSH STYLE.
DRAWER CONSTRUCTION TECHNIQUE: AS RECOMMENDED BY FABRICATOR.
PLASTIC LAMINATE: APPLY PLASTIC LAMINATE FINISH IN FULL UNINTERRUPTED SHEETS CONSISTENT WITH MANUFACTURED SIZES. FIT CORNERS AND JOINTS HAIRLINE; SECURE WITH CONCEALED FASTENERS. LOCATE COUNTER BUTT JOINT MINIMUM 2 FEET (600 MM) FROM SINK CUT-OUTS.
EXPOSED VERTICAL SURFACES: VG PLAM (.028)
EXPOSED HORIZONTAL SURFACES: PF PLAM (.040)
SEMI-EXPOSED SURFACES: MELAMINE
DOOR AND DRAWER INSIDE MATERIAL: .020 LINER
INTERIOR COLOR: WHITE

2.05 ADJUST DRAWERS, DOORS AND MOVEABLE SHELVES FOR SMOOTH, TIGHT NON-BINDING OPERATION.

2.06 SHOP FABRICATE IN WHOLE OR PARTIAL UNITS FOR MANAGEABLE HANDLING. ASSEMBLE PARTIAL UNIT IN PLACE TO PROVIDE A UNIFIED VISUAL WHOLE. FABRICATE FILLERS AND SCRIBE STRIPS OF SAME MATERIALS AND FINISHES AS ASSOCIATED UNITS.

2.07 FABRICATE CASEWORK TO BE INSTALLED IN WET AREAS WITH WATER RESISTANT CORE MATERIALS AND WATERPROOF ADHESIVES.

2.08 COMPOSITE WOOD AND AGRI-FIBER PRODUCTS, INCLUDING CORE MATERIALS, MUST CONTAIN NO ADDED UREA-FORMALDEHYDE RESINS. LAMINATE ADHESIVES USED TO FABRICATE ON-SITE AND SHOP APPLIED ASSEMBLIES CONTAINING THESE LAMINATE ADHESIVES MUST CONTAIN NO UREA-FORMALDEHYDE.

3.01 MAINTAIN PROTECTIVE WRAPPINGS AS LONG AS POSSIBLE DURING HANDLING AND INSTALLATION.

3.02 INSTALL PRODUCTS PLUMB AND LEVEL. SECURELY FASTEN MATERIALS TO SUPPORTING SUBSTRATE. REMOVE AND REPLACE MATERIALS DAMAGED BEYOND REPAIR OR STAINED BEYOND CLEANING.

3.03 MILLWORKER MUST FIELD VERIFY EXISTING SITE CONDITIONS PRIOR TO FABRICATION/INSTALLATION INCLUDING BUT NOT LIMITED TO: NON-PLUMB WALLS, UNEVEN FLOORS ETC. NOTIFY ARCHITECT OF ANY INCONSISTENCIES ON SITE. SCRIBE MILLWORK AT BUILT-IN APPLICATIONS.

3.04 FLOOR PREPARATION - FLOOR SHALL VARY 1/8" IN 10'-0" MAX BENEATH ALL BASE CABINETS.

SECTION 066116 - COUNTERTOPS

1.01.1 MATERIALS:
1. QUARTZ SOLID SURFACING (QZ)
2. CAST POLYMER SOLID SURFACING MATERIAL (SSM)
3. PLASTIC LAMINATE

1.02 SUBMITTALS: SUBMIT TWO (2) SAMPLES OF PRODUCT LABELED AS TO MANUFACTURER AND COMPOSITION. FURNISH MAINTENANCE MANUAL AND MANUFACTURER'S WARRANTY.

1.03 SHOP DRAWINGS TO SHOW MATERIALS, FINISHES, EDGE AND BACKSPLASH PROFILES, DIMENSIONS, METHODS OF JOINING, FASTENING ATTACHMENTS AND ANY AND ALL CUTOUT.

1.04 QUALITY ASSURANCE:
1. FABRICATORS QUALIFICATIONS: SHOP THAT EMPLOYS SKILLED WORKERS WHO CUSTOM-FABRICATE PRODUCTS SIMILAR TO THOSE REQUIRED FOR THIS PROJECT AND WHOSE PRODUCTS HAVE A RECORD OF SUCCESSFUL IN-SERVICE PERFORMANCE AND INSTALLATION.
2. DELIVERY, STORAGE AND HANDLING: COMPLY WITH MATERIAL MANUFACTURER'S REQUIREMENTS. PACKAGING, SHIPPING, HANDLING AND UNLOADING: OBSERVE MANUFACTURER'S RECOMMENDATIONS AND HANDLE IN A MANNER TO PREVENT BREAKAGE BRACE PARTS IF NECESSARY. TRANSPORT IN NEAR VERTICAL POSITION WITH FINISHED FACE TOWARD FINISHED FACE. DO NOT ALLOW FINISHED SURFACES TO RUB DURING SHIPPING AND HANDLING.
3. STORAGE AND PROTECTION: STORE IN RACKS IN NEAR VERTICAL POSITION. PREVENT WARPAGE AND BREAKAGE. STORE INSIDE AWAY FOR DIRECT EXPOSURE TO SUNLIGHT. STORE BETWEEN 25 AND 130°F.

2.01 PRODUCT (QA / SSM/ PLAM) - SEE FINISH SCHEDULE FOR SPECIFICATIONS

PLASTIC LAMINATE COUNTERTOPS: HIGH PRESSURE DECORATIVE LAMINATE SHEET BONDED TO EXTERIOR-GRADE PLYWOOD SUBSTRATE CONVENTIONALLY FABRICATED WITH EDGE CONDITION AS INDICATED ON DRAWINGS. ALL EXPOSED SUBSTRATE TO BE SEALED WITH PAINT.
SOLID SURFACE MATERIAL COUNTERTOPS: SOLID SURFACING SHEET OR PLASTIC RESIN CASTING OVER CONTINUOUS EXTERIOR-GRADE PLYWOOD SUBSTRATE CONVENTIONALLY FABRICATED WITH EDGE CONDITION AS INDICATED ON DRAWINGS. ALL EXPOSED SUBSTRATE TO BE SEALED WITH PAINT. SOLID SURFACING SHEET AND PLASTIC RESIN CASTINGS: COMPLYING WITH ISFA-2 AND NEMA LD 3; ACRYLIC OR POLYESTER RESIN, MINERAL FILLER, AND PIGMENTS; HOMOGENOUS, NON-POROUS AND CAPABLE OF BEING WORKED AND REPAIRED USING STANDARD WOODWORKING TOOLS; NO SURFACE COATING; COLOR AND PATTERN CONSISTENT THROUGHOUT THICKNESS. SURFACE BURNING CHARACTERISTICS: FLAME SPREAD 25, MAXIMUM; SMOKE DEVELOPED 450, MAXIMUM; WHEN TESTED IN ACCORDANCE WITH ASTM E84. NSF APPROVED FOR FOOD CONTACT. BUILT UP TO MINIMUM 1-1/2" THICK; SQUARE EDGE; USE MARINE EDGE AT SINKS. BACK AND END SPLASHES: SAME SHEET MATERIAL, SQUARE TOP, MINIMUM 4" HIGH AND INTEGRAL WITH COUNTERTOP.
PLASTIC EDGE BANDING: EXTRUDED PVC, FLAT SHAPED; SMOOTH FINISH; OF WIDTH TO MATCH COMPONENT THICKNESS.
SEE INTERIOR ELEVATIONS ROOM FINISH SCHEDULE AND FINISH LEGEND ON DRAWINGS FOR LOCATIONS, DETAILS AND PRODUCTS.

2.02 ADHESIVE: MOISTURE RESISTANT TYPE AS RECOMMENDED BY PRODUCT MANUFACTURER.

2.03 PRIMERS AND SEALERS: TYPE AS RECOMMENDED BY MANUFACTURER.

2.04 JOINT FILLER AND NEUTRAL CLEANER: TYPE MADE OR RECOMMENDED BY MANUFACTURER FOR CONDITIONS OF INSTALLATION.

2.05 ALL ADHESIVES TO MEET THE FOLLOWING MINIMUM VOC LIMIT REQUIREMENTS: SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULE 1168.
- A. MULTI-PURPOSE CONSTRUCTION ADHESIVES - 70 G/L

2.06 ALL PRIMERS AND SEALERS TO MEET THE FOLLOWING MINIMUM VOC LIMIT REQUIREMENTS; SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULE 1133.
- A. PRIMERS, SEALERS AND UNDERCOATINGS - 200 G/L
- B. SPECIALTY PRIMERS - 350 G/L

3.01 FABRICATION
PLASTIC LAMINATE: APPLY PLASTIC LAMINATE FINISH IN FULL UNINTERRUPTED SHEETS CONSISTENT WITH MANUFACTURED SIZES. FIT CORNERS AND JOINTS HAIRLINE; SECURE WITH CONCEALED FASTENERS. LOCATE COUNTER BUTT JOINTS MINIMUM 2 FEET (600 MM) FROM SINK CUT OUTS.
SOLID SURFACING: FABRICATE TOPS UP TO 144" LONG IN ONE PIECE; JOIN PIECES WITH ADHESIVE SEALANT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.

3.02 PREPARATION:
- A. PROTECTION OF SURFACES: PROTECT FINISHED SURFACES FROM SCRATCHES. APPLY MASKING WHERE NECESSARY. TAKE NECESSARY PRECAUTIONS TO PREVENT DIRT, GRIT, DUST AND DEBRIS FROM OTHER TRADES FROM CONTACTING THE SURFACE.

3.03 INSTALLATION:
- A. PRELIMINARY INSTALLATION: FABRICATE COUNTERTOPS OR OTHER DESIGN ELEMENTS WITHOUT JOINTS, UNLESS OTHERWISE REQUIRED BY LIMITATIONS OF SLAB LENGTHS.
- B. JOINTS:
  1. JOINTS BETWEEN ADJACENT PIECES OF QUARTZ SURFACING; JOINTS SHALL BE FLUSH, TIGHT FITTING, LEVEL AND NEAT. SECURELY JOIN ADJACENT PIECES WITH MANUFACTURER RECOMMENDED TWO PART ADHESIVE. FILL JOINTS LEVEL TO POLISHED SURFACE. SECURE ADJACENT QUARTZ SURFACES WITH VACUUM CLAMPS UNTIL ADHESIVE HARDENS. BONDED JOINTS TO BE 1/32" OR LESS IN WIDTH. JOINT FILLER COLOR TO MATCH COUNTER TOPS.
  2. JOINTS BETWEEN QUARTZ SURFACE AND (BACKSPLASH, WALL, TUB, OR SHOWER): SEAL JOINTS WITH '50' YEAR SILICONE SEALANT. SILICONE SEALANT COLOR TO MATCH COUNTER TOP.

SECTION 072100 - THERMAL INSULATION

2.01 SOUND BATTS AT NON-RATED WALLS SHALL BE FULL-FIT FIBERGLASS BATT INSULATION; AT RATED WALLS SOUND BATT SHALL BE DENSE MINERAL WOOL, 4.5 POUND, USG "THERMAFIBER", OR PROVIDE ARCHITECT/DESIGN WITH AN EQUAL RATED MATERIAL FOR APPROVAL, UNO

3.01 INSTALL INSULATION BATTS TO FIT TIGHTLY BETWEEN FRAMING MEMBERS, GAPS SHALL BE STUFFED WITH INSULATION. TRIM INSULATION TO NEATLY FIT AROUND PENETRATIONS AND BETWEEN FRAMING.

SECTION 078400 - FIRE STOPPING

1.01 FIRE RATED CONSTRUCTION DESIGN REQUIREMENTS: MAINTAIN BARRIER AND STRUCTURAL FLOOR FIRE RESISTANCE RATINGS INCLUDING RESISTANCE TO COLD SMOKE AT PENETRATIONS, CONNECTIONS AND OTHER SURFACES OR TYPES OF CONSTRUCTION, AT SEPARATION REQUIRED TO PERMIT BUILDING MOVEMENT AND SOUND OR VIBRATION ABSORPTION, AND AT OTHER CONSTRUCTION GAPS.

1.02 LATEX AND ACRYLIC BASED SEALANTS ARE NOT ACCEPTABLE. USE ONLY URETHANE OR SILICONE BASE MATERIALS.

1.03 SMOKE BARRIER CONSTRUCTION DESIGN REQUIREMENTS: MAINTAIN BARRIER AND STRUCTURAL FLOOR RESISTANCE TO COLD SMOKE AT ALL PENETRATIONS, CONNECTIONS AND OTHER SURFACES AND TYPES OF CONSTRUCTION AND AT ALL SEPARATIONS REQUIRED TO PERMIT BUILDING MOVEMENT AND SOUND OR VIBRATION ABSORPTION, AND AT OTHER CONSTRUCTION GAPS.

1.04 ASSEMBLY DESIGNS ARE SPECIFIED GENERALLY UNDER UL SYSTEM CATEGORIES BY PENETRATING ITEM. MANUFACTURERS' PRODUCT APPLICATIONS MUST HAVE SPECIFIC UL SYSTEM DESIGNATIONS.

1.05 WALL TO FLOOR JOINTS: HW-D-0000 CATEGORIES.

1.06 DUCT DAMPER PENETRATION: COMPLETE FILL ANNULAR SPACE WITH MINERAL WOOL SAFING AND SEAL WITH FLEXIBLE FIRE STOP SEALANT. COMPLY WITH DUCT DAMPER MANUFACTURER'S REQUIREMENTS.

2.01 SYSTEMS OR DEVICES LISTED IN THE UL FIRE-RESISTANCE DIRECTORY UNDER CATEGORIES XHCR AND XHEZ MAY BE USED, PROVIDING THAT THEY CONFORM TO THE CONSTRUCTION TYPE, PENETRATE TYPE, ANNULAR SPACE REQUIREMENTS, AND FIRE RATING INVOLVED IN EACH SEPARATE INSTANCE, AND THAT THE SYSTEM BE SYMMETRICAL FOR WALL APPLICATIONS. SYSTEMS OR DEVICES MUST BE ASBESTOS-FREE.

2.02 ADDITIONAL REQUIREMENTS: WITHSTAND THE PASSAGE OF COLD SMOKE EITHER AS AN INHERENT PROPERTY OF THE PRODUCT, OR BY THE USE OF A SEPARATE PRODUCT INCLUDED AS A PART OF THE UL SYSTEM OR DEVICE, AND DESIGNED TO PERFORM THIS FUNCTION.

2.03 THROUGH-PENETRATION SMOKE-STOPPING: ANY SYSTEM COMPLYING WITH REQUIREMENTS FOR THROUGH-PENETRATION FIRE STOPPING IN FIRE RATED CONSTRUCTION, AS SPECIFIED IN THIS SECTION, IS ACCEPTABLE, PROVIDED SYSTEM PROVIDES A SMOKE SEAL.

2.04 CONSTRUCTION-GAP SMOKE-STOPPING: ANY SYSTEM COMPLYING WITH REQUIREMENTS OF CONSTRUCTION-GAP FIRE STOPPING IN FIRE RATED CONSTRUCTION, AS SPECIFIED IN THE SECTION, IS ACCEPTABLE, PROVIDED SYSTEM PROVIDES A SMOKE SEAL.

2.05 FILL, VOID OR CAVITY MATERIALS: AS CLASSIFIED UNDER CATEGORY XHHW IN UL FIRE RESISTANCE DIRECTORY.

2.06 FORMING MATERIALS: AS CLASSIFIED UNDER CATEGORY XHKU IN UL FIRE RESISTANCE DIRECTORY.

2.07 ACCESSORIES: AS REQUIRED BY MANUFACTURERS LISTED, TESTED OR ENGINEERED FIRE STOP SYSTEM ASSEMBLIES.

3.01 COMPLY WITH FIRE STOPPING MATERIAL MANUFACTURER'S RECOMMENDATIONS, AND UL SYSTEM OR DESIGN.

3.02 WARNING LABELS: LABEL EACH PENETRATION AS REQUIRED BY JURISDICTION.

SECTION 079000 - JOINT SEALANTS

1.01 PROVIDE SEALANT MATERIALS SUITED FOR INDICATED USE FOR A WEATHER AND WATER TIGHT INSTALLATION. SEALANTS SHALL BE COMPATIBLE WITH ADJACENT MATERIALS. PROVIDE JOINT SEALANT AND ACCESSORIES FOR EACH TYPE OF JOINT FROM A SINGLE SOURCE. UNLESS OTHERWISE NOTED, AREAS TO BE CAULKED INCLUDE: GLASS WINDOWS, EXTERIOR DOOR FRAMES, SILLS, AND THRESHOLDS, WOOD ON WOOD TRIM JOINTS AND SPLICES; SINKS AND TOILETS TO WALLS AND FLOORS; DRYWALL TO ALUMINUM AND HOLLOW METAL WINDOW/DOOR FRAMES; JOINTS NECESSARY TO PROVIDE A WATERTIGHT CONDITION.

1.02 SUBMITTALS:
- A. MANUFACTURER'S LITERATURE STATING PRODUCTS ARE COMPATIBLE WITH PROPOSED APPLICATIONS.
- B. PRODUCT DATA INDICATING SEALANT CHEMICAL CHARACTERISTICS, PERFORMANCE CRITERIA, LIMITATIONS, COLOR AVAILABILITY AND APPLICATION INSTRUCTIONS.
- C. SUBMIT (2) SAMPLES 1/4" IN DIAMETER X 4" IN SIZE ILLUSTRATING MANUFACTURER'S FULL LINE OF COLOR SELECTIONS FOR EACH EXPOSED PRODUCT FOR SELECTION BY THE ARCHITECT.

1.03 QUALITY ASSURANCE: JOINT SEALANT SHALL MAINTAIN PERMANENTLY AIRTIGHT AND WATERTIGHT CONTINUOUS SEALS, WITHIN RECOGNIZED LIMITATIONS OF WEAR AND AGING. FAILURE TO PRODUCE SUCH A SEAL WILL BE RECOGNIZED AS A FAILURE OF MATERIALS AND WORKMANSHIP.

1.04 MATERIALS:
SEALANT TYPE APPLICATION:
1. POLYURETHANE HORIZONTAL CONTROL JOINTS IN CONCRETE FLOORING AND (SELF LEVELING) AT JUNCTURES BETWEEN THIS MATERIAL AND ADJACENT MATERIALS. COMPLY WITH ASTM C-920.
2. SILICONE SEALING OF JOINTS BETWEEN COUNTER SPLASHES AND (GEN. PURPOSE) ADJACENT TOPS & WALLS. COMPLY WITH ASTM C-920.
3. SILICONE GENERAL CAULKING AS PART OF INTERIOR PAINTING IN JOINTS (PAINTABLE) SUBJECT TO MOVEMENT.
4. ACRYLIC LATEX GENERAL CAULKING AS PART OF INTERIOR PAINTING COMPLY WITH ASTM C-834.

1.05 PROVIDE TWO (2) YEAR WARRANTY, AT MINIMUM.

2.01 1-PART POLYURETHANE SEALANTS: POLYURETHANE BASE 1 PART ELASTOMERIC SEALANT, COMPLYING WITH FED. SPEC. TT-S-00230C, TYPE II CLASS A, WITH ELONGATION AND COMPRESSION OF NOT LESS THAT 25 PERCENT. ASTM C-920, TYPE S, CLASS 25, GRADE NS. USE FOR INTERIOR JOINTS SUBJECT TO MOVEMENT.

2.02 HIGH MODULUS SILICONE RUBBER SEALANT: ONE PART NONACID-CURING SILICONE. USE FOR JOINTS RELATED TO STRUCTURAL GLAZING.

2.03 MILDEW-RESISTANT SILICONE RUBBER SEALANT: SILICONE RUBBER BASE, 1 PART MILDEW RESISTANCE SEALANT WITH INTEGRAL FUNGICIDE COMPLYING WITH FED. SPEC. TT-S-001543, CLASS A. SPECIFICALLY RECOMMENDED BY MANUFACTURER FOR INTERIOR JOINTS IN WET AREAS AROUND PLUMBING FIXTURES AND CERAMIC TILE. USE FOR JOINTS IN CERAMIC TILE WALLS AND FLOORS, AROUND EQUIPMENT, AND AROUND PLUMBING FIXTURES.

2.04 ACRYLIC SEALANTS: GENERAL PURPOSE, PAINTABLE ACRYLIC-EMULSION SEALANT WITH PLUS 7.5 PERCENT TO MINUS 7.5 PERCENT MOVEMENT. COMPLYING WITH ASTM C834. USE FOR INTERIOR JOINTS NOT SUBJECT TO MOVEMENT.

2.05 NON-SILICON SEALANT W/ SHORE HARDNESS:
TYPICAL M OR S - CLEAN ROOM INTERIOR SEALANT: NON-SILICONE; NON-SAGGING, TAMPER-RESISTANT ELASTOMERIC, ASTM C-920, GRADE NS, SHORE HARDNESS A (40-45).

2.06 FOAM GASKET SEAL: PRE COMPRESSED, IMPREGNATED OPEN-CELL FOAM SEALANT INCORPORATING PERMANENTLY ELASTIC OPEN CELL POLYURETHANE FOAM, MANUFACTURER'S STANDARD IMPREGNATING AGENT, AND PRESSURE SENSITIVE BACKING. RESILIENT TO -26 DEGREES F FOR EXTERIOR USE AND WHERE OTHERWISE SUBJECT TO LOW TEMPERATURES.

2.07 PRIMER: AS RECOMMENDED BY SEALANT MANUFACTURER.

2.08 BOND BREAKER: PRESSURE-SENSITIVE ADHESIVE POLYETHYLENE TAPE.

2.09 JOINT CLEANER: NON-CORROSIVE AND NON-STAINING TYPE, RECOMMENDED BY SEALANT MANUFACTURER; COMPATIBLE WITH JOINT FORMING MATERIALS.

2.10 COLORS: SEALANT COLOR SHALL BE SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS.

3.01 PREPARATION OF JOINTS, CLEANING, PRIMING, STORAGE AND HANDLING OF SEALANTS AND PARTICULAR METHODS OF INSTALLATION SHALL CONFORM TO RECOMMENDATIONS OF SEALANT MANUFACTURER FOR EACH SPECIFIC TYPE OF INSTALLATION.

3.02 SEALANT DEPTH SHALL BE 2 TO ONE TIMES THE JOINT WIDTH, BUT NOT LESS THAT 1/4 INCH OR MORE THAN 2 INCH UNLESS OTHERWISE REQUIRED IN SPECIAL CASES.

3.03 APPLY SOLID AND CONTINUOUS BEAD OR BED OF SEALANT TO FILL JOINT WITHOUT VOIDS. CONFINE SEALANT TO JOINT OR AREAS TO BE SEALED AND FINISH TO NEAT STRAIGHT LINES.

3.04 ALL SEALANTS TO MEET THE FOLLOWING MINIMUM VOC LIMIT REQUIREMENTS; SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULE 1168.
- A. ARCHITECTURAL - 250 G/L
- B. POROUS ARCHITECTURAL SEALANT PRIMER - 775 G/L
- C. NON-POROUS ARCHITECTURAL SEALANT PRIMER - 250 G/L

3.05 ALL ARCHITECTURAL COATINGS TO MEET THE FOLLOWING MINIMUM VOC LIMIT REQUIREMENTS; SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULE 1133.
- A. BOND BREAKERS - 350 G/L

3.06 ALL AEROSOL ADHESIVES TO MEET THE FOLLOWING MINIMUM VOC LIMIT REQUIREMENTS; GREEN SEAL STANDARD GS-36.
- A. GENERAL PURPOSE MIST SPRAY - 65% VOC'S BY WEIGHT

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

1.01 STEEL FRAMES SHALL COMPLY WITH ANSI/SDI 100 AND THE REQUIREMENTS SPECIFIED.

1.02 SUBMIT: MANUFACTURER'S PRODUCT DATA, INCLUDING SPECIFICATIONS, SHOP DRAWINGS COVERING EACH TYPE OF FRAME, FRAME CONDITION AND COMPLETE ANCHORAGE DETAILS. INCLUDE SCHEDULE AND FOLLOW DOOR NUMBERING SYSTEM USED ON ARCHITECTURAL DRAWINGS.

1.03 DELIVERY, STORAGE, AND HANDLING: COMPLY WITH MANUFACTURER'S ORDERING INSTRUCTION AND LEAD TIME REQUIREMENTS TO AVOID CONSTRUCTION DELAYS. DELIVER MATERIAL IN MANUFACTURER'S ORIGINAL UNOPENED UNDAMAGED CONTAINERS WITH IDENTIFICATION LABELS INTACT. STORE MATERIALS PROTECTED FROM EXPOSURE TO HARMFUL WEATHER CONDITIONS. COMPLY WITH MANUFACTURER'S RECOMMENDATIONS FOR STORAGE AND HANDLING.

2.01 FRAMES: ONE PIECE, FULLY WELDED, 16 GAUGE, COLD OR HOT-ROLLED SHEET STEEL.

2.02 ANCHORS: PROVIDE ANCHORS AT EACH JAMB AS FOLLOWS FOR EACH 2'-6" OF DOOR HEIGHT OR FRACTION THEREOF: FABRICATE FROM MINIMUM 12 GAUGE SHEET STEEL. VARY ANCHOR TYPES TO PROVIDE POSITIVE FASTENING TO ADJACENT CONSTRUCTION. SECURE A METAL CLIP ANGLE AT BOTTOM OF EACH JAMB MEMBER FOR ANCHORING TO FLOOR, WITH A MINIMUM OF TWO FASTENERS.

2.03 PREPARE STEEL DOOR FRAMES TO RECEIVE HARDWARE. FURNISH APPROVED HARDWARE SCHEDULE, HARDWARE TEMPLATES AND SAMPLES OF PHYSICAL HARDWARE WHERE NECESSARY TO ENSURE CORRECT FITTING AND INSTALLATION. PREPARE SINKAGES AND CUTOUTS FOR MORTISED AND CONCEALED HARDWARE, HARDWARE PREPARATION FOR LABELED OPENINGS SHALL CONFORM TO
THE REQUIREMENTS OF THE LABELING AUTHORITY. PROVIDE REINFORCEMENTS FOR BOTH CONCEALED AND SURFACE APPLIED HARDWARE.

2.04 PAINTED FINISH AS INDICATED IN FINISH SCHEDULE / FRAME TYPES / DOOR SCHEDULE.

3.01 INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE REQUIREMENTS OF STEEL DOOR INSTITUTE (SDI) 100, AND THE REQUIREMENTS OF THE LABELING AUTHORITY.

3.02 APPLY HARDWARE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, TAKING CARE NOT TO DAMAGE HARDWARE, DOORS, FRAMES AND THEIR FINISHES. ADJUST AND LUBRICATE, AS REQUIRED FOR PROPER OPERATION.

SECTION 081416 - FLUSH WOOD DOORS

1.01 DOORS AND PANELS
ALL DOORS: SEE DRAWINGS FOR LOCATION AND ADDITIONAL REQUIREMENTS.
QUALITY LEVEL: PREMIUM GRADE, IN ACCORDANCE WITH AWI/AWMAC/WI ARCHITECTURAL WOODWORK STANDARDS.

1.02 DOOR AND PANEL CORES
CORE FOR NON-RATED AND 20-MINUTE RATED/; ANSI A208.1 GRADE M-2 PARTICLEBOARD, MINIMUM, WITH NO SEAMS ON FACES; EDGES REINFORCED AS REQUIRED TO PASS PERFORMANCE GRADE SPECIFIED.
FIRE-RATED DOORS: MINERAL CORE, TYPE FD, PLIES, AND FACES AS INDICATED ABOVE;WITH CORE BLOCKING AS REQUIRED TO PROVIDE ADEQUATE ANCHORAGE OF HARDWARE WITHOUT THROUGH-BOLTING.
SOUND RETARDANT DOORS: EQUIVALENT TO TYPE PC CONSTRUCTION WITH CORE AS REQUIRED TO ACHIEVE RATING SPECIFIED; PLIES AND FACES AS INDICATED ABOVE.

1.03 DOORS:
1 3/4" FLUSH WOOD DOORS
EXAM/OFFICE DOORS, RELITES AS INDICATED ON DRAWINGS, SAFETY GLAZING AS REQUIRED. FIRE-RATED STORAGE SLIDING DOOR (US10B LABELED SLIDING DOOR LEAF, RATING AS NOTED)

1.04 DOOR CONSTRUCTION:
FABRICATE DOORS IN ACCORDANCE WITH DOOR QUALITY STANDARD SPECIFIED. FACTORY MACHINE DOORS FOR FRAME OPENING DIMENSIONS IDENTIFIED ON SHOP DRAWINGS, WITH EDGE CLEARANCES IN ACCORDANCE WITH SPECIFIED QUALITY STANDARD. LEAD SHIELDING FOR X-RAY ROOM FRAMES AS NOTED BY LEAD SHIELDING REPORT.

SECTION 083400 - SPECIAL FUNCTION DOORS

1.01 MANUFACTURERS:
AD SYSTEMS (ALLEGION)

1.02 DOOR FRAMES:
EXTRUDED ALUMINUM FRAME WITH STAINLESS STEEL INTERLOCKING PROFILE. VALANCES WITH INTEGRAL END CAPS. FINISH AS INDICATED ON DRAWINGS(KYNAR PAINTED OR CLEAR ANODIZED)

1.03 DOORS:
1 3/4" FLUSH WOOD DOORS
DOORS, RELITES AS INDICATED ON DRAWINGS, SAFETY GLAZING AS REQUIRED.

1.04 HARDWARE:
HEAVY DUTY SINGLE TOP TRACK, TOP ROLLERS, SILL FLOOR GUIDE.
HANDLES, CLOSERS, KICKPLATES, LATCHSETS/LOCKSETS AS NOTED IN HARDWARE SETS.

SECTION 087100 - HARDWARE

1.01 FURNISH COMPLETE HARDWARE SCHEDULE AND PRODUCT CATALOG CUTS FOR APPROVAL BY ARCHITECT. A STATEMENT OF OMISSION, DISCREPANCY, OR ERROR SHOULD BE DIRECTED TO ARCHITECT WHERE ITEMS OF HARDWARE NOT DEFINITELY OR CORRECTLY SPECIFIED ARE REQUIRED FOR COMPLETION OF WORK.

1.02 FURNISH HARDWARE TEMPLATES NECESSARY FOR PREPARATORY WORK AND HARDWARE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

1.03 DELIVER EACH HARDWARE ITEM OR SET SEPARATELY PACKAGED AND IDENTIFIED FOR USE IN THE WORK.

2.01 SUBMIT THE FOLLOWING:
1. HARDWARE SCHEDULE.
2. PRODUCT DATA.

2.02 HARDWARE (HW): SEE DOOR & FINISH SCHEDULE FOR SPECIFICATIONS.

2.03 ELECTRONIC SECURITY: WHERE INDICATED, PROVIDE ELECTRIC LATCH RETRACTION PANIC DEVICES, ELECTRIC HINGES, DOOR CONTACT, POWER SUPPLIES, AND RELATED SUPPORT DEVICES TO INTERFACE WITH OWNER SUPPLIED CARD READERS.

3.01 INSTALL HARDWARE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND APPLICABLE SECURITY AND ENERGY CONSERVATION REGULATIONS, UNLESS OTHERWISE NOTED, MOUNT LEVERS, PUSH/PULL PLATES, HANDLES, LOCKS, ETC. AT MANUFACTURER'S STANDARD MOUNTING HEIGHTS, BUT IN NO CASE GREATER THAN ADA REQUIREMENTS WHERE APPLICABLE.

3.02 PROVIDE ENTRANCE CYLINDERS TO GLAZING CONTRACTOR FOR ENTRANCES.

3.03 FIRE-RATED OPENINGS: PROVIDE HARDWARE FOR FIRE-RATED OPENINGS IN COMPLIANCE WITH NFPA 80. THIS REQUIREMENT TAKES PRECEDENCE OVER OTHER REQUIREMENTS FOR SUCH HARDWARE. PROVIDE ONLY SUCH HARDWARE WHICH HAS BEEN TESTED AND LISTED BY UL FOR THE TYPE AND SIZE OF DOOR REQUIRED, AND COMPLIES WITH THE REQUIREMENTS OF THE DOOR AND THE DOOR FRAME LABELS. LATCHING HARDWARE, DOOR CLOSERS, BALL BEARING HINGES, AND SEALS ARE REQUIRED WHETHER OR NOT LISTED IN THE HARDWARE SCHEDULE.

1. WHERE PANIC EXIT DEVICES ARE REQUIRED ON FIRE-RATED DOORS, PROVIDE SUPPLEMENTARY MARKING ON DOOR UL LABEL ON EXIT DEVICE INDICATING "FIRE EXIT HARDWARE."

3.04 KEYING WILL BE COORDINATED BETWEEN TENANT, OWNER AND/OR LANDLORD.

4 DOOR HARDWARE - GENERAL

4.01 ALL HARDWARE TO MATCH FACILITY STANDARDS. REFERENCE DOOR HARDWARE STANDARDS TO BE PROVIDED BY OWNER.

4.02 PROVIDE ALL HARDWARE SPECIFIED OR REQUIRED TO MAKE DOORS FULLY FUNCTIONAL, COMPLIANT WITH APPLICABLE CODES, AND SECURE TO THE EXTENT INDICATED.

4.03 PROVIDE PRODUCTS THAT COMPLY WITH THE FOLLOWING:
APPLICABLE PROVISIONS OF FEDERAL, STATE, AND LOCAL CODES.

5 WARRANTY
- A. BUTT OR CONTINUOUS HINGES: LIFE OF BUILDING
- B. LOCKS AND LATCHES: 7 YEARS, ND SERIES
- C. DOOR CLOSERS: 10 YEARS, MECHANICAL; 1 YEAR, ELECTRICAL
- D. EXIT DEVICES: 3 YEARS, MECHANICAL; 1 YEAR, ELECTRICAL
- E. GASKETS AND SWEEPS: 3 YEARS
- F. THRESHOLDS: 3 YEARS

6 HINGES
- A. HINGES: PROVIDE HINGES ON EVERY SWINGING DOOR, VERIFY MANUFACTURER AND SERIES WITH OWNER STANDARDS.
- B. HINGES SHALL CONFORM TO ANSI 156.1.
- C. PROVIDE NON-REMOVABLE PINS.
- D. WHERE ELECTRIFIED HARDWARE IS MOUNTED IN DOOR LEAF, PROVIDE POWER TRANSFER HINGES.

7 LOCKS AND LATCHES
- A. ALL LOCKSETS SHALL BE ANSI 156.13 SERIES 1000, GRADE 1 CERTIFIED.
- B. LOCKS: PROVIDE A LOCK FOR EVERY DOOR, UNLESS SPECIFICALLY INDICATED AS NOT REQUIRING LOCKING.
- C. HARDWARE SETS INDICATE LOCKING FUNCTIONS REQUIRED FOR EACH DOOR.
- D. IF NO HARDWARE SET IS INDICATED FOR A SWINGING DOOR PROVIDE AN OFFICE LOCKSET.
- E. TRIM: PROVIDE LEVER HANDLE OR PULL TRIM ON OUTSIDE OF ALL LOCKS UNLESS SPECIFICALLY STATE TO HAVE NO OUTSIDE TRIM.
- F. LOCK CYLINDERS: PROVIDE KEY ACCESS ON OUTSIDE OF ALL LOCKS UNLESS SPECIFICALLY STATED TO HAVE NO LOCKING OR NO OUTSIDE TRIM.
- G. KEYING: GRAND MASTER KEYED.
- H. LATCHES: PROVIDE A LATCH FOR EVERY DOOR THAT IS NOT REQUIRED TO LOCK, UNLESS SPECIFICALLY INDICATED "PUSH/PULL" OR "NOT REQUIRED TO LATCH."
- I. ON PAIRS OF SWINGING DOORS, IF AN ASTRAGAL IS PRESENT, PROVIDE COORDINATOR TO ENSURE THE LEAVES CLOSE IN THE PROPER ORDER.

8 CLOSERS

8.01 CLOSERS: COMPLYING WITH BHMA A156.4, LCN 4000 SERIES.

8.02 NON-SIZED, NON-HANDED & ADJUSTABLE. SPRING HINGES ARE NOT AN ACCEPTABLE SELF-CLOSING DEVICE UNLESS SPECIFICALLY SO INDICATED, OPENING PRESSURE 5 LBS.

9 GASKETING AND THRESHOLDS
- A. GASKETS: COMPLYING WITH BHMA A156.22.
- B. (SMOKE SEAL), PEMKO
- C. DOOR SWEEPS: AUTOMATIC DOOR BUTTON, SEMI-MORTISED, PEMKO 4131_RL

10 PROTECTION PLATES AND ARCHITECTURAL TRIM

10.01 PROTECTION PLATES: TRIMCO AS SIZED FOR APPLICATION.

10.02 KICKPLATE: PROVIDE AS NOTED IN HARDWARE SETS. TRIMCO 10"X34"

11 WALL STOPS/FLOOR STOPS

11.01 WALL STOPS: MATCH FACILITY STANDARDS, TRIMCO

SECTION 088000 - GLAZING

1.01 GLASS MATERIALS
FLOAT GLASS
ALL GLAZING TO BE FLOAT GLASS UNLESS OTHERWISE INDICATED.
GLASS: TEMPERED FLOAT GLASS MEETING REQUIREMENTS OF ASTC M1036, TYPE 1, QUALITY Q3, FULLY TEMPERED IN ACCORDANCE WITH ASTM C1048, KIND FT.

1.02 FIRE PROTECTIVE GLAZING (FIRE-RATED OPENINGS IN ACCORDANCE WITH IBC 716 TABLES)
BASIS OF DESIGN: SUPER LITE I-XL BY SAFTIFIRST.
PERFORMANCE: TYPE, THICKNESS, AND CONFIGURATION AS REQUIRED TO MAINTAIN INDICATED RATINGS OF FIRE-RATED ASSEMBLIES. PROVIDE PRODUCTS NOT REQUIRING SURFACE-APPLIED FILMS TO MAINTAIN THEIR PERFORMANCE CRITERIA.
IMPACT SAFETY RESISTANCE: ANSI Z97.1 AND 16 CFR 1201 CATEGORY II.

1.03 FIRE RESISTIVE GLAZING (FIRE-RATED OPENINGS IN ACCORDANCE WITH IBC 716 TABLES)
BASIS OF DESIGN: SUPER LITE II-XL 60, 90, 120 BY SAFTI FIRST.
PERFORMANCE: TYPE, THICKNESS, AND CONFIGURATION AS REQUIRED TO MAINTAIN INDICATED RATINGS OF FIRE-RATED ASSEMBLIES. PROVIDE PRODUCTS NOT REQUIRING SURFACE-APPLIED FILMS TO MAINTAIN THEIR PERFORMA CRITERIA.
IMPACT SAFETY RESISTANCE: ANSI Z97.1 AND 16 CFR 1201 CATEGORY II.

1.04 LAMINATED GLASS
FLOAT GLASS LAMINATED IN ACCORDANCE WITH ASTM C1172.
PERFORMANCE CRITERIA:
SAFETY GLAZING: COMPLY WITH 16 CFR 1201 CATEGORY II.
FEATURES:

1.05 LAMINATED INTERLAYER: THICKNESS 0.03 INCH TYPICAL FOR SAFETY GLAZING; MATERIAL PVB (POLYVINYL BUTYRAL); COLOR/PATTERN CLEAR UNLESS OTHERWISE INDICATED ON DRAWINGS.
LEAD SHIELDING FOR X-RAY ROOM FRAMES AS NOTED BY LEAD SHIELDING REPORT.

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.
- See accompanying project comment form for review status and corrections.
- This is not a building permit, check with your local building department.

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PRCTI20221788

CLARK KJOS
ARCHITECTS, LLC

11095 REGISTERED ARCHITECT
SCOTT D COMBS
STATE OF WASHINGTON

Good Samaritan
A part of MultiCare Health System

HYBRID OR #1
MULTICARE GOOD SAMARITAN HOSPITAL
401 15TH AVE SE, PUYALLUP, WA 98372

PERMIT SET
11/17/2022
REVISIONS

23004
SPECIFICATIONS

G1.1

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SECTION 092100 - GYPSUM BOARD ASSEMBLIES

1.01 COMPLY WITH THE FOLLOWING GENERAL STANDARDS:

A. ASTM C645, C754 AND GA-216 FOR SPECIFICATION AND INSTALLATION OF STEEL FRAMING MEMBERS
B. ASTM C36 FOR GYPSUM WALLBOARD
C. ASTM C840-01 FOR APPLICATION AND FINISHING OF GYPSUM BOARD. WALL TOLERANCES: MAXIMUM VARIATION FROM FLATNESS - 1/8 INCH IN 10 FEET IN ANY DIRECTION
D. ASTM C79 FOR GYPSUM SHEATHING
E. ASTM C630 FOR WATER RESISTANT GYPSUM BOARD (MR)

1.02 COORDINATE INSTALLATION AND WALL LAYOUT WITH ELECTRICAL AND MECHANICAL WORK. PROVIDE BLOCKING AND BACKING AS REQUIRED. COORDINATE FIRE STOPPING APPLICATION.

2.01 METAL FRAMING MATERIALS

NON-LOADBEARING FRAMING SYSTEM COMPONENTS: ASTM C645; GALVANIZED SHEET STEEL, OF SIZE AND PROPERTIES NECESSARY TO
COMPLY WITH ASTM C754 FOR THE SPACING INDICATED, WITH MAXIMUM DEFLECTION OF WALL FRAMING OF L/240 AT 5 PSF (240 PA).
STUDS: SCREW TYPE, 20 GAUGE GALVANIZED ROLL FORMED, FLANGES NOT LESS THAN 1 3/8' WIDE, KNURLED ON OUTSIDE FACE. INSTALLED
AT 16" ON CENTER, EXCEPT WHERE OTHERWISE NOTED.
STRUCTURAL STUDS: 16 GAUGE PUNCHED STRUCTURAL STUDS WITH 1" MINIMAL LEGS. USED AT EACH SIDE OF DOOR FRAMES AND WHERE
WALL MOUNTED EQUIPMENT OR FURNISHINGS ARE SHOWN ON THE DRAWINGS. VERIFY GAUGE OF STUDS AT LEAD SHIELDING PARTITION
ASSEMBLIES TO SUPPORT REQUIRED LEAD-LAMINATED GYPSUM WALLBOARD, 16 GAUGE MINIMUM.
BLOCKING AT WALL MOUNTED ACCESSORIES AND EQUIPMENT: SEE INTERIOR DRAWINGS FOR ALL WALL-MOUNTED DEVICES, PROVIDE EACH
WITH APPROPRIATE WALL-BACKING.

2.02 BOARD MATERIALS

GYPSUM WALLBOARD: PAPER-FACED GYPSUM PANELS AS DEFINED IN ASTM C1396/C1396M; SIZES TO MINIMIZE JOINTS IN PLACE; ENDS SQUARE CUT. LEAD-LAMINATED GYPSUM PANELS, SIZE AND WEIGHT, AS REQUIRED BY PHYSICIST'S REPORT.

APPLICATION: USE FOR VERTICAL SURFACES AND CEILINGS, UNLESS OTHERWISE INDICATED.
AT ASSEMBLIES INDICATED WITH FIRE-RATING: USE TYPE REQUIRED BY INDICATED TESTED ASSEMBLY; IF NO TESTED ASSEMBLY IS
INDICATED, USE TYPE X BOARD, UL OR WH LISTED.
BACKING BOARD FOR WET AREAS: ONE OF THE FOLLOWING PRODUCTS:
APPLICATION: SURFACES BEHIND TILE IN WET AREAS INCLUDING SHOWER SURROUNDS.
ANSI CEMENT-BASED BOARD: NON-GYPSUM-BASED; AGGREGATED PORTLAND CEMENT PANELS WITH GLASS FIBER MESH EMBEDDED IN
FRONT AND BACK SURFACES COMPLYING WITH ANSI A118.9 OR ASTM C1325.
ASTM CEMENT-BASED BOARD: NON-GYPSUM-BASED, CEMENTITIOUS BOARD COMPLYING WITH ASTM C1288.

2.03 ACCESSORIES

ACOUSTIC INSULATION: ASTM C665; PREFORMED GLASS FIBER, FRICTION FIT TYPE, UNFACED.
FINISHING ACCESSORIES: ASTM C1047, GALVANIZED STEEL OR ROLLED ZINC, UNLESS OTHERWISE INDICATED.
JOINT MATERIALS: ASTM C475 AND AS RECOMMENDED BY GYPSUM BOARD MANUFACTURER FOR PROJECT CONDITIONS.

2.04 WALL TEXTURE TO HAVE SMOOTH SURFACE AFTER TAPE & BED AND READY TO RECEIVE NEW FINISHES AS SPECIFIED IN FINISH SCHEDULE. PROVIDE LEVEL 4 FINISH UNLESS OTHERWISE NOTED.

2.05 PROVIDE METAL CORNER BEADS AT VERTICAL AND HORIZONTAL EXTERIOR CORNERS AND METAL J TRIM OR L TRIM AT EXPOSED EDGE CONDITIONS.

2.06 SUBMIT THE FOLLOWING:
1. PRODUCT DATA ON METAL FRAMING, GYPSUM BOARD, JOINT TAPE.
2. TWO (2) 12" X 12" OF EACH GYPSUM BOARD FINISH TEXTURE.
3. MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR EACH PRODUCT PROPOSED FOR USE

2.07PROVIDE DRYWALL ACCESSORIES AS DETAILED ON DRAWINGS.
1. CASING BEADS:USG 200-B METAL TRIM OR EQUAL.
2. CORNER BEADS:USG DURABEAD REINFORCED.
3. EXPANSION JOINTS:BREAK METAL AS INDICATED.

3.01 PROVIDE WALL/CEILING FRAMING SYSTEMS AS SHOWN ON PLANS. SELECT STUD GAUGE BASE ON HEIGHT/SPAN RATIOS RECOMMENDED BY MANUFACTURER. INSTALL FASTENERS NO GREATER THAN 24 INCHES O.C. OR AS REQUIRED BY CODE.

3.02 DOUBLE STUD JAMBS AT OPENINGS.

3.03 SPLICE FLOOR AND CEILING TRACK FOR PROPER ALIGNMENT.

3.04 FURNISH AND INSTALL BLOCKING REQUIRED FOR DOORS, HARDWARE, ACCESSORIES, CABINETRY, ETC. SHOWN ON PLANS. COORDINATE LOCATION OF MECHANICAL/ELECTRICAL AND PLUMBING ASSEMBLIES WITHIN WALL ASSEMBLY.

3.05 INSTALL MULTIPLE LAYERS OF GYPSUM BOARD PERPENDICULAR TO EACH OTHER.

3.06 PROVIDE SLIP JOINT CONNECTION AT UNDERSIDE OF DECK FOR UNINTERRUPTED PARTITIONS INSTALLED FLOOR TO DECK.

3.07 PROVIDE LATERAL WALL BRACING WHERE NECESSARY FOR A RIGID, STABLE INSTALLATION.

3.08 CEILING FRAMING SHALL BE INSTALLED INDEPENDENT OF WALLS, COLUMNS, AND ABOVE CEILING WORK. COORDINATE LOCATION OF HANGER WIRE WITH OTHER TRADES. INSTALL RC CHANNELS 24 INCHES O.C. MAXIMUM IN STRICT ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

3.09 INSTALL NON-HARDENING/NON-SKINNING ACOUSTICAL SEALANT IN WALLS DESIGNED FOR ACOUSTICAL ATTENUATION PER MANUFACTURER'S REQUIREMENTS. INSTALL ACOUSTICAL INSULATION (FS HH I 521, PRE-FORMED MINERAL WOOL FRICTION FIT WITHOUT VAPOR BARRIER) TIGHT WITHIN SPACES, BEHIND AND AROUND ELECTRICAL AND MECHANICAL ITEMS AND TIGHT TO ITEMS PASSING THROUGH WALL ASSEMBLY.

3.10 FIRE CAULK AROUND PENETRATIONS IN FIRE AND ACOUSTICAL ASSEMBLIES.

SECTION 092216 - NON-STRUCTURAL METAL FRAMING

1.01 SECTION INCLUDES:
1. NON-LOAD-BEARING STEEL FRAMING SYSTEMS FOR INTERIOR GYPSUM BOARD ASSEMBLIES.

2.01 MATERIALS
FRAMING MATERIALS
1. STUDS AND TRACK: ASTM C955; STUDS FORMED TO CHANNEL, "C", OR "SIGMA" SHAPE WITH PUNCHED WEB; U-SHAPED TRACK IN MATCHING NOMINAL WIDTH AND COMPATIBLE HEIGHT.
2. RESILIENT CHANNELS: ASTC C645; RC-1/RC-2 CHANNELS FORMED TO DOUBLE-LEG SHAPE; DESIGNED SPECIFICALLY FOR ACOUSTIC WALL ASSEMBLIES.
3. GAGE AND DEPTH: AS REQUIRED TO MEET SPECIFIED PERFORMANCE LEVELS.
4. GALVANIZED IN ACCORDANCE WITH ASTM A653/A653M, G90/Z275 COATING.
METAL STUD SIZES:
1. 6" METAL STUD WALLS: 600S137 - 43MIL @16"O.C.
2. 3 5/8" METAL STUD WALLS: 362S137 - 43MIL @16"O.C.
3. 2 1/2" METAL STUD WALLS: 250S137 - 43MIL @16" O.C.
4. 1/2" RESILIENT CHANNELS: 22 MIL @ 24" O.C.

2.02 FRAMING SYSTEMS
A. STEEL STUDS AND RUNNERS: ASTM C 645. USE EITHER STEEL STUDS AND RUNNERS OR DIMPLED STEEL STUDS AND RUNNERS.
  1. MINIMUM BASE-METAL THICKNESS:0.033 INCH (0.84 MM).
  2. DEPTH: AS INDICATED ON DRAWINGS.
B. SLIP-TYPE HEAD JOINTS: WHERE INDICATED, PROVIDE THE FOLLOWING IN THICKNESS NOT LESS THAN INDICATED FOR STUDS AND IN WIDTH TO ACCOMMODATE DEPTH OF STUDS:
  1. SINGLE LONG-LEG RUNNER SYSTEM: ASTM C 645 TOP RUNNER WITH 2-INCH- (51-MM-) DEEP FLANGES, INSTALLED WITH STUDS FRICTION FIT INTO TOP RUNNER AND WITH CONTINUOUS BRIDGING LOCATED WITHIN 12 INCHES (305 MM) OF THE TOP OF STUDS TO PROVIDE LATERAL BRACING.
C. FLAT STRAP AND BACKING PLATE: STEEL SHEET FOR BLOCKING AND BRACING IN LENGTH AND WIDTH INDICATED.
  1. MINIMUM BASE-METAL THICKNESS: 0.033 INCH (0.84 MM) .
D. COLD-ROLLED CHANNEL BRIDGING: STEEL, 0.053-INCH (1.34-MM) MINIMUM BASE-METAL THICKNESS, WITH MINIMUM 1/2-INCH- (13-MM-) WIDE FLANGES.
  1. DEPTH: 1-1/2 INCHES (38 MM).
  2. CLIP ANGLE: NOT LESS THAN 1-1/2 BY 1-1/2 INCHES (38 BY 38 MM), 0.068-INCH- (1.72-MM-) THICK, GALVANIZED STEEL.
E. FASTENERS FOR METAL FRAMING: OF TYPE, MATERIAL, SIZE, CORROSION RESISTANCE, HOLDING POWER, AND OTHER PROPERTIES REQUIRED TO FASTEN STEEL MEMBERS TO SUBSTRATES.

3.01 INSTALLATION, GENERAL
A. INSTALLATION STANDARD: ASTM C 754.
  1. GYPSUM BOARD ASSEMBLIES: ALSO COMPLY WITH REQUIREMENTS IN ASTM C 840 THAT APPLY TO FRAMING INSTALLATION.
B. INSTALL SUPPLEMENTARY FRAMING, AND BLOCKING TO SUPPORT FIXTURES, EQUIPMENT SERVICES, HEAVY TRIM, GRAB BARS, TOILET ACCESSORIES, FURNISHINGS,OR SIMILAR CONSTRUCTION.
C. INSTALL BRACING AT TERMINATIONS IN ASSEMBLIES.
D. DO NOT BRIDGE BUILDING CONTROL AND EXPANSION JOINTS WITH NON-LOAD-BEARING STEEL FRAMING MEMBERS. FRAME BOTH SIDES OF JOINTS INDEPENDENTLY.

3.02 INSTALLING FRAMED ASSEMBLIES
A. INSTALL FRAMING SYSTEM COMPONENTS ACCORDING TO SPACINGS INDICATED, BUT NOT GREATER THAN SPACINGS REQUIRED BY REFERENCED INSTALLATION STANDARDS FOR ASSEMBLY TYPES.
B. WHERE STUDS ARE INSTALLED DIRECTLY AGAINST EXTERIOR MASONRY WALLS OR DISSIMILAR METALS AT EXTERIOR WALLS, INSTALL ISOLATION STRIP BETWEEN STUDS AND EXTERIOR WALL.
C. INSTALL STUDS SO FLANGES WITHIN FRAMING SYSTEM POINT IN SAME DIRECTION.
D. INSTALL TRACKS (RUNNERS) AT FLOORS AND OVERHEAD SUPPORTS. EXTEND FRAMING FULL HEIGHT TO STRUCTURAL SUPPORTS OR SUBSTRATES ABOVE SUSPENDED CEILINGS, EXCEPT WHERE PARTITIONS ARE INDICATED TO TERMINATE AT SUSPENDED CEILINGS. CONTINUE FRAMING AROUND DUCTS PENETRATING PARTITIONS ABOVE CEILING.
  1. SLIP-TYPE HEAD JOINTS: WHERE FRAMING EXTENDS TO OVERHEAD STRUCTURAL SUPPORTS, INSTALL TO PRODUCE JOINTS AT TOPS OF FRAMING SYSTEMS THAT PREVENT AXIAL LOADING OF FINISHED ASSEMBLIES.
  2. DOOR OPENINGS: SCREW VERTICAL STUDS AT JAMBS TO JAMB ANCHOR CLIPS ON DOOR FRAMES; INSTALL RUNNER TRACK SECTION (FOR CRIPPLE STUDS) AT HEAD AND SECURE TO JAMB STUDS.
    A. INSTALL TWO STUDS AT EACH JAMB UNLESS OTHERWISE INDICATED.
    B. INSTALL CRIPPLE STUDS AT HEAD ADJACENT TO EACH JAMB STUD, WITH A MINIMUM 1/2-INCH (13-MM) CLEARANCE FROM JAMB STUD TO ALLOW FOR INSTALLATION OF CONTROL JOINT IN FINISHED ASSEMBLY.
    C. EXTEND JAMB STUDS THROUGH SUSPENDED CEILINGS AND ATTACH TO UNDERSIDE OF OVERHEAD STRUCTURE.
  3. OTHER FRAMED OPENINGS: FRAME OPENINGS OTHER THAN DOOR OPENINGS THE SAME AS REQUIRED FOR DOOR OPENINGS UNLESS OTHERWISE INDICATED. INSTALL FRAMING BELOW SILLS OF OPENINGS TO MATCH FRAMING REQUIRED ABOVE DOOR HEADS.
  4. SOUND-RATED PARTITIONS: INSTALL FRAMING TO COMPLY WITH SOUND-RATED ASSEMBLY INDICATED.
  5. CURVED PARTITIONS:
    A. BEND TRACK TO UNIFORM CURVE AND LOCATE STRAIGHT LENGTHS SO THEY ARE TANGENT TO ARCS.
    B. BEGIN AND END EACH ARC WITH A STUD, AND SPACE INTERMEDIATE STUDS EQUALLY ALONG A ARCS. ON STRAIGHT LENGTHS OF NO FEWER THAN TWO STUDS AT ENDS OF ARCS, PLACE STUDS 6 INCHES (150 MM) O.C.
E. INSTALLATION TOLERANCE: INSTALL EACH FRAMING MEMBER SO FASTENING SURFACES VARY NOT MORE THAN 1/8 INCH (3 MM) FROM THE PLANE FORMED BY FACES OF ADJACENT FRAMING.

SECTION 096500 - RESILIENT FLOORING

1.01 WARRANTY: PROVIDE MANUFACTURER'S STANDARD 5 YEAR WARRANTY.

2.01 SHEET FLOORING

SEE ROOM FINISH SCHEDULE AND FINISH LEGEND ON DRAWINGS FOR PRODUCTS.
VINYL SHEET FLOORING: COLOR AND PATTERN THROUGHOUT WEAR LAYER THICKNESS, WITH BACKING, AND:
MINIMUM REQUIREMENTS: COMPLY WITH ASTM F1303, TYPE II, WITH CLASS A FIBROUS BACKING.
WEAR LAYER THICKNESS: 0.050" (1.25 MM) MINIMUM.
TOTAL THICKNESS: 0.080" (2.0 MM) MINIMUM.
INTEGRAL COVE BASE WHERE OCCURS TO BE EVENLY ADHERED TO WALL, NO TOP CAP. APPLY SEALANT TO TOP EDGE, COLOR MATCH TO WALL.
VINYL WELDING ROD: SOLID VINYL BEAD PRODUCED BY MANUFACTURER OF VINYL FLOORING FOR HEAT WELDING SEAMS, IN COLOR MATCHING
FIELD COLOR.

2.02 RESILIENT BASE

RESILIENT BASE: ASTM F1861, TYPE TS RUBBER, VULCANIZED THERMOSET; TOP SET STYLE B, COVE, AND AS FOLLOWS:

A. THICKNESS: 0.125" (3.2 MM) THICK.
B. FINISH: SATIN.
C. COLOR: SEE ROOM FINISH SCHEDULE AND FINISH LEGEND ON DRAWINGS.
D. INTEGRAL COVE BASE WHERE OCCURS TO BE EVENLY ADHERED TO WALL, NO TOP CAP. APPLY SEALANT TO TOP EDGE, COLOR MATCH TO WALL.

2.03 RESILIENT ACCESSORIES

NOSING FOR RESILIENT FLOORING, REDUCER STRIP FOR RESILIENT FLOORING, JOINER FOR TILE AND CARPET, TRANSITION STRIPS.
BASIS OF DESIGN PRODUCT: PRODUCTS BY MANUFACTURER OF RESILIENT FLOORING OR BASE. COMPARABLE AND SUBSTITUTED PRODUCTS WILL BE JUDGED BASED ON COLOR MATCH AND AVAILABLE PROFILES. COMPARABLE PRODUCTS BY ONE OF THE FOLLOWING ARE ALSO ACCEPTABLE: BURKE FLOORING: WWW.BURKEMERCER.COM, TARKETT: WWW.TARKETT.COM, ROPPE CORP: WWW.ROPPE.COM.
LOCATIONS: PROVIDE RUBBER MOLDING ACCESSORIES IN AREAS INDICATED AND AS RECOMMENDED BY FLOORING MANUFACTURER FOR COMPLETE INSTALLATION.

2.04 SUBMIT THE FOLLOWING:
1. PRODUCT DATA FOR EACH TYPE OF PRODUCT SPECIFIED.
2. TWO (2) SAMPLES OF EACH SCHEDULED PRODUCT.
3. MAINTENANCE DATA (TO BE INCLUDED IN OPERATING AND MAINTENANCE MANUAL).
4. MSDS DATA OF MANUFACTUER'S RECOMMENDED ADHESIVES.

3.01 INSTALL MATERIALS IN COMPLIANCE WITH MANUFACTURER'S PRINTED SPECIFICATIONS AND INSTALLATION INSTRUCTIONS. PAINTING SHALL BE SUBSTANTIALLY COMPLETED BEFORE START OF LAYING FLOORING AND PERMANENT MECHANICAL SYSTEM MUST BE IN OPERATION. WHERE DIFFERENT COLORED MATERIALS OCCUR IN ADJOINING ROOMS OR SPACES, MAKE COLOR CHANGE ON A LINE CENTERING UNDER DOOR WHEN CLOSED. TIGHTLY BOND TO SUBSTRATE WITH CONTINUOUS CONTACT THROUGHOUT AREA OF EACH PIECE.

3.02 INSTALL BASE WITH NEATLY MITERED INSIDE CORNERS, AND BACK BEVELED WRAPPED OUTSIDE CORNERS. INSTALL STRAIGHT WITHOUT GLARING BULGES AND GAPS.

3.03 RESILIENT FLOORING AND RESILIENT BASE ADHESIVES TO MEET THE FOLLOWING MINIMUM VOC LIMIT REQUIREMENTS; SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULE 1168.

A.	VCT AND ASPHALT TILE ADHESIVES	- 50 G/L
B.	RUBBER FLOOR ADHESIVES	- 60 G/L
C.	COVE BASE INSTALLATION	- 50 G/L

3.04 PROVIDE 5% ATTIC STOCK OF EACH SCHEDULED FINISH.

SECTION 099100 - PAINTING

1.01 WORK INCLUDES SURFACE PREP & PAINTING OF INTERIOR & EXTERIOR SURFACES AS INDICATED ON PLANS. UNLESS OTHERWISE INDICATED PAINTING DOES NOT INCLUDE: PREFINISHED MATERIAL; PLUMBING PIPING; CONCEALED INTERIOR SPACES OR PLENUMS, INTERIOR STRUCTURAL STEEL OTHER THAN EXPOSED STEEL COLUMNS IN FINISHED AREAS.

1.02 PAINT EXPOSED SURFACES, EXCEPT WHERE THE PAINT SCHEDULES INDICATE THAT A SURFACE OR MATERIAL IS NOT TO BE PAINTED OR IS TO REMAIN NATURAL. IF THE PAINT SCHEDULES DO NOT SPECIFICALLY MENTION AN ITEM OR A SURFACE, PAINT THE ITEM OR SURFACE THE SAME AS SIMILAR ADJACENT MATERIALS OR SURFACES WHETHER OR NOT SCHEDULES INDICATE COLORS. IF THE SCHEDULES DO NOT INDICATE COLOR OR FINISH, THE DESIGNER WILL SELECT FROM STANDARD COLORS AND FINISHES AVAILABLE. PAINTING INCLUDES FIELD PAINTING OF EXPOSED BARE AND COVERED PIPES AND DUCTS (INCLUDING COLOR CODING), HANGERS, EXPOSED STEEL AND IRON WORK, AND PRIMED METAL SURFACES OF MECHANICAL & ELECTRICAL EQUIPMENT. DO PARTS, & LABELS.

1.03 PREPARATION: PAINT ONLY WHEN PROPER SURFACE PREPARATION HAS BEEN MADE ACCORDING TO MANUFACTURER'S REQUIREMENTS AND WHEN AMBIENT CONDITIONS OF TEMPERATURE AND HUMIDITY ARE WITHIN RECOMMENDED RANGES.

1.04 EXTERIOR PAINTING SHALL NOT BE UNDERTAKEN WHEN AIR OR SURFACE TEMPERATURE IS BELOW 50 DEGREES OR FOLLOWING RAIN, FROST, OR CONDENSATION.

1.05 INTERIOR TEMPERATURE OF 65 DEGREES SHALL BE MAINTAINED DURING APPLICATION AND CURING OF PAINT SURFACES.

1.06 TOPS AND BOTTOMS OF DOORS ARE TO BE FINISHED IN SAME MANNER AS DOOR FACINGS.

1.07 CONFORM TO MANUFACTURER'S REQUIREMENTS FOR APPLICATION OF PAINT FINISHES. MATERIALS SHALL BE APPLIED FREE OF RUNS, SAGS, WRINKLES, STREAKS, SHINERS, HOLIDAYS, AND BRUSH MARKS.

1.08 FORMULATE PRIME COATS WITH COLOR OF FINISH COATS. MINIMUM DRY FILM THICKNESS (MDFT OR DFT): SPECIFIED BY MINIMUM DRY FILM THICKNESS IN MILLIMETERS, PER COAT. WHERE MANUFACTURER'S RECOMMENDATIONS REQUIRE GREATER DRY FILM THICKNESS', OR IF NO MDFT IS SPECIFIED, FOLLOW MANUFACTURER'S RECOMMENDATIONS.

SECTION 099100 - PAINTING - CONTINUED

1.09 PAINT SYSTEM: TWO OR MORE COATS OF PAINT, GENERALLY CONSISTING OF A PRIME COAT AND ONE OR MORE COATS OF FINISH PAINT. PAINT SYSTEM INCLUDES SURFACE PREPARATION AND REQUIRED PRETREATMENT. REFER TO PAINT SCHEDULE FOR PAINT SYSTEM DESCRIPTIONS BASED ON MATERIAL TO BE PAINTED AND SHEEN INDICATED.

A. SELECT PRIMER FROM SPECIFIED PRODUCTS FOR SUBSTRATE INVOLVED. FIELD APPLIED PRIMER COAT IS REQUIRED FOR EACH MATERIAL SCHEDULED FOR PAINT UNLESS THE PRIMER WAS SHOP APPLIED.
B. TOUCH UP OF DAMAGED SHOP APPLIED PRIMERS IS A REQUIREMENT OF THIS SECTION.
C. TWO TOPCOATS ARE REQUIRED FOR EACH PAINT SYSTEM UNLESS OTHERWISE INDICATED.
D. EXTERIOR FINISHING REQUIRED:
  1. FERROUS METALS. SATIN FINISH ALKYD OVER TWO COATS RUST INHIBITOR PRIMER.
  2. GALVANIZED IRON: ALKYD MODIFIED VINYL ACRYLIC LATEX OVER GALVANIZED METAL LATEX PRIMER.
  3. TEXTURED MASONRY: ALKYD MODIFIED VINYL ACRYLIC LATEX OVER EXTERIOR BLOCK FILLER PRIMER.
  4. WOOD: LOW LUSTER ALKYD MODIFIED VINYL ACRYLIC LATEX OVER LATEX EXTERIOR PRIMER.
  5. WOOD STAIN: TWO COATS SEMI TRANSPARENT STAIN AND PRESERVATIVE, OIL BASED.
E. INTERIOR FINISHING REQUIRED:
  WOOD: SATIN FINISH ALKYD SATIN IMPERVO ENAMEL OVER ALKYD OR LATEX PRIME COAT.
  WOOD STAIN/CLEAR FINISH: ALKYD PENETRATING STAIN WITH ONE COAT SANDING SEALER WITH TWO COATS SATIN FINISH.
  PLASTER/DRYWALL: ONE COAT LATEX PRIMER, TWO COATS VINYL ACRYLIC LATEX.
  MASONRY: FLAT FINISH, TWO COATS FLAT LATEX OVER ONE COAT BLOCK FILLER; SEMI GLOSS FINISH, TWO COATS SEMI GLOSS LATEX OVER BLOCK FILLER.
  EPOXY: TWO COATS WATERBORNE ACRYLIC EPOXY ENAMEL OVER APPROPRIATE SUBSTRATE PRIMER.
  FERROUS METAL: TWO COATS SATIN FINISH ALKYD OVER ONE COAT RUST INHIBITIVE LATEX PRIMER.

2.01 PAINT MATERIALS (P): SEE FINISH SCHEDULE FOR COLOR AND MATERIAL DESIGNATIONS.

2.02 PAINTS AND COATINGS - GENERAL
VOLATILE ORGANIC COMPOUND (VOC) CONTENT:
PROVIDE COATINGS THAT COMPLY WITH THE MOST STRINGENT REQUIREMENTS SPECIFIED IN THE FOLLOWING: 40 CFR 59, SUBPART D--NATIONAL VOLATILE ORGANIC COMPOUND EMISSION STANDARDS FOR ARCHITECTURAL COATINGS. OZONE TRANSPORT COMMISSION (OTC) MODEL RULE, ARCHITECTURAL, INDUSTRIAL, AND MAINTENANCE COATINGS; WWW.OTCAIR.ORG; SPECIFICALLY:

OPAQUE, FLAT: 50 G/L, MAXIMUM.
OPAQUE, NONFLAT: 150 G/L, MAXIMUM.
OPAQUE, HIGH GLOSS: 250 G/L, MAXIMUM.
VARNISHES: 350 G/L, MAXIMUM.

ARCHITECTURAL COATINGS VOC LIMITS OF STATE IN WHICH THE PROJECT IS LOCATED.
DETERMINATION OF VOC CONTENT: TESTING AND CALCULATION IN ACCORDANCE WITH 40 CFR 59, SUBPART D (EPA METHOD 24), EXCLUSIVE OF COLORANTS ADDED TO A TINT BASE AND WATER ADDED AT PROJECT SITE; OR OTHER METHOD ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
COLORS: AS INDICATED ON DRAWINGS

2.03 PRE-WALL COVERING PRIMER: ROMAN PRO-977 ULTRA PRIME PRIMER/SEALER, ZINSSER; SHIELDZ UNIVERSAL PRE-WALL COVERING PRIMER OR AS REQUIRED BY WALL COVERING MANUFACTURER.

2.04 SUBMIT THE FOLLOWING:
1. PRODUCT DATA.
2. TWO (2) 8" X 10" SAMPLES OF EACH SCHEDULED FINISH / COLOR ON SCHEDULED SUBSTRATE (PROVIDE 1/4" THICK SUBSTRATE FOR SAMPLES OF PAINT ON GYPSUM BOARD).

3.01 PAINT SYSTEMS - INTERIOR
INTERIOR WOOD FRAMES, PAINT TO MATCH EXISTING
DOOR FRAMES, HANDRAILS, OTHER PRE-PRIMED METALS:
NEW GYPSUM BOARD/PLASTER: SEE FINISH PLAN AND SCHEDULE
EXISTING GYPSUM BOARD/PLASTER: SEE FINISH PLAN AND SCHEDULE
NEW GYPSUM BOARD/PLASTER TO RECEIVE WALL COVERINGS: SEE FINISH PLANS AND SCHEDULE
NEW AND EXISTING GYPSUM BOARD IN OPERATING ROOMS, PROCEDURE ROOMS, TOILET ROOMS, AND OTHER AREAS AS INDICATED IN FINISH SCHEDULE:
PRIMER AND FINISH COATS AS RECOMMENDED BY MANUFACTURER.

3.02 ITEMS AND SURFACES NOT TO BE PAINTED:
A. FURRED SPACES, INTERIOR OF VERTICAL SHAFTS, OR SPACES ABOVE SUSPENDED CEILINGS, INCLUDING ITEMS WITHIN THESE SPACES.
B. WALL, CEILING OR FLOOR SURFACES OF ROOMS NOT SCHEDULED ON THE ROOM FINISH SCHEDULE FOR FINISHING.
C. ITEMS OCCURRING ON/IN WALL, CEILING OR FLOOR SURFACES NOT SCHEDULED ON THE ROOM FINISH SCHEDULE FOR FINISHING EXCEPT THE FOLLOWING:
  1. UNPRIMED OR SHOP PRIMED STEEL OR GALVANIZED STEEL DOORS & FRAMES (PAINT AS SPECIFIED FOR THESE ITEMS IN THE INTERIOR PAINTING SCHEDULE).
  2. UNPRIMED OR SHOP PRIMED STEEL OR GALVANIZED STEEL RAILINGS, LADDERS AND STAIRS (PAINT AS SPECIFIED FOR THESE ITEMS IN THE INTERIOR PAINTING SCHEDULE).
  3. STEEL DOORS AND FRAMES (PAINT AS SPECIFIED FOR STEEL).
  4. STEEL HANDRAILS (PAINT AS SPECIFIED FOR STEEL).
  5. OTHER EXPOSED BARE OR PRIME PAINTED STEEL, IRON, GALVANIZED STEEL, UNFINISHED ALUMINUM, INCLUDING FASTENERS AND ANCHORS (PAINT AS SPECIFIED FOR METALS OF TYPE INVOLVED).
D. NEW MATERIALS WHICH HAVE BEEN FURNISHED WITH A FACTORY APPLIED DECORATIVE FINISH.
E. SPRINKLER HEADS

3.03 UNLESS EXCLUDED UNDER THE ITEMS AND SURFACES NOT TO BE PAINTED PARAGRAPH, PAINT NEW SURFACES AS FOLLOWS:
A. GIVE NEW SURFACES AND ITEMS ONE COAT OF PRIMER AND TWO COATS OF TOPCOAT, (UNLESS INDICATED OTHERWISE) USING APPROPRIATE PAINT SYSTEM FOR SUBSTRATE INVOLVED AND USING TOPCOAT OF TYPE SCHEDULED.
B. WHERE FIELD APPLIED PRIME COATS ARE SCHEDULED, THEY MAY BE OMITTED FOR SHOP PRIMED ITEMS. TOUCH UP DAMAGED AREAS WITH SCHEDULED COMPATIBLE PRIMERS.
C. SPOT PRIME PATCHED AND DAMAGED FINISHES OF EXISTING SURFACES AND ITEMS (UNLESS TOPCOAT MANUFACTURER REQUIRES COMPLETE PRIMING) USING APPROPRIATE PRIMER SPECIFIED FOR SUBSTRATE INVOLVED, FOLLOWED BY TWO TOPCOATS USING TYPE OF TOPCOAT MATCHING EXISTING IN SHEEN AND COLOR (UNLESS OTHERWISE NOTED), AND EXTENDING OVER THE ENTIRE SURFACE TO THE NEAREST BREAK IN THE SURFACE.
D. INTERIOR EXPOSED STRUCTURE OVERHEAD INCLUDING EXPOSED MECHANICAL AND ELECTRICAL WORK OVERHEAD IN THESE SPACES.
E. CONCEALED SPRINKLER HEAD CAPS TO MATCH CEILING FINISH SURFACE IF HEADS RESIDE IN NON-CEILING WHITE AREAS. FACTORY PAINTED CAPS TO MATCH SPECIFIED COLOR. SEE FINISH SCHEDULE FOR COLOR PAINT SPECIFICATION.

3.04 PROTECT FINISHES OF OTHER TRADES OR SURFACES. CLEAN UP SPILLS, OVER SPRAY, & OTHER IMPERFECTIONS IMMEDIATELY. PROPERLY DISPOSE OF UNUSED MATERIALS & CONTAINERS IN ACCORDANCE WITH APPLICABLE RULES & REGULATIONS. FOLLOW PROPER VENTILATION REQUIREMENTS & ADHERE TO SAFETY DATA SHEET REQUIREMENTS.

3.05 FURNISH MAINTENANCE STOCK EQUAL TO 5 GALLONS OF PRIME INTERIOR FIELD COLOR AND ONE GALLON CONTAINERS OF OTHER PAINT FINISHES WITH MIX FORMULAS CLEARLY MARKED ON THE CONTAINERS.

3.06 ALL PAINTS TO MEET THE FOLLOWING MINIMUM VOC LIMIT REQUIREMENTS; TOPCOAT PAINTS - GREEN SEAL STANDARD GS-11.

A.	NON-FLAT	- 150 G/L
B.	FLAT	- 50 G/L

3.07 ALL ANTI-CORROSIVE AND ANTI-RUST PAINTS TO MEET THE FOLLOWING MINIMUM VOC LIMIT REQUIREMENTS; GREEN SEAL STANDARD GS-03.

A.	GLOSS	- 50 G/L
B.	SEMI-GLOSS	- 250 G/L
C.	FLAT	- 250 G/L

3.08 ALL OTHER ARCHITECTURAL COATINGS, PRIMERS AND UNDERCOATS TO MEET THE FOLLOWING MINIMUM VOC LIMIT REQUIREMENTS; SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULE 1113

A.	FLOOR COATINGS	- 100 G/L
B.	PRIMERS, SEALERS AND UNDERCOATERS	- 200 G/L
C.	RUST PREVENTATIVE COATINGS	- 400 G/L
D.	SPECIALTY PRIMERS	- 350 G/L
E.	STAINS	- 250 G/L

SECTION 102600 - WALL AND CORNER PROTECTION

1.01 COMPONENTS
VINYL/ACRYLIC COVERED CRASH RAIL, CORNER GUARDS AND END GUARDS, BUMPER RAILS, HIGH IMPACT WALL PROTECTION:
SEE ROOM FINISH SCHEDULE AND FINISH LEGEND ON DRAWINGS FOR PRODUCTS.
SURFACE BURNING CHARACTERISTICS: FLAME SPREAD INDEX OF 25 OR LESS, SMOKE DEVELOPED INDEX OF 450 OR LESS, WHEN TESTED IN
ACCORDANCE WITH ASTM E 84

SECTION 123600 - COUNTERTOPS

1.01 WALL HUNG AND CASEWORK SUPPORTED COUNTERTOPS FABRICATED FROM PLASTIC LAMINATE, SOLID SURFACE, WOOD, EPOXY RESIN, CONCRETE, QUARTZ/RESIN, PAPER COMPOSITE, STONE, AND STAINLESS STEEL.

1.02 PLASTIC LAMINATE COUNTERTOPS: HIGH-PRESSURE DECORATIVE LAMINATE SHEET BONDED TO EXTERIOR GRADE PLYWOOD SUBSTRATE CONVENTIONALLY FABRICATED WITH EDGE CONDITION AS INDICATED ON DRAWINGS. ALL EXPOSED SUBSTRATE TO BE SEALED WITH PAINT.

1.03 SOLID SURFACE MATERIAL COUNTERTOPS: SOLID SURFACING SHEET OR PLASTIC RESIN CASTING OVER CONTINUOUS EXTERIOR-GRADE PLYWOOD SUBSTRATE CONVENTIONALLY FABRICATED WITH EDGE CONDITION AS INDICATED ON DRAWINGS. ALL EXPOSED SUBSTRATE TO BE SEALED WITH RESIN, MINERAL FILLER, AND PIGMENTS; HOMOGENOUS, NON-POROUS, AND CAPABLE OF BEING WORKED AND REPAIRED USING STANDARD WOODWORKING TOOLS; NO SURFACE COATING; COLOR AND PATTERN CONSISTENT THROUGHOUT THICKNESS.
SURFACE BURNING CHARACTERISTICS: FLAME SPREAD 2, MAXIMUM; SMOKE DEVELOPED 40, MAXIMUM; WHEN TESTED IN ACCORDANCE WITH ASTM E84.NSF APPROVED FOR FOOD CONTACT. BUILT UP TO MINIMUM 1-1/2" THICK; SQUARE EDGE; USE MARINE EDGE AT SINKS. BACK AND END SPLASHES: SAME SHEET MATERIAL, SQUARE TOP, MINIMUM 4" HIGH AND INTEGRAL WITH COUNTERTOP.

1.04 PLASTIC EDGE BANDING: EXTRUDED PVC, FLAT SHAPED; SMOOTH FINISH; OF WIDTH TO MATCH COMPONENT THICKNESS.

1.05 SEE INTERIOR ELEVATIONS ROOM FINISH SCHEDULE AND FINISH LEGEND ON DRAWING FOR LOCATIONS, DETAILS, AND PRODUCTS.

2.01 FABRICATION
PLASTIC LAMINATE: APPLY PLASTIC LAMINATE FINISH IN FULL UNINTERRUPTED SHEETS CONSISTENT WITH MANUFACTURED SIZES. FIT CORNERS AND JOINTS HAIRLINE; SECURE WITH CONCEALED FASTENERS. LOCATE COUNTER BUTT JOINTS MINIMUM 2 FEET (600 MM) FROM SINK CUTOUTS.

SOLID SURFACING: FABRICATE TOPS UP TO 144" LONG IN ONE PIECE; JOIN PIECES WITH ADHESIVE SEALANT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.

SECTION 134905 - X-RAY RADIATION PROTECTION

1.01 PROVIDE LEAD-LINED DOORS, FRAMES, RELITES, LEAD-LAMINATED GYPSUM WALLBOARD AND PARTITION ASSEMBLIES AS REQUIRED BY LEAD SHIELDING REPORT (PROVIDED BY OWNER). COORDINATE PENETRATIONS THROUGH PARTITIONS AS REQUIRED TO MAINTAIN CONTINUITY OF SHIELDING PER REPORT.

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

- See accompanying project comment form for review status and corrections.
- This is not a building permit, check with your local building department.

03/08/2023 8:20:21 PM

PRCTI20221788

CLARK KJOS
ARCHITECTS, LLC

11095
REGISTERED ARCHITECT
SCOTT D COMBS
STATE OF WASHINGTON

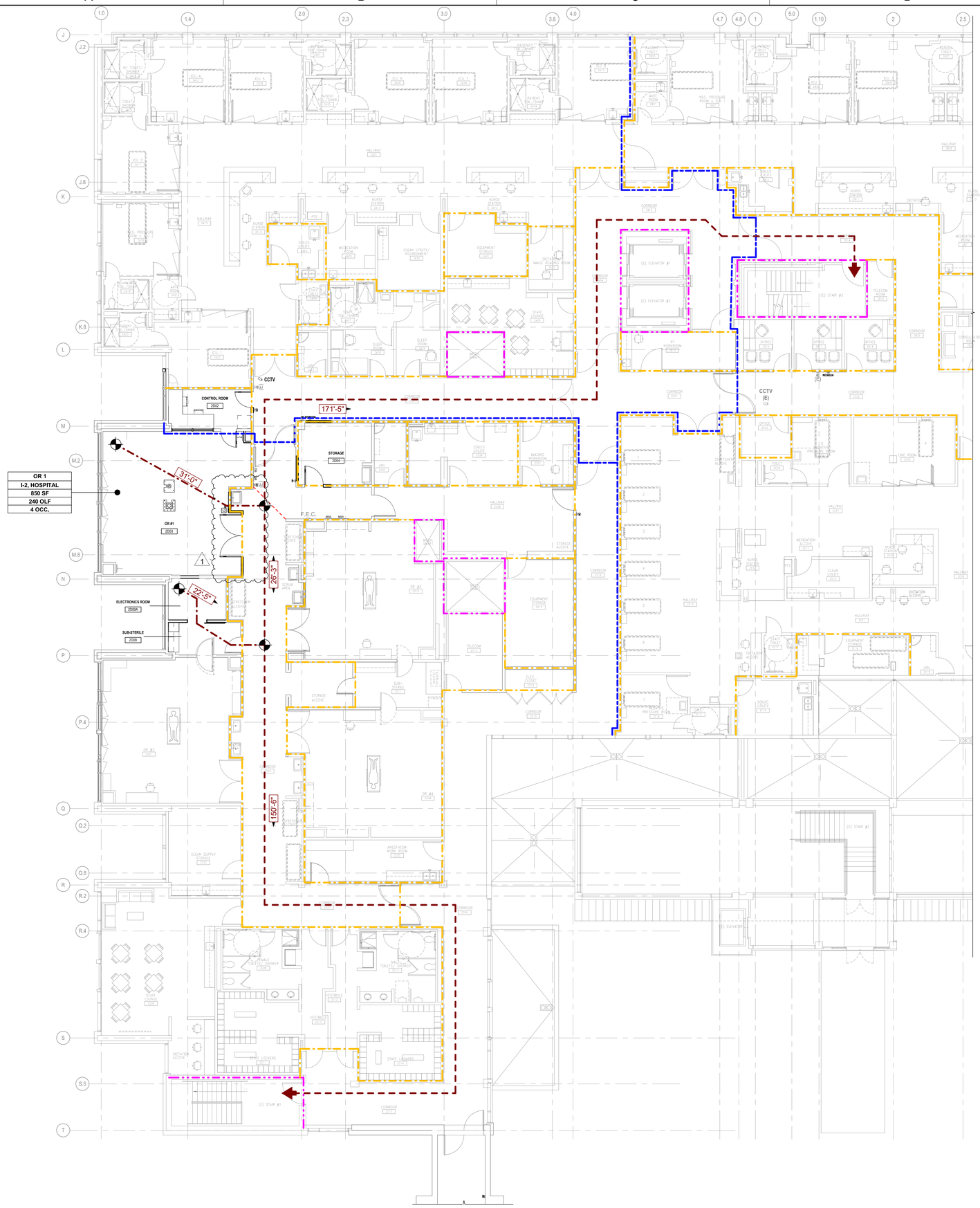
Good Samaritan
A part of MultiCare Health System

HYBRID OR #1
MULTICARE GOOD SAMARITAN HOSPITAL
401 15TH AVE SE, PUYALLUP, WA 98372

PERMIT SET
11/17/2022
REVISIONS

23004
SPECIFICATIONS

G1.2



1 LEVEL 2 - FIRE LIFE & SAFETY PLAN
1/8" = 1'-0"

APPLICABLE CODE REVIEW FOR "AREA OF WORK"

PROJECT NAME:	HYBRID OR 1
SITE ADDRESS:	401 15TH AVE SE, PUYALLUP, WA 98372
PARCEL NUMBER:	9810000014
LEGAL DESCRIPTION:	Section 34 Township 20 Range 04 Quarter 23 WOODS 1ST CANNOT BE SOLD OR SUBD WITHOUT 001-5 & 001-6 LOT 1 OF BLA 2010-06-15-5001 DESC AS BEG AT A PT 30 FT E & 151.05 FT N OF INTER OF 15TH AV SE & 3RD ST SE TH N 322.08 FT TH E 692.45 FT TH S 78 DEG 58 MIN 52 SEC E 0.44 FT TH S 49.97 FT TH E 40.98 FT TH S 43.29 FT TH N 41.04 FT TH S 181.78 FT TH W 30 FT TH S 196.6 FT TO BEG CURVE CONCAVE TO NW HAVING A RAD OF 19.5 FT & C/A OF 59 DEG 50 MIN 20 SEC & BEING SUBTENDED BY A CHORD WHICH BEARS S 56 DEG 53 MIN 06 SEC W 19.45 FT TH SWLY & WLY ALG SD CURVE 20.37 FT TO PT OF REVERSE CURV TH WLY & SWLY & SLY 90.9 FT CONCAVE TO SE HAVING A RAD OF 60.5 FT & C/A OF 86 DEG 05 MIN 15 SEC TH S 3.26 FT TH SLY, SWLY & WLY 14.92 FT ALG CURVE CONCAVE TO NW HAVING A RAD OF 9.5 FT & C/A OF 89 DEG 59 MIN 59 SEC TH W 107.24 FT TO BEG OF CURVE CONCAVE TO NW HAVING A RAD OF 55.98 FT & C/A OF 81 DEG 57 MIN 04 SEC & BEING SUBTENDED BY CHORD WHICH BEARS S 49 DEG 34 MIN 17 SEC W 73.42 FT TH SLY, SWLY & WLY ALG SD CURVE 80.07 FT TH W 6.43 FT TH S 1311.8 FT TH SLY & SELY 14.27 FT ALG SD CURVE CONCAVE TO E HAVING A RAD OF 25 FT & C/A OF 32 DEG 42 MIN 11 SEC TH N 88 DEG 06 MIN 01 SEC W 77.46 FT TO BEG OF CURVE CONCAVE TO N HAVING A RAD OF 40 FT & A C/A OF 43 DEG 31 MIN 52 SEC & BEING SUBTENDED BY CHORD WHICH BEARS S 70 DEG 08 MIN 03 SEC W 29.66 FT TH SWLY & WLY ALG SD CURVE 30.39 FT TH N 88 DEG 06 MIN 01 SEC W 238.87 FT TO BEG OF A CURVE CONCAVE TO NE HAVING A RAD OF 63 FT & A C/A OF 65 DEG 47 MIN 29 SEC & BEING SUBTENDED BY CHORD WHICH BEARS N 48 DEG 11 MIN 19 SEC W 68.43 FT TH WLY, NWLY & NLY ALG SD CURVE 72.34 FT TH N 12 DEG 28 MIN 32 SEC W 81.31 FT TO POB TOG/W POR CYD TO CY OF PUY PER ETN 4234255 EXC THOSE POR DETER EXEMPT UNDER DOR REG # 01777-001 & 09663-004 ALSO EXC POR CYD TO CY OF PUYALLUP PER ETN 4232324 TOG/W VAC ORD 2958 EASE OF RECORD OUT OF 981000-042-0, 043-0, 044-0, 045-0, 046-0, 047-0, 048-0, 049-0, 050-0, 051-0, 052-0, 053-0, 054-0, 066-0, 067-0 SEG 2011- 0091 BB 10/11/10 BB DC00354165 5/2/2014 KG
ZONING:	MED-MEDICAL
PROPERTY OWNER:	MultiCare Good Samaritan
CODES:	2018 INTERNATIONAL BUILDING CODE AND ALL RELATED MEP AND LIFE SAFETY CODES
OCCUPANCY:	I-2 (EXISTING - NO CHANGE)
NUMBER OF STORIES:	4 (EXISTING - NO CHANGE) 2 BELOW GRADE PLANE 2 ABOVE GRADE PLANE
CONSTRUCTION TYPE:	I-A (EXISTING - NO CHANGE)
FIRE PROTECTION:	AUTOMATIC FIRE-EXTINGUISHING SYSTEM, FULLY SPRINKLERED (EXISTING - NO CHANGE)
T.I. AREA:	APPROX 1,325 SF
AREA OF WORK - (USE):	LEVEL 2 - (OR 1)
MAX COMMON PATH OF TRAVEL:	75 FT (100 FT WITH SPRINKLER)
MAX TRAVEL DISTANCE: (1016.2)	200 FT (300 FT WITH SPRINKLER)

FLS GENERAL NOTES

1. THESE PLANS ARE INTENDED TO SHOW THE FIRE AND LIFE SAFETY SYSTEM FOR THE FLOOR AREAS SHOWN. THEY ARE INTENDED TO BE **PRINTED IN COLOR** TO CLEARLY INDICATE ALL PROVIDED INFORMATION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT ALL TRADES ARE THOROUGHLY FAMILIAR AND COMPLY WITH THE REQUIREMENTS LISTED IN THE "FIRE AND LIFE SAFETY STANDARDS" (FLSS). BRING ANY AREAS OF CONCERN TO THE ATTENTION OF THE ASSOCIATED DESIGN TEAM MEMBERS AND THE OWNER'S CONSTRUCTION MANAGER (CM).
3. ALL NEW RATED ASSEMBLIES SHALL BE CONSTRUCTED TO PREVENT THE MOVEMENT OF FLAME OR GASSES PER THE INTENT OF THE DESIGN DOCUMENTS. CONSULT THE DESIGN TEAM AND OWNER'S CM AS REQUIRED.
4. ALL NEW RECESSED ITEMS SHALL HAVE RATED ENCLOSURES AND MAINTAIN THE RATED ASSEMBLY AT ANY EXISTING OR NEW RATED WALLS PER THE INTENT OF THE DESIGN DOCUMENTS. CONSULT THE DESIGN TEAM AND OWNER'S CM AS REQUIRED.
5. ALL PENETRATIONS THROUGH RATED ASSEMBLIES IN AREAS OF WORK SHALL BE FIRESTOPPED OR SEALED PER THE INTENT OF THE DESIGN DOCUMENTS. CONSULT THE DESIGN TEAM AND OWNER'S CM AS REQUIRED.
6. THE CONTRACTOR SHALL FIELD VERIFY THE CONDITION OF THE EXISTING FLSS SYSTEMS IN THE AREAS OF WORK THAT MAY REQUIRE UPDATING. AREAS INCLUDE (BUT ARE NOT LIMITED TO) THE FOLLOWING:
   - A. CONTRACTOR TO VERIFY THAT ALL EXISTING PENETRATIONS OF RATED ASSEMBLIES WHICH ARE EXPOSED TO VIEW DURING CONSTRUCTION ARE COMPLIANT WITH CODE REQUIREMENTS.
   - B. CONTRACTOR TO EXTEND ANY EXISTING WALL (WITHIN THE AREA OF WORK) TO STRUCTURE WHICH IS REQUIRED BY FLSS BUT DOES NOT PRESENTLY EXIST.
   - C. CONTRACTOR TO VERIFY THAT ALL DUCTWORK PENETRATIONS THROUGH RATED ASSEMBLIES ARE EQUIPPED WITH FIRE AND/ OR SMOKE DAMPERS AS REQUIRED BY CODE.
   - D. CONTRACTOR TO VERIFY THAT THE FIRE ALARM, EMERGENCY LIGHTING, AND EMERGENCY POWER IN THE AREA OF WORK CONFORMS TO THE FLSS "ELECTRICAL STANDARDS" SECTION FOR THE OCCUPANCY TYPE INDICATED ON THE FLSS PLANS.
7. SEE THE MEP DOCUMENTS FOR ADDITIONAL INFORMATION CONCERNING FLSS, DETAILS, FIXTURES AND EQUIPMENT RELATED TO ALL RATED ASSEMBLIES AND THE FIRE AND LIFE SAFETY SYSTEMS (EXISTING OR NEW).
8. ASSUME ANY EXISTING CONDITIONS NOTED ABOVE ARE COMPLIANT, UNLESS NOTED OTHERWISE. BRING OBSERVED NON-COMPLIANT CONDITIONS TO THE ATTENTION OF THE DESIGN TEAM AND THE OWNER'S CM.

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

- See accompanying project comment form for review status and corrections.
- This is not a building permit, check with your local building department.

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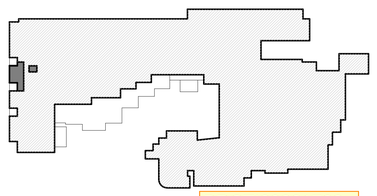
LEGEND

- 1-HR FIRE BARRIER
- 2-HR FIRE BARRIER
- 1-HR SMOKE BARRIER
- X'-X" EGRESS DISTANCE
- SUITE NAME / OccupancyType / 5,000 SF / 100 SF / OCC / 50 OCC — OCCUPANCY TAG

KEY PLAN - LEVEL 2

AREA OF WORK



PRCTI20221788

CLARK KJOS ARCHITECTS, LLC

STATE OF WASHINGTON REGISTERED ARCHITECT SCOTT D COMBS

Good Samaritan — A part of MultiCare Health System

HYBRID OR #1
MULTICARE GOOD SAMARITAN HOSPITAL
401 15TH AVE SE, PUYALLUP, WA 98372

PERMIT SET
11/17/2022
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23004

LEVEL 02 - FIRE LIFE SAFETY PLAN & CODE REVIEW

CP1.1

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HANDWASH STATION
EQUIPMENT STORAGE
ENVIRONMENTAL SERVICES
SOILED WORKROOM
CLEAN SUPPLY

NURSE/CONTROL STATION IS LOCATED IN THE DALLY TOWER. ACCESS TO OR SUITE IS MONITORED BY CCTV WITH INTERCOM AND BADGE READERS. SEE NARRATIVE IN FUNCTIONAL PROGRAM AND SHEET A1.2B

SEE SHEET A.1.2B FOR SECURITY FEATURES ASSOCIATED WITH THIS OPERATING SUITE.

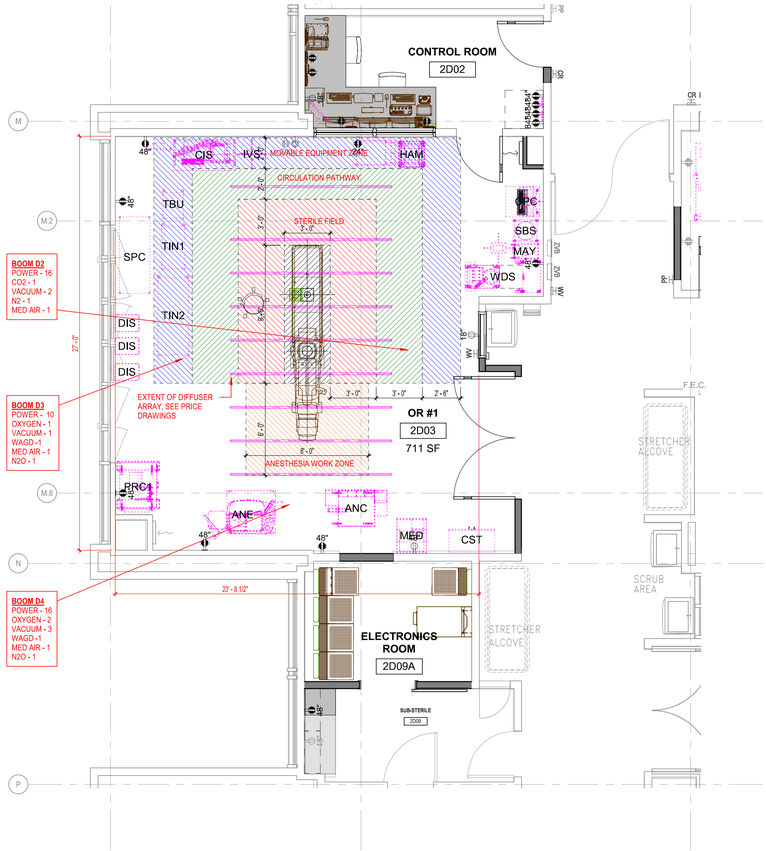
SEE SHEET A1.2C FOR LEAD SHIELDING.

SEE SHEET A3.1 FOR MEDICAL GAS AND POWER SUPPLIED ON BOOMS.

SEE PRICE DRAWINGS, SHEET 3 FOR ASHRAE TABLE 170-2021 COVERAGE ANALYSIS.

-EQUIPMENT LEGEND-

ANC	CART, ANESTHESIA (OFOI)
ANE	ANESTHESIA MACHINE (VFOI)
CIS	COMPUTER, WORKSTATION (VFOI)
CPC	CART, COMPUTER (OFOI)
CST	CABINET, STORAGE (OFOI)
DIS	DISPOSAL, SHARPS (OFOI)
HAM	HAMPER, LINEN (OFOI)
IVS	STAND, IV (OFOI)
MAY	STAND, MAYO (OFOI)
MED	DISPENSER, MEDICATION (VFOI)
PRC1	CART, PROCEDURE (OFOI)
SBS	STAND, BASIN (OFOI)
SPC	CART, SUPPLY, 60IN (OFOI)
TBU	TABLE, UTILITY (OFOI)
TIN1	TABLE, INSTRUMENT 33IN (OFOI)
TIN2	TABLE, INSTRUMENT 60IN (OFOI)
WDS	WASTE DISPOSAL, NEPTUNE (OFOI)



1 SECURITY PLAN - LEVEL 2
1/8" = 1'-0"

2 ENLARGED PLAN - OR #1 SUITE
1/4" = 1'-0"

PRCTI20221788

CLARK KJOS ARCHITECTS, LLC

11045 REGISTERED ARCHITECT SCOTT D COMBS STATE OF WASHINGTON

Good Samaritan
A part of MultiCare Health System

HYBRID OR #1

MULTICARE GOOD SAMARITAN HOSPITAL

401 15TH AVE SE, PUYALLUP, WA 98372

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23004

FGI COMPLIANCE

CP1.2
1

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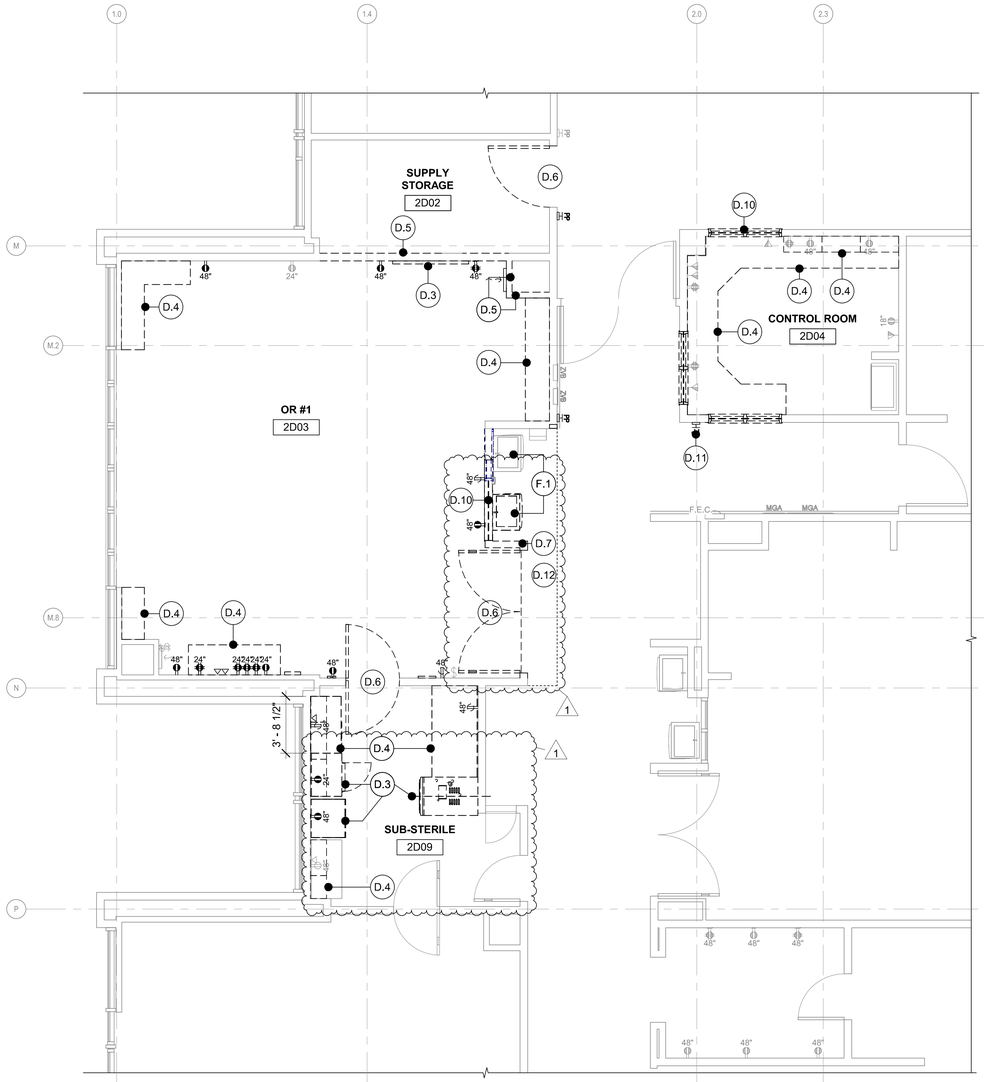
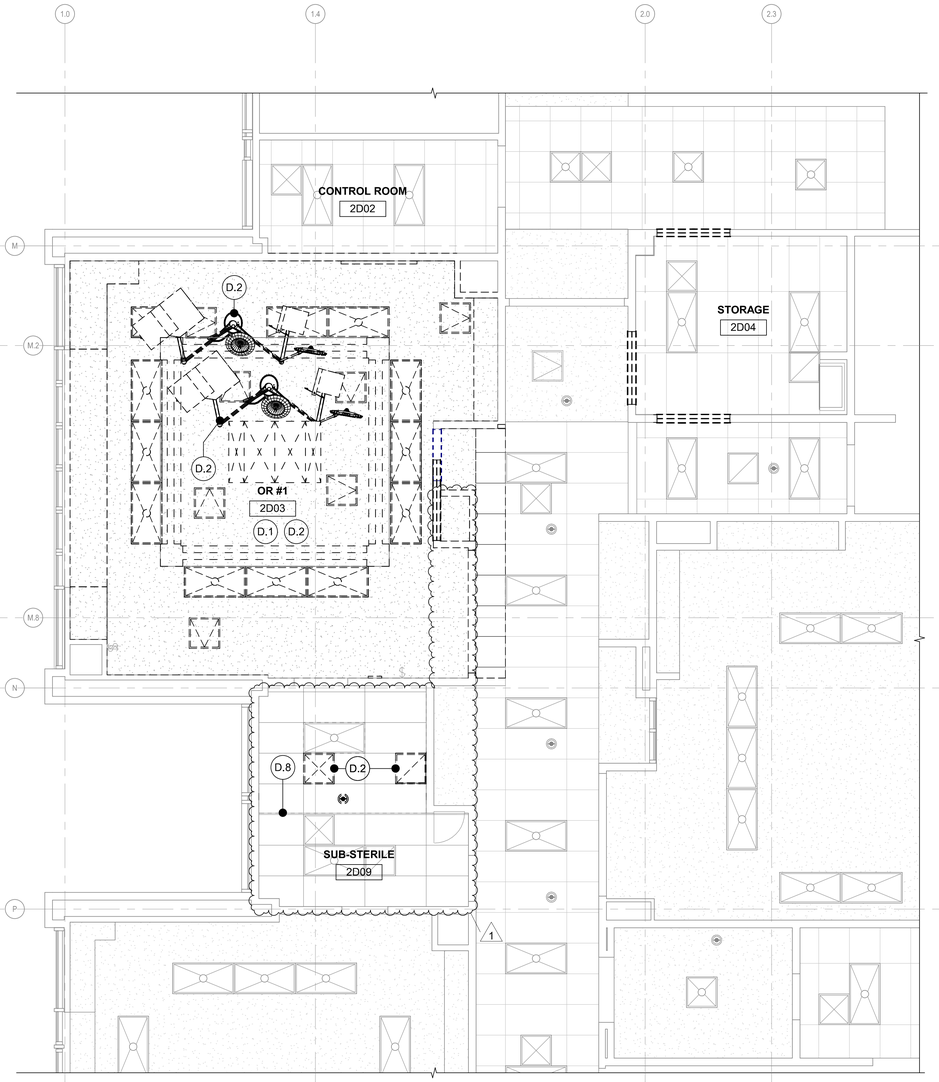


1 LEVEL 2 - ENLARGED DEMOLITION FLOOR PLAN
1/4" = 1'-0"



2 LEVEL 2 - ENLARGED DEMOLITION REFLECTED CEILING PLAN
1/4" = 1'-0"

Authorized to Begin Construction

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DEMOLITION GENERAL NOTES

1. CONTRACTOR SHALL VERIFY LIMITS OF DEMOLITION WORK.
2. THIS DRAWING IDENTIFIES ONLY MAJOR WORK FOR DEMOLITION AND REMOVAL. ALL AREAS OF DEMOLITION SHALL BE CLEARED OF ALL ITEMS MAJOR AND MINOR TO RECEIVE INSTALLATION OF NEW CONSTRUCTION AND FINISHES.
3. SEE REFLECTED CEILING PLANS FOR WORK THAT MAY IMPACT DEMOLITION.
4. SEE STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION INFORMATION.
5. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS, MEMBER SIZES AND CONDITIONS PRIOR TO COMMENCING WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION ARE INTENDED AS GUIDELINES ONLY AND MUST BE VERIFIED. REPORT ANY DISCREPANCIES BETWEEN DIMENSIONS FOUND IN FIELD AND DIMENSIONS ON DRAWINGS TO ARCHITECT.
6. LOCATE ALL WIRES, PIPES, UTILITIES, STRUCTURAL MEMBERS, ETC. PRIOR TO ANY DEMOLITION. CUTTING OF ANY ITEM WHICH IS NOT PART OF THIS PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER, INCLUDING ANY TESTING OR SPECIAL OBSERVATION TO CORRECT THE PROBLEM.
7. PATCH AND PAINT WALLS, FLOORS, AND SUBFLOOR TO MATCH EXISTING WHERE WORK HAS DISTURBED EXISTING CONDITIONS.
8. ALL EXISTING FINISHES ARE TO BE PROTECTED FROM DAMAGE. DAMAGED AREAS SHALL BE REPAIRED AT NO COST TO THE OWNER.

LEGEND

ITEM TO BE DEMOLISHED

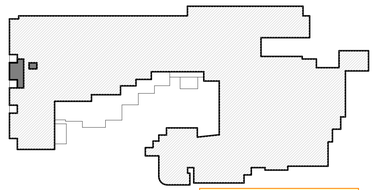
ITEM TO REMAIN

-KEYNOTES-

D.1 DEMOLISH HARD LID CELING
D.2 DEMOLISH CEILING MOUNTED APPURTENANCES
D.3 REMOVE EXISTING EQUIPMENT
D.4 REMOVE EXISTING CASEWORK; COORDINATE WITH OWNER FOR SALVAGE AND STORAGE FOR REUSE AS NECESSARY
D.5 DEMOLISH PARTITION TO EXTENTS NECESSARY IN PREPARATION FOR NEW CONSTRUCTION
D.6 REMOVE EXISTING DOOR, FRAME, AND HARDWARE; COORDINATE WITH OWNER FOR SALVAGE AND STORAGE FOR REUSE AS NECESSARY
D.7 DEMOLISH PARTITION, DOORS, AND ALL RELATED APPURTENANCES TO EXTENTS NECESSARY FOR NEW CONSTRUCTION; COORDINATE WITH OWNER FOR SALVAGE AND STORAGE FOR REUSE AS NECESSARY
D.8 DEMOLISH CEILING TO EXTENTS NECESSARY FOR NEW CONSTRUCTION; PATCH AND REPAIR GRID AS NECESSARY
D.10 REMOVE EXISTING WINDOW AND FRAME
D.11 REMOVE EXISTING PUSH PAD; RELOCATE AND INSTALL AT NEW LOCATION
D.12 REMOVE EXISTING FLOORING AND WALL BASE AND REPLACE WITH NEW
F.1 NEW INTEGRAL COVE AT AREAS OF WORK; MATCH EXISTING FINISH

KEY PLAN - LEVEL 2

AREA OF WORK



PRCTI20221788

CLARK // KJOS ARCHITECTS, LLC

11095 REGISTERED ARCHITECT SCOTT D. COMBS STATE OF WASHINGTON

Good Samaritan
A part of MultiCare Health System

HYBRID OR #1

MULTICARE GOOD SAMARITAN HOSPITAL

401 15TH AVE SE, PUYALLUP, WA 98372

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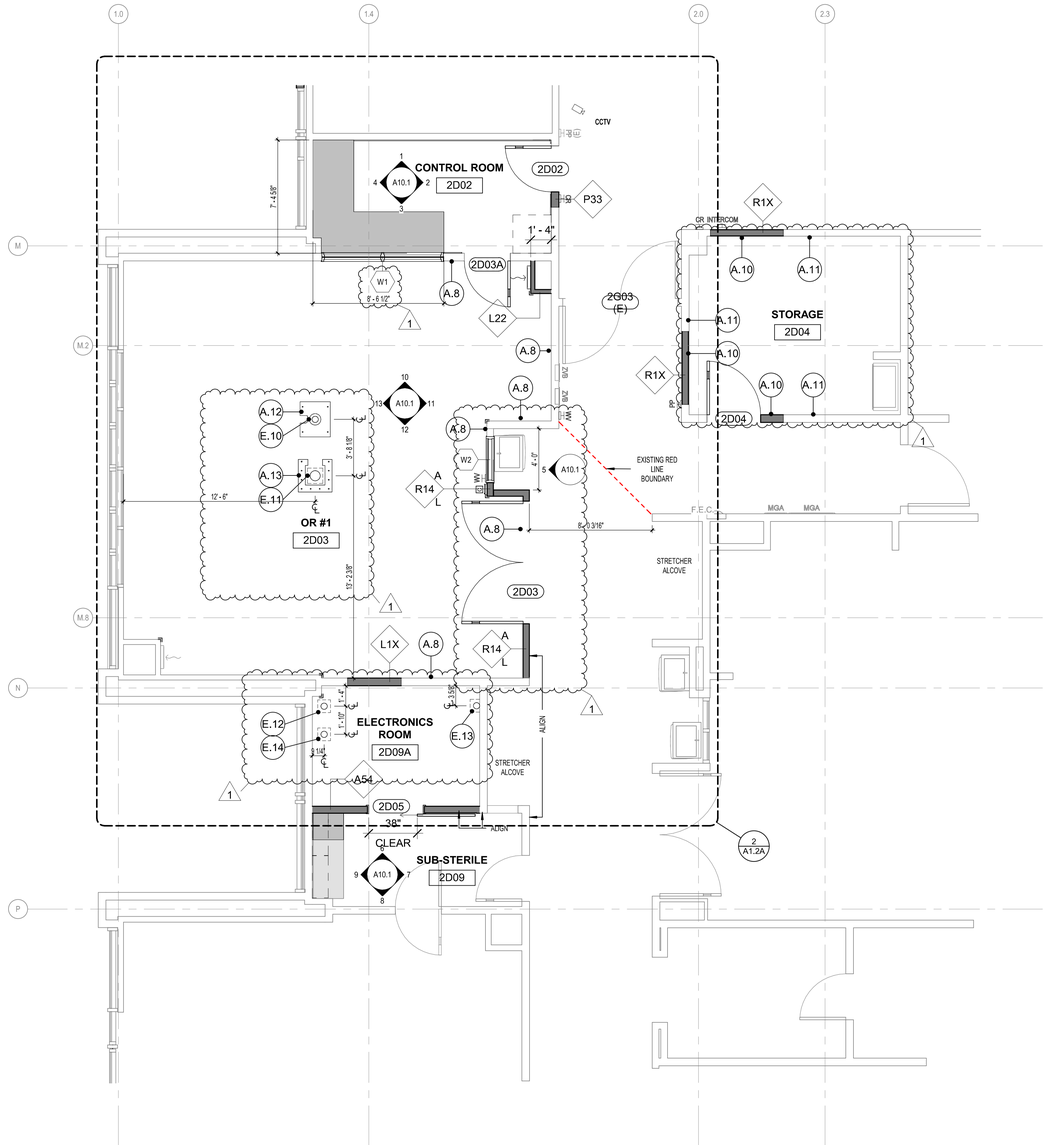
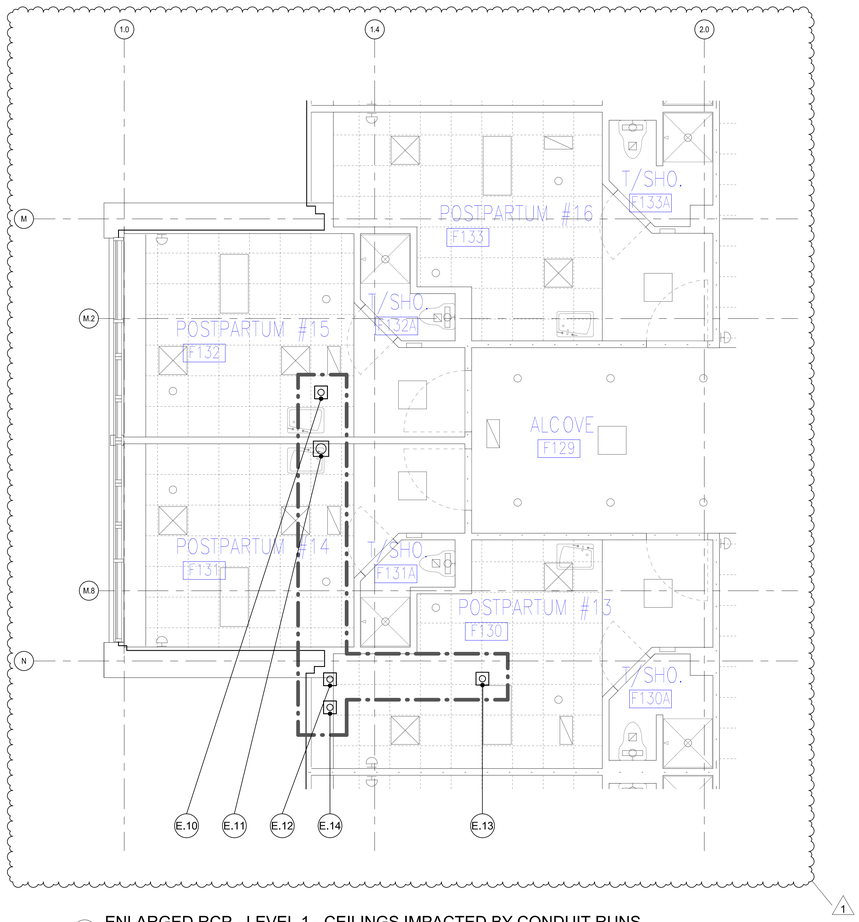
LEVEL 02 - DEMOLITION FLOOR & REFLECTED CEILING PLAN

AD1.2



1 LEVEL 2 - NEW ENLARGED FLOOR PLAN
1/4" = 1'-0"



2 ENLARGED RCP - LEVEL 1 - CEILINGS IMPACTED BY CONDUIT RUNS
1/4" = 1'-0"

GENERAL NOTES

1. ALL DIMENSIONS TO FACE OF FINISH UNLESS NOTED OTHERWISE.
2. SEE ELECTRICAL AND STRUCTURAL FOR ADDITIONAL INFORMATION.
3. EQUIPMENT SHOWN IS FOR REFERENCE ONLY. ACTUAL LOCATIONS OF EQUIPMENT TO BE PROVIDED BY THE EQUIPMENT VENDOR/MANUFACTURER.

-KEYNOTES-

A.8	REFER TO PHYSICIST LEAD SHIELDING REPORT FOR LEAD SHIELDING REQUIREMENTS.
A.10	INFILL WALL WITH 1-HOUR FIRE-RESISTANCE RATED PARTITION TYPE R14
A.11	UPGRADE WALL TO 1-HOUR FIRE-RESISTANCE RATED PARTITION TYPE R14
A.12	PREP FLOOR FOR RECESSED PHILIPS AD7 FLOOR PLATE. SEE STRUCTURAL DRAWINGS AND PHILIPS SHEET SD1.
A.13	PREP FLOOR FOR RECESSED PHILIPS CLEA FLOOR PLATE. SEE STRUCTURAL DRAWINGS AND PHILIPS SHEET SD1.
E.10	10-INCH WIDE X 10-INCH LONG X 6-INCH DEEP FLOOR BOX, UNDER FLOOR WITH 5-INCH DIA CORE DRILL TO UNDERSIDE OF AD7 FLOOR PLATE. PROVIDE PROTECTION AROUND EDGES OF OPENING. FIRESTOP OPENING IN 2-HR FLOOR.
E.11	12-INCH WIDE X 12-INCH LONG X 4-INCH DEEP FLOOR BOX. UNDER FLOOR WITH 8-INCH DIA CORE DRILL TO UNDERSIDE OF CLEA FLOOR PLATE. PROVIDE PROTECTION AROUND EDGES OF OPENING. FIRESTOP OPENING IN 2-HR FLOOR.
E.12	CORE DRILL FOR CONDUITS TO MA CABINET. CONDUIT DIAMETERS (1) 1Â½",(1) 2",(1) 3". SEE ELECTRICAL. FIRESTOP CONDUIT PENETRATIONS IN 2-HR FLOOR ASSEMBLY.
E.13	CORE DRILL FOR CONDUITS TO ME CABINET. CONDUIT DIAMETERS (1) 1",(3) 1Â½",(1) 2Â½". SEE ELECTRICAL. FIRESTOP CONDUIT PENETRATIONS IN 2-HR FLOOR ASSEMBLY.
E.14	CORE DRILL FOR CONDUITS TO MR CABINET. CONDUIT DIAMETERS (3) 2",(1) 2Â½". SEE ELECTRICAL. FIRESTOP CONDUIT PENETRATIONS IN 2-HR FLOOR ASSEMBLY.

Authorized to Begin Construction

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- See accompanying project comment form for review status and corrections.
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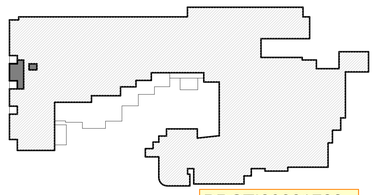
KEY PLAN - LEVEL 2

AREA OF WORK



PRCTI20221788

CLARK KJOS ARCHITECTS, LLC

11045 REGISTERED ARCHITECT SCOTT D COMBS STATE OF WASHINGTON

Good Samaritan
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LEVEL 02 - ENLARGED FLOOR PLAN

A1.2A

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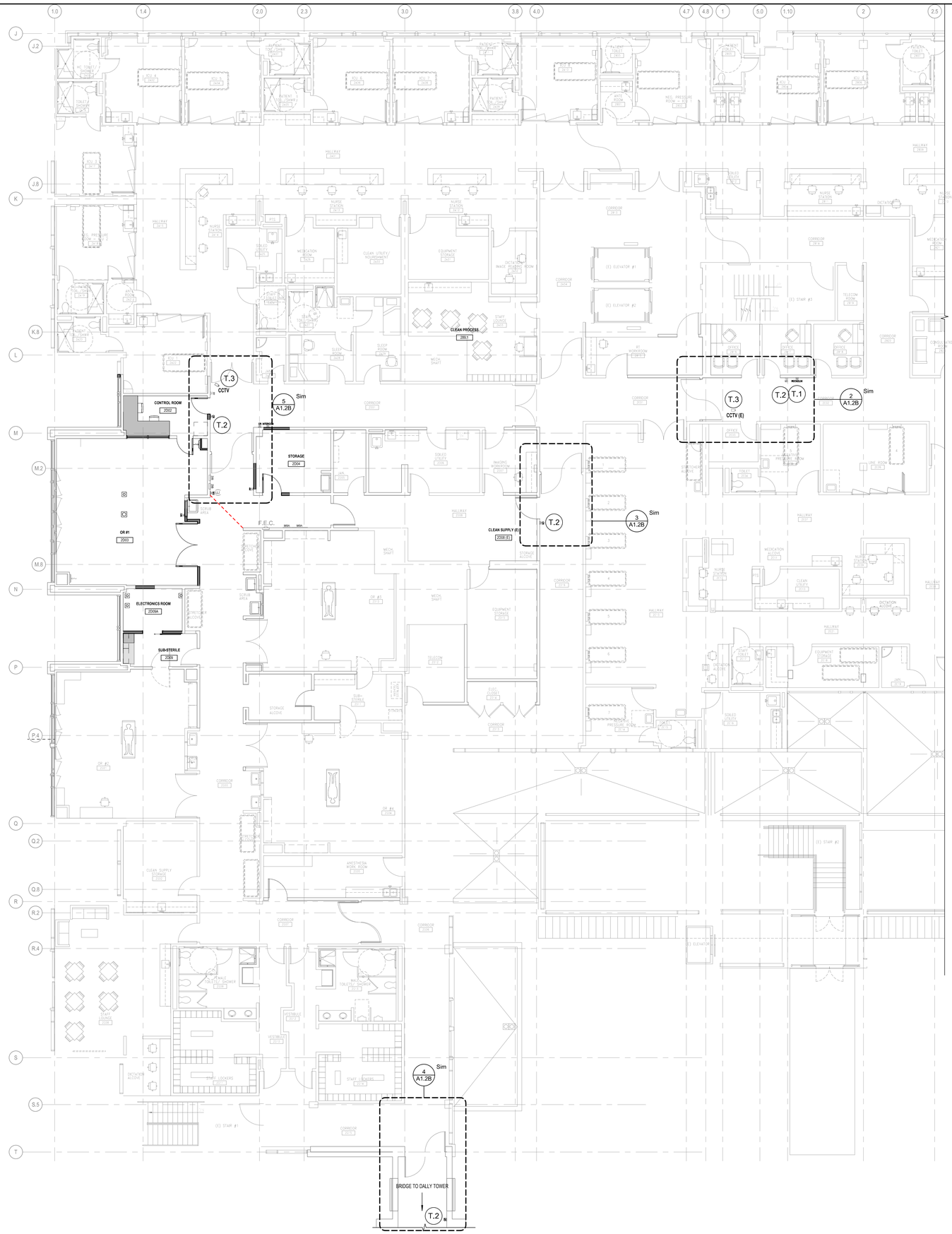
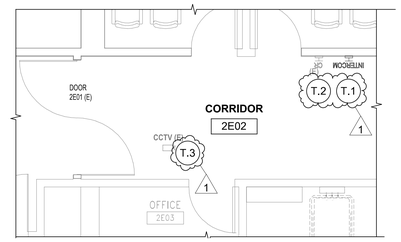
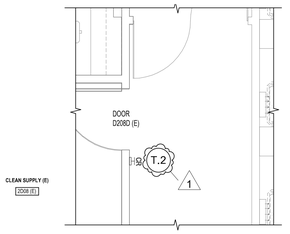


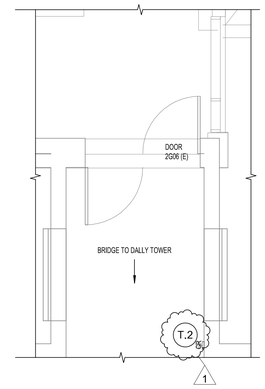
1 SECURITY PLAN - LEVEL 2
1/8" = 1'-0"



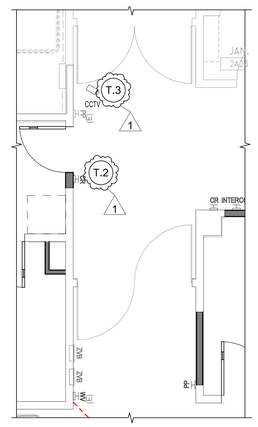
2 SECURITY PLAN - CORRIDOR 2E02
1/4" = 1'-0"



3 SECURITY PLAN - CORRIDOR 2D16
1/4" = 1'-0"



4 SECURITY PLAN - CORRIDOR 2G06
1/4" = 1'-0"



5 SECURITY PLAN - CORRIDOR 2D01
1/4" = 1'-0"

-KEYNOTES-

T.1 INTERCOM TO NURSE STATION IN TOWER
T.2 BADGE ACCESS CONTROL
T.3 CCTV TO NURSE STATION IN TOWER

1

Authorized to Begin Construction

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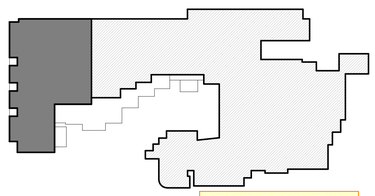
KEY PLAN - LEVEL 2

AREA OF WORK



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LEVEL 02 - SECURITY ELECTRONICS

A1.2B

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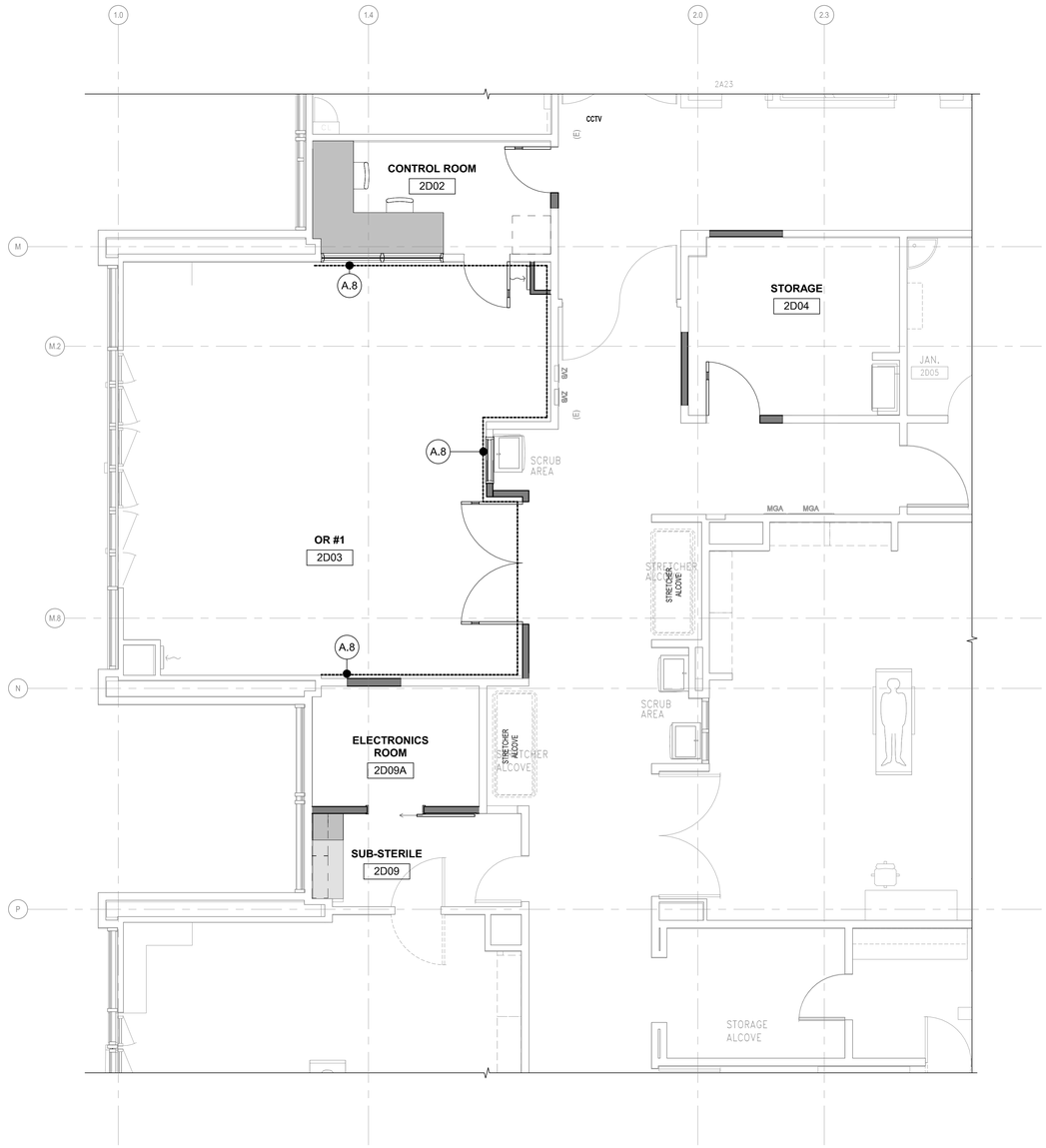

1 LEVEL 2 - NEW ENLARGED FLOOR PLAN
1/4" = 1'-0"

GENERAL NOTES

1. ALL DIMENSIONS TO FACE OF FINISH UNLESS NOTED OTHERWISE.
2. SEE ELECTRICAL AND STRUCTURAL FOR ADDITIONAL INFORMATION.
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-KEYNOTES-

A.8 REFER TO PHYSICIST LEAD SHIELDING REPORT FOR LEAD SHIELDING REQUIREMENTS.

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KEY PLAN - LEVEL 2

AREA OF WORK

PRCTI20221788

CLARK KJOS ARCHITECTS, LLC

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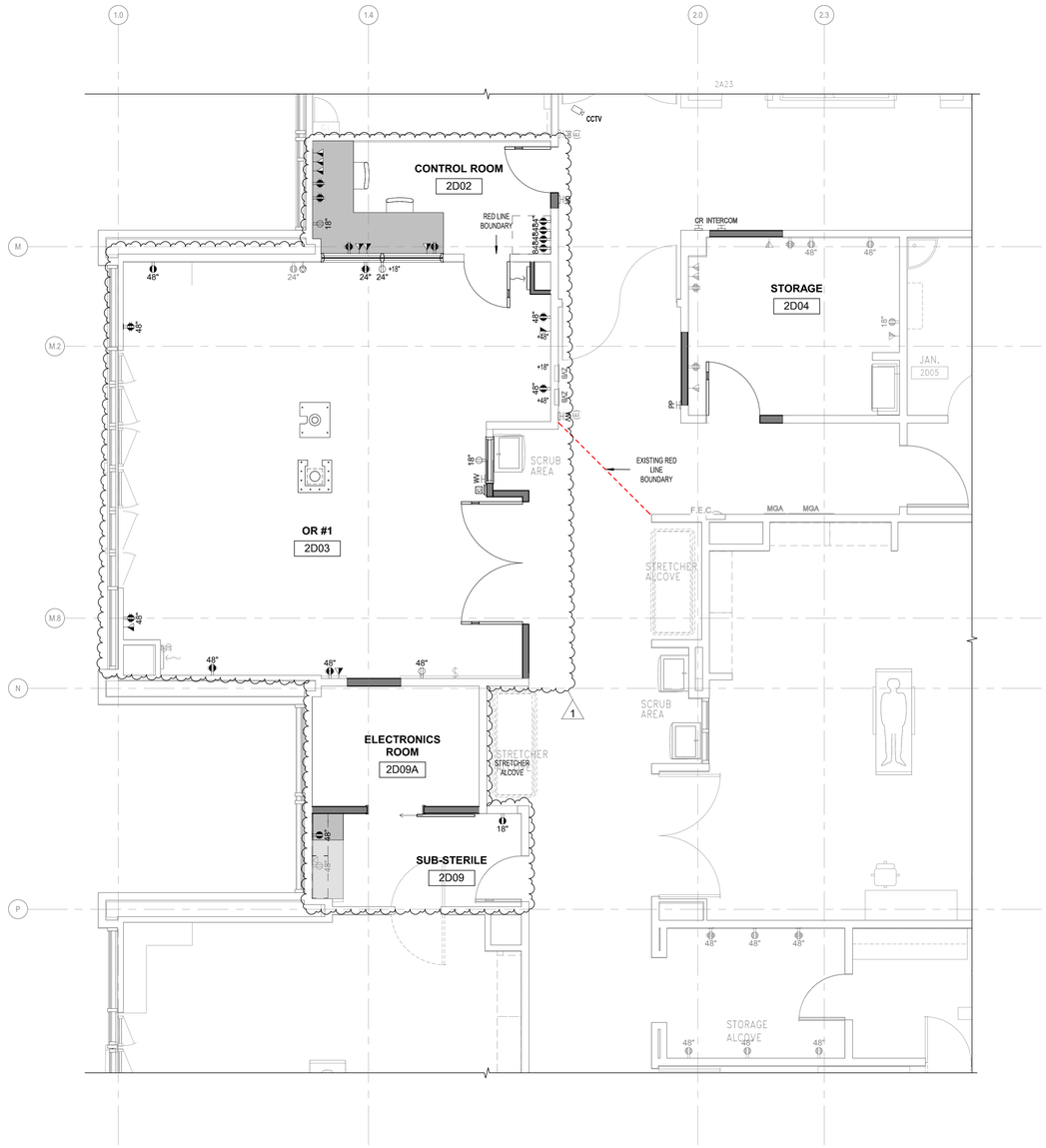
11/17/2022
REVISIONS

23004

LEVEL 02 - ENLARGED FLOOR PLAN - LEAD SHIELDING

A1.2C



1 LEVEL 2 - NEW ENLARGED FLOOR PLAN
1/4" = 1'-0"

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

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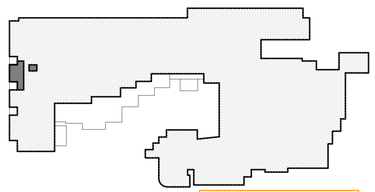
- This is not a building permit, check with your local building department.

03/08/2023 8:21:02 PM

KEY PLAN - LEVEL 2

AREA OF WORK



PRCTI20221788

CLARK KJOS ARCHITECTS, LLC

11045 REGISTERED ARCHITECT SCOTT D COMBS STATE OF WASHINGTON

Good Samaritan
A part of MultiCare Health System

HYBRID OR #1

MULTICARE GOOD SAMARITAN HOSPITAL

401 15TH AVE SE, PUYALLUP, WA 98372

PERMIT SET
11/17/2022
REVISIONS
ASI 001 02.27.2023

23004

LEVEL 02 - ENLARGED FLOOR PLAN - POWER & DATA

A1.2D

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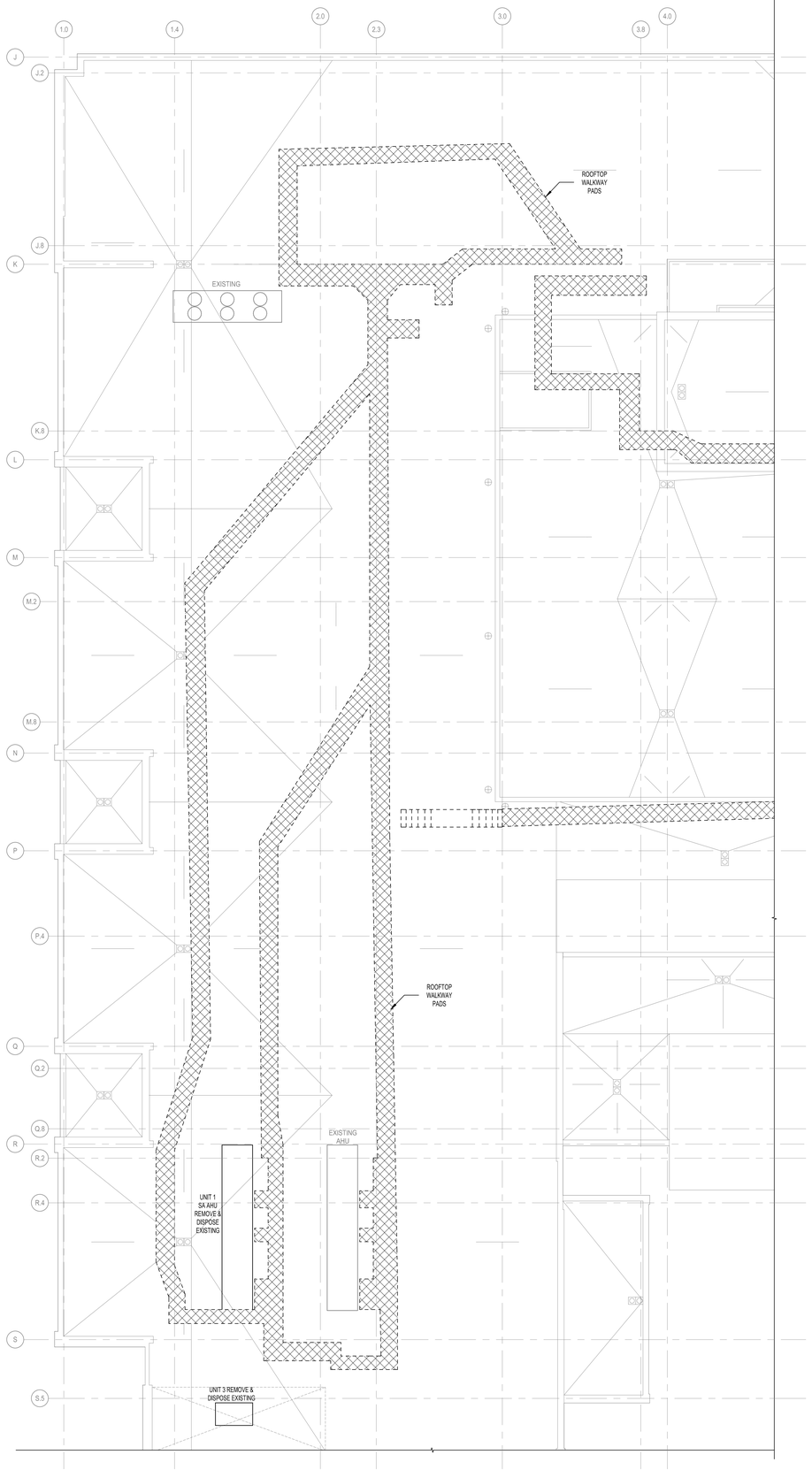
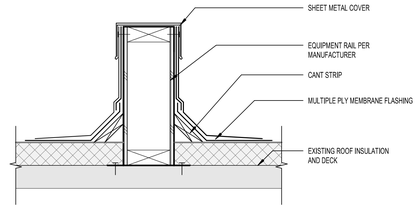


1 ROOF PLAN - FOR REFERENCE ONLY
1/8" = 1'-0"



2 MECHANICAL EQUIPMENT SUPPORT CURB, TYP
1 1/2" = 1'-0"

ROOF PLAN GENERAL NOTES

A. ROOF PLAN GENERAL NOTES APPLY TO ALL ROOF PLAN SHEETS.
B. ROOF SLOPES ARE CREATED BY SLOPING THE ROOF STRUCTURE UNLESS NOTED OTHERWISE. SEE STRUCTURAL DRAWINGS FOR ELEVATIONS OF THE HIGH AND LOW POINTS TO DETERMINE PROPER TAPER IN INSULATION.
C. TAPERED INSULATION SHALL PROVIDE A MINIMUM OF 1/4-INCH PER FOOT OF SLOPE TO ROOF DRAINS, UNLESS NOTED OTHERWISE.
D. AREAS MARKED WITH A HATCHED PATTERN INDICATE TAPERED INSULATION.
E. ALL ROOF CURBS TO BE A MINIMUM OF 8 INCHES ABOVE ROOFING LEVELS. PROVIDE TAPERED INSULATION ROOF SADDLES AT ROOF CURBS TO PROVIDE DRAINAGE AROUND CURB.
F. SEE STRUCTURAL DRAWINGS FOR FRAMING AROUND ROOF PENETRATIONS.
G. COORDINATE THE SIZE AND LOCATION OF ROOF PENETRATIONS FOR MECHANICAL AND ELECTRICAL EQUIPMENT. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR PENETRATIONS NOT SHOWN ON THIS DRAWING.
H. FLASH DRAINS, CURBS, VENTS AND STACKS PER MANUFACTURERS RECOMMENDATIONS IF DETAIL NOT SHOWN ON DRAWINGS.
I. NO ROOF PENETRATIONS ALLOWED WITHIN 4'-0" EACH SIDE OF FIREWALL. SEE CODE PLAN FOR FIRE WALL LOCATIONS.

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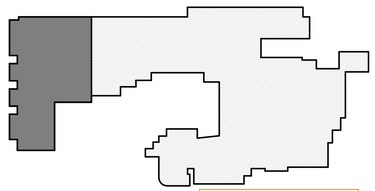
03/08/2023 8:21:08 PM

KEY PLAN - LEVEL 2

AREA OF WORK



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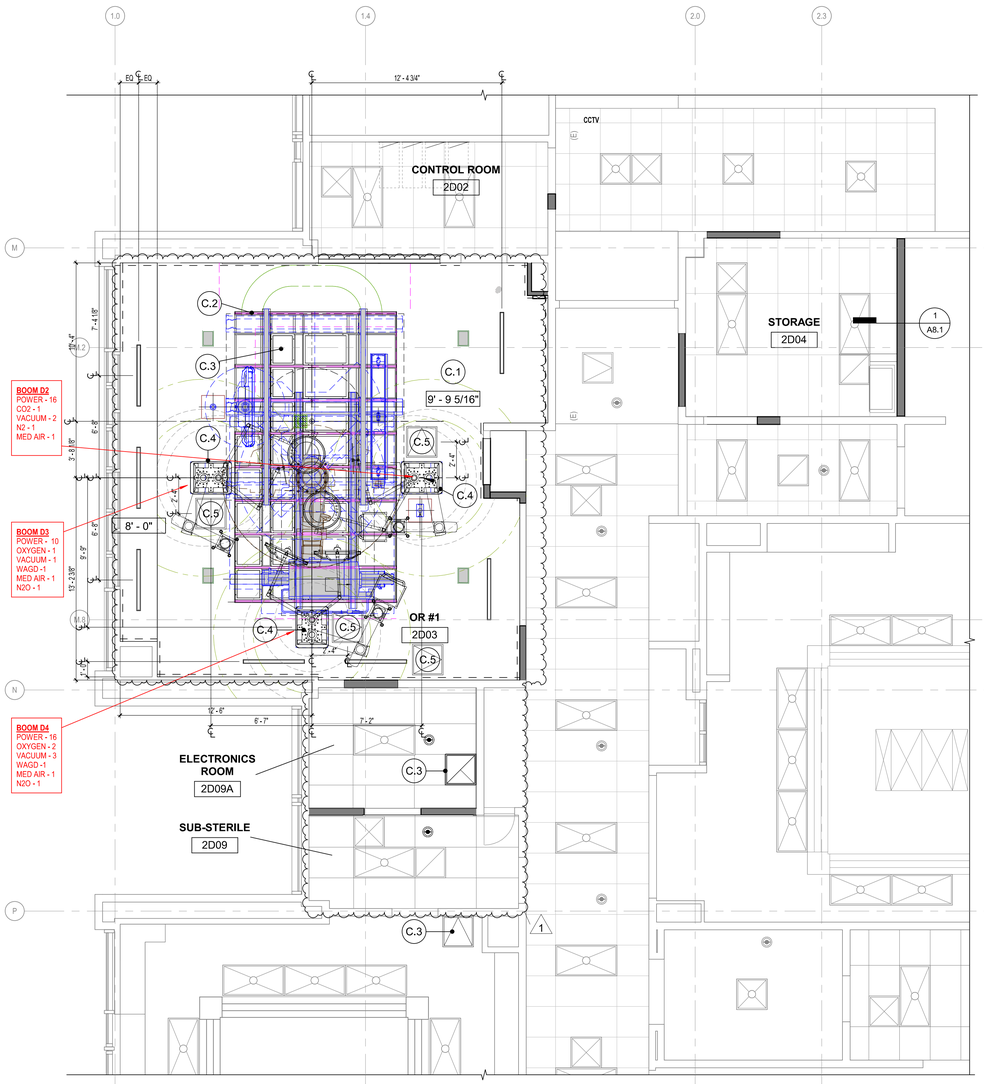
11/17/2022
REVISIONS

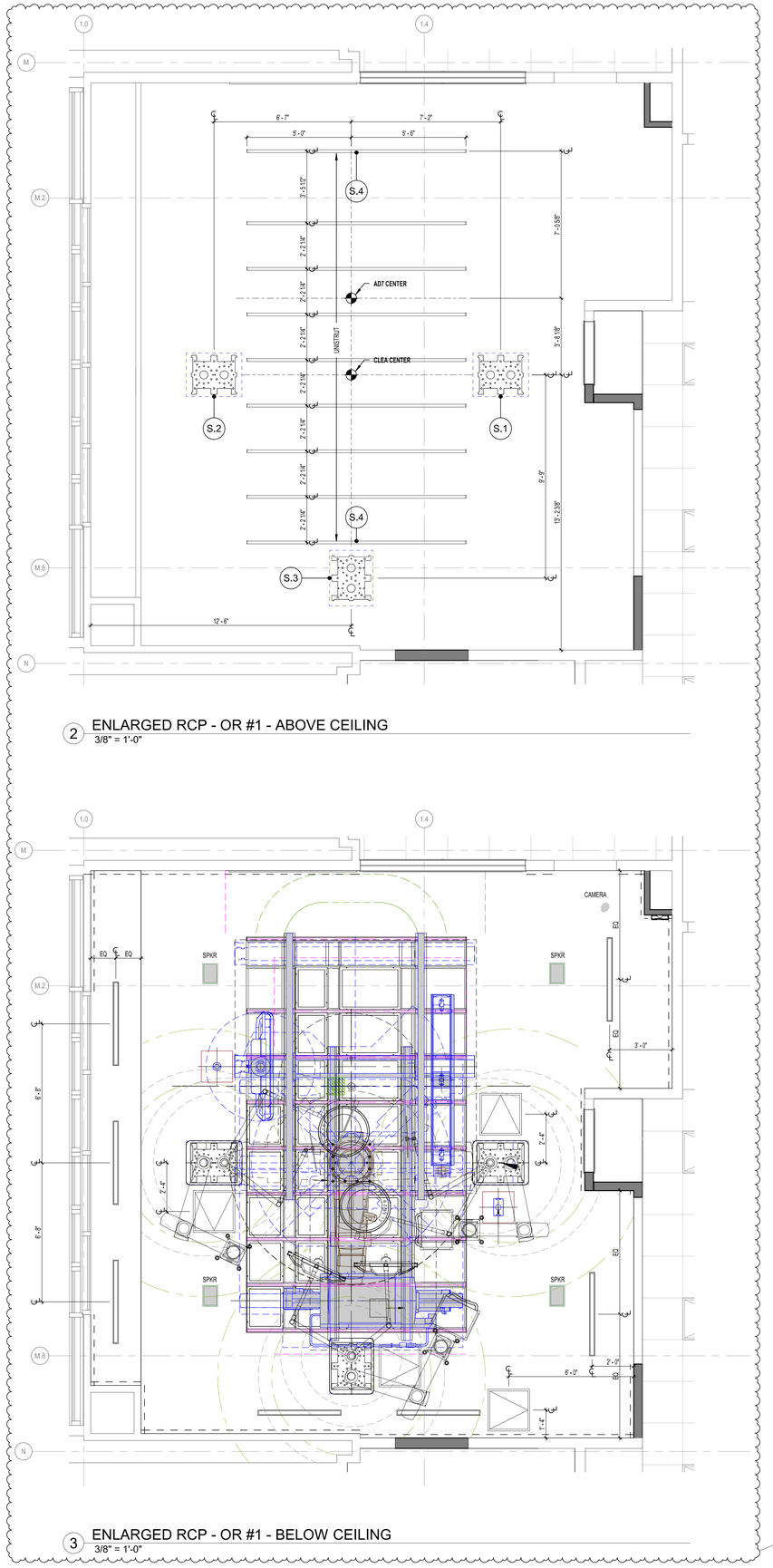
23004

ROOF PLAN

A1.3



1 ENLARGED REFLECTED CEILING PLAN - LEVEL 2
1/4" = 1'-0"



2 ENLARGED RCP - OR #1 - ABOVE CEILING
3/8" = 1'-0"

3 ENLARGED RCP - OR #1 - BELOW CEILING
3/8" = 1'-0"

REFERENCE PHILIPS & ULTRASUITE ORIGINAL EQUIPMENT DRAWING INFORMATION AND DETAILS

REFLECTED CEILING PLAN GENERAL NOTES

1. ALL CEILING HEIGHTS ARE RELATIVE TO TOP OF SLAB OR SUBFLOOR, UNO
2. SEE ELECTRICAL AND MECHANICAL PLANS FOR LOCATIONS OF FIXTURES AND EQUIPMENT.
3. FIELD VERIFY EXISTING CEILING LAYOUTS PRIOR TO ANY WORK.
4. SUSPENSION SYSTEMS FOR NEW AND EXISTING SUSPENDED GYPSUM BOARD CEILINGS SHALL BE MODIFIED TO FRAME AROUND CEILING INSTALLED ITEMS. SEE MECHANICAL AND ELECTRICAL DRAWINGS.
5. INSTALL BLOCKING AND BACKING FOR WINDOW COVERING TRACKS.
6. REMOVE EXISTING CEILINGS WHERE NEW CEILINGS ARE SHOWN TO BE INSTALLED.
7. FOR TOP OF WALL DETAILS AND HEIGHT OF GYP BOARD ON WALLS, SEE PLANS, PARTITION TYPES, AND DETAILS.
8. RECESSED FIXTURES ARE TO MAINTAIN RATINGS WHERE LOCATED IN RATED CEILING ASSEMBLIES.

-KEYNOTES-

C.1 INSTALL NEW HARD LID CEILING (CFCI) USING SUSPENDED DRYWALL GRID SYSTEM. SEE SPECIFICATIONS.

C.2 INSTALL NEW UNISTRUT RAIL SYSTEM (CFCI). SEE STRUCTURAL DRAWINGS AND PRICE DRAWINGS.

C.3 NEW PRICE ULTRASUITE OPERATING ROOM DIFFUSER SYSTEM WITH INTEGRATED LED LIGHTING (VFCI). REFER TO PRICE ULTRASUITE DRAWINGS, STRUCTURAL DRAWINGS FOR SUPPORT, MECHANICAL DRAWING FOR HVAC CONNECTIONS, AND ELECTRICAL DRAWINGS FOR POWER.

C.4 NEW BOOM ASSEMBLY (VFVI). REFER TO STRYKER DRAWINGS FOR DETAILS, STRUCTURAL DRAWINGS FOR SUPPORT, MECHANICAL DRAWINGS FOR MEDICAL GAS CONNECTIONS, AND ELECTRICAL DRAWINGS FOR POWER AND LOW VOLTAGE CONNECTIONS.

C.5 INSTALL NEW ACCESS PANEL (CFCI), SEE SPECIFICATIONS.

S.1 PROVIDE STRUCTURAL SUPPORT FOR AND INSTALL STRYKER BOOM D2 MOUNT PLATE (VFCI). SEE STRUCTURAL DRAWINGS.

S.2 PROVIDE STRUCTURAL SUPPORT FOR AND INSTALL STRYKER BOOM D3 MOUNT PLATE (VFCI). SEE STRUCTURAL DRAWINGS.

S.3 PROVIDE STRUCTURAL SUPPORT FOR AND INSTALL STRYKER BOOM D4 MOUNT PLATE (VFCI). SEE STRUCTURAL DRAWINGS.

S.4 PROVIDE STRUCTURAL SUPPORT FOR AND INSTALL UNISTRUT SYSTEM (CFCI). SEE STRUCTURAL DRAWINGS.

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03/08/2023 8:21:14 PM

PRCTI20221788

KEY PLAN - LEVEL 2

AREA OF WORK

CLARK KJOS ARCHITECTS, LLC

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23004

LEVEL 02 - ENLARGED REFLECTED CEILING PLAN

A3.1

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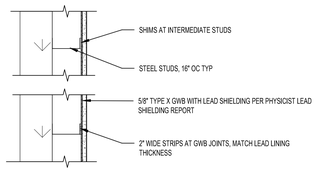
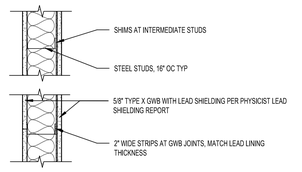
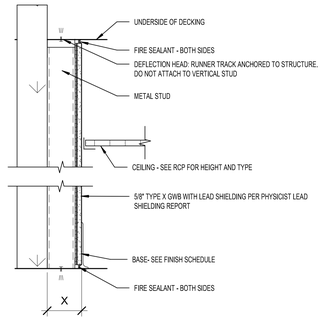


PLAN



PLAN



SECTION

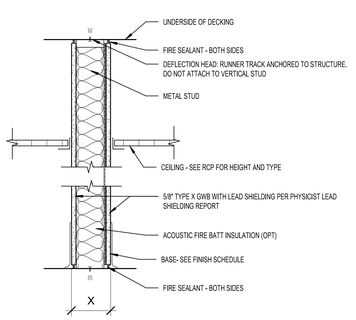
L22 X = 3 1/8"

L24 X = 4 7/8"

L2X X = MATCH EXISTING

UL DES U419
GA FILE NO. WP 1072
STC = 45-49 (W/ INSULATION)

L2 LEAD LINED FURRING
1 1/2" = 1'-0"



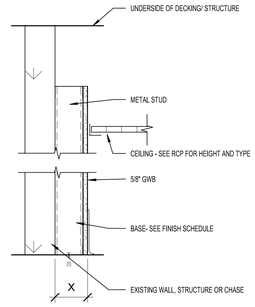
SECTION

L14 X = 4 7/8"

L1X X = MATCH EXISTING

UL DES U419
GA FILE NO. WP 1072
STC = 45-49 (W/ INSULATION)

L1 LEAD LINED
1 1/2" = 1'-0"



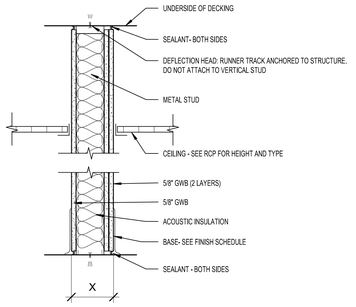
SECTION

F72 X = 3 1/8"

F74 X = 4 1/4"

F76 X = 6 5/8"

F7 FURRING WALL
1 1/2" = 1'-0"



SECTION

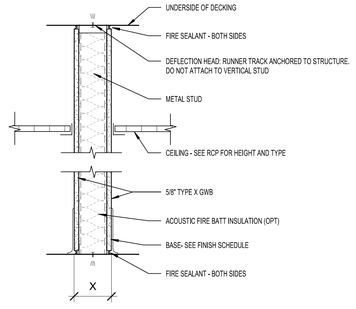
METAL STUDS AND RUNNERS ARE NOMINAL 25 GAUGE UNLESS OTHERWISE SPECIFIED

A54 X = 5 1/2"

A56 X = 7 7/8"

STC = 50-53
GA FILE NO. WP 1052

A5 ACOUSTIC WALL
1 1/2" = 1'-0"



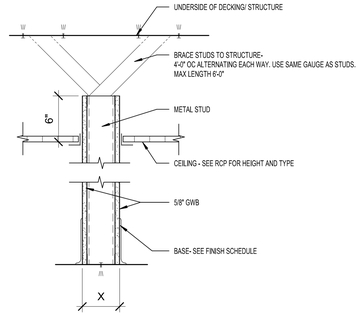
SECTION

R14 X = 4 7/8"

R1X X = MATCH EXISTING

UL DES U419
GA FILE NO. WP 1072
STC = 45-49 (W/ INSULATION)

R1 1 HOUR RATED FIRE BARRIER
1 1/2" = 1'-0"



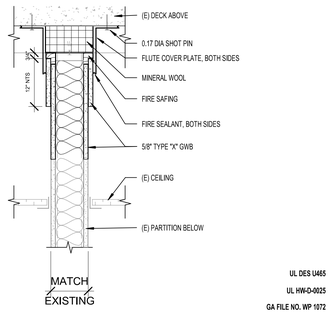
SECTION

P72 X = 3 3/4"

P74 X = 4 7/8"

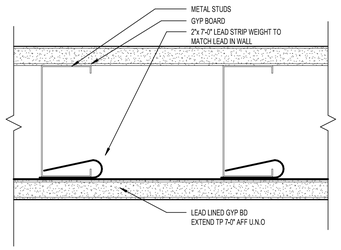
P76 X = 7 1/4"

P7 PARTITION WALL
1 1/2" = 1'-0"

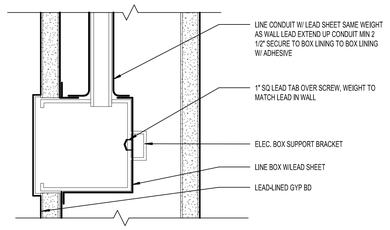


UL DES U465
UL HW-D-0025
GA FILE NO. WP 1072
STC = 45-49 (W/ INSULATION)

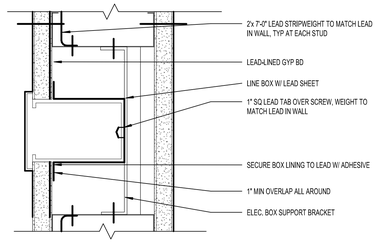
1 ABOVE CEILING 1-HR FIRE BARRIER
1 1/2" = 1'-0"



2 LEAD WALL DETAIL
6" = 1'-0"



3 LEAD WALL DETAIL @ELEC. PANEL OR BOX
6" = 1'-0"



4 LEAD WALL PLAN @ELEC. PANEL OR BOX
6" = 1'-0"

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11/17/2022
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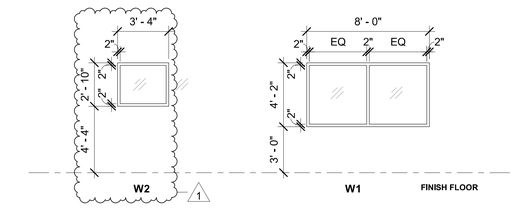
23004

PARTITION TYPES AND WALL DETAILS

A8.1

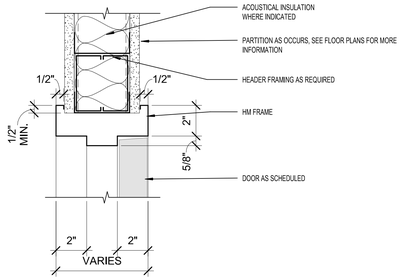
DOOR SCHEDULE

MARK	ROOM NUMBER	ROOM NAME	DOOR SIZE WIDTH	DOOR SIZE HEIGHT	DOOR TYPE	DOOR MATERIAL	FRAME TYPE	FRAME MATERIAL	FIRE RATING	HDWR	COMMENTS
2D02	2D02	CONTROL ROOM	3' - 0"	7' - 0"	D1	SC-WD	F1	HM	20 MIN	HW-1	FIRE-RESISTIVE SAFETY GLAZING
2D03	2D03	OR #1	8' - 0"	7' - 0"	D2	SC-WD	F1	HM	20 MIN	HW-3	LEAD SHIELDED/ FIRE-RESISTIVE SAFETY GLAZING
2D03A	2D03	OR #1	3' - 0"	7' - 0"	D1	SC-WD	F1	HM	20 MIN	HW-2	LEAD SHIELDED/ FIRE-RESISTIVE SAFETY GLAZING
2D04	2D04	STORAGE	3' - 6"	7' - 0"	D1	SC-WD	F1	HM	45 MIN	HW-5	FIRE-RESISTIVE SAFETY GLAZING
2D05	2D09A	ELECTRONICS ROOM	3' - 6"	7' - 0"	D3	SC-WD	F2	AL	20 MIN	HW-4	BARN DOOR, 38" CLEAR OPENING, SAFETY GLAZING
2G03 (E)	2GO3 (E)	CORRIDOR (E)	7' - 6"	7' - 0"	(E)	(E)	(E)	(E)	(E)	HW-7	
2G06 (E)	2G06(E)	CORRIDOR (E)	7' - 6"	7' - 0"	(E)	(E)	(E)	(E)	(E)	HW-6	
D2G06 (E)	2G06 (E)	CORRIDOR (E)	7' - 6"	7' - 0"	(E)	(E)	(E)	(E)	(E)	HW-6	
D208D (E)	2D08 (E)	CLEAN SUPPLY (E)	4' - 0"	7' - 0"	(E)	(E)	(E)	(E)	(E)	HW-6	

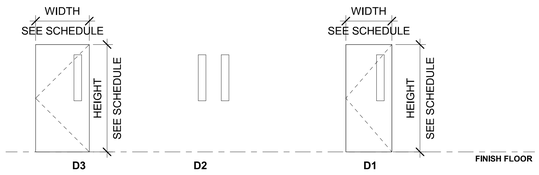


RELITE TYPES
1/4" = 1'-0"

LEAD SHIELDED/SAFETY GLAZING (FIRE-RESISTANT AT W1)

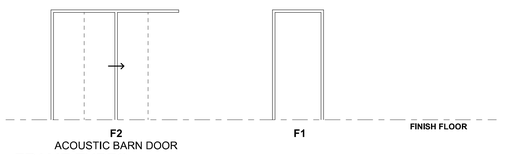


1 HM DOOR HEAD
3" = 1'-0"

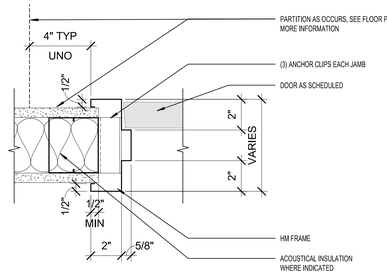


DOOR TYPES
1/4" = 1'-0"

REFER TO DOOR SCHEDULE FOR GLAZING TYPES



FRAME TYPES
1/4" = 1'-0"



2 HM DOOR JAMB
3" = 1'-0"

GENERAL NOTES

1. COORDINATE FRAME SIZES WITH WALL THICKNESS AT NEW AND EXISTING CONDITIONS.
2. PROVIDE SAFETY GLAZING WHERE REQUIRED BY BUILDING CODE.

DOOR SCHEDULE ABBREVIATIONS

AL	ALUMINUM
FF	FACTORY FINISH
GL	GLASS
HM	HOLLOW METAL
MFR	MANUFACTURER
MTL	METAL
PFM	PREFINISHED METAL FRAME
PT	PAINT
SC	SOLID CORE
SGF	SOLID GROUT FRAME
SMOKE	S LABEL (SMOKE LABEL)
WD	WOOD
20 MIN	20 MINUTE UL RATED DOOR ASSEMBLY
45 MIN	45 MINUTE UL RATED DOOR ASSEMBLY
60 MIN	MINUTE UL RATED DOOR ASSEMBLY
90 MIN	MINUTE UI RATED DOOR ASSEMBLY

FIRE/SMOKE DOOR/FRAME LABELING

PER 2015 IBC
716.5.7.1 Fire door labeling requirements

Fire doors shall be labeled showing the name of the manufacturer or other identification readily traceable back to the manufacturer, the name or trademark of the third-party inspection agency, the fire protection rating and, where required for fire doors in interior exit stairways and ramps and exit passageways by Section 716.5.5, the maximum transmitted temperature end point.

Smoke and draft control doors complying with UL1784 shall be labeled as such and shall comply with Section 716.5.7.3. Labels shall be approved and permanently affixed. The label shall be applied at the factory or location where fabrication and assembly are performed.

716.5.7.3 Smoke and draft control door labeling requirements

Smoke and draft control doors complying with UL 1784 shall be labeled in accordance with Section 716.5.7.1 and shall show the letter "S" on the fire-rating label of the door. This marking shall indicate that the door and frame assembly are in compliance where listed or labeled gasketing is installed.

716.5.7.4 Fire door frame labeling requirements

Fire door frames shall be labeled showing the names of the manufacturer and the third-party inspection agency.

HARDWARE SETS

HW-1
1 1/2 PAIR BUTTS
ELECTRIC STRIKE,LEVER HANDLES
CLOSER
GASKETING
KICKPLATES (BOTH SIDES)
WALL STOP
CARD READER

HW-2
1 1/2 PAIR BUTTS
PASSAGE LATCHSET, LEVER HANDLES
CLOSER
KICKPLATES (BOTH SIDES)
WALL STOP
LEAD SHIELDED

HW-3
CONTINUOUS HINGES
PUSH/PULL HOSPITAL LATCH HANDLES
AUTO OPERATOR W/ CLOSER & OVERHEAD-STOPS
HALF-DOOR PROTECTICE PLATE (BOTH SIDES)
ASTRAGAL PROTECTIVE
GASKETING
DOOR BOTTOM
PUSH PADS
WALL STOPS
LEAD SHIELDED

HW-4
HEAVY DUTY, TOP-HUNG ROLLER ASSEMBLY
CONCEALED FLOOR GUIDE
PULL HANDLES (BOTH SIDES)
KICKPLATES (BOTH SIDES)
ACOUSTIC GASKET

HW-5
1 1/2 PAIR BUTTS
LATCHSET, LEVER HANDLES
CLOSER
GASKETING
KICKPLATES (BOTH SIDES)
WALL STOP

HW-6 *(ADDITION TO EXISTING DOOR/FRAME)*
CARD READER
ELECTRIC STRIKE

HW-7 *(ADDITION TO EXISTING DOOR/FRAME)*
CARD READER (REPLACE EXISTING EXTERNAL PUSH PLATE)

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PRCTI20221788

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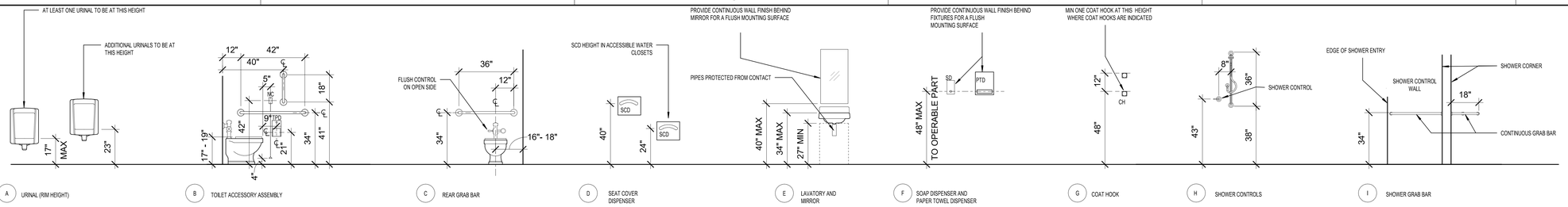
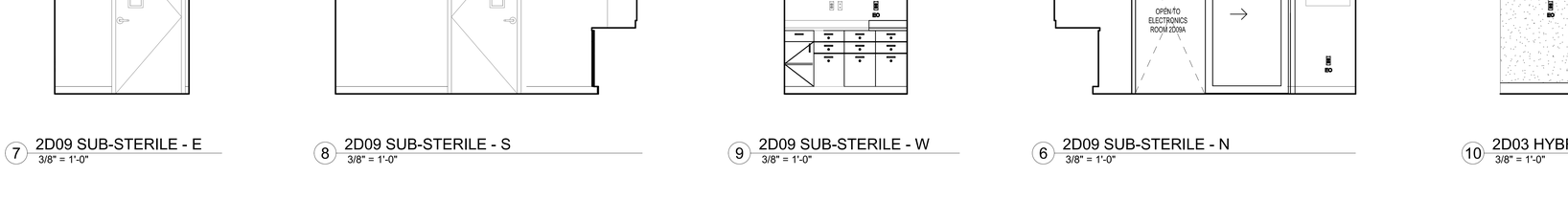
23004

DOOR SCHEDULE, DOOR & FRAME TYPES & TYPICAL DETAILS

A8.2



A URINAL (RIM HEIGHT) · B TOILET ACCESSORY ASSEMBLY · C REAR GRAB BAR · D SEAT COVER DISPENSER · E LAVATORY AND MIRROR · F SOAP DISPENSER AND PAPER TOWEL DISPENSER · G COAT HOOK · H SHOWER CONTROLS · I SHOWER GRAB BAR



J HAND SANITIZER DISPENSER · L ELECT. OUTLETS (CENTER OF BOX) · M ELEC. DEVICES/ LIGHT SWITCHES (CENTER OF BOX) · N TELE / DATA CONNECTION (CENTER OF BOX) · O FIRE ALARM DEVICES · P NURSE CALL · R SEMI-RECESSED FIRE EXTINGUISHER CABINET · S SHELF · T BABY CHANGING STATION

MOUNTING HEIGHT NOTES:

1. ALL DIMENSIONS ARE TYPICAL UNLESS NOTED OTHERWISE ON INTERIOR ELEVATIONS.
2. WALL MOUNTED ACCESSORIES SHALL NOT PROJECT MORE THAN 4" FROM FACE OF WALL WHEN LOCATED BELOW 6'-8".

GENERAL NOTES

1. CABINETMAKER SHALL COORDINATE WITH OTHER TRADES, VENDORS AND OWNER FOR ITEMS INSTALLED IN AND AROUND CABINETRY.
2. GROMMETS AND ELECTRICAL OUTLETS: INSTALL GROMMETS IN COUNTERTOPS FOR ALL UNDER- COUNTER OUTLETS AS FOLLOWS:
   1 1/2" DIA. GROMMET FOR UP TO 2 OUTLETS
   2 1/2" DIA. GROMMET FOR UP TO 4 OUTLETS
3. SEE DETAIL SHEETS FOR TYPICAL CABINETRY CONSTRUCTION DETAILS.
4. COORDINATE MOUNTING HEIGHTS FOR ALL SIGNAGE, EQUIPMENT AND FIXTURES WITH STANDARD MOUNTING HEIGHT DRAWING.
5. PRIOR TO COVERING WALL, BACKING SHALL BE PROVIDED TO ACCOMMODATE ALL HUNG ITEMS AND ACCESSORIES CALLED FOR ON THE CONSTRUCTION DOCUMENTS. SUCH ITEMS CONSIST OF, BUT ARE NOT LIMITED TO: UPPERCASE CABINETS, STORAGE SHELVING, TELEVISIONS, COMPUTER MONITORS, LAVATORY ACCESSORIES, AND FUTURE INSTALLATION OF GRAB BARS AT THE SIDES OF WATER CLOSETS.

Authorized to Begin Construction

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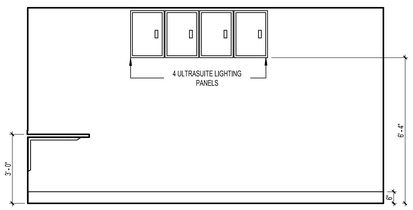
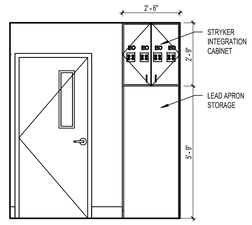
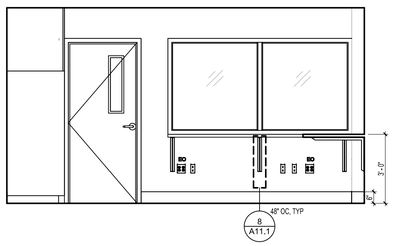
TYPICAL MOUNTING HEIGHTS



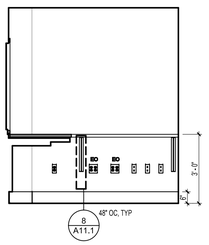
1 2D02 CONTROL ROOM - N
3/8" = 1'-0"



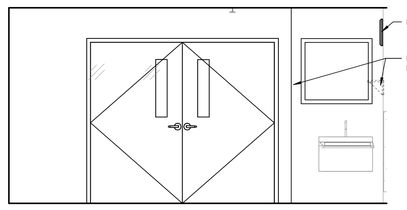
2 2D02 CONTROL ROOM - E
3/8" = 1'-0"



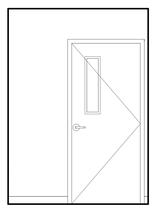
3 2D02 CONTROL ROOM - S
3/8" = 1'-0"



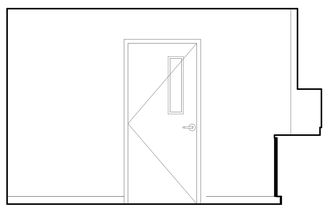
4 2D02 CONTROL ROOM - W
3/8" = 1'-0"



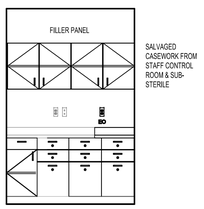
5 2D03A SCRUB AREA - W
3/8" = 1'-0"



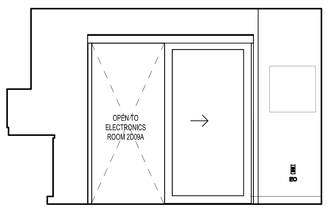
7 2D09 SUB-STERILE - E
3/8" = 1'-0"



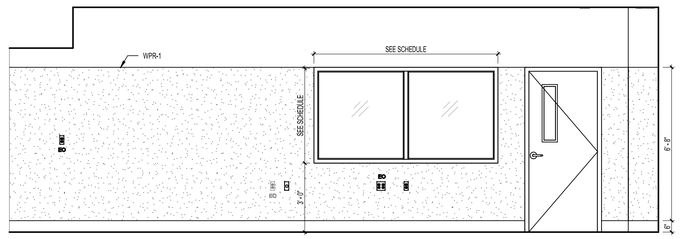
8 2D09 SUB-STERILE - S
3/8" = 1'-0"



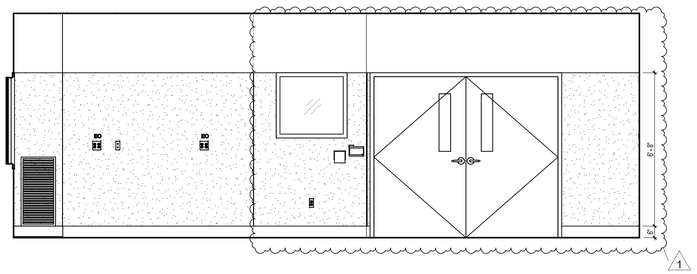
9 2D09 SUB-STERILE - W
3/8" = 1'-0"



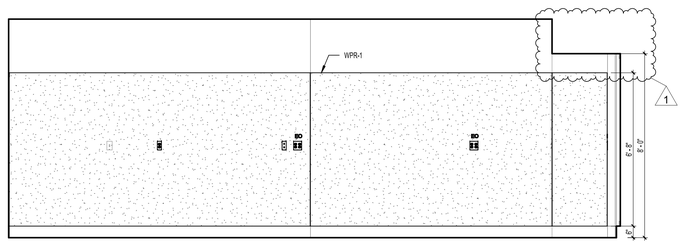
6 2D09 SUB-STERILE - N
3/8" = 1'-0"



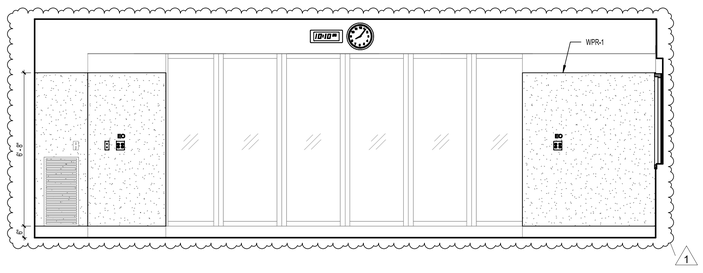
10 2D03 HYBRID OR #1 - N
3/8" = 1'-0"



11 2D03 HYBRID OR #1 - E
3/8" = 1'-0"



12 2D03 HYBRID OR #1 - S
3/8" = 1'-0"



13 2D03 HYBRID OR #1 - W
3/8" = 1'-0"

PRCTI20221788

CLARK KJOS ARCHITECTS, LLC

REGISTERED ARCHITECT SCOTT D COMBS STATE OF WASHINGTON

Good Samaritan
A part of MultiCare Health System

HYBRID OR #1

MULTICARE GOOD SAMARITAN HOSPITAL

401 15TH AVE SE, PUYALLUP, WA 98372

PERMIT SET
11/17/2022
REVISIONS
ASI 001 02.27.2023

23004

INTERIOR ELEVATIONS

A10.1

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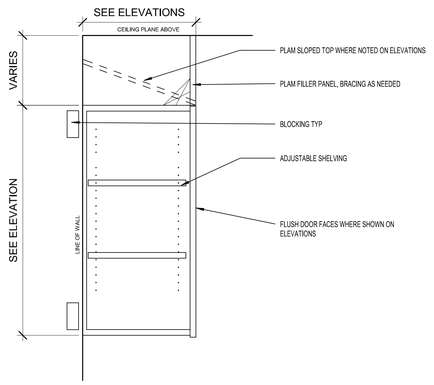
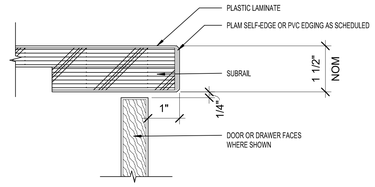
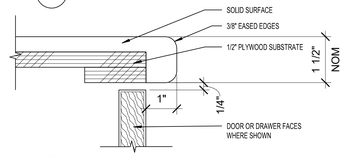


5 TYPICAL UPPER CAB
1 1/2" = 1'-0"

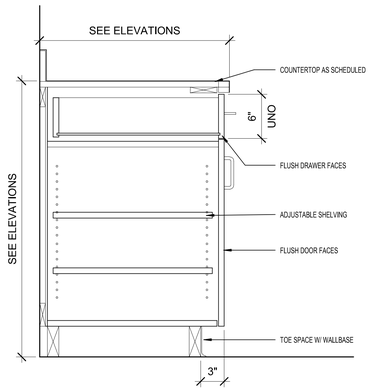


A PLASTIC LAMINATE EDGE DETAIL

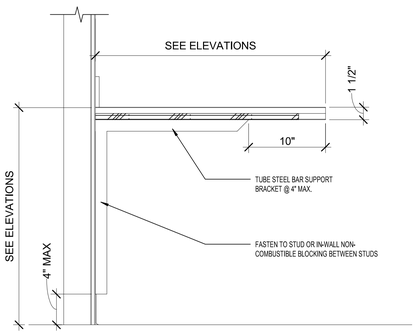


B SOLID SURFACE EDGE DETAIL

6 TYPICAL COUNTER EDGES
6" = 1'-0"



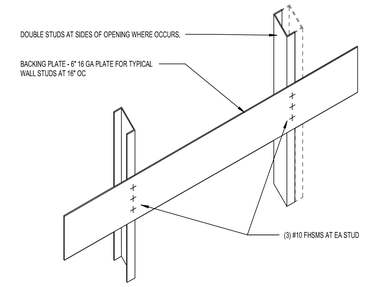
7 TYPICAL BASE CAB - SINGLE DRAWER
1 1/2" = 1'-0"



8 MOUNTING BRACKET
1 1/2" = 1'-0"

NOTES:

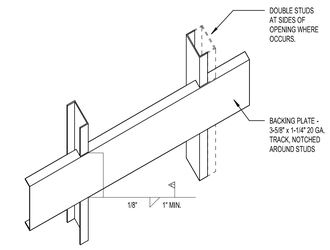
1. TYPE 'A' BACKING PLATE FOR MISC. ITEMS, I.E., SURFACE MOUNTED MIRRORS, WASTE RECEPTACLES, TOWEL DISPENSERS, EQUIPMENT, ETC. MAX. WEIGHT - 50 POUNDS
2. VERIFY LENGTH, HEIGHT, LOCATION OF BACKING PLATE AND NUMBER REQUIRED WITH ACCESSORY MANUFACTURERS.
3. USE #12 SELF TAPPING SHEET METAL SCREWS WHEN ATTACHING ITEMS TO BACKING PLATE.
4. WALL STUD FLANGES ARE CONTINUOUS.



1 BACKING PLATE - TYPE 'A'
3" = 1'-0"

NOTES:

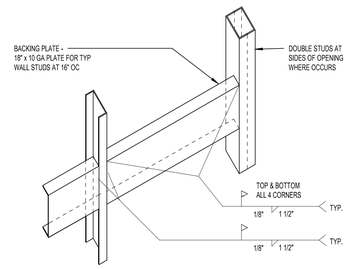
1. TYPE 'B' BACKING PLATE FOR UPPER WALL HUNG CABINETS (UP TO 2 SHELVES), BASE CABINETS, SHELVING TO 7'-0", WALL HUNG BENCHES, HANDRAILS, ETC. MAX. WEIGHT - 100 LBS/FT
2. VERIFY LENGTH, HEIGHT, LOCATION OF BACKING PLATE AND NUMBER REQUIRED WITH ACCESSORY MANUFACTURERS.
3. USE #12 SELF TAPPING SHEET METAL SCREWS WHEN ATTACHING ITEMS TO BACKING PLATE.
4. WALL STUD FLANGES ARE CONTINUOUS.



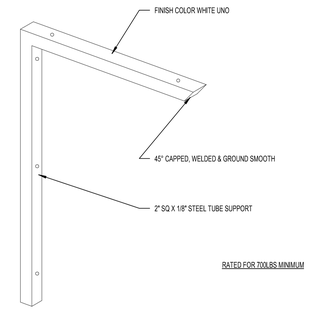
2 BACKING PLATE - TYPE 'B'
3" = 1'-0"

NOTES:

1. TYPE 'C' BACKING PLATE FOR SCRUB SINKS AND WALL HUNG LAVS MAXIMUM WEIGHT - 200 POUNDS/FOOT
2. VERIFY LENGTH, HEIGHT, LOCATION OF BACKING PLATE AND NUMBER REQUIRED WITH ACCESSORY MANUFACTURERS.
3. USE 1/4" SELF TAPPING (TEKS) SCREWS WHEN ATTACHING ITEMS TO BACKING PLATE.
4. 2'-0" BACKING PLATE AT SCRUB SINK.
5. WALL STUD FLANGES ARE CONTINUOUS.



3 BACKING PLATE - TYPE 'C'
3" = 1'-0"



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PRCTI20221788

CLARK KJOS ARCHITECTS, LLC

11045 REGISTERED ARCHITECT SCOTT D COMBS STATE OF WASHINGTON

Good Samaritan
A part of MultiCare Health System

HYBRID OR #1
MULTICARE GOOD SAMARITAN HOSPITAL
401 15TH AVE SE, PUYALLUP, WA 98372

PERMIT SET
11/17/2022
REVISIONS

23004

INTERIOR DETAILS

A11.1

ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR		WALL				CEILING		COMMENTS
		FLOOR TYPE	BASE TYPE	NORTH	EAST	SOUTH	WEST	TYPE	FINISH	
2D03A	SCRUB AREA	INTEGRAL COVE, MATCH HEIGHT OF (E)	RF-2	--	WPR-1	WPR-1	WPR-1	GWB	PT-1	RUN WPR FULL HEIGHT
2D02	CONTROL ROOM	RF-1	6IN INTEGRAL COVE	PT-1	PT-1	PT-1	PT-1	(E)	--	
2D03	OR #1	RF-1	6IN INTEGRAL COVE	PT-1; WPR-1	PT-1; WPR-1	PT-1; WPR-1	PT-1; WPR-1	GWB	PT-1	SET WPR LEVEL WITH TOP OF DOOR & RELITE FRAMES, SEE ELEVATIONS
2D04	STORAGE	RF-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACP-1	--	
2D09	SUB-STERILE	RF-2	6IN INTEGRAL COVE	PT-1	PT-1	PT-1	PT-1	(E)	--	
2D09A	ELECTRONICS ROOM	RF-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACP-1	--	

1 LEVEL 2 - NEW ENLARGED FINISH PLAN
1/4" = 1'-0"

FINISH LEGEND

CEILINGS

ACOUSTICAL CEILING PANEL

ACP-1
- Manufacturer: Armstrong
- Model: Ultima Health Zone 1935
- Color: White
- Edging: Square Lay-in
- Size: 24" x 24"
- Grid: Prelude 15/16

WALLS

PAINT

PT-1
- Manufacturer: Rodda
- Color Name: Custom color to match Barrister White
- Style: Low VOC Acrylic Latex
- Finish: Eggshell UNO

WALL PROTECTION

WPR-1
- Manufacturer: Construction Specialties
- Style: Acrovyn 4000
- Color: Antique White 0104
- Thickness: .04"
- Height: 40" AFF UNO

CG
- Manufacturer: Construction Specialties
- Style: Acrovyn 4000
- Model: SSM-20
- Finish: Suede
- Wing Length: 2"
- Height: Match WPR-1 UNO

FLOORS

FLOORING

RF-1
- Manufacturer: Mannington Commerical
- Type: Homogeneous Sheet
- Style: Biospec Armor
- Color: TBD
- Notes: Color Match Heat Welds

RF-2
- Manufacturer: Mannington Commerical
- Type: Homogeneous Sheet
- Style: Biospec MD
- Color: TBD
- Notes: Color Match Heat Welds

RB-1
- Manufacturer: Roppe
- Type: Thermoset Rubber
- Style: Pinnacle
- Color: TBD
- Notes: 6in Height

CASEWORK

PLASTIC LAMINATE

PL-1
- Manufacturer: Formica
- Type: HPDL
- Style: Pencil Wood 7747
- Finish: 58
- Notes: Vertical Faces

SOLID SURFACE

SSM-1
- Manufacturer: Dupont Corian
- Color: Dove
- Notes: Horizontal Surfaces; Eased Edges; 1" Radius Outside Corners

GENERAL NOTES - FINISHES

1. REFER TO INTERIOR FINISH SPECIFICATIONS FOR CODE DESCRIPTIONS AND ADDITIONAL INFORMATION.
2. FILL ALL HOLES CRACKS AND RECESSES IN CONCRETE FLOOR WITH NON-SHRINK GROUT TO PROVIDE A SMOOTH FINISH IN PREPARATION FOR FLOOR TO RECEIVE SPECIFIED FINISH.
3. HEAT WELD ALL SHEET VINYL SEAMS.
4. TOP-SET RUBBER OR VINYL WALL BASE, WHERE USED, SHALL BE SEALED TIGHTLY TO BOTH THE FLOOR AND WALL.
5. REFER TO INTERIOR ELEVATIONS FOR ADDITIONAL INFORMATION REGARDING VERTICAL FINISHES ON PARTITIONS AND CASEWORK.
6. ALL WALLS AND SOFFITS TO RECEIVE FIELD PAINT COLOR UNLESS NOTED OTHERWISE.
7. REFER TO FINISH PLAN, FINISH LEGEND AND INTERIOR ELEVATIONS FOR EXTENT OF FINISHES NOT INDICATED IN ROOM FINISH SCHEDULE.

LEGEND - FINISH PLAN

- XX-X — MATERIAL DESIGNATION
- XX-X — MATERIAL DESIGNATION; **SINGLE MATERIAL DESIGNATION**; EXTENT OF FINISH
- FLOOR MATERIAL TRANSITION
- CG — CORNER GUARD LOCATION
- DIRECTION OF CARPET OR FLOOR PATTERN INSTALL

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KEY PLAN - LEVEL 2

AREA OF WORK

PRCTI20221788

CLARK KJOS ARCHITECTS, LLC

11045 REGISTERED ARCHITECT SCOTT D COMBS STATE OF WASHINGTON

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401 15TH AVE SE, PUYALLUP, WA 98372

PERMIT SET
11/17/2022
REVISIONS

23004

LEVEL 02 - FINISH SCHEDULE & FLOOR PLAN

A12.1

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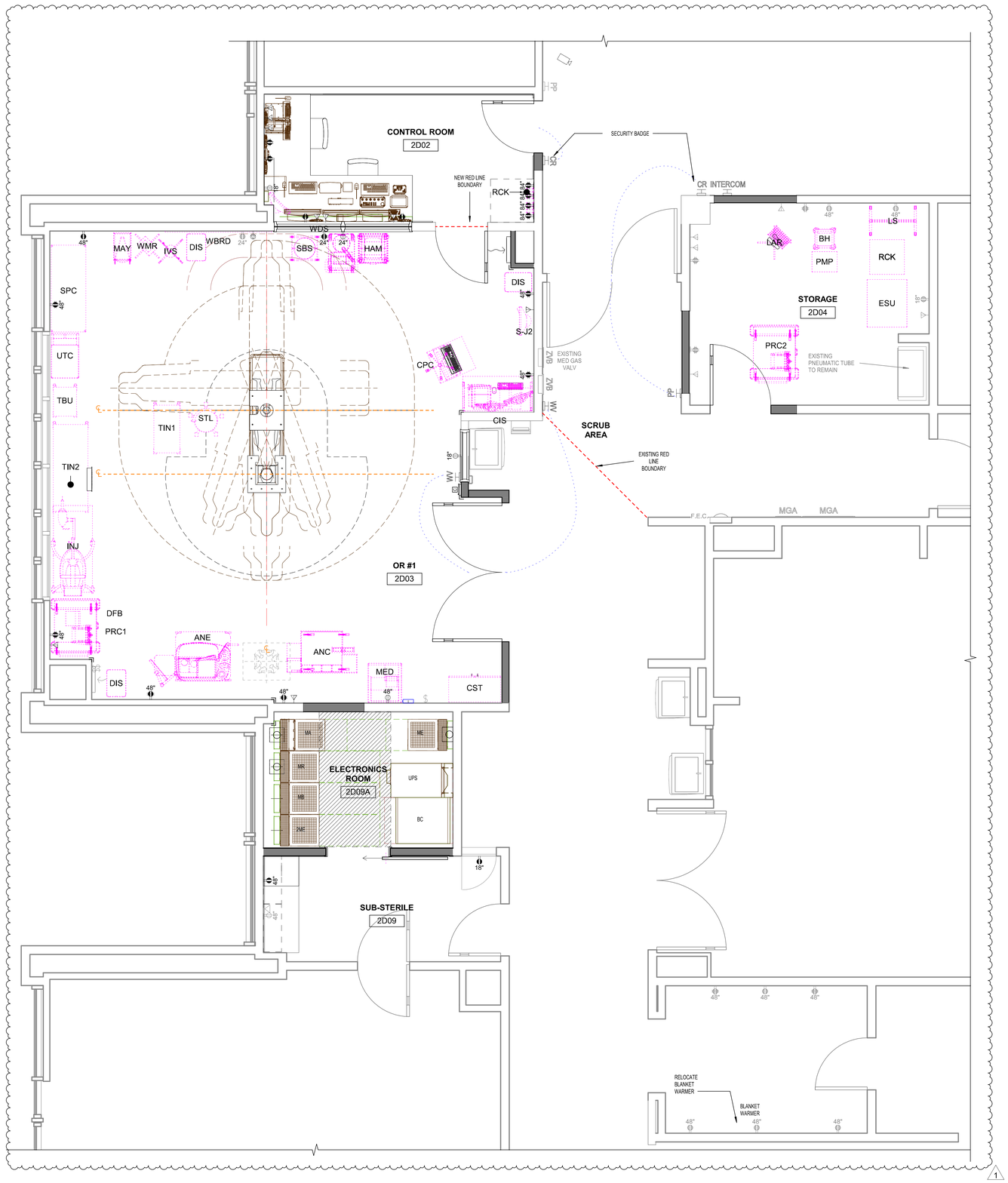

1 EQUIPMENT PLAN - LEVEL 2
3/8" = 1'-0"

REFERENCE PHILIPS ORIGINAL EQUIPMENT DRAWING INFORMATION AND DETAILS

-KEYNOTES-

-EQUIPMENT LEGEND-

ANC	CART, ANESTHESIA (OFOI)
ANE	ANESTHESIA MACHINE (VFOI)
BH	
CIS	COMPUTER, WORKSTATION (VFOI)
CPC	CART, COMPUTER (OFOI)
CST	CABINET, STORAGE (OFOI)
DFB	DEFIBRILLATOR (OFOI)
DIS	DISPOSAL, SHARPS (OFOI)
ESU	ELECTROSURGICAL UNIT (OFOI)
HAM	HAMPER, LINEN (OFOI)
INJ	INJECTOR, MOBILE (OFOI)
IVS	STAND, IV (OFOI)
LAR	LARYNGOSCOPE SET (OFOI)
LS	
MAY	STAND, MAYO (OFOI)
MED	DISPENSER, MEDICATION (VFOI)
PMP	PUMP, AIR MATRESS (OFOI)
PRC1	CART, PROCEDURE (OFOI)
PRC2	CART, PROCEDURE (OFOI)
RCK	RACK, APRON, MOBILE (OFOI)
SJ-2	STRYKER SPI3 TOUCH PANEL (VFVI)
SBS	STAND, BASIN (OFOI)
SPC	CART, SUPPLY, 60IN (OFOI)
STL	STOOL (OFOI)
TBU	TABLE, UTILITY (OFOI)
TIN1	TABLE, INSTRUMENT 33IN (OFOI)
TIN2	TABLE, INSTRUMENT 60IN (OFOI)
UTC	CART, UTILITY (OFOI)
WBRD	WHITE BOARD (OFCI)
WDS	WASTE DISPOSAL, NEPTUNE (OFOI)
WMR	WARMER, FLUID (OFOI)

1

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KEY PLAN - LEVEL 2

AREA OF WORK

PRCTI20221788

CLARK KJOS ARCHITECTS, LLC

11045 REGISTERED ARCHITECT SCOTT D COMBS STATE OF WASHINGTON

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23004

LEVEL 02 - EQUIPMENT FLOOR PLAN

A13.1

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MECHANICAL SYMBOL SCHEDULE, ABBREVIATIONS, GENERAL NOTES AND CONDITIONS, AND BASIS OF DESIGN

SYMBOL LEGEND

	MATCH LINE		SOLENOID VALVE
EF 1	EQUIPMENT TAG		RADIUS ELBOW, R/D=1.5 UNLESS NOTED OTHERWISE
	POINT OF CONNECTION, NEW WORK TO EXISTING WORK		DUCT MOUNTED COIL
	POINT OF DISCONNECTION		SHOWN IN ORDER (LEFT TO RIGHT): FIRE DAMPER (FD) / SMOKE DAMPER (SD) / COMBINATION FIRE SMOKE DAMPER (FSD)
SD-1 550	AIR OUTLET/ INLET DEVICE DESIGNATION (SD-1 12X12 / 550: DEVICE; NECK SIZE OPTIONAL (IF NOT GIVEN REFER) TO SCHEDULE); AIRFLOW (CFM)		
	NEW WORK	TU-01	ROOM SENSOR OR THERMOSTAT (WITH ZONE OR EQUIPMENT DESIGNATION WERE APPLICABLE)
	EXISTING WORK TO REMAIN		ROOM SENSOR OR THERMOSTAT (WITH LEADER TO RELATED EQUIPMENT
	EXISTING WORK TO BE REMOVED		HUMIDITY SENSOR (WITH ZONE OR EQUIPMENT DESIGNATION WERE APPLICABLE)
UP / DN	SLOPE PIPE UP OR DOWN (DN) AS NOTED		HUMIDITY SENSOR (WITH LEADER TO RELATED EQUIPMENT
	BOTTOM / UP PIPE CONNECTION	SD	DUCT SMOKE DETECTOR (SHOWN HERE TO BE FURNISHED BY ELECTRICAL)
	PUMP (FOR DIAGRAMMATIC)		
	GLOBE VALVE		CEILING SUPPLY DIFFUSER
	CHECK VALVE		CEILING RETURN REGISTER OR GRILLE
	STOP CHECK VALVE		CEILING EXHAUST REGISTER OR GRILLE
	CALIBRATED FLOW BALANCE VALVE		DIFFUSER, REGISTER OR GRILLE THROW INDICATOR (SUPPLY, RETURN OR EXHUAST)
	FLOW LIMITING VALVE		SUPPLY REGISTER OR GRILLE
	HOSE END BALL VALVE WITH CAP AND CHAIN		
	BUTTERFLY VALVE		RETURN OR EXHAUST REGISTER OR GRILLE
	PITOT LOCATION		
	2-WAY MODULATING CONTROL VALVE	SO	SCREENED RETURN OR EXHAUST AIR OPENING
	2-WAY 2-POSITION CONTROL VALVE	SO	
	3-WAY MODULATING CONTROL VALVE		SLOPING RISE OR DROP IN RECTANGULAR DUCTWORK
	3-WAY 2-POSITION CONTROL VALVE		SLOPING RISE OR DROP IN ROUND DUCTWORK
	RELIEF VALVE / ANGLE VALVE		
	PRESSURE REDUCING VALVE (PRV)		
TAV	THERMOSTATIC AIR VENT (AIR SYSTEMS)	18x12 / 18x12	RECTANGULAR DUCT, SIZE BASED ON CLEAR INSIDE DIMENSIONS, FIRST FIGURE INDICATES PLAN SIZE
	PRESSURE GAUGE, STEAM SYSTEMS		
	PRESSURE GAUGE, HYDRONIC SYSTEMS	18Ø / 18Ø	ROUND DUCT, DIAMETER SIZE BASED ON CLEAR INSIDE DIMENSIONS
VB	VACUUM BREAKER		
FM	FLOW METER (INSTANTANEOUS FLOW)		
M	TOTALIZING FLOW METER	24x10Ø / 24x10Ø	FLAT OVAL DUCT, SIZE BASED ON CLEAR INSIDE DIMENSIONS, FIRST FIGURE INDICATES PLAN SIZE
FM B	BTU METER		
	PIPE SLIDE		
	CHANGE IN PIPE SIZE, CONCENTRIC REDUCER UNLESS SPECIFIED DIFFERENTLY	18x12 AL / 18x12	ACOUSTIC LINING IN DUCT (SIZE NOTED INDICATES INSIDE CLEAR DIMENSIONS)
	CAPPED PIPE		
	WYE TYPE STRAINER WITH HOSE END BLOW OFF VALVE	BDD SGD / BDD SGD	BACK BRAFT DAMPER/ SLIDE GATE DAMPER
	WYE TYPE STRAINER		
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER		SUPPLY DUCT TURNING UP, (IN ORDER SHOWN. RECTANGULAR, FLAT OVAL & ROUND)
	SIGHT GLASS		
	HIGH PRESSURE STEAM TRAP ASSEMBLY		SUPPLY DUCT TURNING DOWN, (IN ORDER SHOWN. RECTANGULAR, FLAT OVAL & ROUND)
	LOW PRESSURE STEAM TRAP ASSEMBLY		
	BLIND FLANGE		RETURN DUCT TURNING UP, (IN ORDER SHOWN. RECTANGULAR & ROUND)
HWS	HEATING WATER SUPPLY		
HWR	HEATING WATER RETURN		RETURN DUCT TURNING DOWN, (IN ORDER SHOWN. RECTANGULAR & ROUND)
CHS	CHILLED WATER SUPPLY		
CHR	CHILLED WATER RETURN		EXHAUST DUCT TURNING UP, (IN ORDER SHOWN. RECTANGULAR & ROUND)
PCHS	PROCESS CHILLED WATER SUPPLY		
PCHR	PROCESS CHILLED WATER RETURN		EXHAUST DUCT TURNING DOWN, (IN ORDER SHOWN. RECTANGULAR & ROUND)
CWS	CONDENSER WATER SUPPLY		
CWR	CONDENSER WATER RETURN		DUCT ACCESS DOOR
CSS	CENTRIFUGAL SEPARATOR SUPPLY	P	DUCT PITOT.
CSR	CENTRIFUGAL SEPARATOR RETURN	EP	FOR PITOT OF EXHUAST DUCT.
LPS	LOW PRESSURE STEAM (0-15 PSI)	SP	IS FOR SUPPLY DUCT.
LPR	LOW PRESSURE CONDENSATE RETURN (0-15 PSI)		
HPS(70)	HIGH PRESSURE STEAM (ABOVE 15 PSI, MAX STEAM PRESSURE INDICATED)	DM	DISPLAY MONITOR AND ALARM
HPR(70)	HIGH PRESSURE CONDENSATE RETURN (ABOVE 15 PSI, MAX STEAM PRESSURE INDICATED)	AV	AUDIO VISUAL ALARM
BBD	BOILER BLOWDOWN	CAV	CAV BOX
BFW	BOILER FEEDWATER	VAV	VAV BOX
CD	CONDENSATE DRAIN		
PCR	PUMPED CONDENSATE		
D	DRAIN LINE		
XX	2-WAY MODULATING CONTROL VALVE, XX = SPECIAL DESIGNATION (EG: PI=PRESSURE INDEPENDENT)		
XXX	2-WAY 2-POSITION CONTROL VALVE, XX = SPECIAL DESIGNATION (EG: BF=BUTTERFLY VALVE)		
XX	3-WAY MODULATING CONTROL VALVE, XX = SPECIAL DESIGNATION (EG: PI=PRESSURE INDEPENDENT)		
XXX	3-WAY 2-POSITION CONTROL VALVE, XX = SPECIAL DESIGNATION (EG: BF=BUTTERFLY VALVE)		
CP	2-WAY MODULATING CHARACTERIZED PORT BALL VALVE		

GENERAL NOTES

1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
2. IN THE EVENT OF A DISCREPANCY BETWEEN CONTRACT DRAWINGS AND SPECIFICATIONS, THE MOST STRINGENT SHALL GOVERN.
3. PERFORM ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF GOVERNING STATE AND LOCAL CODES.
4. INSTALL ALL PIPING AND DUCTWORK TO AVOID ARCHITECTURAL FRAMING, STRUCTURAL MEMBERS, AND OTHER OBSTRUCTIONS. COORDINATE PIPING AND DUCTWORK LOCATION WITH ALL APPLICABLE CONTRACT DRAWINGS PRIOR TO PLACING SLEEVES IN FLOORS OR WALLS.
5. INSTALL ALL PIPING AND DUCTWORK TO BEST SUIT FIELD CONDITIONS AND COORDINATE WITH THE INSTALLATION WORK OF OTHER TRADES. THE DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED TO DETERMINE EXACT LOCATIONS OF PIPING OR DUCTWORK.
6. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT DIFFUSER LOCATIONS AND FINISHED CEILING.
7. COORDINATE DUCTWORK, PIPING WITH STRUCTURAL DRAWINGS, LIGHTING AND SPRINKLER SYSTEM. PROVIDE TRANSITIONS AS REQUIRED.
8. COORDINATE LOCATIONS OF ACCESS DOORS WITH F.D.'S, V.D.'S, SD, ETC. THE OPENING SHALL BE LARGE ENOUGH TO PERMIT MAINTENANCE AND RESETTING OF THE DEVICE.
9. CONTRACTOR TO COORDINATE WITH ARCHITECTS CEILING ACCESS PANELS FOR ALL FIRE, SMOKE AND VOLUME DAMPERS IN INACCESSIBLE CEILING AS REQUIRED.
10. WHETHER OR NOT THEY ARE SHOWN ON DRAWINGS PROVIDE ALL CONCRETE PADS, SPECIAL SUPPORTS AND ANCHORING FOR ALL MECHANICAL EQUIPMENT REQUIRING SUCH. SEE ARCH OR STRUCTURAL DRAWINGS FOR ADDITIONAL INFO.
11. ALL DUCT DIMENSIONS ARE AIRSTREAM DIMENSIONS.
12. ALL MECHANICAL RELATED PENETRATIONS THROUGH ROOF SHALL HAVE CURBS INSTALLED BY ROOFING CONTRACTOR TO ENSURE A PROPER WATERPROOF SEAL.
13. SEAL ALL FIRE RATED PENETRATIONS WITH UL LISTED THROUGH PENETRATION ASSEMBLY AS SPECIFIED, REFER TO ARCHITECTURAL.
14. THERMOSTAT AND HUMIDISTAT APPEARANCE AND LOCATION SHALL BE COORDINATED WITH ARCHITECTS/OWNER.
15. PROVIDE REMOTE OPERATORS FOR ALL VOLUME DAMPERS LOCATED ABOVE INACCESSIBLE CEILING.
16. PROVIDE OPERATING HANDLES FOR ALL VALVE AND COCKS WITHOUT INTEGRAL OPERATORS.
17. IN MECHANICAL OR EQUIPMENT ROOMS, INSTALL ALL VALVES ACCESSIBLE FROM FLOOR LEVEL WHERE POSSIBLE. PROVIDE GUIDED CHAIN OPERATIONS, UNLESS OTHERWISE NOTED, ON ALL VALVES IN MECHANICAL AND EQUIPMENT ROOMS INSTALLED OVER 7' ABOVE FLOOR.
18. PROVIDE VALVES AND OTHER PIPING SPECIALTIES SAME SIZE AS LINE SIZE SHOWN UNLESS OTHERWISE NOTED.
19. INSTALL SWING CHECK VALVES IN THE HORIZONTAL POSITION.
20. PROVIDE 3/8" BLOW-OFF VALVE AND 1/2" IPS TO HOSE THREAD ADAPTER ON ALL STRAINERS.
21. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, ALL HOT WATER SUPPLY/RETURN TAKE-OFFS TO REHEAT COIL IN VAV BOXES SHALL BE 3/4" DIAMETER.
22. ALL DUCT HEATING COILS SHALL HAVE DUCT ACCESS PANEL.
23. PROVIDE UNIONS OR FLANGES ON EACH SIDE OF CONTROL VALVES AND PUMPS. EVERY PIPING ASSEMBLY SHALL BE MADE SO AS TO MAKE EVERY VALVE AND PIECE OF EQUIPMENT EASILY REMOVABLE. WELDED OR SOLDER-JOINT VALVES ARE EXCEPTED FROM THIS REQUIREMENT.
24. PROVIDE LOCAL INDICATOR LIGHTS FOR ALL SMOKE/FIRE DAMPERS. LIGHT IS ACTIVATED WHEN DAMPER IS IN CLOSED POSITION.
25. ALL DRAIN CONNECTIONS FROM MECHANICAL EQUIPMENT SHALL BE PIPED TO SPILL DIRECTLY INTO NEAREST FLOOR DRAIN.
26. PROVIDE 1" AIR GAP AT ALL DRAIN CONNECTIONS.
27. ALL PIPING AND DUCTWORK PASSING THROUGH SEPARATION JOINTS USED AS BUILDING SEISMIC SEPARATIONS SHALL HAVE FLEXIBLE CONNECTIONS TO COMPENSATE FOR SEISMIC MOVEMENT AS REQUIRED, PROVIDE HANGERS ON EACH SIDE OF FLEXIBLE CONNECTION.
28. SEPARATE ALL CEILING HANGING AND BRACING WIRES AT LEAST 6" FROM ALL UNBRACED DUCTS, PIPES, CONDUITS, ETC, AT THE CONTRACTOR'S OPTION HE MAY BRACE UNBRACED DUCTS, PIPES, CONDUITS, ETC, IN A MANNER CONFORMING TO REQUIREMENTS ESTABLISHED BY THE MECHANICAL AND ELECTRICAL CONTRACT DOCUMENTS, OR THE CONTRACTOR MAY INSTALL TRAPEZE SUPPORTS TO RECEIVE THE CEILING HANGING AND BRACING WIRES, THE GENERAL CONTRACTOR SHALL COORDINATE THE WORK AND RESPONSIBILITY FOR ACCOMMODATING SUCH WORK.
29. PROVIDE BALANCING DAMPERS AT EACH SUPPLY, RETURN, AND EXHAUST BRANCH TAKE-OFF.
30. DUCTS STORED ON THE CONSTRUCTION SITE SHALL BE PROTECTED AND ISOLATED FROM DUST CONTAMINATION.
31. ALL DUCT ELBOWS BEFORE VAV BOXES AND REHEAT COILS SHALL BE OF FULL RADIUS HARD CONNECTION ELBOWS.
32. ALL PIPING AND DUCTWORK TO BE FLEXIBLE CONNECTED TO PUMPS, COILS ETC.
33. SEE ARCHITECTURAL AND STRUCTURAL DOCUMENTS FOR EQUIPMENT SUPPORTS AND ROOF OPENINGS.
34. ALL PIPING IN MECHANICAL ROOMS TO BE HUNG WITH SPRING ISOLATORS WITH 1/2" STATIC DEFLECTION AT SPECIFIED SPACING FOR HORIZONTAL PIPING, VERTICAL DROPS AND ALL ELBOWS,
35. PROVIDE ELBOW SUPPORTS AT ALL PIPE CONNECTIONS TO EQUIPMENT,
36. FOR EXACT CONCRETE PAD/CURB SIZES COORDINATE WITH APPROVED EQUIPMENT AND WITH STRUCTURAL DOCUMENTS.
37. SEE ARCHITECTURAL DOCUMENTS FOR PAINTING OF ALL EXPOSED DUCTWORK, PIPING, AIR OUTLET AND FIXTURE TRIM. ALL DUCTWORK AND PIPING ON MECHANICAL EQUIPMENT LEVEL (ROOF) IS TO BE PAINTED IN COMPLIANCE WITH DIVISION 15 AND DIVISION 9.
38. INSTALL SHUT-OFF VALVES AT EACH BRANCH PIPE LINE.
39. ALL DUCT SMOKE DETECTORS TO BE PROVIDED AND WIRED BY DIVISION 26. INSTALLED BY DIVISION 23. DETECTOR SAMPLING TUBES TO HAVE AN ACCESS DOOR MAKING SAMPLING TUBES READILY ACCESSIBLE.
40. UNLESS SPECIFICALLY SPECIFIED OR SHOWN OTHERWISE ALL CONSTRUCTION IS TO CONFORM TO SMACNA HVAC CONSTRUCTION STANDARDS AS A MINIMUM REQUIREMENT.
41. FIRE DAMPERS AND FIRE SMOKE DAMPERS ARE TO BE INSTALLED IN RATED PORTION OF THE ASSEMBLIES IN WHICH THEY OCCUR.
42. REFER TO ARCHITECTURAL SPECIFICATION FOR APPROVED FIRESTOPPING SYSTEM.
43. ALL PIPING NOTED TO BE CAPPED FOR FUTURE EXTENSION SHALL BE PROVIDED WITH VALVE NEAR CAP TO PERMIT FUTURE CONNECTION OF THE SYSTEM.
44. INSTALL SHUT-OFF VALVES AT EACH BRANCH PIPE LINE.
45. ALL PLENUM BOXES, DUCTWORK ETC TO BE LOCATED INSIDE WALL CAVITIES OR INACCESSIBLE SPACES SHALL BE TESTED FOR AIRTIGHT CONSTRUCTION BEFORE INSTALLATION.
46. SUBMIT 1/4" SCALE SHOP DWGS, COORDINATED WITH OTHER TRADES FOR REVIEW PRIOR TO COMMENCEMENT OF WORK.
47. COORDINATE SYSTEM SHUTDOWN WITH FACILITY ENGINEER. PROVIDE A MINIMUM OF 72 HOUR NOTICE.
48. ALL PIPING TO BE LOCATED INSIDE WALL CAVITIES OR INACCESSIBLE SPACES SHALL BE LEAK TESTED AND INSULATED WITH VAPOR BARRIER SEAL BEFORE INSTALLATION.

GENERAL CONDITIONS

1. ALL WORK TO BE IN ACCORDANCE WITH REQUIREMENTS OF GOVERNING LOCAL FIRE CODES AND BUILDING CODES.
2. VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS. NOTIFY ARCHITECT OF ANY DISCREPANCIES FOUND. VERIFY DIMENSIONS OF ALL OWNER-FURNISHED OPERATING EQUIPMENT TO ENSURE PROPER COORDINATION WITH CONSTRUCTION.
3. SCHEDULE ALL WORK ACCESS AND STORAGE WITH THE FACILITY ADMINISTRATOR.
4. CONTRACTOR SHALL PROVIDE DUST COVERS AS REQUIRED TO CONTAIN DUST AND DEBRIS WITHIN CONSTRUCTION AREA AND KEEP DIRT AND DUST TO A MINIMUM.
5. ALL REMOVED ITEMS DEEMED TO HAVE VALUE BY THE OWNER SHALL BE DELIVERED TO A PLACE OF STORAGE AT THE SITE AS DIRECTED, ALL OTHER ITEMS MUST BE DISPOSED OF OFF SITE IN A LEGAL MANNER.
6. WHERE EXISTING CONSTRUCTION IS CUT, DAMAGED, OR REMODELED, PATCH WITH MATERIALS TO MATCH IN KIND, QUALITY AND PERFORMANCE.
7. CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR SAFETY OF ALL PERSONS ON OR ABOUT THE CONSTRUCTION SITE IN ACCORDANCE WITH APPLICABLE LAWS AND CODES, GUARD ALL HAZARDS IN ACCORDANCE WITH THE SAFETY PROVISIONS OF THE LATEST MANUAL OF ACCIDENT PREVENTION PUBLISHED BY THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA.
8. CLEAN ALL EXPOSED SURFACES AND NEW EQUIPMENT AFTER COMPLETION.
9. WHEN INSTALLING DRILLED-IN ANCHORS AND/OR POWDER DRIVEN PINS IN EXISTING NON-PRESTRESSED REINFORCED CONCRETE. USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT AND THE DRILLED-IN ANCHOR AND/OR PIN.

ABBREVIATIONS

ABV	ABOVE	IN	INCHES
ACU	AIR CONDITIONING UNIT	INV	INVERT ELEVATION
ACC	AIR COOLED CHILLER	KW	KILOWATT
AD	ACCESS DOOR	KWH	KILOWATT HOUR
AFF	ABOVE FINISHED FLOOR	LAT	LEAVING AIR TEMP.
AFMS	AIR FLOW MEASURING STATION	LBS	POUNDS
AHU	AIR HANDLING UNIT	LD	LINEAR DIFFUSER
AL	ACOUSTICAL LINING	LPR	LOW PRESSURE STEAM RETURN
ALT	ALTITUDE	LPS	LOW PRESSURE STEAM SUPPLY
ALD	AUTOMATIC LOUVER DAMPER	LVR	LOUVER
APPROX	APPROXIMATE	LWT	LEAVING WATER TEMP.
ARCH	ARCHITECTURAL	M	MAIN AIR
AS	AIR SEPARATOR	(M)	MAGNETIC GAUGE
AVG	AVERAGE	MA	MAKE UP AIR
B	BOILER	MAT	MIXED AIR TEMPERATURE
BD	BLOWDOWN	MAX	MAXIMUM
BDD	BACK DRAFT DAMPER	MBD	MANUAL BALANCING DAMPER
BF	BELOW FLOOR	MBH	THOUSAND BTU/HOUR
BFW	BOILER FEEDWATER	MCC	MOTOR CONTROL CENTER
BG	BELOW GRADE	MFG	MANUFACTURER
BHP	BRAKE HORSEPOWER	MIN	MINIMUM
BO	BLANK OFF	MMS	MANUAL MOTOR START
BOD	BOTTOM OF DUCT	(N)	NEW
BOP	BOTTOM OF PIPE	N/A	NOT APPLICABLE
BOR	BOTTOM OF RACK	NC	NORMALLY CLOSED
BTU	BRITISH THERMAL UNIT	NIC	NOT IN CONTRACT
BTUH	BTU PER HOUR	NK	NECK
C	COMMON	NO	NORMALLY OPEN OR NUMBER
CA	COMPRESSED AIR	NTS	NOT TO SCALE
CAV	CONSTANT VOLUME	OA	OUTSIDE AIR
CC	COOLING COIL	OBD	OPPOSED BLADE DAMPER
CD	CEILING DIFFUSER	OD	OUTSIDE DIMENSION
CE	CEILING EXHAUST	ORD	OVERFLOW ROOF DRAIN
CFF	CAP FOR FUTURE	ΔP	PRESSURE DROP OR DIFFERENTIAL
CFH	CUBIC FEET PER HOUR	P	PUMP
CFM	CUBIC FEET PER MINUTE	PC	PUMPED CONDENSATE
CG	CEILING GRILLE	PG	PIPE GUIDE
CHS	CHILLED WATER	PH	PHASE (ELECTRICAL)
CHR	CHILLED WATER RETURN	PHC	PREHEAT COIL
℄	CENTERLINE	POC	POINT OF CONNECTION
CMPR	COMPRESSOR	PRESS	PRESSURE
CO	CLEAN OUT (DOOR)	PSI	POUNDS/SQUARE INCH
COEFF	COEFFICIENT	PSIG	POUNDS PER SQUARE INCH GAUGE
COND	CONDENSATE	R	RISE
CONN	CONNECTION, CONNECT	RA	RETURN AIR
CONT	CONTINUATION	RAD	RETURN AIR DUCT
COP	COEFF. OF PERFORMANCE	RCVR	RECEIVER
COTG	CLEAN OUT TO GRADE	RF	RETURN FAN
CP	CONDENSATE PUMP	RH	RELATIVE HUMIDITY
CR	CEILING REGISTER	RHC	REHEAT COIL
CV	COEFF., VALVE FLOW	RPM	REVOLUTIONS/MINUTE
CWS	COND. WATER SUPPLY	SA	SUPPLY AIR
CWR	COND. WATER RETURN	SAD	SUPPLY AIR DUCT
CT	COOLING TOWER	SEC	SECOND
D	DROP OR INDIRECT DRAIN	SF	SUPPLY FAN
DB	DRY BULB	SP	STATIC PRESSURE
DDC	DIRECT DIGITAL CONTROL	SPEC	SPECIFICATION
DEG. F	DEGREES FAHRENHEIT	SQ	SQUARE
DENS	DENSITY	SS	STAINLESS STEEL
DIA	DIAMETER	STD	STANDARD
DN	DOWN	STM	STEAM
DRN	DRAIN	SYM	SYMBOL
DWG	DRAWING	SYS	SYSTEM
(E)	EXISTING	ΔT	TEMPERATURE DIFF.
EA	EXHAUST AIR	TEMP	TEMPERATURE
EAD	EXHAUST AIR DUCT OR DAMPER	TOP	TOP OF PIPE
EAT	ENTERING AIR TEMP.	TOR	TOP OF RACK
EDB	ENTERING DRY BULB TEMP.	TOT	TOTAL
EF	EXHAUST FAN	TT	TEMP. TRANSMITTER
EFF	EFFICIENCY	TYP	TYPICAL
ET	EXPANSION TANK	U.C.	UNDERCUT
EWB	ENTERING WET BULB	UON	UNLESS OTHERWISE NOTED
EWT	ENTERING WATER TEMP.	V	VOLT
EXH	EXHAUST	VA	VALVE
EXP	EXPANSION	VAV	VARIABLE AIR VOLUME
°F	DEGREES FAHRENHEIT	VERT	VERTICAL
F	FILTER	VFD	VARIABLE FREQ. DRIVE
(F)	FUTURE	VOL	VOLUME
FC	FLEXIBLE CONNECTION	W	WATTS
FCU	FAN COIL UNIT	WB	WET BULB
FD	FIRE DAMPER OR FLOOR DRAIN	W/O	WITHOUT
FLA	FULL LOAD AMPS	WT	WEIGHT
FLR	FLOOR	WTR	WATER
FPI	FINS PER INCH	WSR	WALL SUPPLY REGISTER
FPM	FEET PER MINUTE	WRR	WALL RETURN REGISTER
FPS	FEET PER SECOND		
FS	FLOOR SINK		
FT	FEET		
FV	FACE VELOCITY		
GA	GAGE OR GAUGE		
GPM	GALLONS PER MINUTE		
GPH	GALLONS PER HOUR		
GSM	GALVANIZED SHEET METAL		
HC	HEATING COIL		
HD	HEAD		
HGT	HEIGHT		
HOA	HAND, OFF, AUTO		
HP	HORSE POWER		
HR	HOUR(S)		
HT	HUMIDITY TRANSMITTER		
HTP	HEAT PUMP		
HVAC	HEATING, VENTILATING AND AIR CONDITIONING		
HWR	HEATING WATER RETURN		
HWS	HEATING WATER SUPPLY		
HX	HEAT EXCHANGER		
IAC	INSTRUMENT AIR COMPRESSOR		
IAS	INSTRUMENT AIR SUPPLY		
ID	INSIDE DIMENSION		

MECHANICAL BASIS OF DESIGN

A. BRIEF PROJECT DESCRIPTION

THIS PROJECT WILL REMODEL APPROXIMATELY 1,750 SF OF PROCEDURE ROOM AND ANCILLARY SPACE ON LEVEL 2 OF THE MHS GOOD SAMARITAN HOSPITAL TO SUPPORT THE INSTALLATION OF A NEW BI-PLANE HYBRID OPERATING ROOM. THE WORK INCLUDES UPGRADING THE OR PROCEDURE ROOM, CONTROL ROOM, RELOCATION OF MISCELLANEOUS AND STERILIZATION EQUIPMENT, STORAGE ROOM ADDITION, AND AIR SUPPLY SYSTEM REBALANCING. THE WORK INCLUDES REPLACING THE EXISTING OR AIR HANDLING UNIT , HUMIDIFICATION SOURCE, AND SUPPLEMENTAL CHILLER. AND ADDITIONAL MINOR MECHANICAL AND ELECTRICAL REVISIONS TO THE EXISTING SPACE TO ACCOMMODATE THE REVISED ROOM FLOOR PLANS. CHANGE OF ROOM FUNCTIONALITY, AND HVAC SYSTEMS.

B. CODES AND STANDARDS

1. 2018 INTERNATIONAL BUILDING CODE
2. 2018 INTERNATIONAL MECHANICAL CODE
3. 2018 INTERNATIONAL PLUMBING CODE
4. 2018 INTERNATIONAL FIRE CODE
5. 2018 WASHINGTON STATE ENERGY CODE
6. 2020 NATIONAL ELECTRICAL CODE
7. 2019 NFPA 72 – NATIONAL FIRE ALARM AND SIGNALING CODE
8. 2018 NFPA 99 – STANDARD FOR HEALTH CARE FACILITIES
9. 2018 FGI - GUIDELINES FOR DESIGN AND CONSTRUCTION OF HOSPITALS AND OUTPATIENT FACILITIES
10. LOCAL AMENDMENTS TO THE 2018 INTERNATIONAL CODES
11. AAMI STANDARDS
12. ASHRAE 2017 HANDBOOK: FUNDAMENTALS
13. ASHRAE 2018 HANDBOOK: REFRIGERATION
14. ASHRAE 2019 HANDBOOK: HVAC APPLICATIONS
15. ASHREA 2020 HANDBOOK: HVAC SYSTEMS AND EQUIPMENT
16. PHILIPS AZURION 7 B20/12, 20/15 – PIVOT STANDARD REFERENCE DRAWINGS 12/16/2017

C. OUTDOOR DESIGN CONDITIONS

1. LOCATION: PUYALLUP, WA
2. SUMMER: 84 DEG F DB, 65 DEG F WB
3. WINTER: 19 DEG F
4. ELEVATION: 120 FT ABOVE SEA LEVEL
5. CLIMATE ZONE: 4C (PIERCE COUNTY)

D. INDOOR DESIGN TEMPERATURES, AIR CHANGE RATES, AND VENTILATION CRITERIA

BASIS OF DESIGN

INDOOR DESIGN TEMPERATURES, AIR CHANGE RATES, AND VENTILATION CRITERIA

FUNCTION OF SPACE	PRESSURE RELATIONSHIP TO ADJACENT AREAS	MINIMUM OUTDOOR ACH	MINIMUM TOTAL ACH	ALL ROOM AIR EXHAUSTED DIRECTLY TO THE OUTDOORS	AIR RECIRCULATED BY MEANS OF ROOM UNITS	DESIGN RELATIVE HUMIDITY (%)	DESIGN TEMPERATURE (°F)	NOTES
OPERATING ROOM	POSITIVE	4	20	NR	NO	20-60	65-74	[1]
CONTROL ROOM	NR	NR	NR	NR	NR	20-80	72 +/- 5	[1,2]
EQUIPMENT ROOM	NR	NR	NR	NR	NR	20-80	72 +/- 5	[1,2]
SUB STERILE	NR	2	6	NR	NO	NR	75 CLG/ 72 HTG	[1,4]
STORAGE ROOM	NR	0.12 CFM/SF	NR	NR	NR	NR	75 CLG/ 72 HTG	[3,4]

NOTES:
1. PARAMETERS PER 2018 FGI TABLE 7.1, "DESIGN PARAMETERS", CH. 6 "GUIDELINES FOR DESIGN AND CONSTRUCTION OF HOSPITALS AND OUTPATIENT FACILITIES" U.O.N.
2. RELATIVE HUMIDITY AND DESIGN TEMPERATURE PER MANUFACTURERS DRAWING "AZURION 7 B20/12, B20/15 PIVOT AN", 12.16.2017
3. ROOM PARAMETERS PER TABLE 403.3.1.1 "REQUIRED OUTDOOR VENTILATION AIR" 2018 WSMC
4. DESIGN TEMPERATURES PER 2018 WSEC

E. BUILDING ENVELOPE (EXISTING BUILDING, ENVELOPE NOT WITHIN SCOPE)
1. GLAZING GLASS FRAME COMBINATION
   - A. CURTAIN WALL AND PUNCHED WINDOWS
     - 1. U=0.65
     - 2. SHADING COEFFICIENT=0.46
2. WALL CONSTRUCTION
   - A. 90.1 2007 MINIMUM WALL NON-RES ZONE 4-8
     - 1. U=0.0476
3. ROOF CONSTRUCTION
   - A. 4" LW CONCRETE
     - 1. U=0.21
4. ENVELOPE INFILTRATION/ AIR LEAKAGE
5. PRESSURIZED, AVERAGE CONSTRUCTION
   - A. 0.3 CFM/SQ FT OF WALL

F. INTERNAL HEAT GAINS
1. LIGHTING (ALL SPACES)
   - A. LED LIGHTING. 100% HEAT GAIN TO SPACE
     - 1. 0.85 W/SF
2. OCCUPANCY CRITERIA
   - A. OPERATING / EXAM ROOM: 8 PERSONS
   - B. CONTROL ROOM: 2 PERSONS
   - C. SUB-STERILE: 1 PERSON
   - D. EQUIPMENT ROOM: UNOCCUPIED
   - E. STORAGE: UNOCCUPIED
3. EQUIPMENT HEAT GAINS
   - A. OPERATING / EXAM ROOM
     - 1. 6,142 BTUH (AVERAGE)
   - B. CONTROL ROOM
     - 1. 1,945 BTUH (AVERAGE)
   - C. EQUIPMENT ROOM
     - 1. 41,866 BTUH
   - D. SUB STERILE
     - 1. 1,365 BTUH
4. ZONING CRITERIA: SEE PLANS

G. ACOUSTICAL
1. THE FOLLOWING NOISE NC/DBA CRITERIA LEVELS WILL BE ACHIEVED AS DEFINED IN THE 2018 FGI GUIDELINES FOR DESIGN AND CONSTRUCTION OF HOSPITALS. THESE LEVELS ADDRESS THE MECHANICAL SYSTEMS ONLY. ACTUAL SOUND PERFORMANCE REQUIREMENTS FOR EACH SPACE MUST BE VERIFIED WITH ACOUSTICAL CONSULTANT.
   - A. OPERATING / EXAM ROOM: 50/55
   - B. CONTROL ROOM: 45/50
   - C. SUB STERILE: 45/50

H. SESMIC
1. ANCHORAGE AND RESTRAINTS MUST BE COORDINATED WITH STRUCTURAL ENGINEER AND AUTHORITY HAVING JURISDICTION.

MECHANICAL DRAWING INDEX

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

- See accompanying project comment form for review status and corrections.
- This is not a building permit, check with your local building department.

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PRCTI20221788

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Project Number: 20G-002

Good Samaritan
A part of MultiCare Health System

HYBRID OR #1
MULTICARE GOOD SAMARITAN HOSPITAL
401 15TH AVE SE, PUYALLUP, WA 98372

PERMIT SET
11/11/2022
REVISIONS

73-19057-00

MECHANICAL SYMBOLS AND ABBREVIATIONS

M0.01

BIM 360://73-19057-00 MultiCare Good Sam Hybrid OR/MultiCare Good Sam Hybrid OR-MEADOWS_MAZ.rvt
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2018 WASHINGTON STATE ENERGY CODE

1. MECHANICAL EQUIPMENT SHALL HAVE MINIMUM PERFORMANCE AT SPECIFIED RATING CONDITIONS NOT LESS THAN THE VALUE INDICATED IN TABLE C403.3.2(1)A THROUGH C403.3.2(1)C, C403.3.2(2), C403.3.2(3), C403.3.2(4), C403.3.2(5), C403.3.2(7), C403.3.2(8), C403.3.2(9), C403.3.2(10), C403.3.2(11), C403.3.2(12), C403.3.2.2 OF THE WSEC, AND AS INDICATED ON THE CONTRACT DOCUMENTS.

2. THE HVAC TOTAL SYSTEM PERFORMANCE RATIO (HVAC TSPR) OF THE PROPOSED DESIGN HVAC SYSTEM SHALL BE MORE THAN OR EQUAL TO THE HVAC TSPR OF THE STANDARD REFERENCE DESIGN AS REQUIRED BY SECTION C403.1.1. [FOR OFFICE, RETAIL, LIBRARY AND EDUCATION OCCUPANCIES AND BUILDINGS SUBJECT TO SECTION C403.3.5 DEDICATED OUTDOOR AIR SYSTEMS]

3. HVAC SYSTEMS SERVING ZONES THAT ARE INTENDED TO OPERATE OR BE OCCUPIED NONSIMULTANEOUSLY SHALL BE DIVIDED INTO ISOLATION AREAS AS REQUIRED BY SECTION C403.2.1 OF THE WSEC.

4. WHERE MECHANICAL VENTILATION IS PROVIDED, SYSTEMS SHALL BE CONFIGURED TO PROVIDE NO GREATER THAN 150 PERCENT OF THE MINIMUM OUTDOOR AIR REQUIRED BY THE IMC, FGI, OR ASHRAE 170 AS APPLICABLE PER THE REQUIREMENTS OF SECTION C403.2.2.1 OF THE WSEC. [NOT APPLICABLE TO I-2 OCCUPANCIES. CAN BE EXCEEDED IF ENERGY RECOVERY IS PROVIDED]

5. WHERE EXHAUST IS PROVIDED, SYSTEMS SHALL BE CONFIGURED TO PROVIDE NO GREATER THAN 150 PERCENT OF THE MINIMUM EXHAUST AIR REQUIRED BY THE IMC, FGI, OR ASHRAE 170 AS APPLICABLE PER THE REQUIREMENTS OF SECTION C403.2.2 OF THE WSEC. [NOT APPLICABLE TO I-2 OCCUPANCIES, CAN BE EXCEEDED WHEN USED FOR VOC DILUTION, ECONOMIZER, NIGHT FLUSHING, DEHUMIDIFICATION, PRESSURE EQUALIZATION, RELIEF, PROCESS EXHAUST]

6. FAN AND PUMP MOTORS 7.5 HP AND GREATER SHALL BE PROVIDED WITH VARIABLE FREQUENCY DRIVES OR OTHER CONTROLS AND DEVICES PER THE REQUIREMENTS OF SECTION C403.2.3 OF THE WSEC AND AS DESCRIBED IN THE CONTRACT DOCUMENTS. THIS REQUIREMENT APPLIES TO ALL SYSTEMS, INCLUDING CONSTANT SPEED SYSTEMS.

7. CALCULATION OF HEATING AND COOLING LOADS SHALL BE DETERMINED IN ACCORDANCE WITH THE PROCEDURES DESCRIBED IN ANSI/ASHRAE/ACCA STANDARD 183 OR BY AN APPROVED EQUIVALENT COMPUTATIONAL PROCEDURE PER THE REQUIREMENTS OF SECTION C403.1.2 OF THE WSEC.

8. HEATING AND COOLING SYSTEMS HAVE BEEN SIZED IN ACCORDANCE WITH SECTION C403.3.1 AND NOT LESS EFFICIENT IN THE USE OF ENERGY THAN AS SPECIFIED IN SECTION C403.3.2 OF THE WSEC.

9. DEDICATED OUTDOOR AIR SYSTEMS (DOAS) SHALL BE PROVIDED TO EACH OCCUPIED SPACE FOR BUILDINGS WITH OCCUPANCIES AS SHOWN IN TABLE C403.3.5 AND AS REQUIRED IN SECTION C403.3.5 OF THE WSEC. [NOT APPLICABLE TO NATURALLY VENTILATED OCCUPIED SPACES; OR HIGH EFFICIENCY VARIABLE AIR VOLUME SYSTEMS COMPLYING WITH SECTION C403.3.5. REFER TO C403.3.5 FOR OTHER EXCEPTIONS]

10. DEDICATED OUTDOOR AIR SYSTEMS (DOAS) SHALL INCLUDE ENERGY RECOVERY VENTILATION AS REQUIRED BY SECTION C403.3.5.1 OF THE WSEC. [SEE THIS SECTION FOR FAN POWER REQUIREMENTS AND EXCEPTIONS]

11. HEATING AND COOLING EQUIPMENT FANS, HEATING AND COOLING CIRCULATION PUMPS, AND TERMINAL UNIT FANS SHALL CYCLE OFF AND TERMINAL UNIT PRIMARY COOLING AIR SHALL BE SHUT OFF WHEN THERE IS NO CALL FOR HEATING OR COOLING IN THE ZONE AS REQUIRED BY SECTION C403.3.5.2 OF THE WSEC.

12. DECOUPLED DOAS SUPPLY AIR SHALL BE DELIVERED DIRECTLY TO THE OCCUPIED SPACE OR DOWNSTREAM OF THE TERMINAL HEATING AND/OR COOLING COILS AS REQUIRED BY SECTION C403.3.5.3 OF THE WSEC.

13. HVAC SYSTEMS SHALL BE PROVIDED WITH THERMOSTATIC CONTROLS AS REQUIRED BY SECTIONS C403.4.1 THROUGH C403.4.11 OF THE WSEC.

14. UNITARY AIR COOLED HEAT PUMPS SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE SUPPLEMENTAL HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS AS REQUIRED BY SECTION C403.4.1.1 OF THE WSEC.

15. WHERE A ZONE HAS A SEPARATE HEATING AND A SEPARATE COOLING THERMOSTATIC CONTROL LOCATED WITHIN THE ZONE, THE ZONE CONTROL SHALL BE CONFIGURED TO PREVENT THE HEATING SET POINT FROM EXCEEDING THE COOLING SET POINT AND TO MAINTAIN A DEAD BAND IN ACCORDANCE WITH SECTION C403.4.1.2 AS REQUIRED BY SECTION C403.4.1.3 OF THE WSEC

16. THE HEATING AND COOLING SYSTEMS FOR VESTIBULES AND AIR CURTAINS SHALL BE CONTROLLED AS REQUIRED BY SECTION C403.4.1.4 OF THE WSEC.

17. HOT WATER BOILERS THAT SUPPLY HEAT TO THE BUILDING THROUGH ONE- OR TWO-PIPE HEATING SYSTEMS SHALL HAVE AN OUTDOOR SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE AS REQUIRED BY SECTION C403.4.1.5 OF THE WSEC.

18. DOORS THAT OPEN TO THE OUTDOORS FROM A CONDITIONED SPACE MUST HAVE CONTROLS CONFIGURED TO DISABLE THE MECHANICAL HEATING AND/OR COOLING TO THE ZONE AS REQUIRED BY SECTION C403.4.1.6 OF THE WSEC.
[REFER TO SECTION C403.4.3 AND C403.4.4 FOR HYDRONIC SYSTEMS AND HYDRONIC WATER LOOP HEAT PUMP SYSTEMS CONTROL REQUIREMENTS]
[REFER TO SECTION C403.4.5 THROUGH SECTION C403.7 FOR CHILLED WATER AND COMBUSTION HEATING EQUIPMENT CONTROL REQUIREMENTS]

19. DOORS THAT OPEN TO THE OUTDOORS FROM A CONDITIONED SPACE MUST HAVE CONTROLS CONFIGURED TO DISABLE THE MECHANICAL HEATING AND/OR COOLING TO THE ZONE AS REQUIRED BY SECTION C403.4.1.6 OF THE WSEC

20. AUTOMATIC START AND STOP CONTROLS SHALL BE PROVIDED FOR EACH HVAC SYSTEM AS REQUIRED BY SECTION C403.4.2.3 OF THE WSEC.

21. EXHAUST SYSTEMS FOR ALL OCCUPANCIES OTHER THAN GROUP R SERVING SPACES WITHIN THE CONDITIONED ENVELOPE SHALL BE AS REQUIRED BY SECTION C403.4.2.4 OF THE WSEC.

22. FOR ALL OCCUPANCIES OTHER THAN GROUP R, TRANSFER FAN OR MIXING FAN SYSTEMS SERVING SPACES WITHIN THE CONDITIONED ENVELOPE SHALL BE CONTROLLED AS REQUIRED BY SECTION C403.4.2.5 OF THE WSEC.

23. DIRECT DIGITAL CONTROL (DDC) SYSTEMS SHALL BE REQUIRED AS SPECIFIED IN SECTIONS C403.4.11.1 THROUGH C403.4.11.3 OF THE WSEC.

24. AIR ECONOMIZERS SHALL BE PROVIDED ON ALL NEW COOLING SYSTEMS INCLUDING THOSE SERVING COMPUTER SERVER ROOMS, ELECTRONIC EQUIPMENT, RADIO EQUIPMENT, AND TELEPHONE SWITCHGEAR AS REQUIRED BY SECTIONS C403.5.1 THROUGH C403.5.5 OF THE WSEC AND AS DESCRIBED IN THE TEMPERATURE CONTROL SEQUENCES, EXCEPT AS NOTED ON EQUIPMENT SCHEDULES WHERE SPECIFIC EXEMPTIONS PER THE WSEC ARE FOLLOWED.
[SEE EXCEPTIONS C403.5]

25. ECONOMIZER SYSTEMS SHALL BE INTEGRATED WITH THE MECHANICAL COOLING SYSTEM AS REQUIRED BY SECTION C403.5.1 THROUGH SECTION C403.5.3 OF THE WSEC.

26. WATER-SIDE ECONOMIZERS SHALL COMPLY WITH SECTIONS C403.5.4.1 AND C403.5.4.2 OF THE WSEC.

27. MECHANICAL SYSTEMS SERVING MULTIPLE ZONES INCLUDING VARIABLE AIR VOLUME (VAV), SINGLE DUCT VARIABLE AIR VOLUME (VAV), DUAL DUCT AND MIXING VAV SYSTEMS SHALL HAVE ZONE CONTROLS AS REQUIRED BY SECTION C403.6.1 THROUGH C403.6.10 OF THE WSEC. [INCLUDES SUPPLY-AIR TEMPERATURE RESET CONTROLS, SET POINT FOR DDC CONTROL, STATIC PRESSURE SENSOR LOCATION, HIGH EFFICIENCY VAV CONTROLS]

28. VENTILATION AND EXHAUST REQUIREMENTS IN ADDITION TO OTHER REQUIREMENTS OF SECTION C403 SHALL BE IN ACCORDANCE WITH SECTIONS C403.7.1 THROUGH C403.7.8 OF THE WSEC. [INCLUDES DEMAND CONTROL VENTILATION, OCCUPANCY SENSORS, HEATING CONTROL, ENCLOSED LOADING DOCK AND PARKING GARAGE CONTROLS, ENERGY RECOVERY VENTILATION SYSTEMS, LABS]

29. ANY SYSTEM WITH MINIMUM OUTSIDE AIR REQUIREMENTS AT DESIGN CONDITIONS GREATER THAN 5,000 CFM OR ANY SYSTEM WHERE THE SYSTEM'S SUPPLY AIRFLOW RATE EXCEEDS THE VALUE LISTED IN TABLES C403.7.6(1) AND C403.7.6(2) SHALL INCLUDE AN ENERGY RECOVERY SYSTEM AS REQUIRED BY THE WSEC. [SEE EXCEPTIONS]

30. FOR EACH FAN, THE SELECTED FAN MOTOR NAMEPLATE HORSEPOWER SHALL BE NO LARGER THAN THE FIRST AVAILABLE MOTOR SIZE GREATER THAN THE BRAKE HORSEPOWER (BHP) AND SHALL BE INDICATED ON THE DESIGN DOCUMENTS AS REQUIRED BY SECTION C403.8.2 OF THE WSEC.

31. CONTROLS SHALL BE PROVIDED FOR FANS IN ACCORDANCE WITH SECTION C403.8.5.1 AND AS REQUIRED FOR SPECIFIC SYSTEMS PROVIDED IN SECTION C403 OF THE WSEC.

32. DUCTS, SHAFTS AND PLENUMS CONVEYING OUTDOOR AIR FROM THE EXTERIOR OF THE BUILDING TO THE MECHANICAL SYSTEM SHALL MEET ALL AIR LEAKAGE AND BUILDING ENVELOPE INSULATION REQUIREMENTS OF SECTION C402 OF THE WSEC, PLUS BUILDING ENVELOPE VAPOR CONTROL AS REQUIRED BY TABLE C403.10.1.1 OF THE WSEC.

33. OTHER SUPPLY AND RETURN DUCTS AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R-6 INSULATION WHERE LOCATED IN UNCONDITIONED SPACES, AND WHERE LOCATED OUTSIDE THE BUILDING AS REQUIRED BY SECTION C403.10.1.2 AND TABLE C403.10.1.2 OF THE WSEC.

34. ALL DUCTWORK SHALL BE CONSTRUCTED AND SEALED IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE AS REQUIRED BY SECTION C403.10.2 OF THE WSEC.
DUCTWORK STATIC PRESSURE AND SEAL CLASS:

WATER COLUMN	SEAL CLASS
LESS THAN OR EQUAL TO 2"	SEAL TRANSVERSE JOINTS AND LONGITUDINAL SEAMS
GREATER THAN 2" LESS THAN 3"	IN ACCORDANCE WITH SECTION C403.10.1
EQUAL TO OR GREATER THAN 3"	IN ACCORDANCE WITH SECTION C403.10.1; DUCTS AND PLENUMS SHALL BE LEAK-TESTED IN ACCORDANCE WITH THE SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL.

35. THE DOMESTIC HOT WATER SYSTEM SHALL BE INSTALLED SUCH THAT THE MAXIMUM LENGTH OF UNCIRCULATED HOT WATER PIPING SHALL NOT EXCEED THE VALUES LISTED IN TABLE C404.3.1. THE UNCIRCULATED PIPE IS THE SECTION THAT EXPERIENCES ZERO FLOW WHEN THE PLUMBING FIXTURE IS NOT IN USE.

36. ELECTRIC WATER HEATERS IN UNCONDITIONED SPACES OR ON CONCRETE FLOORS SHALL BE PLACED ON AN INCOMPRESSIBLE, INSULATED SURFACE WITH A MINIMUM THERMAL RESISTANCE OF R-10 AS REQUIRED BY SECTION C404.5 OF THE WSEC.

37. HEATED-WATER CIRCULATING AND TEMPERATURE MAINTENANCE SYSTEMS SHALL BE IN ACCORDANCE WITH SECTION C404.7 OF THE WSEC.

38. SERVICE WATER PRESSURE-BOOSTER SYSTEMS SHALL BE DESIGNED AND CONFIGURED AS REQUIRED BY SECTION C404.13 OF THE WSEC.

39. SERVICE WATER HEATING SYSTEMS SHALL BE COMMISSIONED IN ACCORDANCE WITH SECTION C408.

40. NEW BUILDINGS AND CHANGES IN SPACE CONDITIONING, CHANGE OF OCCUPANCY AND BUILDING ADDITIONS IN ACCORDANCE WITH CHAPTER 5 SHALL COMPLY WITH SUFFICIENT PACKAGES FROM TABLE C406.1 TO ACHIEVE A MINIMUM NUMBER OS SIX CREDITS AS REQUIRED BY SECTION C406.1 OF THE WSEC. [SEE EXCEPTIONS]

41. METERS SHALL BE PROVIDED TO COLLECT ENERGY USE DATA FOR EACH END-USE CATEGORY AS REQUIRED BY SECTION C409.3 OF THE WSEC.

42. PROVIDE DEADBAND BETWEEN HEATING/COOLING SPACE SENSOR SETPOINTS OF 5 DEGREES AS REQUIRED BY SECTION C403.4.1.2 OF THE WSEC OR AS DESCRIBED IN THE TEMPERATURE CONTROL SEQUENCES.

43. HVAC SYSTEMS SHALL BE EQUIPPED WITH AUTOMATIC CONTROLS CAPABLE OF BEING SET FOR SEVEN DIFFERENT DAY TYPES PER WEEK AND ALSO ACCOMPLISHING SETBACK OR SHUTDOWN DURING UNOCCUPIED PERIODS AS REQUIRED BY SECTION C403.4.2.1 THROUGH C403.4.2.5 OF THE WSEC AND AS DESCRIBED IN THE TEMPERATURE CONTROL SEQUENCES.

44. OUTSIDE AIR INTAKES, EXHAUST OUTLETS AND RELIEF OUTLETS SERVING CONDITIONED SPACES SHALL BE EQUIPPED WITH MOTORIZED DAMPERS AS REQUIRED BY SECTION C403.7.8.1 OF THE WSEC.

45. HEATING AND COOLING SYSTEMS SHALL BE EQUIPPED WITH AUTOMATIC START CONTROLS PER SECTION C403.4.2.3 OF THE WSEC.

46. PROVIDE BALANCING DAMPERS, TEMPERATURE AND PRESSURE TEST CONNECTIONS AND BALANCING VALVES IN ALL AIR OUTLETS/INLETS, BRANCH DUCTS AND PIPE RUNS TO TERMINAL DEVICES AS REQUIRED BY SECTION C408.2.2 OF THE WSEC AND AS INDICATED ON THE CONTRACT DOCUMENTS.

47. INDIVIDUAL ZONE TERMINAL UNITS AND HVAC SYSTEMS SERVING PORTIONS OF THE BUILDING HAVING LESS THAN 24-HOUR OPERATION OR DIFFERENT USES SHALL BE SHUT OFF OR SET BACK DURING UNOCCUPIED PERIODS AS REQUIRED BY SECTION C403.4.2 OF THE WSEC AND AS DESCRIBED IN THE TEMPERATURE CONTROL SEQUENCES.

48. RECORD DRAWINGS SHALL BE PROVIDED TO THE OWNER AS REQUIRED BY SECTION C103.6.1 OF THE WSEC. THE DRAWINGS SHALL INDICATE THE LOCATION AND PERFORMANCE DATA OF EQUIPMENT, GENERAL CONFIGURATION OF DUCTWORK AND PIPING DISTRIBUTION SYSTEMS, INCLUDING FLOW RATES AS A MINIMUM.

49. OPERATION AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE OWNER AS REQUIRED BY SECTION C103.6 OF THE WSEC AND AS SPECIFIED.

50. HVAC SYSTEMS SHALL BE BALANCED AS REQUIRED BY SECTION C408.2.2 AND OF THE WSEC AND AS SPECIFIED.

51. COMMISSIONING SHALL BE PROVIDED AND REPORT OF COMMISSIONING BE SUBMITTED TO THE OWNER AS REQUIRED BY SECTION C408 OF THE WSEC. COMMISSIONING SHALL CONSIST OF A COMMISSIONING PLAN, BALANCING, FUNCTIONAL PERFORMANCE TESTING, POST CONSTRUCTION COMMISSIONING, TRAINING, REPORTS, ACCEPTANCE AND COMMISSIONING COMPLIANCE CHECKLIST.

52. DUCTWORK DESIGNED TO OPERATE IN EXCESS OF 3 INCHES W.G. SHALL BE TESTED AS REQUIRED BY SECTION C403.10.2 OF THE WSEC. PROVIDE TEST REPORTS TO THE OWNER.

53. LOCATION OF LOW, MEDIUM AND HIGH PRESSURE DUCTWORK IS IDENTIFIED IN THE PROJECT MANUAL AS REQUIRED BY SECTION C403.2.8.3.1-3.

54. FANS SHALL HAVE A FAN EFFICIENCY GRADE OF 67 OR HIGHER. TOTAL EFFICIENCY OF FAN AT DESIGN POINT OF OPERATION SHALL BE WITHIN 15 PERCENTAGE POINTS OF THE MAXIMUM TOTAL EFFICIENCY OF THE FAN, AS REQUIRED BY C403.8.3.

55. DOMESTIC HOT WATER CIRCULATION PUMPS SHALL BE SHUT DOWN DURING UNOCCUPIED PERIODS AS REQUIRED BY SECTION C404.7.1 OF THE WSEC AND AS DESCRIBED IN THE TEMPERATURE CONTROL SEQUENCES.

56. DOMESTIC HOT WATER PIPING SHALL NOT EXCEED THE FLOW RATE LIMITATIONS PER C404.3.

57. SUPPLY AIR TEMPERATURES SHALL BE AUTOMATICALLY RESET AS REQUIRED IN SECTION C403.6.4 OF THE WSEC OR AS DESCRIBED IN THE TEMPERATURE CONTROL SEQUENCES.

58. BOILER SYSTEMS WITH A COMBINED DESIGN INPUT OF GREATER THAN 1,000 MBH SHALL BE PROVIDED WITH A MINIMUM TURNDOWN RATIO OF 3 TO 1 (UP TO 5,000 MBH), 4 TO 1 (UP TO 10,000 MBH), OR 5 TO 1 (GREATER THAN 10,000 MBH) PER C403.3.4. TURNDOWN SHALL CONSIDER MULTIPLE STAGES OF SINGLE INPUT BOILERS AND MODULATING BOILERS.

59. EXCEPT AS NOTED IN EQUIPMENT SCHEDULES, ALL MECHANICAL EQUIPMENT SHALL EXCEED THE MINIMUM EFFICIENCY REQUIREMENTS OF TABLES C403.2.3(1) THROUGH C403.2.3(9) BY 15 PERCENT, AS REQUIRED BY C406.2.2. (ONLY REQUIRED FOR PROJECTS PURSUING C406.2)

60. EFFICIENCY GRADES OF 71 AND THE DESIGN POINT SHALL BE WITHIN 10 PERCENTAGE POINTS OF THE MAXIMUM TOTAL EFFICIENCY OF THE FAN, AS REQUIRED BY C406.2.3. (ONLY REQUIRED FOR PROJECTS PURSUING C406.2).

61. ALL PIPING SHALL BE INSULATED AS REQUIRED BY SECTION C403.10.3 AND TABLE C403.2.9 OF THE WSEC AND AS DESCRIBED IN THE PROJECT MANUAL.

	INSULATION CONDUCTIVITY			PIPE DIAMETER			
TEMPERATURE °F	CONDUCTIVITY BTU*IN/(H*FT^2*°F)	MEAN RATING TEMP °F	<1"	1"TO1-1/2"	1-1/2"TO 4"	4"TO8"	≥8"
				INSULATION THICKNESS			
ABOVE 350	.32-.34	250	4.5	5.0	5.0	5.0	5.0
251-350	.29-.32	200	3.0	4.0	4.5	4.5	4.5
201-250	.27-.30	150	2.5	2.5	2.5	3.0	3.0
141-200	.25-.29	125	1.5	1.5	2.0	2.0	2.0
105-140	.21-.28	100	1.0	1.0	1.5	1.5	1.5
40-60	.21-.27	75	0.5	0.5	1.0	1.0	1.0
BELOW 40	.20-.26	75	0.5	1.0	1.0	1.0	1.5

NOTE: PIPING INSULATION MEETS OR EXCEEDS WSEC.

62. PIPING INSULATION EXPOSED TO WEATHER SHALL BE PROTECTED FROM DAMAGE AS REQUIRED BY SECTION C403.10.3.1 OF THE WSEC AND AS DESCRIBED IN THE PROJECT MANUAL. ADHESIVE TAPES SHALL NOT BE PERMITTED.

63. AUTOMATIC-CIRCULATING HOT WATER AND HEAT-TRACED SYSTEM PIPING SHALL BE INSULATED AS REQUIRED BY SECTION C404.6.

SYSTEM	INSULATION CONDUCTIVITY	INSULATION THICKNESS
AUTOMATIC CIRCULATION HOTWATER	< .27	1.0
HEAT TRACED SYSTEMS	< .27	1.0
SERVED BY EQUIPMENT WITHOUT INTEGRAL HEAT TRAPS	< .27	0.5 (FIRST 8' OF PIPE)

TABLE C404.3.1
PIPING VOLUME AND MAXIMUM PIPING LENGTHS

		MAXIMUM PIPING LENGTH (FEET)	
NOMINAL PIPE SIZE (INCHES)	VOLUME (LIQUID OUNCES PER FOOT LENGTH)	PUBLIC LAVATORY FAUCETS	OTHER FIXTURES AND APPLIANCES
1/4	0.33	6	50
5/16	0.50	4	50
3/8	0.75	3	50
1/2	1.5	2	43
5/8	2	1	32
3/4	3	0.5	21
7/8	4	0.5	16
1	5	0.5	13
1 1/4	8	0.5	8
1 1/2	11	0.5	6
2 OR LARGER	18	0.5	4

TABLE C403.10.1.1
OUTDOOR AIR DUCTWORK INSULATION

DUCT SYSTEM	DUCT LOCATION AND USE	CLIMATE ZONE	AIRFLOW	MINIMUM INSTALL DUCT INSULATION R-VALUE [a, b]	NOTES
OUTDOOR AIR	INSIDE CONDITIONED SPACE AND UPSTREAM OF AUTOMATIC SHUT-OFF DAMPER	4C AND 5B	≥2800 CFM	R-16	SEE SECTION C403.10.1.1 FOR ADDITIONAL REQUIREMENTS
OUTDOOR AIR	INSIDE CONDITIONED SPACE AND DOWNSTREAM OF AUTOMATIC SHUT-OFF DAMPER TO HVAC UNIT OR ROOM	4C	≥2800 CFM	R-8	
OUTDOOR AIR	INSIDE CONDITIONED SPACE AND DOWNSTREAM OF AUTOMATIC SHUT-OFF DAMPER TO HVAC UNIT OR ROOM	5B	≥2800 CFM	R-12	
OUTDOOR AIR	INSIDE CONDITIONED SPACE	4C AND 5B	≥2800 CFM	R-7	SEE EXCEPTION 1 TO SECTION C403.10.1.1 FOR ADDITIONAL DETAILS

TABLE C403.10.1.2
SUPPLY, RETURN, EXHAUST AND RELIEF AIR DUCTWORK INSULATION

DUCT SYSTEM	DUCT LOCATION AND USE	CLIMATE ZONE	MINIMUM INSTALL DUCT INSULATION R-VALUE [a, b]	NOTES
SUPPLY AIR OR RETURN AIR	OUTSIDE THE BUILDING (OUTDOORS AND EXPOSED TO WEATHER) [c]	4C	R-8	SEE SECTION C403.10.1.2 FOR DETAILS
SUPPLY AIR OR RETURN AIR	OUTSIDE THE BUILDING (OUTDOORS AND EXPOSED TO WEATHER) [c]	5B	R-12	SEE SECTION C403.10.1.2 FOR DETAILS
SUPPLY AIR OR RETURN AIR	UNCONDITIONED SPACE (ENCLOSED BUT NOT IN THE BUILDING CONDITIONED ENVELOPE)	4C AND 5B	R-6	SEE SECTION C403.10.1.2 FOR DETAILS
SUPPLY AIR OR RETURN AIR	UNCONDITIONED SPACE WHERE THE DUCT CONVEYS AIR THAT IS WITHIN 15°F OF THE AIR TEMPERATURE OF THE SURROUNDING UNCONDITIONED SPACE	4C AND 5B	R-3.3	SEE IMC SECTION 603.12 FOR ADDITIONAL REQUIREMENTS FOR CONDENSATION CONTROL AT DUCTWORK
SUPPLY AIR OR RETURN AIR	WHERE LOCATED IN A BUILDING ENVELOPE ASSEMBLY	4C AND 5B	R-16	DUCT OR PLENUM IS SEPARATED FROM BUILDING ENVELOPE ASSEMBLY WITH THE MINIMUM INSULATION VALUE
SUPPLY AIR	WITHIN CONDITIONED SPACE WHERE THE SUPPLY DUCT CONVEYS AIR THAT IS LESS THAN 55°F OR GREATER THAN 105°F	4C AND 5B	R-3.3	SEE SECTION C403.10.1.2 FOR DETAILS
SUPPLY AIR	WITHIN CONDITIONED SPACE THAT THE DUCT DIRECTLY SERVES WHERE THE SUPPLY DUCT CONVEYS AIR THAT IS LESS THAN 55°F OR GREATER THAN 105°F	4C AND 5B	NONE	SEE SECTION C403.10.1.2 FOR DETAILS
SUPPLY AIR	WITHIN CONDITIONED SPACE WHERE THE SUPPLY DUCT CONVEYS AIR THAT IS 55°F OR GREATER THAN 105°F OR LESS	4C AND 5B	NONE	
RETURN OR EXHAUST AIR	WITHIN CONDITIONED SPACE, DOWNSTREAM OF AN ENERGY RECOVERY MEDIA, UPSTREAM OF AN AUTOMATIC SHUT-OFF DAMPER	4C	R-8	
RETURN OR EXHAUST AIR	WITHIN CONDITIONED SPACE, DOWNSTREAM OF AN ENERGY RECOVERY MEDIA, UPSTREAM OF AN AUTOMATIC SHUT-OFF DAMPER	5B	R-16	
RELIEF OR EXHAUST AIR	CONDITIONED SPACE AND DOWNSTREAM	4C	R-16	

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MULTICARE GOOD SAMARITAN HOSPITAL

401 15TH AVE SE, PUYALLUP, WA 98372

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REVISIONS

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Mechanical Requirements List, pg 1 of 25

The following information is necessary to check a mechanical permit application for compliance with the mechanical systems and equipment requirements in the Washington State Energy Code, Commercial Provisions.
For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

Project:
GSH Hybrid OR - 2018 WSEC
401 15TH AVE SE
PUYALLUP, WA 98372

Date: 2022-11-08

Applies	Code Section	Code Provision	Compliance Information Required In Permit Documentation	Location in Documents	Building Department Notes
SCOPE					
	C103.1	Construction documents - General	For a shell & core or tenant space (first build-out) project, indicate if there is no mechanical scope included in the project.		
NA	C103.1	Construction documents - General	For an alteration project, indicate if there is no mechanical scope included in the project.	Mechanical scope in project	
PERFORMANCE CRITERIA & SYSTEM DESIGN					
NA	C403.1	Exempt process equipment	Identify equipment used by manufacturing, industrial or commercial processes that are not for space conditioning or maintaining comfort and amentities for occupants; identify provisions applicable to this equipment per C403.1 exception		
	C403.1.1	HVAC total system performance ratio (TSPR)	For systems serving office, retail, library or education occupancies, provide a TSPR report that demonstrates the proposed design ratio is equal to or greater than the standard reference design ratio, or exception applied		
YES	C403.1.2	Calculation of heating and cooling loads	Provide load calculations performed per ASHRAE Std 183 or equivalent, using design parameters per C302 and Appendix C; include load adjustments to account for energy recovery	M0.07	
NA	C403.1.3	Data centers	Provide documentation that demonstrates that data center systems comply with the maximum allowed Design MLC and Annualized MLC per ASHRAE 90.4 with 2018 WSEC adjustments per climate zone		
YES	C403.2.1 C403.4.2.2	Zone isolation	If there are HVAC zones that are intended to be occupied non-simultaneously, identify isolation zone areas on plans; if multiple zones intended to be occupied simultaneously will be combined into a single isolation zone, include on plans that the combined zone area does not exceed 25,000 sf and does not include more than one floor; or exception applied		
YES			Indicate locations of associated zone isolation dampers in HVAC distribution system	M3.00	
YES			Refer to HVAC Controls section in Requirements List for applicable automatic setback and shutdown controls requirements	M2.01	
EQUIPMENT SELECTION & PERFORMANCE					

Mechanical Requirements List, pg 2 of 25

The following information is necessary to check a mechanical permit application for compliance with the mechanical systems and equipment requirements in the Washington State Energy Code, Commercial Provisions.
For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

YES	C403.3.1	Equipment and system sizing	Indicate that output capacities of heating and cooling equipment and systems are no greater than the smallest available equipment size that exceeds the calculated loads; note exceptions applied	M0.02	
YES	C403.3.2 C403.9.1	HVAC equipment performance requirements (efficiency)	Provide equipment schedules on plans and in WSEC mechanical equipment compliance reports; indicate equipment type, calculated loads, capacity, rated and WSEC minimum efficiencies for all heating and cooling equipment; include supply and ventilation air cfms and operating hours for all air systems; identify heating and cooling equipment that does not have a corresponding WSEC minimum efficiency (manufacturer rated)	M0.10	
NA	C405.8	Electric motor efficiency	List all motors ≥ 1/12 hp (that are not integral to a rated piece of equipment) in the mechanical or electrical equipment schedules on plans; indicate motor type and applicable efficiency table, hp, rpm, number of poles and rated efficiency, or exception applied		
NA	C403.3.2	Gas and oil-fired forced air furnace and unit heaters	For forced air furnaces with capacity ≥ 225,000 Btu/h and all unit heaters, indicate in equipment schedule intermittent ignition or IID, flue or draft damper, and rated jacket loss		
NA	C403.3.2.4	Packaged electric heating / cooling equipment	Verify all packaged electric equipment with > 6,000 Btu/h cooling capacity and any amount of heating is a heat pump; include in equipment schedules		
NA	C403.3.3	Hot gas bypass limitation for DX cooling equipment	For cooling equipment with hot gas bypass, provide either multiple step unloading or continuous capacity modulation; indicate bypass capacity per Table C403.3.3		
YES	C403.3.2.5	Humidification	For cooling systems with humidification equipment that are also required to have air economizer, indicate humidifier is adiabatic (direct evaporative or fog atomization), or exception applied		
	C403.3.2	Hydronic equipment	Refer to Requirements List section Hydronic Systems - Equipment Selection & Performance for selection criteria specific to chillers and boilers		
YES	C403.9	Heat rejection equipment	Refer to Requirements List section Heat Rejection Systems - Equipment Selection & Performance for selection criteria specific to cooling towers, dry coolers and condensers (air-cooled and evaporative)	M0.10	
EQUIPMENT SELECTION & PERFORMANCE - DEDICATED OUTSIDE AIR SYSTEMS (DOAS)					

Mechanical Requirements List, pg 3 of 25

The following information is necessary to check a mechanical permit application for compliance with the mechanical systems and equipment requirements in the Washington State Energy Code, Commercial Provisions.
For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

	C403.3.5 C403.3.5.4	Dedicated outdoor air systems	For buildings with occupancies required to comply with the DOAS provisions per Table C403.3.5, identify on plans all occupancies in the building and indicate which occupied spaces are required to have ventilation air delivered by a DOAS; or exception applied		
			If natural ventilation exception is applied, identify these spaces on plans; indicate operable window area complies with IMC Section 402; provide documentation describing how required ventilation will be provided during all occupied hours, including during inclement weather		
			If high efficiency VAV exception is applied, identify these spaces on plans; refer to Single Zone VAV section for Groups A-1, A-2 and A-3 occupancy classifications, or Multiple Zone VAV for other than Groups A-1, A-2 and A-3 (per Table C403.3.5)		
			If compliance with the DOAS provisions is deemed to be impractical, provide documentation that demonstrates the alternate design strategy applied that achieves a comparable level of energy efficiency, as pre-approved by the AHJ		
			Refer to Requirements List section after Multiple-Zone Air Systems for High Efficiency Multiple-Zone VAV Systems exception to C403.3.5 DOAS		
			Refer to Requirements List section after High Efficiency Multiple-Zone Air Systems for High Efficiency Single-Zone VAV Systems exception to C403.3.5 DOAS		
	C403.3.5.1	DOAS energy recovery method and effectiveness	For all DOAS systems, indicate exhaust air ER method and basis of rated effectiveness (sensible or latent); indicate ≥ 60% sensible or ≥ 50% enthalpy ER effectiveness based on delta between outdoor air and return air enthalpies at design conditions; or exception applied		
			If applying exception for DCV, identify occupant load in space and airflow control configured to reduce ventilation rate by ≥ 50% when occupancy is less than design occupancy		
	C403.3.5.1	DOAS fan power	For DOAS with total system fan hp < 5 hp, indicate total system fan power does not exceed 1 watt per cfm		
			For DOAS with total system fan hp ≥ 5 hp, indicate total system fan power complies with fan power limitation per Section C403.8.1		

Mechanical Requirements List, pg 4 of 25

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	C403.3.5.2	Heating / cooling system controls with DOAS	Indicate systems and equipment associated with the delivery of zone level heating and cooling (fans, hydronic pumps, primary air dampers, etc) are configured to shut off, and central equipment is configured to turn down, when there is no call for heating or cooling in the zone they serve		
			If applying Exception to heating / cooling fans used for air mixing in the space during deadband periods, include fan watts per cfm in equipment schedule		
	C403.3.5.3	Decoupled DOAS supply air	Indicate method of delivery of DOAS supply air to the occupied space (directly into space, downstream of terminal heating / cooling coils); or exception applied		
	C403.6.1	Multiple zone DOAS	For DOAS serving multiple zones, indicate controls configured to reduce the volume of outdoor air in each zone independently when the zone is unoccupied; or exception applied		
ADDITIONAL EFFICIENCY CREDITS - DEDICATED OUTSIDE AIR SYSTEMS (DOAS)					
	C406.6	DOAS	For building occupancies not subject to the requirements of Section C403.3.5, to comply with this additional efficiency credit, provide calculations that demonstrate 90% or more of the total floor area of all occupied, conditioned spaces are served by a DOAS per C403.3.5		
	C406.7	High performance DOAS - Energy recovery effectiveness and fan power	For all building occupancies, to comply with this additional efficiency credit, demonstrate compliance with C406.6		
			Indicate energy recovery sensible effectiveness of all DOAS is ≥ 80%		
			For each system, indicate that total system fan power does not exceed 0.5 watts per cfm		
FANS AND FAN CONTROLS					
YES	C403.8.1	Fan power limitation	For all HVAC fan systems that provide heating and / or cooling and all DOAS, provide system total nameplate hp in equipment schedules on project plans	M0.10	
YES			For all applicable HVAC systems with total fan motor nameplate hp > 5hp, verify fan system motor hp or bhp complies with fan power limits per equations in Table C403.8.1(1)		
NA			Terminal units installed in conjunction with a DOAS (hydronic heat pumps, VRF heat pumps, chilled/hot water terminal units, variable volume terminal units) shall be treated as independent air-handling units for purposes of fan power calculations		

Mechanical Requirements List, pg 5 of 25

The following information is necessary to check a mechanical permit application for compliance with the mechanical systems and equipment requirements in the Washington State Energy Code, Commercial Provisions.
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YES	C403.8.2	Motor nameplate hp	For all applicable HVAC systems with total fan motor nameplate hp > 5hp, indicate fan motors specified are the smallest available motor hp size greater than fan bhp, note exceptions applied		
NA	C405.8	Fractional hp fan motors	For all fractional hp fan motors (1/12 - 1 hp), indicate that motors comply with applicable WSEC efficiency tables; if motor type is not listed in an efficiency table, indicate whether fan has an electronically commutated motor, has motor rated efficiency of at least 70%, or exception applied		
YES	C403.8.3	Fan efficiency	For individual fans > 5hp, and multiple fans combined in series or parallel that operate as the functional equivalent of a single fan with a combined total motor hp > 5hp, indicate in equipment schedule that rated FEG for all applicable fans is ≥ 67, or exception applied; indicate these fans are sized so total efficiency is within 15% of the fan maximum total efficiency		
	C403.8.4	Group R occupancy exhaust fan efficacy	For all exhaust fans ≤ 400 cfm in Group R occupancies, indicate in equipment schedule the fan flow rate and efficacy (cfm/watt), or exception applied; refer to Table C403.8.4		
NA	C403.2.3	Variable flow capacity - fans	For fan motors ≥ 7.5 hp, indicate method of variable flow control (VSD or equivalent method) in equipment schedule, or exception applied		
NA	C403.8.5.1	Fan airflow control	For DX air handling units with cooling capacity ≥ 42,000 Btu/h and evaporative and chilled water air handling units with fan ≥ 0.25 hp, indicate whether system is single zone or multiple zone and related control method (cooling capacity controlled in response to space temperature, space temperature is controlled by modulating supply airflow, or both)		
YES			For mechanical cooling systems (includes DX and chilled water coils) that control cooling capacity in response to space temperature - Provide a minimum of two stages of fan control; indicate minimum fan speed is ≤ 66% of full speed drawing ≤ 40% of full speed fan power during periods of low cooling or ventilation only		

Mechanical Requirements List, pg 6 of 25

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YES			For other mechanical cooling systems (includes DX and chilled water coils) that control space temperature by modulating airflow (in lieu of, or in addition to, controlling capacity in response to space temperature) - Provide fan controls for modulating supply airflow; indicate minimum fan speed is ≤ 50% of full speed drawing ≤ 30% of full speed fan power during periods of low cooling or ventilation only; or exception applied	Exception 2	
ADDITIONAL EFFICIENCY PACKAGE OPTION, MORE EFFICIENT HVAC EQUIPMENT & FAN PERFORMANCE - MUST COMPLY WITH ALL 3 PROVISIONS TO BE ELIGIBLE					
	C406.2.1	HVAC system selection	To comply with this additional efficiency credit, provide calculations that demonstrate (based on heating and cooling output capacity) that 90% or more of all HVAC equipment serving conditioned floor areas have a corresponding WSEC listed efficiency; or exception applied		
	C406.2.2	Minimum equipment efficiency	In addition to system selection requirement, indicate that all associated heating and cooling equipment have a rated efficiency for all equipment performance criteria (heating, cooling, full load, part load) that is at least 15% better than the listed WSEC efficiency; include specific equipment exceptions applied		
			For systems required to provide a TSPR report per C403.1.1, demonstrate that the proposed design ratio is at minimum 10% higher than the standard reference design ratio		
			For projects complying via weighted average efficiency exception, include calculations that demonstrate the overall average better than code efficiency of all equipment performance criteria for all equipment is ≥ 15%; indicate that all equipment has at least 5% better than code efficiency		
			For systems serving low energy and semi-heated spaces, indicate that 90% or more of installed heating output capacity is provided by electric infrared or gas-fired radiant equipment for localized heating applications only		
	C406.2.3	Minimum fan efficiency grade	In addition to system selection and efficiency requirements, indicate rated FEG of all ≥ 1 hp (750 watt) stand alone supply, return and exhaust fans is ≥ 71; indicate these fans are sized so the fan efficiency at design conditions is within 10% of the maximum total or static efficiency		
VENTILATION, EXHAUST & ENERGY RECOVERY					
YES	C403.2.2.1	Ventilation	Indicate method of ventilation air delivery (natural or mechanical) for each zone	MECHANICAL	

Mechanical Requirements List, pg 7 of 25

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YES			If mechanically delivered, indicate that ventilation systems are configured to provide not more than 150% of, but at least the minimum required volume of outdoor air to each zone per IMC, ASHRAE 62.1 or other applicable code (WAC, OSHA, etc); or exception applied	M0.02	
			If delivered via natural ventilation, identify required elements per IMC including: minimum openable area to the outdoors or qualifying adjoining spaces; criteria for ensuring required ventilation is provided during all occupied hours of the year (including during inclement outdoor conditions)		
NA	C403.2.2.2	Exhaust	Indicate that exhaust systems are configured to provide not more than 150% of, but at least the minimum required volume from each zone per IMC, or other applicable code (WAC, OSHA, etc); or exception applied		
NA	C403.4.2.4	Exhaust system off-hour controls	Refer to Requirements List section HVAC Controls for off-hour controls requirements for exhaust systems		
	C403.3.6	Balanced ventilation for Group R-2 occupancy	For Group R-2 dwelling and sleeping units, indicate that each habitable space is provided with a balanced ventilation system; indicate system is provided with energy recovery with 60% sensible recovery effectiveness		
NA	C403.7.1	Demand controlled ventilation	Identify spaces > 500 sf with occupant load ≥ 25 people/1,000 sf per IMC; for each space indicate whether it is served by an HVAC system with total design ventilation air > 3,000 cfm, and / or the system has airside economizer or automatic modulating outdoor air damper; indicate controls are configured to provide demand controlled ventilation or provide supporting documentation for applied exception		
NA	C403.7.2	Occupancy sensors	For gyms, classrooms, auditoriums, conference rooms and other spaces with occupant load ≥ 25 people/1,000 sf per IMC, that have an area > 500 sf, indicate occupancy-based ventilation air control when space is unoccupied and method (closes outdoor air damper or shuts-off equipment); or alternate means provided to automatically reduce ventilation air when space is partially occupied; or exception applied		
YES	C403.7.3	Ventilation air heating control	For ventilation air systems that operate in conjunction with heating and cooling systems, indicate that ventilation air is tempered (via heating or heat recovery) to no greater than 60F when the space conditioning system is in cooling mode	M0.02	

Mechanical Requirements List, pg 8 of 25

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	C403.7.4.2	Ventilation controls for Group R-1 guestrooms	Refer to Requirements List section HVAC Controls for Group R-1 temperature setback and set-up controls		
			Indicate method of ventilation and exhaust isolation for each guest room and automatic controls that are configured to turn off ventilation and exhaust airflow when each room is unoccupied		
	C403.8.4	Group R occupancy exhaust fan efficacy	Refer to Requirements List section Fans & Fan Controls		
	C403.7.5 C403.7.5.1	Enclosed loading dock ventilation	For enclosed loading docks, indicate ventilation / exhaust system method of activation (gas detection system for CO and NO2, or occupancy sensors), and control method (staged or modulating)		
	C403.7.5 C403.7.5.2	Enclosed parking garage ventilation	For enclosed parking garages, indicate ventilation / exhaust system activated by gas detection system for CO and NO2, and control method (staged or modulating); or exception applied		
NA	C403.7.6	Ventilation / exhaust systems energy recovery	For systems with design ventilation air > 5,000 cfm, or design supply air cfm and % ventilation air exceeding the values in Tables C403.7.6(1) or (2), indicate exhaust air energy recovery method; or exception applied with supporting calculations		
NA			For rooms served by multiple systems with aggegate design ventilation air > 5,000 cfm, or aggregate design supply air cfm and % ventilation air exceeding the values in Tables C403.7.6(1) or (2), indicate exhaust air energy recovery method; or exception applied with supporting calculations		
NA			Indicate energy recovery rated effectiveness that increases outdoor air enthalpy by ≥ 50% based on delta between outdoor air and return air enthalpies at design conditions		
	C403.7.7.1.1 C403.7.7.1.2 C403.7.7.1.3	Kitchen exhaust hood system	Indicate on plans the type, duty, UL rating and exhaust airflow rate of each kitchen hood		
			Provide calculations that show a balanced accounting of total kitchen exhaust (include all hoods) with % of: supply air, transfer air from adjacent spaces, and make-up air		
			For hoods with make-up air drawn directly into the exhaust air cavity of each hood, indicate that replacement air does not exceed 10% of hood exhaust airflow rate		
			For kitchens with total hood exhaust exceeding 2,000 cfm, indicate that each hood is UL 710 rated and maximum exhaust airflow rate of each hood is per Table C403.7.7.1.2; or exception applied		

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

- See accompanying project comment form for review status and corrections.
- This is not a building permit, check with your local building department.

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REVISIONS

73-19057-00

WSEC COMPLIANCE FORMS

M0.03

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			For kitchens with total hood exhaust exceeding 2,000 cfm, indicate energy efficiency compliance method (demand ventilation, energy recovery, or transfer air that would otherwise be exhausted); or exception applied		
	C403.7.7.2	Laboratory exhaust systems energy recovery	For buildings with total lab exhaust > 5,000 cfm, indicate method of energy recovery used to pre-condition laboratory make-up air; energy recovery effectiveness (min 25°F increase in outside air temperature); or alternative method per exception (VAV exhaust, semi-conditioned makeup, or CERM calculation)		
NA	C403.7.7.3	Transfer air	For spaces where conditioned supply air is utilized as transfer air to balance mechanical exhaust, indicate basis of transfer airflow (supply required to meet loads, health/safety requirement, air that would normally be exhausted); or exception applied		
NA	C403.7.8.1 C403.7.8.3	Shutoff dampers for building isolation	Indicate locations of outdoor air intake, exhaust and relief outlet dampers on plans; indicate whether dampers are Class 1 motorized, or gravity and exception applied (include leakage rating, cfm/sf)		
			Indicate location of stairway and elevator hoistway shaft vent dampers on plans; verify dampers are Class 1 motorized; or exception applied		
YES	C403.7.8.2 C403.7.8.3	Shutoff dampers for return air	Indicate locations of return air dampers that are integral to airside economizer operation; verify dampers are motorized; indicate whether dampers are Class 1, or within packaged equipment eligible for leakage rating exception (include leakage rating, cfm/sf)	M4.00	
YES	C403.7.8.4	Damper actuation	Indicate automatic controls configured to close outdoor air intake, exhaust and relief outlet dampers during unoccupied equipment operation; not including economizer cooling, night flush or IMC required outdoor air / exhaust	M4.00	
			Indicate method of activation of stairway and elevator hoistway shaft vent dampers (fire alarm or interruption of power)		
	C404.11.4	Exhaust system energy recovery for heated indoor pools and permanent spas	For buildings with pools or spas with water surface area > 200 sf, indicate exhaust air energy recovery method and use of waste heat (preheat ventilation air, pool water or service hot water); or exception applied		
			Indicate energy recovery system has the rated effectiveness and is configured to decrease the exhaust air temperature at design conditions by ≥ 36°F		

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HVAC CONTROLS					
YES	C403.4.1	Thermostatic controls (thermostats and humidistats)	Indicate locations of thermostatic and humidity control devices and the zones they serve on plans, including perimeter system zones	M3.00	
			Where adjacent (neighboring) zones are controlled by separate thermostats (including perimeter systems used to offset heat gain or loss), and are connected by permanent openings > 10% of either zone sf area, indicate controls configured to prevent adjacent zones from operating in conflicting modes (one in heat, other in cool); applies to adjacent perimeter zones, adjacent nonperimeter zones, and adjacent perimeter and nonperimeter zones		
			If applying Exception 2 to nonperimeter zones adjacent to perimeter zones, indicate that setpoints and deadband settings in these zones are coordinated so cooling in a nonperimeter zone does not occur until the temperature in that zone is 5°F higher than the adjacent perimeter zone temperature in heating		
NA			If applying Exception 3 for DOAS, indicate supply air temperature heating setpoint is ≤ 65°F and cooling setpoint is ≥ 72°F, or method of supply air temperature reset		
NA	C403.4.1.1	Heat pump supplementary heat	Indicate staged heating operation with compression as the first stage of heating and supplemental heating controlled with outdoor lock-out temperature set to 40°F or less		
	C403.4.1.2	Deadband	Indicate zone thermostatic controls configured with 5°F minimum deadband for systems that control both heating and cooling		
	C403.4.1.3	Setpoint overlap restriction (thermostats)	If separate heating and cooling thermostatic control devices are used to serve a zone, indicate locations of both thermostatic control devices and the zone they serve on plans		
			Indicate a limit switch, mechanical stop or DDC control with programming to prevent simultaneous heating and cooling		
NA	C403.4.1.4	Heated or cooled vestibules	Indicate thermostatic controls within heating or cooled vestibules with a heating setpoint ≤ 60°F and cooling setpoint ≥ 85°F; indicate controls are configured to turn off heating when outdoor temperature is > 45°F; or note exception applied		
NA	C403.4.1.4	Heated air curtains	Indicate controls are configured to turn off air curtain heating when outdoor temperature is > 45°F		

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NA	C403.4.1.6	Door switches for HVAC system thermostatic control	Where doors open to the outdoors from a conditioned space, indicate automatic controls configured to setback the HVAC system(s) when the door is open for > 5 minutes; indicate method of HVAC system setback control (turns off the HVAC system or resets the heating setpoint to 55°F and cooling setpoint to 85°F), or exception applied		
YES	C403.4.2 C403.4.2.1 C403.4.2.2	Automatic setback and shutdown	Indicate zone thermostatic controls configured with required automatic setback and manual override functions, setback temperatures, and control method (automatic time clock or 7 day programmable controls); note exceptions applied	M4.00	
YES	C403.4.2.3	Automatic (optimum) start and stop	Indicate all HVAC systems are provided with automatic start and stop controls; indicate start controls are configured to adjust the equipment start time as required to bring each area served up to design temperature just prior to scheduled occupancy; indicate stop controls are configured to reduce heating setpoint and increase cooling setpoint by at least 2°F prior to scheduled unoccupied periods	M4.00	
NA	C403.4.2.4	Exhaust system off-hour controls	For exhaust systems serving conditioned spaces in all occupancies other than Group R, indicate method of control and that controls are configured to turn exhaust systems on and off in concert with the ventilation air systems providing their make-up air, or exception applied		
NA	C403.4.2.5	Transfer and destratification fan system off-hour controls	For transfer fan or mixing fan systems serving conditioned spaces in all occupancies other than Group R, indicate method of control and that controls are configured to turn fans on and off in concert with the associated HVAC systems, or exception applied		
NA	C403.4.7	Combustion heating equipment	For combustion heating equipment other than boilers or radiant heaters with output capacity > 225,000 Btu/h, indicate modulating or staged combustion control		
NA	C403.4.7.1	Combustion decorative vented appliance, combustion fireplace and fire pit controls	Indicate controls that are configured to limit operation of combustion appliance, fireplace and fire pit to ≤ 1 hour without override, or that occupancy sensor controls are provided		

Mechanical Requirements List, pg 11 of 25

NA	C403.4.1.6	Door switches for HVAC system thermostatic control	Where doors open to the outdoors from a conditioned space, indicate automatic controls configured to setback the HVAC system(s) when the door is open for > 5 minutes; indicate method of HVAC system setback control (turns off the HVAC system or resets the heating setpoint to 55°F and cooling setpoint to 85°F), or exception applied		
YES	C403.4.2 C403.4.2.1 C403.4.2.2	Automatic setback and shutdown	Indicate zone thermostatic controls configured with required automatic setback and manual override functions, setback temperatures, and control method (automatic time clock or 7 day programmable controls); note exceptions applied	M4.00	
YES	C403.4.2.3	Automatic (optimum) start and stop	Indicate all HVAC systems are provided with automatic start and stop controls; indicate start controls are configured to adjust the equipment start time as required to bring each area served up to design temperature just prior to scheduled occupancy; indicate stop controls are configured to reduce heating setpoint and increase cooling setpoint by at least 2°F prior to scheduled unoccupied periods	M4.00	
NA	C403.4.2.4	Exhaust system off-hour controls	For exhaust systems serving conditioned spaces in all occupancies other than Group R, indicate method of control and that controls are configured to turn exhaust systems on and off in concert with the ventilation air systems providing their make-up air, or exception applied		
NA	C403.4.2.5	Transfer and destratification fan system off-hour controls	For transfer fan or mixing fan systems serving conditioned spaces in all occupancies other than Group R, indicate method of control and that controls are configured to turn fans on and off in concert with the associated HVAC systems, or exception applied		
NA	C403.4.7	Combustion heating equipment	For combustion heating equipment other than boilers or radiant heaters with output capacity > 225,000 Btu/h, indicate modulating or staged combustion control		
NA	C403.4.7.1	Combustion decorative vented appliance, combustion fireplace and fire pit controls	Indicate controls that are configured to limit operation of combustion appliance, fireplace and fire pit to ≤ 1 hour without override, or that occupancy sensor controls are provided		

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YES	C403.10.1.1 C403.10.2	Duct construction	Indicate on plans that all ductwork is constructed and sealed per IMC	M0.02	
YES			For outdoor air ductwork, also indicate on plans that ductwork meets air leakage requirements per C402.5 and vapor retarder requirements per the IBC	M0.02	
YES	C403.10.2.1 C403.10.2.2 C403.10.2.3	Duct pressure classifications	Identify location of low, medium and high pressure ductwork on plans		
NA	C403.10.2.3	High pressure duct leakage test	Indicate high pressure duct leakage testing requirements on plans; provide test results to jurisdiction when completed		
NA	C403.10.1.1 C403.10.1.2	Duct insulation	For outdoor air ductwork located within conditioned space (upstream or downstream of shutoff damper), identify climate zone and indicate ductwork insulation R-value per Table C403.10.1.1 on plans; or exception applied		
YES			For supply and return air ductwork located within unconditioned space or outdoors, identify climate zone and indicate ductwork insulation R-value per Table C403.10.1.2 on plans; or exception applied	M0.02	
YES			For supply air ductwork located within conditioned space, identify on plans if design supply air temperature is < 55°F or > 105°F; indicate ductwork insulation R-value per Table C403.10.1.2 on plans; or exception applied	M0.02	
NA			For return and exhaust air ductwork located within conditioned space (upstream of the shutoff damper) and downstream of an energy recovery media, indicate ductwork insulation R-value per Table C403.10.1.2; or exception applied		
YES			For exhaust and relief air ductwork located within conditioned space and downstream of the shutoff damper, indicate ductwork insulation R-value per Table C403.10.1.2; or exception applied	M0.02	
NA	C403.10.1.1 C402.1.3	Shaft and plenum insulation	For outdoor air shafts and plenums, indicate on plans that the R-value of insulation on these elements complies with Table C402.1.3 for steel-framed walls		
PIPING					
	C403.10.3	Piping insulation	Indicate design temperature range of fluid conveyed in piping and thickness of insulation (in inches) on hydronic piping plans; or exception applied		
	C403.10.3.1	Protection of piping insulation	Indicate method of protection of pipe insulation from damage / degredation on hydronic piping plans		

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ECONOMIZERS					
YES	C403.5	Air economizer required	Identify all cooling systems requiring air economizer controls in equipment schedules on plans and in WSEC mechanical equipment compliance reports	M0.10	
YES			Indicate all systems utilizing air economizer exceptions in WSEC mechanical equipment compliance report, including those with water-side economizer in lieu of air economizer; indicate on plans and in WSEC mechanical equipment compliance reports all eligible exception(s) taken and measures to comply with exception(s)	M0.10	
YES	C403.4.1 C403.5.1	Integrated economizer operation - air and water	Indicate air and water-side economizers are configured for partial cooling operation even where additional mechanical cooling is required to meet the load	M4.00	
NA			For DX air handlers with single or multiple stages of mechanical cooling; indicate controls are configured with air economizer as the first stage of cooling		
NA			Refer to Requirements List section HVAC Controls for additional requirements for DX air handlers		
YES	C403.5.2	Economizer heating system impact - air and water	Verify control method of HVAC systems with economizers does not increase building heating energy usage during normal operation	M0.02	
YES	C403.5.3.1	Air economizer capacity	Indicate modulating outdoor air and return air dampers are configured to provide up to 100% outdoor air for cooling	M4.00	
YES	C403.5.1 C403.5.3.2	Air economizer controls and integrated operation	Indicate that economizer controls are configured to provide partial economizer cooling when additional mechanical cooling is also required to meet the cooling load	M4.00	
YES			Indicate that control of economizer dampers is not based only on mixed air temperature; or exception applied for systems with cooling capacity ≤ 65,000 Btu/h	M4.00	
YES	C403.5.3.3	Air economizer high limit controls	Indicate high limit shut-off control method and required high limit per Table C403.5.3.3	M4.00	
YES	C403.5.3.4	Relief of excess outdoor air	Refer to Requirements List section Ventilation, Exhaust & Energy Recovery		
NA			Indicate relief air outlets are sized and configured to relieve excess building air during air economizer operation to prevent building over-pressurization		
NA			Indicate relief air outlet are located to avoid recirculation into the building		

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	C403.5.4.1	Water economizer capacity	For eligible systems where water-side economizer may be provided in lieu of air economizer, indicate system is capable of 100% design cooling capacity at 50°F db / 45°F wb outdoor air temperatures; indicate if threshold for 100% design cooling capacity via economizer must be lowered to 45°F db / 40°F wb due to dehumidification requirements		
	C403.5.4.2	Water economizer maximum pressure drop	Indicate that the pressure drop across precooling coils and heat exchangers in water economizer systems do not exceed 15 feet (4572 mm)		
NA	C403.5.5	DX equipment economizer fault detection and diagnostics	For DX air handlers with economizer and cooling capacity ≥ 54,000 Btu/h, provide a fault detection and diagnostics (FDD) system to monitor economizer system operation and report faults		
HYDRONIC SYSTEMS - EQUIPMENT SELECTION & PERFORMANCE					
	C403.3.2.1	Maximum air cooled chiller capacity	For chilled water plants and buildings with > 500 tons of cooling capacity, indicate air-cooled chiller capacity is ≤ 100 tons, or exception applied		
	C403.6.7	Large capacity cooling systems	For buildings ≥ 300 tons of cooling capacity, indicate method of multi-stage or variable capacity control (VSD, multiple staged compressors, or max capacity of any single unit		
	C403.3.2.2	Non-standard water-cooled centrifugal chillers	For water-cooled centrifugal chillers not designed for operation at standard conditions, provide calculations documenting maximum full load and part load rated equipment performance requirements		
	C403.3.3	Hot gas bypass limitation for chillers	For cooling equipment with hot gas bypass, provide either multiple step unloading or continuous capacity modulation; indicate bypass capacity per Table C403.3.3		
	C403.4.3 C403.3.4	Large capacity boiler systems	For hydronic systems with only a single boiler that has > 500,000 Btu/h input capacity, indicate multi-stage or modulating burner		
			For boiler system (single or multiple) with > 1,000,000 Btu/h input capacity, indicate turndown ratio per Table C403.3.4 and method (multiple single input boilers, modulating boilers, or combination)		
	C403.2.3	Variable flow capacity - pumps	For pump motors ≥ 7.5 hp, indicate method of variable flow control (VSD or equivalent method) in equipment schedule, or exception applied		
HYDRONIC SYSTEMS - CONTROLS					
	C403.4.3	Boiler sequencing	Indicate automatic controls that sequence operation of multiple boilers		

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	C403.4.3.2	Two-pipe changeover systems	Indicate changeover deadband is ≥ 15°F outdoor air temperature; indicate controls are configured so that heating / cooling modes are active for at minimum 4 hours before changeover and that the delta between heating / cooling supply temperatures at changeover point is		
	C403.4.1.5	Heating water temperature setback	For boilers that provide building heating via one- or two-pipe systems, indicate controls that provide heating water temperature setback based on outdoor temperature		
	C403.4.4	Hydronic system part load controls and supply-water temperature reset	For heating and chilled water systems with ≥ 300,000 Btu/h output capacity, indicate system controls are configured to automatically reset supply water temperature based upon demand; or exception applied		
			Indicate automatic pump flow controls are configured to reduce system flow rate by ≥ 50%, or the maximum allowed by the equipment manufacturer, based upon the heating or cooling loads; or decribe why not required		
			For hydronic systems with output capacity ≥ 300,000 Btu/h that serve heating water systems, chilled water systems and water-cooled unitary air conditioners, indicate that pumps are provided with a variable speed drive if one of the following conditions apply: 1) System pump motor hp is ≥ 2 hp and pumps are designed to operate continuously or per time schedule; 2) System pump motor hp is ≥ 7.5 hp and pumps are controlled by automatic DDC configured to only operate pumps when there is a call for zone heating or cooling		
			Where variable speed drives are required, indicate system is configured so that pump motor power is ≤ 30% of design wattage at 50% of design flow rate; indicate pump flow is controlled to maintain one control valve nearly wide open, or to maintain a minimum differential pressure; or exception applied		
	C403.4.6	Hydronic system variable pump flow control	For individual pumps required to have variable speed controls, indicate manner of pump speed control (differential pressure, static pressure setpoint, zone heating or cooling demand, or based on the relationship between variable speed controller frequency and power)		
	C403.4.5	Chiller / boiler plant pump isolation	Indicate controls are configured to automatically reduce overall plant flow and shut-off flow through individual chillers and boilers when not in use		

Authorized to Begin Construction

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- See accompanying project comment form for review status and corrections.
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Project Number: 206-002

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PERMIT SET
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REVISIONS

73-19057-00

WSEC COMPLIANCE FORMS

M0.04

Mechanical Requirements List, pg 17 of 25

	C403.4.3.3.1	Water loop heat pump - temperature deadband	Indicate method of water loop temperture control (central plant equipment controls are configured to provide ≥ 20°F water supply temperature deadband between heat rejection and heat addition modes, or controls are configured for system loop temperature optimization		
	C403.4.3.3.2	Water loop heat pump - heat rejection equipment	Indicate type of cooling tower (open- or closed-circuit) in equipment schedule; indicate whether the cooling tower is used directly in the heat pump loop or in conjunction with a separate heat exchanger; indicate method used to limit system heat loss when heat rejection is not needed		
	C403.4.3.3.3	Water loop heat pump - isolation valves	For hydronic heat pump systems with total system power > 10 hp, indicate 2-way isolation valves on each heat pump and variable flow system control		
HEAT REJECTION SYSTEMS - EQUIPMENT SELECTION & PERFORMANCE					
	C403.9.1.3	Centrifugal fan open-circuit cooling towers	For open-circuit centrifugal fan cooling towers with ≥ 1,100 gpm capacity, indicate cooling towers comply with efficiency requirements for axial fan open circuit cooling towers		
HEAT REJECTION & RECOVERY - CONTROLS					
	C403.9.1.1C 403.9.1.2	Fan speed control	For each fan powered by an individual motor or array of motors, with total connected fan power ≥ 5 hp (including motor service factor), indicate method of automatic fan speed control (adjusted based on leaving fluid temperature or condenser temperature / pressure of heat rejection device); verify fan selection provides ≤ 30% design wattage at 50% design airflow		
			For multiple-cell heat rejection equipment with VSD, indicate controls are configured to ramp all fans in unison (not staged on / off operation)		
	C403.9.1.4	Cooling tower flow turndown	For open-circuit cooling towers configured with multiple- or variable-speed condenser water pumps, indicate system is designed so all cells can be run in parallel; indicate method of condenser pump turn down control		
	C403.9.2.1	Heat recovery for service water heating	For buildings with 24-hour operation and > 1,500,000 Btu/h of heat rejection capacity and design service hot water load > 250,000 Btu/h, indicate condenser heat recovery to pre-heat service water; or exception applied. Provide calculations showing the amount of recovered heat that is utilized (60% of peak heat rejection load or pre-heat service water to 85°F).		

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	C403.9.2.2	Steam condensate systems heat recovery	For buildings with on-site steam heating systems, indicate condensate water heat recovery and use of recovered heat		
			For buildings that use off-site generated steam where condensate is not returned to the source, indicate on-site condensate water heat recovery		
	C403.9.2.3	Refrigeration condenser heat recovery	For buildings with food service, meat or deli departments that have ≥ 500,000 Btu/h of remote refrigeration capacity for coolers / freezers, indicate condenser heat recovery and use of captured energy (service water heating, space heating, or dehumidification reheating)		
			For buildings with ≥ 40,000 sf conditioned floor area and ≥ 1,000,000 Btu/h of remote refrigeration capacity, indicate condenser heat recovery to pre-heat service water; indicate remaining recovered heat is applied to space heating or dehumidification reheating		
	C403.9.2.4	Heat recovery for space heating	For buildings that operate > 70 hour per week, that are not served by a DOAS with energy recovery, and have > 1,500,000 Btu/h of heat rejection capacity and ≥ 0.45 cfm per sf of design minimum supply airflow with reheat, indicate condenser heat recovery is provided for space heating that complies with Sections C403.9.2.4.1 or C403.9.2.4.2 or C403.9.2.4.4		
	C403.9.2.4.1 C403.9.2.4.4	Water to water heat recovery	Indicate that 90% or more of the total building space heating and ventilation air design loads are served by heat energy rejected from either a heat recovery chiller or the cooling loop of water to water heat pump equipment		
	C403.9.2.4.2	Exhaust heat recovery	Indicate that waste heat is recovered from least 90% of the total building exhaust airflow such that leaving exhaust air temperature while in heat recovery mode is 55 deg F dry bulb; note exhaust air systems eligible for exception to this requirement		
	C403.9.2.4.3	Process heat recovery	In spaces with 5 watts per sf year-round cooling loads from lights and equipment, indicate these spaces are served by water-cooled equipment configured for heat recovery		
			If these spaces are served by economizer (air or water), indicate automatic controls are configured to disable economizer operation while system is in heat recovery mode		
MULTIPLE ZONE AIR SYSTEMS					

Mechanical Requirements List, pg 19 of 25

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	C403.6.1	Air systems serving multiple zones	Identify supply air systems serving multiple zones and the zones they serve on plans; indicate whether system is VAV and method of primary air control; or provide supporting documentation for applied exception to VAV		
	C403.6.1	VAV air terminal primary supply airflow	Provide equipment schedules on plans that list all VAV air terminals and types (fan-powered series and parallel air terminals, single duct and dual duct air terminals, etc)		
			For each air terminal include: maximum primary supply airflow rates during zone peak heating and zone peak cooling; maximum terminal airflow during reheating, recooling or mixing; minimum ventilation airflow rate, and the basis for these values; if IMC or ASHRAE 62.1 multiple zone equation is the basis for minimum flow rates, provide this calculation on plans		
	C403.6.2	Single duct VAV terminal units	Indicate single duct terminal units are configured to reduce primary supply air before reheating or recooling		
	C403.6.3	Dual duct systems - terminal units	For systems with separate warm air and cool air ducts, indicate terminal units are configured to reduce the flow from one duct to minimum before mixing with air from the other duct		
	C403.6.8C403.6.9	VAV system static - pressure sensors and DDC set points	Indicate locations of duct static pressure sensors on plans; include at least one sensor per major duct branch; verify controller setpoint pressure at each sensor is ≤ 1.2 inch w.g.		
			For systems with zone level DDC, indicate controls are configured to monitor zone damper positions and reset static pressure setpoint based on the zone requiring most pressure; include control logic that automatically detects and generates an alarm if any zone excessively drives reset logic, and allows building operators to exclude zones from reset logic		
	C403.6.4	VAV system supply air reset	Indicate controls automatically reset supply air temperature in response to building loads or outdoor air temperature; or exception applied		
	C403.6.5	Multiple-zone VAV system ventilation optimization controls	For systems with zone level DDC controls, indicate controls are configured to automatically reduce outdoor airflow in response to changes in system ventilation efficiency; or exception applied		

Mechanical Requirements List, pg 20 of 25

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	C403.6.6	Parallel fan powered VAV air terminals	Indicate controls automatically activate or shut off the air terminal fan based on call for heating and / or ventilation; indicate controls are configured to activate the terminal fan as the first stage of heating prior to activating the heating coil; indicate control method of primary air during warmup or temperature setback mode		
HIGH EFFICIENCY MULTIPLE-ZONE VAV SYSTEMS - EXCEPTION TO C403.3.5 DOAS, MUST COMPLY WITH ALL 15 PROVISIONS TO BE ELIGIBLE					
	C403.6.10,Item 1	Minimum area served and zoning	Indicate that each high efficiency multiple-zone VAV systems serves an area ≥ 3,000 sf and includes ≥ 5 zones		
	C403.6.10, Item 2	Air economizer	Indicate system is configured for 100% air economizer operation and complies with all related economizer requirements per C403.5 (without economizer exceptions)		
	C403.6.10, Item 3	Direct digital controls (DDC)	Provide DDC controls for all components of system per C403.4.11 (regardless of system size); identify all DDC system input / output control points; indicate capability for trending and graphical display		
	C403.6.10, Items 4 and 5	Supply and outdoor airflow measurement and control	For systems with minimum required outdoor air > 2,500 cfm, provide an airflow monitoring station that is configured to measure outdoor air intake under all load conditions; indicate control sequence that increases or reduces outdoor air cfm based on VAV terminal feedback of ventilation efficiency (per C403.6.5 without exceptions) or and DCV (per C403.7.1)		
			Provide a suppy airflow monitoring station that is configured to measure supply air delivered to VAV terminals under all load conditions		
	C403.6.10,Item 6	Zone isolation and maximum area served	Verify maximum area served by a single VAV system is ≤ 50,000 sf, or one entire floor, whichever is greater; in addition if a system serves > 25,000 sf, that includes areas that are expected to be occupied non-simultaneously, indicate zone isolation controls per C403.2.1		
	C403.6.10, Item 7	Interior / exterior zone design supply air temperature	Verify that VAV terminals serving interior cooling driven loads are sized per a design supply air temperature that is 5°F higher than VAV terminals serving exterior zones while in cooling mode		
	C403.6.10, Item 8	Maximum air terminal inlet velocity and fan power	Identify all air terminals with minimum primary airflow setpoints > 50% of maximum setpoint in mechanical equipment schedule for these air terminals indicate inlet velocity does not exceed 900 fpm		

Mechanical Requirements List, pg 21 of 25

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	C403.6.10,Item 8	Maximum allowable system brake horsepower	For each multiple-zone VAV system, provide calculations that verify total fan system bhp is ≤ 90% of the total allowable fan system bhp per Option 2 equation in Table C403.8.1.1		
	C403.6.10,Item 9	Fan-powered terminal unit motor and control	Indicate all series and parallel fan-powered terminals have electronically commutated motors (ECM); indicate DDC control system is configured to vary air terminal fan speed as a function of the load; indicate fan speed during periods of low heating, low cooling, or ventilation-only mode is ≤ 66% of peak design air flow, or provide supporting documentation for applied exception		
	C403.6.10, Item 10	Application of single duct and fan-powered terminal units	Indicate VAV terminal types on plans; verify fan-powered terminal units only serve perimeter zones with envelope loads and interior zones with high occupant density and DCV per C403.7.1; verify all other zones are served by single duct terminal units		
	C403.6.10, Item 11	Fan-powered terminal unit primary air reset	Indicate DDC controls are configured to automatically reset the primary supply air cfm setpoint of all fan-powered terminal units to the minimum required to maintain ventilation during occupied heating or deadband mode, based upon the VAV air handling unit minimum ventilation air fraction		
	C403.6.10,Item 12	Controls for high occupant density spaces	For zones > 150 sf with high occupant density (≥ 25 people / 1000 sf), indicate zone is served by a dedicated terminal unit with DCV control that resets terminal unit ventilation setpoint based on measured CO2; also indicate occupancy sensor control that automatically reduces minimum ventilation to zero and sets back room heating and cooling setpoints by ≥ 5°F when space in unoccupied		
	C403.6.10, Item 13	Dedicated cooling systems serving data centers and server, electronic equipment and telecom spaces	For data centers and server, electronic equipment, telecom or similar spaces with design cooling loads > 5 W/sf, indicate spaces are served by dedicated cooling systems that are independent of the HPVAV systems serving the rest of building		
			Indicate dedicated cooling systems are configured for 100% air economizer operation and comply with all related economizer requirements per C403.5 (without economizer exceptions), or heat recovery per C403.5, Exception 9		
	C403.6.10, Item 14	Central plant efficiency	Indicate whether systems are served by a high efficiency heating water plant, or a high efficiency chilled water plant		

Mechanical Requirements List, pg 22 of 25

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			If complying via high efficiency heating water plant: Indicate all VAV terminals have hydronic heating coils served by a heating water system with either gas-fired boiler(s) with thermal efficiency (Et) ≥ 92%, air-to-water heat pumps, or heat recovery chillers; indicate hydronic heating coils are sized per a maximum 120°F entering water temperature during peak demand		
			If complying via high efficiency chilled water plant: Indicate all VAV air handlers have cooling coils served by chillers with rated IPLV efficiency that exceeds WSEC listed IPLV by at least 25% per Table C403.3.2(7) (note water-cooled IPLV is max, all others are min); indicate smallest chiller or compressor in plant is ≤ 20% of the total plant capacity, or provide thermal storage sized for ≥ 20% of total plant capacity		
	C403.6.10, Item 15	Fault detection and diagnostics	Indicate DDC system includes automatic fault detection and diagnostics (FDD) configured to monitor operation and provide fault reporting of all required parameters for all VAV air handlers and VAV air terminal units in the HPVAV system		
HIGH EFFICIENCY SINGLE-ZONE VAV SYSTEMS - EXCEPTION TO C403.3.5 DOAS, MUST COMPLY WITH ALL 8 PROVISIONS TO BE ELIGIBLE					
	C403.12, Item 1	Air economizer	Indicate system is configured for 100% air economizer operation and complies with all related economizer requirements per C403.5 (without economizer exceptions)		
	C403.12, Item 2	Direct digital controls (DDC)	Provide DDC controls for all components of system per C403.4.11 (regardless of system size); identify all DDC system input / output control points; indicate capability for trending and graphical display		
	C403.12,Item 3	Outdoor airflow measurement and control	For systems with minimum required outdoor air ≥ 1,000 cfm, provide an airflow monitoring station that is configured to measure outdoor air intake under all load conditions; indicate controls that adjust outdoor air cfm via DCV per C403.7.1		
	C403.12,Item 4	Maximum allowable system brake horsepower	For each single-zone VAV system, provide calculations that verify total fan system bhp is ≤ 90% of the total allowable fan system bhp per Option 2 equation in Table C403.8.1.1		
	C403.12, Item 5	Supply airflow control	Provide controls that adjust supply airflow based on the heating and cooling loads; indicate control sequence that limits minimum fan speed to 30% of peak design airflow or required ventilation during unoccupied mode, whichever is less		

Mechanical Requirements List, pg 23 of 25

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	C403.12,Item 6	Controls for high occupant density spaces	For zones > 150 sf with high occupant density (≥ 25 people / 1000 sf), indicate DCV control that resets ventilation setpoint based on measured CO2; also indicate occupancy sensor control that automatically reduces minimum ventilation to zero and sets back room heating and cooling setpoints by ≥ 5°F when space in unoccupied		
	C403.12, Item 7	High efficiency system option	Indicate which system performance option is applied - high efficiency DX cooling and heat pump or high efficiency gas heating; or heating coils served by a high efficiency heating water plant; or cooling coils served by high efficiency chilled water plant		
			If complying via high efficiency DX: Indicate full load and part load rated cooling efficiency exceeds WSEC listed efficiency by at least 15%; if heating is supplied by a gas-fired furnace, indicate thermal efficiency (Et) is ≥ 90%; if system is a heat pump, indicate heating efficiency (HSPF or COP) exceeds WSEC listed efficiency by at least 10%; control of cooling and heating coil output shall be configured with a minimum of 2-stages or modulating		
			If complying via high efficiency heating water plant: Indicate hydronic heating coils are served by a heating water system with either gas-fired boiler(s) with thermal efficiency (Et) ≥ 92%, air-to-water heat pumps, or heat recovery chillers; indicate hydronic heating coils are sized per a maximum 120°F entering water temperature during peak demand		
			If complying via high efficiency chilled water plant: Indicate cooling coils are served by chillers with rated IPLV efficiency that exceeds WSEC listed IPLV by at least 25% per Table C403.3.2(7) (note water-cooled IPLV is max, all others are min); indicate smallest chiller or compressor in plant is ≤ 20% of the total plant capacity, or provide thermal storage sized for ≥ 20% of total plant capacity		
	C403.12, Item 8	Fault detection and diagnostics	Indicate DDC system includes automatic fault detection and diagnostics (FDD) configured to monitor operation and provide fault reporting of all required parameters for all HPVAV single-zone air systems		
EXTERIOR HEATING SYSTEMS					
	C403.11.1	Heating outside a building	Indicate systems providing heating in non-enclosed outdoor occupied spaces are radiant systems		

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			Indicate occupancy sensing or timer switch controls configured to automatically shut off heating system when area served is unoccupied		
	C403.11.2	Snow melt systems	Indicate automatic controls configured to shut off system when pavement temperature exceeds 50°F and no precipitation is falling, and when outdoor air temperature exceeds 40°F		
	C403.11.3	Freeze protection system controls	Indicate automatic controls to shut off system when outdoor temperature exceeds 40°F, or conditions protect fluid from freezing		
HVAC EQUIPMENT ENERGY USE METERING					
NA	C409.3.1	HVAC equipment energy use metering	For new buildings > 50,000 sf and building additions > 25,000 sf, verfiy energy use metering of all equipment used to provide space heating and cooling, dehumidification and ventilation will be provided per C409; indicate equipment eligible for exception		
DOCUMENTATION AND SYSTEM SPECIFIC REQUIREMENT TO SUPPORT COMMISSIONING (CX)					
NA	C408.1	Scope of mechanical systems commissioning	For buildings with ≥ 240,000 Btu/h total output cooling capacity or ≥ 300,000 Btu/h total output heating capacity, indicate that all mechanical systems regardless of individual capacity are required to be commissioned; or provide building heating / cooling capacity calculation demonstrating eligibilty for exception		
YES			Indicate that all systems, equipment and controls for which the WSEC requires control functions and / or configuration to perform specific functions are included in the Cx scope	M0.02	
YES	C408.1.1 C408.1.4.1	Commissioning requirements in construction documents	Indicate in plans and specifications that Cx per C408 is required for all applicable mechanical systems	M0.02	
YES			Include general summary that includes at minimum: narrative description of activites, responsibilities of the Cx team, schedule of activities including verification of project close out documentation per C103.6, and conflict of interest plan (if required)	230800	
YES			Include in general summary that a Cx project report or Compliance Checklist (Figure C408.1.4.1) shall be completed by the Certified Cx Professional and provided to the owner prior to the final mechanical inspection.	M0.02	

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YES	C408.1.2.2	Functional performance testing criteria	Identify in plans and specifications the intended operation of all equipment and controls during all modes of operation, including interfacing between new and existing-to-remain systems		
YES	C408.2.2	Air system and hydronic system balancing	Indicate in plans that air and fluid flow rates shall be tested and balanced within the tolerances defined in the specifications; indicate systems shall be balanced in a manner to first minimize throttling losses, then adjusted to meet design flow conditions	M0.02	
YES	C408.2.2.1	Air system balancing devices	Indicate devices that provide the capability to balance all supply air outlets, zone terminals and air handling equipment requiring system balancing		
	C408.2.2.2	Hydronic system balancing devices	Indicate devices that provide the capability to isolate, balance and measure flow across all hydronic equipment requiring system balancing including heating and cooling coils and pumps; or exception applied		
PROJECT CLOSE OUT DOCUMENTATION					
YES	C103.6	Documentation and project close out submittal requirements	Indicate in plans that project close out documentation and training of building operations personnel is required for all mechanical components, equipment and systems governed by this code; indicate close out documentation shall include: record documents, O&M manuals, applicable WSEC mechanical equipment compliance reports and calculations	M0.02	

MECHANICAL COMPLIANCE SUMMARY

Project & Applicant Information	**Project Title**	GSH Hybrid OR - 2018 WSEC
	Project Address	401 15TH AVE SE PUYALLUP, WA 98372
	Applicant Name	Malsta Ahmadnia
	Applicant Phone	206-432-5064
	Applicant Email	malsmadnia@dlrgroup.com

For Building Department Use: **Date: Nov 08, 2022**

For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

General Occupancy	All Commercial		**General Building Use Type**	Healthcare, Hospital		**Building Cond. Floor Area**	169,884
General Project Types	Alteration	**New Building or Addition Mechanical Scope**		**Alteration Mechanical Scope**	Single Zone Systems & Equipment	**Project Cond. Floor Area**	1,325
						Floors Above Grade	2
						Compliance Method	Compliance Method 1 - General
Mechanical Project Description	Replacement of VAV AHU serving an existing operating room. Addition of integrated Operating Room ceiling system. Modification of existing terminal units, associated ductwork, grilles and diffusers for support areas adjacent Operating Room served by separate, existing AHU.						

Mechanical Compliance Scope and Method	**Project Type**	**Mechanical Scope**	**Economizer Exception(s) Applied?**	**DOAS Ventilation Provided?**	**Higher Equipment Efficiency Option Applied?**	**Equipment Efficiency Compliance Verification**
	Alteration	Single Zone Systems & Equipment	No	No	NA	**COMPLIES**
Additional Efficiency Credits Included (AEC)						
Does building include occupancy classifications requiring DOAS?	No		**Does project include DOAS equipment?**			No
Based on project scope do TSPR requirements apply?	No		**Do all systems comply with Appendix D standard reference design or qualify for an exception to TSPR?**			No

Scope & Space Conditioning	**ALTERATION - SINGLE ZONE SYSTEMS & EQUIPMENT**	**Compliance Verification**	**COMPLIES**

Single Zone Air Systems Category - Air handling unit, hydronic

Air Systems Summary Information

System/Equip ID	Supply Airflow Control	Ventilation Standard	Ventilation CFM	Ventilation Air Source	Paired with DOAS	Ventilation energy recovery	Energy Recovery Efficiency (%)
AHU OR#1	Variable air volume	OSHA or WAC	500	Integral		Not provided, not required	

Air Systems & Equipment - Cooling

System/ Equip ID	Cooling System/Equip Type	Specific Type	Cooling Capacity per item (Btu/h)	AEC Efficiency Multiplier	Econo Exception Multiplier (FL & PL)	Combined Efficiency Multiplier (AEC & Econo)	Proposed Cooling Efficiency	CE Units	Proposed Part Load Efficiency	PL Units	Efficiency Compliance Verification
AHU OR#1	Chilled water coil		112	1		0					COMPLIES

Air Systems & Equipment - Heating

System /Equip ID	Heating System/Equip Type	Specific Type	Heating Capacity	HC Units	AEC Efficiency Multiplier	Proposed Heating Efficiency	HE Units	Efficiency Compliance Verification
AHU OR#1	Hot water coil		212,600	Btu/h	1			COMPLIES

Air Systems & Equipment Details

System/Equip ID	Area(s) Served	Location In Project Documents - Plan/Detail #
AHU OR#1	OR #1	M0.10
	Cooling Capacity Source: CH OR#1	
	Heating Capacity Source: CENTRAL PLANT	

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PERMIT SET
11/11/2022
REVISIONS

73-19057-00

WSEC COMPLIANCE FORMS

M0.06

Room Checksums
By Mazzetti & Associates

CONTROL ROOM

COOLING COIL PEAK — Peaked at Time: Mo/Hr: 6 / 9; Outside Air: OADB/WB/HR: 70 / 61 / 67
CLG SPACE PEAK — Mo/Hr: 6 / 9; OADB: 70

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads						
Skylite Solar	0	0	0	0	0	0
Skylite Cond	0	0	0	0	0	0
Roof Cond	0	98	98	1	0	0
Glass Solar	4,156	0	4,156	60	4,156	66
Glass/Door Cond	-149	0	-149	-2	-149	-2
Wall Cond	0	31	31	0	0	0
Partition/Door	0		0	0	0	0
Floor	0		0	0	0.00	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00
Infiltration	58		58	1	-34	-1
Sub Total ==>	4,066	129	4,195	60	3,973	63
Internal Loads						
Lights	334	0	334	5	334	5
People	1,000	0	1,000	14	500	8
Misc	1,450	0	1,450	21	1,450	23
Sub Total ==>	2,784	0	2,784	40	2,284	36
Ceiling Load	43	-43	0	0	43	1
Ventilation Load	0	0	0	0	0	0
Adj Air Trans Heat	0		0	0	0	0
Dehumid. Ov Sizing			0	0		
Ov/Undr Sizing	0		0	0	0	0
Exhaust Heat		-22	-22	0		
Sup. Fan Heat			0	0		
Ret. Fan Heat		0	0	0		
Duct Heat Pkup		0	0	0		
Underflr Sup Ht Pkup			0	0		
Supply Air Leakage		0	0	0		
Grand Total ==>	6,892	64	6,956	100.00	6,300	100.00

HEATING COIL PEAK — Mo/Hr: Heating Design; OADB: 18

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-291	5.87
Glass Solar	0	0	0.00
Glass/Door Cond	-2,021	-2,021	40.71
Wall Cond	0	-40	0.80
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0.00	0.00	0.00
Infiltration	-1,025	-1,025	20.64
Sub Total ==>	-3,046	-3,377	68.02
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-29	0	0.00
Ventilation Load	0	0	0.00
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		15	-0.30
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		-1,774	35.73
System Plenum Heat		171	-3.45
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-3,075	-4,965	100.00

TEMPERATURES

	Cooling	Heating
SADB	59.1	93.1
Ra Plenum	73.2	71.2
Return	73.2	71.2
Ret/OA	73.2	71.2
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.0	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	442	133
Terminal	442	133
Main Fan	442	133
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	17	17
MinStop/Rh	133	133
Return	459	150
Exhaust	17	17
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	3.84	1.15
cfm/ton	762.47	
ft²/ton	198.39	
Btu/hr·ft²	60.49	-43.17
No. People	2.0	17.4/1000 ft²

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB °F	Enter WB °F	Enter HR gr/lb	Leave DB °F	Leave WB °F	Leave HR gr/lb
Main Clg	0.6	7.0	6.4	442	73.2	60.4	59.3	59.1	55.0	59.0
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.6	7.0								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	115		
Part	0		
Int Door	1		
ExFlr	0		
Roof	115	0	0
Wall	58	46	80
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-5.0	133	59.1	93.1
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Reheat	-1.9	133	59.1	72.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-5.0			

Project Name:
Dataset Name: 221107GSHHYBOR.TRC

TRACE® 700 v6.3.5 calculated at 06:03 PM on 11/07/2022
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Room Checksums
By Mazzetti & Associates

STORAGE

COOLING COIL PEAK — Peaked at Time: Mo/Hr: 7 / 14; Outside Air: OADB/WB/HR: 83 / 66 / 72
CLG SPACE PEAK — Mo/Hr: 6 / 14; OADB: 82

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads						
Skylite Solar	0	0	0	0	0	0
Skylite Cond	0	0	0	0	0	0
Roof Cond	0	398	398	47	0	0
Glass Solar	0	0	0	0	0	0
Glass/Door Cond	0	0	0	0	0	0
Wall Cond	0	0	0	0	0	0
Partition/Door	0		0	0	0	0
Floor	0		0	0	0.00	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00
Infiltration	0		0	0	0	0
Sub Total ==>	0	398	398	47	0	0
Internal Loads						
Lights	453	0	453	53	453	122
People	0	0	0	0	0	0
Misc	0	0	0	0	0	0
Sub Total ==>	453	0	453	53	453	122
Ceiling Load	-82	82	0	0	-82	-22
Ventilation Load	0	0	0	0	0	0
Adj Air Trans Heat	0		0	0	0	0
Dehumid. Ov Sizing			0	0		
Ov/Undr Sizing	0		0	0	0	0
Exhaust Heat		0	0	0		
Sup. Fan Heat			0	0		
Ret. Fan Heat		0	0	0		
Duct Heat Pkup		0	0	0		
Underflr Sup Ht Pkup			0	0		
Supply Air Leakage		0	0	0		
Grand Total ==>	371	480	851	100.00	371	100.00

HEATING COIL PEAK — Mo/Hr: Heating Design; OADB: 18

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-400	307.81
Glass Solar	0	0	0.00
Glass/Door Cond	0	0	0.00
Wall Cond	0	0	0.00
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0.00	0.00	0.00
Infiltration	0	0	0.00
Sub Total ==>	0	-400	307.81
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-40	0	0.00
Ventilation Load	0	0	0.00
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		0	0.00
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		-85	65.21
System Plenum Heat		355	273.02
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-40	-130	100.00

TEMPERATURES

	Cooling	Heating
SADB	59.1	77.7
Ra Plenum	73.4	71.2
Return	73.4	71.2
Ret/OA	73.4	71.2
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.0	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	21	6
Terminal	21	6
Main Fan	21	6
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	6	6
Return	21	6
Exhaust	0	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	0.13	0.04
cfm/ton	297.95	
ft²/ton	2,228.80	
Btu/hr·ft²	5.38	-0.82
No. People	0.0	0.0/1000 ft²

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB °F	Enter WB °F	Enter HR gr/lb	Leave DB °F	Leave WB °F	Leave HR gr/lb
Main Clg	0.1	0.9	0.9	21	73.4	60.5	59.3	59.1	45.5	24.2
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.1	0.9								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	158		
Part	0		
Int Door	1		
ExFlr	0		
Roof	158	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-0.1	6	59.1	77.7
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Reheat	-0.1	6	59.1	72.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-0.1			

Project Name:
Dataset Name: 221107GSHHYBOR.TRC

TRACE® 700 v6.3.5 calculated at 06:03 PM on 11/07/2022
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Room Checksums
By Mazzetti & Associates

EQUIPMENT ROOM

COOLING COIL PEAK — Peaked at Time: Mo/Hr: 6 / 9; Outside Air: OADB/WB/HR: 70 / 61 / 67
CLG SPACE PEAK — Mo/Hr: 6 / 9; OADB: 70

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads						
Skylite Solar	0	0	0	0	0	0
Skylite Cond	0	0	0	0	0	0
Roof Cond	0	66	66	0	0	0
Glass Solar	4,211	0	4,211	9	4,211	9
Glass/Door Cond	-151	0	-151	0	-151	0
Wall Cond	0	31	31	0	0	0
Partition/Door	0		0	0	0	0
Floor	0		0	0	0.00	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00
Infiltration	59		59	0	-35	0
Sub Total ==>	4,120	97	4,217	9	4,026	9
Internal Loads						
Lights	220	0	220	0	220	0
People	0	0	0	0	0	0
Misc	41,866	0	41,866	90	41,866	91
Sub Total ==>	42,086	0	42,086	91	42,086	91
Ceiling Load	28	-28	0	0	28	0
Ventilation Load	0	0	0	0	0	0
Adj Air Trans Heat	0		0	0	0	0
Dehumid. Ov Sizing			0	0		
Ov/Undr Sizing	0		0	0	0	0
Exhaust Heat		-23	-23	0		
Sup. Fan Heat			0	0		
Ret. Fan Heat		0	0	0		
Duct Heat Pkup		0	0	0		
Underflr Sup Ht Pkup			0	0		
Supply Air Leakage		0	0	0		
Grand Total ==>	46,235	46	46,281	100.00	46,141	100.00

HEATING COIL PEAK — Mo/Hr: Heating Design; OADB: 18

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-193	1.14
Glass Solar	0	0	0.00
Glass/Door Cond	-2,049	-2,049	12.09
Wall Cond	0	-40	0.24
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0.00	0.00	0.00
Infiltration	-1,039	-1,039	6.13
Sub Total ==>	-3,089	-3,321	19.59
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-19	0	0.00
Ventilation Load	0	0	0.00
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		15	-0.09
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		-12,995	76.66
System Plenum Heat		-649	3.83
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-3,108	-16,950	100.00

TEMPERATURES

	Cooling	Heating
SADB	59.1	74.9
Ra Plenum	73.2	71.2
Return	73.2	71.2
Ret/OA	73.2	71.2
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.0	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	3,237	971
Terminal	3,237	971
Main Fan	3,237	971
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	17	17
MinStop/Rh	971	971
Return	3,255	989
Exhaust	17	17
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	42.59	12.78
cfm/ton	839.35	
ft²/ton	19.71	
Btu/hr·ft²	608.96	-223.02
No. People	0.0	0.0/1000 ft²

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB °F	Enter WB °F	Enter HR gr/lb	Leave DB °F	Leave WB °F	Leave HR gr/lb
Main Clg	3.9	46.3	46.2	3,237	73.2	60.4	59.3	59.1	55.1	59.3
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	3.9	46.3								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	76		
Part	0		
Int Door	1		
ExFlr	0		
Roof	76	0	0
Wall	58	47	80
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-17.0	971	59.1	74.9
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Reheat	-13.8	971	59.1	72.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-17.0			

Project Name:
Dataset Name: 221107GSHHYBOR.TRC

TRACE® 700 v6.3.5 calculated at 06:03 PM on 11/07/2022
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Room Checksums
By Mazzetti & Associates

SUB STERILE

COOLING COIL PEAK — Peaked at Time: Mo/Hr: 6 / 9; Outside Air: OADB/WB/HR: 70 / 61 / 67
CLG SPACE PEAK — Mo/Hr: 6 / 9; OADB: 70

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads						
Skylite Solar	0	0	0	0	0	0
Skylite Cond	0	0	0	0	0	0
Roof Cond	0	78	78	1	0	0
Glass Solar	4,213	0	4,213	66	4,213	71
Glass/Door Cond	-151	0	-151	-2	-151	-3
Wall Cond	0	31	31	0	0	0
Partition/Door	0		0	0	0	0
Floor	0		0	0	0.00	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00
Infiltration	59		59	1	-35	-1
Sub Total ==>	4,121	110	4,231	67	4,027	68
Internal Loads						
Lights	264	0	264	4	264	4
People	500	0	500	8	250	4
Misc	1,370	0	1,370	22	1,370	23
Sub Total ==>	2,134	0	2,134	34	1,884	32
Ceiling Load	34	-34	0	0	34	1
Ventilation Load	0	0	0	0	0	0
Adj Air Trans Heat	0		0	0	0	0
Dehumid. Ov Sizing			0	0		
Ov/Undr Sizing	0		0	0	0	0
Exhaust Heat		-23	-23	0		
Sup. Fan Heat			0	0		
Ret. Fan Heat		0	0	0		
Duct Heat Pkup		0	0	0		
Underflr Sup Ht Pkup			0	0		
Supply Air Leakage		0	0	0		
Grand Total ==>	6,289	53	6,342	100.00	5,945	100.00

HEATING COIL PEAK — Mo/Hr: Heating Design; OADB: 18

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-231	4.71
Glass Solar	0	0	0.00
Glass/Door Cond	-2,049	-2,049	41.87
Wall Cond	0	-40	0.82
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0.00	0.00	0.00
Infiltration	-1,039	-1,039	21.23
Sub Total ==>	-3,089	-3,359	68.62
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-23	0	0.00
Ventilation Load	0	0	0.00
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		15	-0.31
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		-1,674	34.21
System Plenum Heat		123	-2.52
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-3,111	-4,895	100.00

TEMPERATURES

	Cooling	Heating
SADB	59.1	94.6
Ra Plenum	73.2	71.2
Return	73.2	71.2
Ret/OA	73.2	71.2
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.0	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	417	125
Terminal	417	125
Main Fan	417	125
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	17	17
MinStop/Rh	125	125
Return	435	143
Exhaust	17	17
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	4.58	1.38
cfm/ton	789.21	
ft²/ton	172.18	
Btu/hr·ft²	69.69	-53.79
No. People	1.0	11.0/1000 ft²

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB °F	Enter WB °F	Enter HR gr/lb	Leave DB °F	Leave WB °F	Leave HR gr/lb
Main Clg	0.5	6.3	6.0	417	73.2	60.4	59.3	59.1	55.1	59.3
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.5	6.3								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	91		
Part	0		
Int Door	1		
ExFlr	0		
Roof	91	0	0
Wall	58	47	80
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-4.9	125	59.1	94.6
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Reheat	-1.8	125	59.1	72.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-4.9			

Project Name:
Dataset Name: 221107GSHHYBOR.TRC

TRACE® 700 v6.3.5 calculated at 06:03 PM on 11/07/2022
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Room Checksums
By Mazzetti & Associates

HYBRID OR #1

COOLING COIL PEAK — Peaked at Time: Mo/Hr: 6 / 10; Outside Air: OADB/WB/HR: 73 / 63 / 71
CLG SPACE PEAK — Mo/Hr: 7 / 10; OADB: 73

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads						
Skylite Solar	0	0	0	0	0	0
Skylite Cond	0	0	0	0	0	0
Roof Cond	0	1,179	1,179	4	0	0
Glass Solar	16,788	0	16,788	53	16,891	64
Glass/Door Cond	1,069	0	1,069	3	1,134	4
Wall Cond	210	192	401	1	203	1
Partition/Door	0		0	0	0	0
Floor	0		0	0	0.00	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00
Infiltration	3,878		3,878	12	1,365	5
Sub Total ==>	21,944	1,370	23,314	74	19,593	74
Internal Loads						
Lights	2,127	0	2,127	7	2,127	8
People	3,600	0	3,600	11	2,000	8
Misc	2,498	0	2,498	8	2,498	9
Sub Total ==>	8,225	0	8,225	26	6,625	25
Ceiling Load	166	-166	0	0	155	1
Ventilation Load	0	0	0	0	0	0
Adj Air Trans Heat	0		0	0	0	0
Dehumid. Ov Sizing			0	0		
Ov/Undr Sizing	0		0	0	0	0
Exhaust Heat		-118	-118	0		
Sup. Fan Heat			0	0		
Ret. Fan Heat		0	0	0		
Duct Heat Pkup		0	0	0		
Underflr Sup Ht Pkup			0	0		
Supply Air Leakage		0	0	0		
Grand Total ==>	30,336	1,086	31,421	100.00	26,374	100.00

HEATING COIL PEAK — Mo/Hr: Heating Design; OADB: 18

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-1,579	8.84
Glass Solar	0	0	0.00
Glass/Door Cond	-7,955	-7,955	44.53
Wall Cond	-464	-880	4.93
Partition/Door	0	0	0.00
Floor	0	0	0.00
Adjacent Floor	0.00	0.00	0.00
Infiltration	-7,835	-7,835	43.86
Sub Total ==>	-16,253	-18,249	102.15
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-542	0	0.00
Ventilation Load	0	0	0.00
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		384	-2.15
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
System Plenum Heat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-16,795	-17,865	100.00

TEMPERATURES

	Cooling	Heating
SADB	48.0	101.2
Ra Plenum	65.7	62.7
Return	65.7	62.7
Ret/OA	65.7	62.7
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.0	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	1,405	422
Terminal	1,405	422
Main Fan	1,405	422
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	152	152
MinStop/Rh	422	422
Return	1,557	573
Exhaust	152	152
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	1.89	0.57
cfm/ton	536.73	
ft²/ton	283.37	
Btu/hr·ft²	42.35	-24.08
No. People	8.0	10.8/1000 ft²

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB °F	Enter WB °F	Enter HR gr/lb	Leave DB °F	Leave WB °F	Leave HR gr/lb
Main Clg	2.6	31.4	27.2	1,394	65.7	54.5	46.4	48.0	45.5	42.0
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	2.6	31.4								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	742		
Part	0		
Int Door	1		
ExFlr	0		
Roof	742	0	0
Wall	505	208	41
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-17.9	422	62.7	101.2
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-17.9			

Project Name:
Dataset Name: 221107GSHHYBOR.TRC

TRACE® 700 v6.3.5 calculated at 06:03 PM on 11/07/2022
Alternative - 1 System Checksums Report Page 3 of 5

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Project Number: 206-002

Good Samaritan
A part of MultiCare Health System

HYBRID OR #1
MULTICARE GOOD SAMARITAN HOSPITAL
401 15TH AVE SE, PUYALLUP, WA 98372

PERMIT SET
11/11/2022
REVISIONS

73-19057-00

MECHANICAL LOAD CALCULATIONS

M0.07

PRCTI20221788

BIM 360://73-19057-00 MultiCare Good Sam Hybrid OR/MultiCare Good Sam Hybrid OR-MEADOWS_MAZ.rvt
11/11/2022 3:38:56 PM

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ASHRAE 170 SCHEDULE

ROOM NUMBER	ARCHITECTURAL ROOM NAME	ASHRAE 170 ROOM TYPE	AREA (SQ.FT.)	HEIGHT (FT)	REQUIRED MIN OA ACH (AC/HR)	REQUIRED MIN SA ACH (AC/HR)	REQUIRED MIN EA ACH (AC/HR)	ACTUAL MIN SA ACH (AC/HR)	ACTUAL MIN EA ACH (AC/HR)	REQUIRED MIN SA CFM (CFM)	ACTUAL SA (CFM)	ACTUAL RA (CFM)	ACTUAL EA (CFM)	TRANSFER - = IN (CFM)	REQUIRED PRESS.	ACTUAL PRESS (CFM)
2D03	HYBRID OR #1	SURGERY AND CRITICAL CARE - OPERATING ROOM (CLASS B AND C)	735	10	4	20	0	22	0	2450	2695	2395	0	300	POSITIVE	300
2D09	SUB-STERILE	SURGERY AND CRITICAL CARE - SUBSTERILE SERVICE AREA	92	10	2	6	0	6	0	445	445	345	0	100	NR	100

AIR HANDLING UNIT

MARK	SERVICE	LOCATION	B.O.D. MANUFACTURER
AHU OR#1	OR 1	ROOF	CARRIER

SUPPLY FAN

MARK	NORMAL OPERATION QTY.	NORMAL OPERATION TOTAL CFM	NORMAL OPERATION CFM PER FAN	NORMAL OPERATION BHP PER FAN	NORMAL OPERATION MAX TOTAL BHP	FAILURE OPERATION QTY.	FAILURE OPERATION TOTAL CFM	FAILURE OPERATION CFM PER FAN	FAILURE OPERATION BHP PER FAN	ESP (IN-WG)	MOTOR HP (EACH)
AHU OR#1	1	3000	1500	1.9	3.8	1	3000	3000	4.7	1.3	5

RETURN/EXHAUST FAN

MARK	NORMAL OPERATION QTY.	NORMAL OPERATION TOTAL CFM	NORMAL OPERATION CFM PER FAN	NORMAL OPERATION BHP PER FAN	NORMAL OPERATION MAX TOTAL BHP	FAILURE OPERATION QTY.	FAILURE OPERATION TOTAL CFM	FAILURE OPERATION CFM PER FAN	FAILURE OPERATION BHP PER FAN	ESP (IN-WG)	MOTOR HP (EACH)
AHU OR#1	2	3000	1500	0.7	1.4	1	3000	3000	1.9	1	2

COOLING COIL

MARK	CFM	MAX FACE VEL. (FPM)	CAPACITY (MBH) SENS.	CAPACITY (MBH) TOTAL	ENT. AIR (°F) DB	ENT. AIR (°F) WB	LVG. AIR (°F) DB	LVG. AIR (°F) WB	FLUID TYPE	FLUID ENT (°F)	FLUID LVG (°F)	FLUID GPM	FLUID MAX PD (FT)
AHU OR#1	3000	310	92.5	112.2	73	59	44.5	44.4	20% PG	36	46	22.8	1.9

HEATING COIL

MARK	POSITION	CFM	MAX FACE VEL (FPM)	SENS. CAPACITY (MBH)	ENT. AIR (°F)	LVG. AIR (°F)	FLUID TYPE	FLUID ENT (°F)	FLUID LVG(°F)	FLUID GPM	FLUID MAX PD (FT)
AHU OR#1	FINAL	3000	310	212.6	24	89.6	20% PG	180	117.8	6.9	0.3

AIR HANDLING UNIT

MARK	SERVICE	LOCATION	B.O.D. MANUFACTURER	HUMIDIFIER CFM	HUMIDIFIER CAPACITY (LB/HR)	HUMIDIFIER INLET STEAM (PSIG)	HUMIDIFIER MAX ABSORPTION DISTANCE (IN.)	ENT. AIR (°F) DB (°F)	ENT. AIR (°F) RH%	LVG. AIR (°F) DB (°F)	LVG. AIR (°F) RH%	LVG. AIR (°F) DEW PT.
AHU OR#1	OR 1	ROOF	CARRIER	3000	40	-	9	21	12	65	40.6	40.8

FILTERS

MARK	FILTER BANK	POSITION	CFM	MERV RATING	FILTER DEPTH (IN.)	MIN. FACE AREA (SQ FT)	INITIAL APD (IN-WG)	FINAL APD (IN-WG)
AHU OR#1	FILTER BANK A	OSA...	3000	8	2	13.3	0.07	0.14
AHU OR#1	FILTER BANK B	COIL	3000	8	4	10.4	0.1	0.2
AHU OR#1	FILTER BANK C	PRE-FILTER	3000	8	2	10	0.1	0.2
AHU OR#1	FILTER BANK D	FINAL	3000	14	BAG 6-12	10		

MARK	VFD ARRANGEMENT DESCRIPTION	VFD ARRANGEMENT MOUNT LOCATION	MAX OPER. WEIGHT (LBS)	NOTES	REMARKS
AHU OR#1	ONE VFD PER MOTOR	ROOF	6550		

NOTES:
1. USE ONLY FILTER SIZES 24x24 AND 12x24.
2. FILTER SECTIONS; 'FINAL APD' VALUE REFLECTS THE AIR PRESSURE DROP TO BE USED FOR FAN SELECTION.
3. PROVIDE ESSENTIAL POWER
4.PROVIDE FIELD MOUNTED VFD'S

11/7/2022

GRILLES, REGISTERS, AND DIFFUSERS SCHEDULE

SYMBOL	TYPE	NECK SIZE (IN)	FACE SIZE (IN)	DESIGN BASIS/REMARKS
U1-U5	USA - ULTRASUITE MODULE	-	20.3x24.2	PRICE ULTRASUITE
U6-U13	USA - ULTRASUITE MODULE	-	18x24.2	PRICE ULTRASUITE
U14-U21	USA - ULTRASUITE MODULE	-	24.2x35	PRICE ULTRASUITE
CD-1	SQUARE CEILING, STEEL, HIGH PERFORMANCE, THREE CONE	SEE DRAWINGS	24X24	TITUS TMS
SG-1	AEROBLADE SUPPLY GRILLE	SEE DRAWINGS		TITUS 272RL
RG-1	EGGCRATE RETURN GRILLE	SEE DRAWINGS		TITUS 50F
EG-1	EGGCRATE EXHAUST GRILLE	SEE DRAWINGS		TITUS 50F

NOTES: 1. COORDINATE BORDER AND COLOR WITH ARCHITECT

11/11/2022

HUMIDIFIER - ELECTRIC STEAM GENERATOR

MARK	SERVICE	MANUFACTURER	CAPACITY (LBS/HR)	DISPERSION PANEL MODEL	DISPERSION PANEL CFM	MAX ABSORTTION DISTANCE (IN.)	PLENUM SIZE (WxH, IN.)	ENT. AIR DB	ENT. AIR RH	LVG. AIR DB	LVG. AIR RH	STEAM GENERATOR MODEL	KW	MAX DISTANCE FROM DISPERSION PANEL (FT.)	OPER WEIGHT (LBS)	NOTES	REMARKS
SG OR#1	AHU OR #1	NEPTRONIC	40	MF MS 42IN X26IN (6 TUBES) H	3000	9	36X37	21.2	12.1	65	40.6	SKE4-N14M-480-3W	13.50	40.00	175.00	1,2	

NOTES: 1. PROVIDE INSULATED HARD PIPING IF HOSE LENGTH EXCEEDS 16 FT.
2. PROVIDE SHUT OFF VALVE, STRAINER, AND WATER HAMMER ARRESTOR IN WATER SUPPLY LINE.

10/25/2022

AIR-COOLED CHILLERS

MARK	MANUFACTURER	MODEL	COMPRESSOR TYPE	COOLING CAPACITY (TONS)	IPLV (BTU/WH)	REFRIGERANT	EVAPORATOR FLUID	FLOW (GPM) DESIGN	FLOW (GPM) MIN	EWT (°F)	LWT (°F)	MAX. PD (FT)	FOULING FACTOR (HR-SF-F)...	COMPRESSORS (QTY.)
CH OR#1	CARRIER	30RAP016	SCROLL	15	14.63	R410A	20% PG	27.48	18.3	46	36	14.8	0.0001	1

MARK	CONDENSER AMBIENT AIR TEMP (°F) DESIGN	AMBIENT AIR TEMP (°F) MINIMUM	FANS (QTY.)	TOTAL FAN HP	PUMP PACKAGE TYPE	QTY.	EACH PUMP GPM	EXTERNAL HEAD (FT.)	MOTOR HP	MOTOR BHP	SPEED CONTROL	SOUND PRESSURE (DBA)	TOTAL OPER WEIGHT (LBS)	LENGTH	WIDTH	HEIGHT	NOTES	REMARKS
CH OR#1	108	-20	1	2	VARIABLE	2	30.3	56.7	1.5	1.3	VFD	86	2800	67	41	89		

NOTES:
1. PROVIDE BAC-NET CONNECTION
2. PROVIDE SINGLE POINT OF CONNECTION
3. PROVIDE ESSENTIAL POWER
4 OVERALL HEIGHT INCLUDES...

11/9/2022

TERMINAL UNITS

SYMBOL	INLET SIZE (IN)	TYPE CV	TYPE VAV	CFM MIN	CFM HEAT	CFM MAX	MAX OPER PRESS (IN)	AIR SIDE CAPACITY (MBH)	AIR SIDE EAT (°F)	AIR SIDE LAT (°F)	WATER SIDE GPM	WATER SIDE EWT (°F)	WATER SIDE MIN ROWS	WATER SIDE MAX PD (FT)	TCV TYPE 2 WAY	TCV TYPE 3WAY	V/PH/HZ	OPER WEIGHT (LBS)	DESIGN BASIS/REMARKS
TU - 2011	8		X			830	0.46	34.1	55	94.0	3.0	180	2	2.5					1
TU - 2017	8		X			370	0.24	17.1	55	75.0	1.5	180	1	1.6					1
TU - 2018	16	X		3300	N/A	3300	0.24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			2, 3
TU - 2019	8		X	100	135	445	0.24	11	55	77	1.1	180	1						2
TU - 2102	12		X			755	0.46	70.4	55	96.0	6.0	180	2	6.3					1

NOTES: 1. EXISTING EQUIPMENT, REBALANCE AIRFLOWS PER SCHEDULE
2. NEW TERMINAL UNIT
3. PROVIDE UNIT WITH ELECTRICAL AND CONTROLS CONNECTION ON BOTTOM.

11/8/2022

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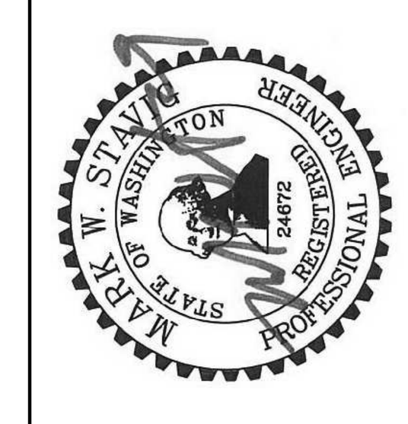


MAZZETTI
2013 4TH AVENUE, SUITE 200
SEATTLE, WA 98121
98121 USA
Project Number: 206-002

Good Samaritan

HYBRID OR #1
MULTICARE GOOD SAMARITAN HOSPITAL
401 15TH AVE SE, PUYALLUP, WA 98372

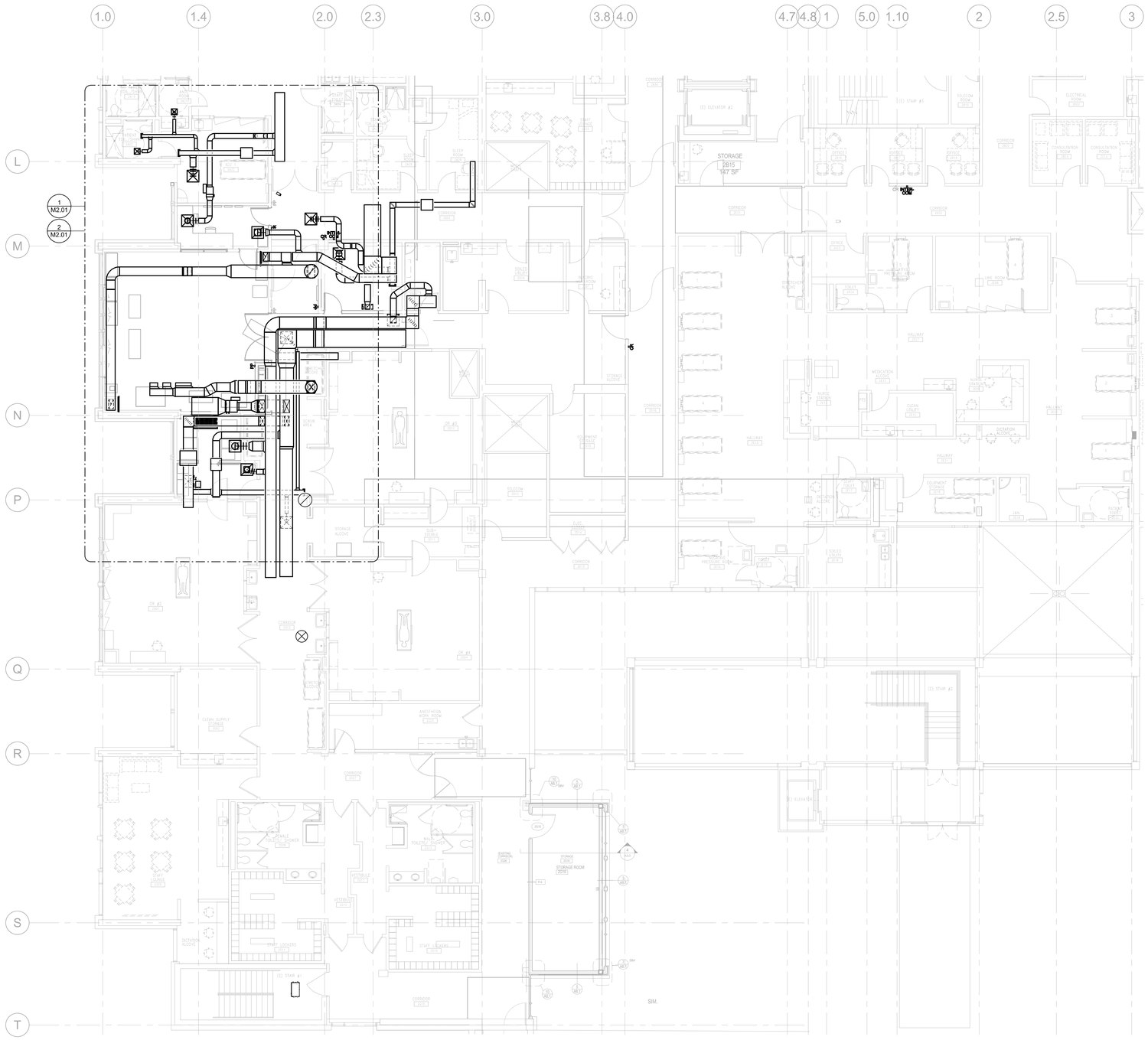
PERMIT SET
11/11/2022
REVISIONS

73-19057-00

MECHANICAL SCHEDULES

M0.10

PRCTI20221788



1 M2.00 OVERALL SECOND FLOOR - MECHANICAL
1/8" = 1'-0"

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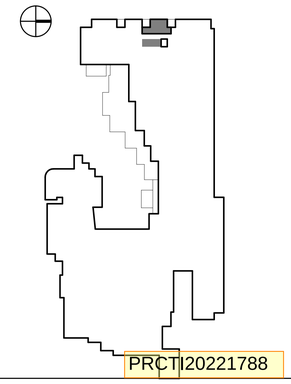
03/08/2023 8:24:27 PM

KEY PLAN - LEVEL 2

AREA OF WORK



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Project Number: 206-002

Good Samaritan
A ministry of Providence Health & Services

HYBRID OR #1

MULTICARE GOOD SAMARITAN HOSPITAL

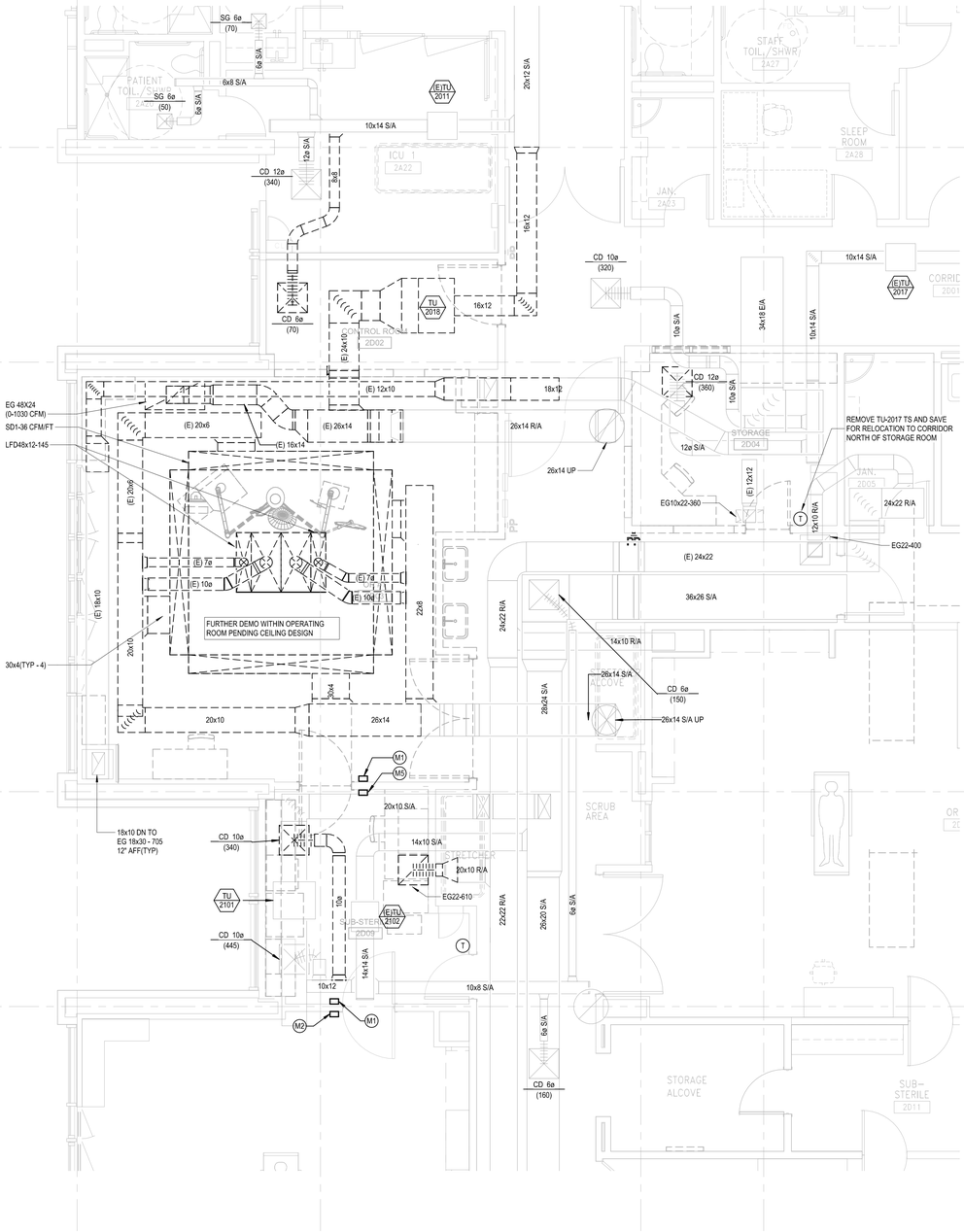
401 15TH AVE SE PUYALLUP, WA 98372

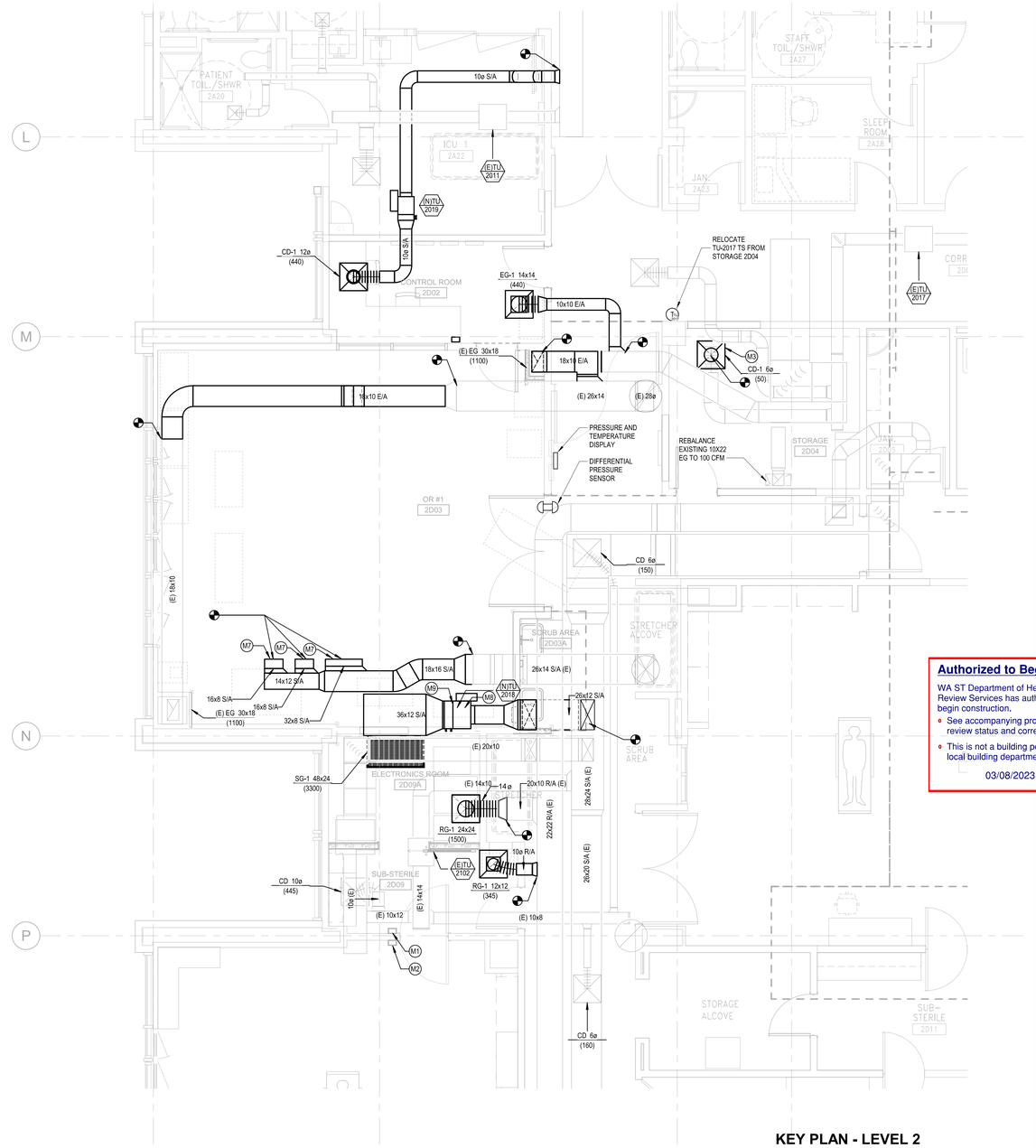
PERMIT SET
11/11/2022
REVISIONS

73-19057-00

MECHANICAL
OVERALL
SECOND FLOOR

M2.00





1 M2.01 SECOND FLOOR PLAN - MECHANICAL DEMO
1/4" = 1'-0"

2 M2.01 SECOND FLOOR PLAN - MECHANICAL
1/4" = 1'-0"

SHEET NOTES

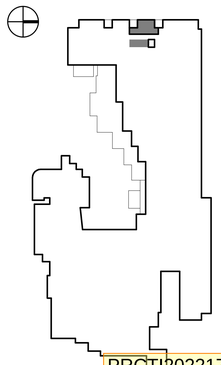
A. ALL DIFFUSERS AND GRILLES DEMOLISHED FROM SCOPE OF WORK TO BE CLEANED AND DELIVERED TO OWNER.

KEYNOTES

M1	EXISTING OPERATING ROOM HUMIDIFIER CONTROL PANEL.
M2	EXISTING OPERATING ROOM DDC HVAC CONTROL PANEL. HUMIDIFIER HUMIDITY SENSOR ADJACENT TO PANEL.
M3	INSTALL NEW DIFFUSER AND BALANCE TO TAGGED AIRFLOW.
M5	EXISTING OR#1 HUMIDIFIER CONTROL PANEL.
M7	CONNECT DUCT TO OWNER FURNISHED CEILING SYSTEM. BALANCE DIFFUSER ARRAY TO 2450 CFM.
M8	PROVIDE TERMINAL UNIT WITH ELECTRICAL AND CONTROLS CONNECTIONS ON BOTTOM.
M9	PROVIDE 2'X2' ACCESS PANEL, COORDINATE WITH ARCHITECT.

KEY PLAN - LEVEL 2

AREA OF WORK



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HYBRID OR #1

MULTICARE GOOD SAMARITAN HOSPITAL

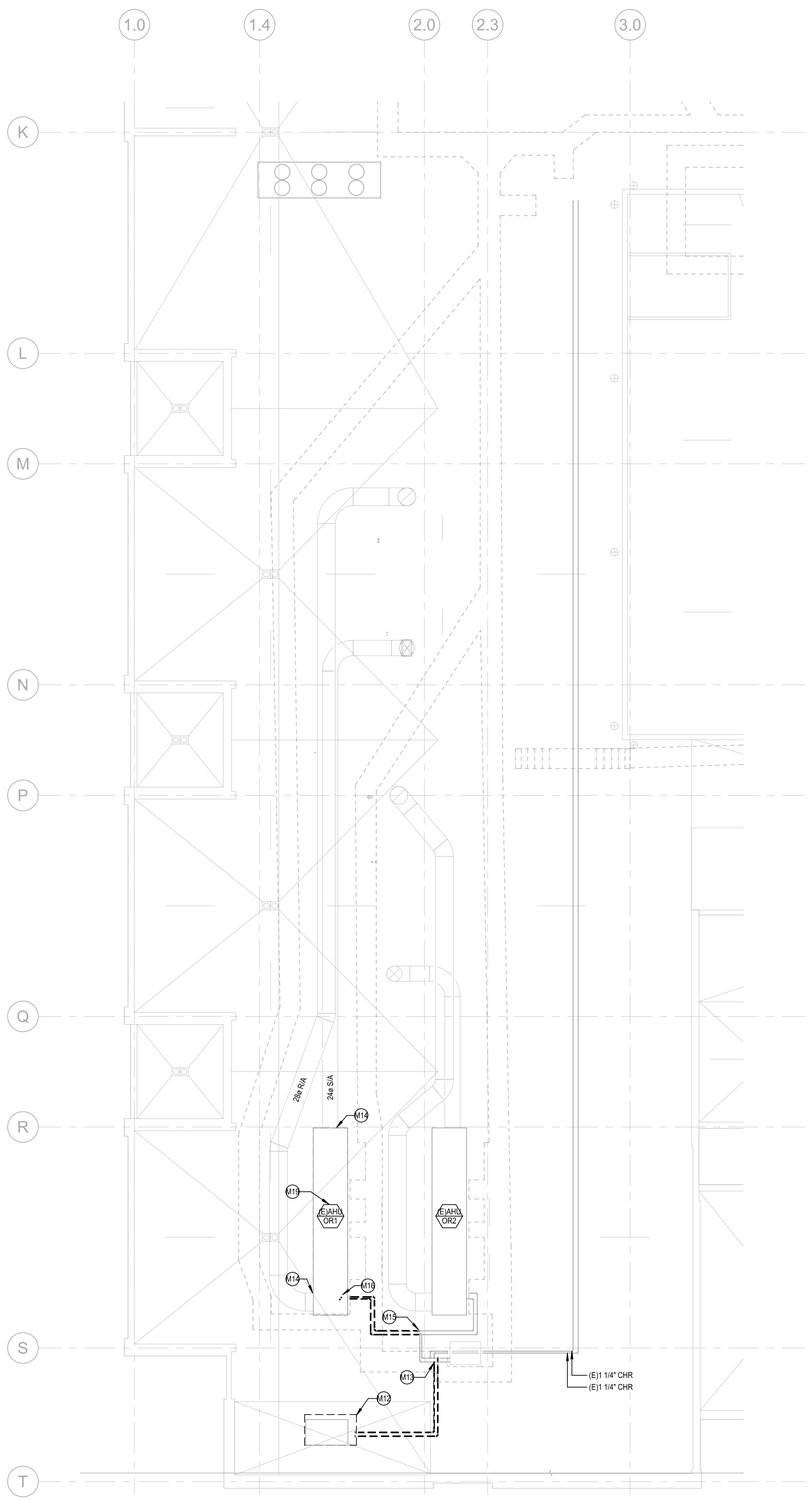
401 15TH AVE SE, PUYALLUP, WA 98372

PERMIT SET
11/11/2022
REVISIONS

73-19057-00

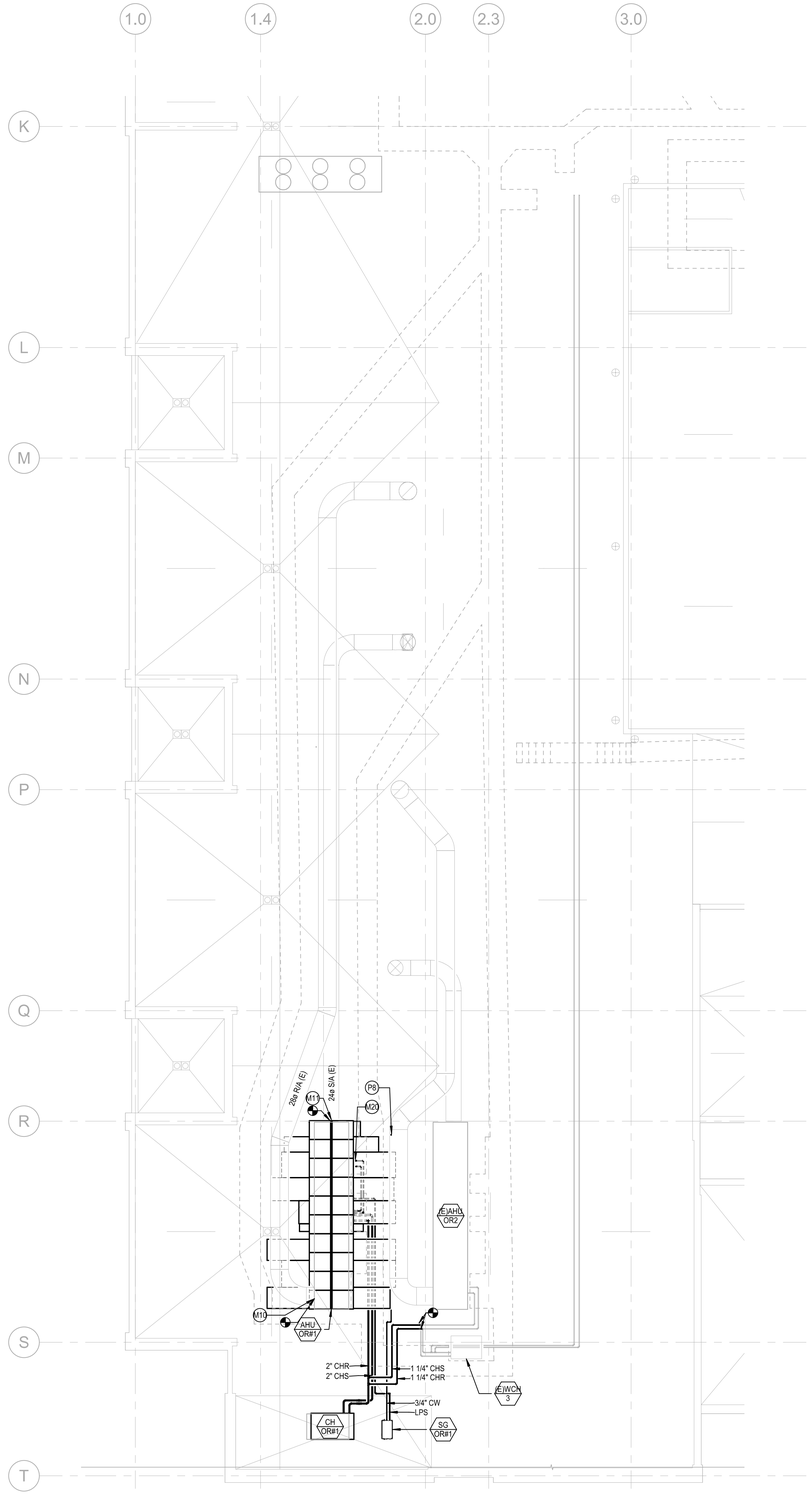
MECHANICAL ENLARGED PLANS

M2.01



1 M2.02 1/8" = 1'-0"

ROOF PLAN - MECHANICAL DEMO



2 M2.02 1/8" = 1'-0"

ROOF PLAN - MECHANICAL

KEYNOTES

M10 CONNECT EXISTING RA DUCTWORK TO NEW AHU RA INTAKE CONNECTION.
M11 CONNECT EXISTING SA DUCT TO NEW AHU SA DISCHARGE CONNECTION.
M12 DEMO EXISTING SCHRIEBER CHILLER AND ASSOCIATED PIPING BACK TO TEE CONNECTION.
M13 DEMO EXISTING CHW PIPING ROUTED TO EXISTING SCHRIEBER CHILLER.
M14 DEMO DUCTWORK AT CONNECTION TO EXISTING AHU WITH INTENT TO CONNECT TO NEW AHU.
M15 DEMO CHWS/R PIPING TO EXISTING AHU OR#1.
M16 DEMO EXISTING HHW SERVING AHU OR#1 BACK TO L2 CEILING CAVITY WITH INTENT TO REROUTE TO NEW AHU.
M19 DEMO EXISTING AHU OR1. STRUCTURAL CURB TO REMAIN FOR RE-USE WITH NEW AHU.
M20 ROUTE HHW THROUGH ROOF TO MAIN PIPING IN L2 CEILING CAVITY. CONNECT IN L2 CEILING.
P8 ROUTE 3/4" CW SUPPLY FOR HUMIDIFIER STEAM GENERATOR THROUGH ROOF TO MAIN IN L2 CEILING.

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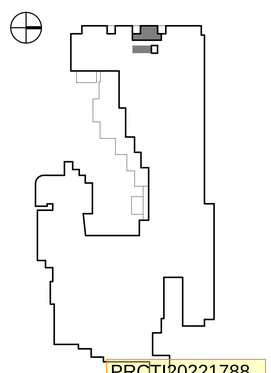
KEY PLAN - LEVEL 2

AREA OF WORK



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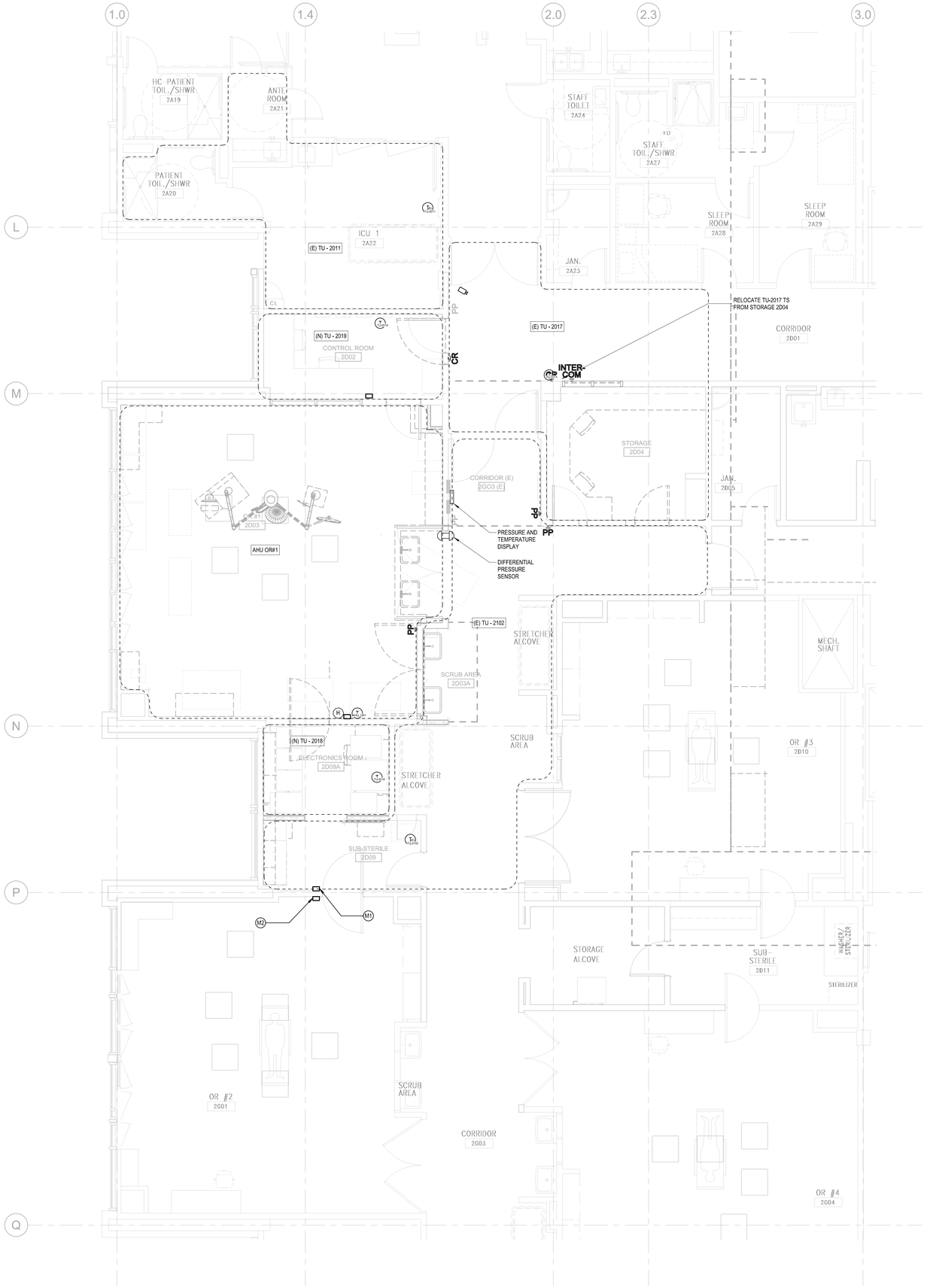
PERMIT SET
11/11/2022
REVISIONS

73-19057-00

MECHANICAL ROOF PLAN

M2.02



1 M3.00 OVERALL SECOND FLOOR - HVAC ZONING
1/4" = 1'-0"

KEYNOTES

M1 EXISTING OPERATING ROOM HUMIDIFIER CONTROL PANEL.
M2 EXISTING OPERATING ROOM DDC HVAC CONTROL PANEL. HUMIDIFIER HUMIDITY SENSOR ADJACENT TO PANEL.

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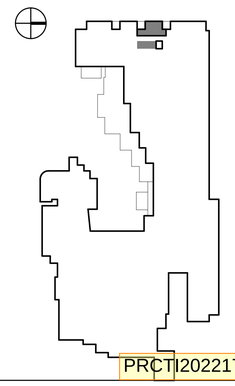
KEY PLAN - LEVEL 2

AREA OF WORK



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Project Number: 206-002

Good Samaritan
A part of MultiCare Health System

HYBRID OR #1

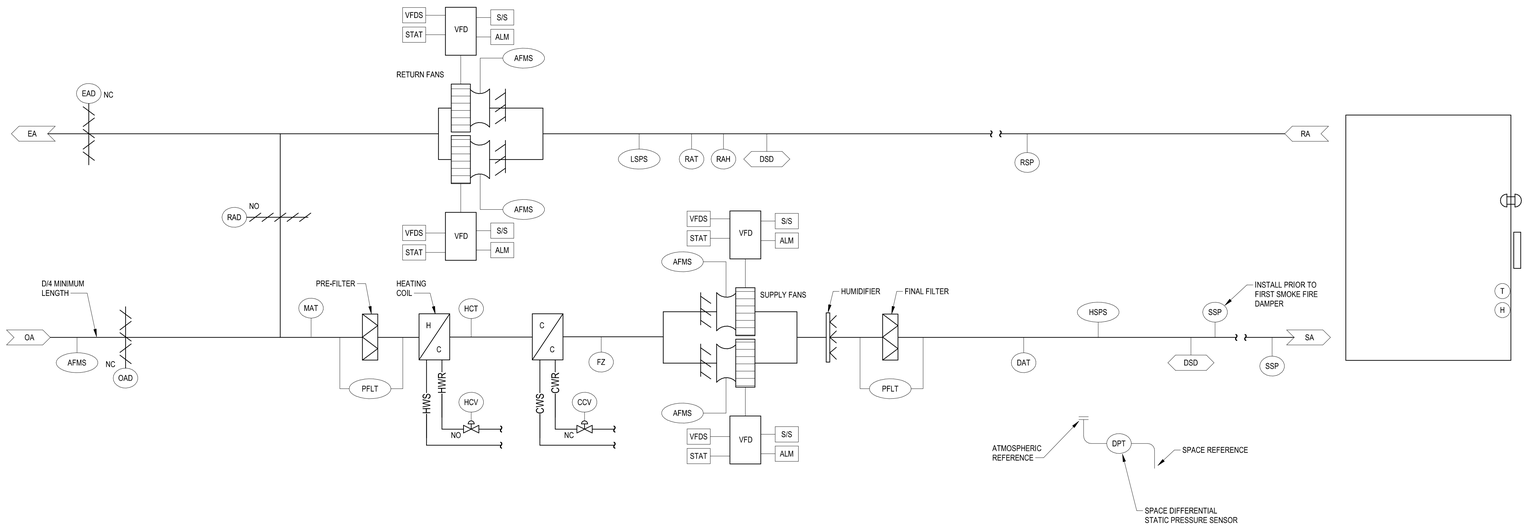
MULTICARE GOOD SAMARITAN HOSPITAL
401 15TH AVE SE, PUYALLUP, WA 98372

PERMIT SET
11/11/2022
REVISIONS

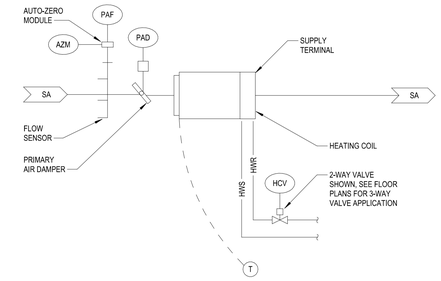
73-19057-00

MECHANICAL ZONE PLAN

M3.00



1 M4.00 AHU OR1 AIRFLOW DIAGRAM
NOT TO SCALE



2 M4.00 TERMINAL UNIT AIRFLOW DIAGRAM
NOT TO SCALE

Authorized to Begin Construction

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- See accompanying project comment form for review status and corrections.
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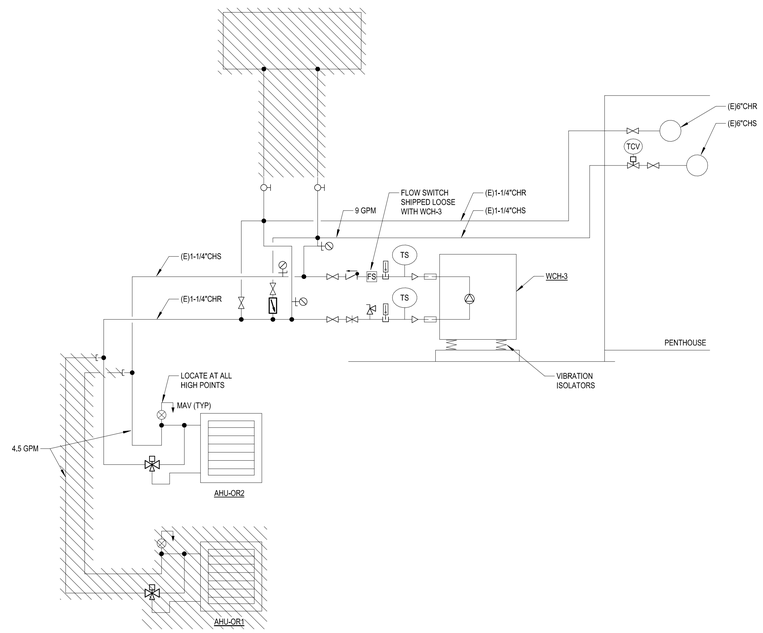
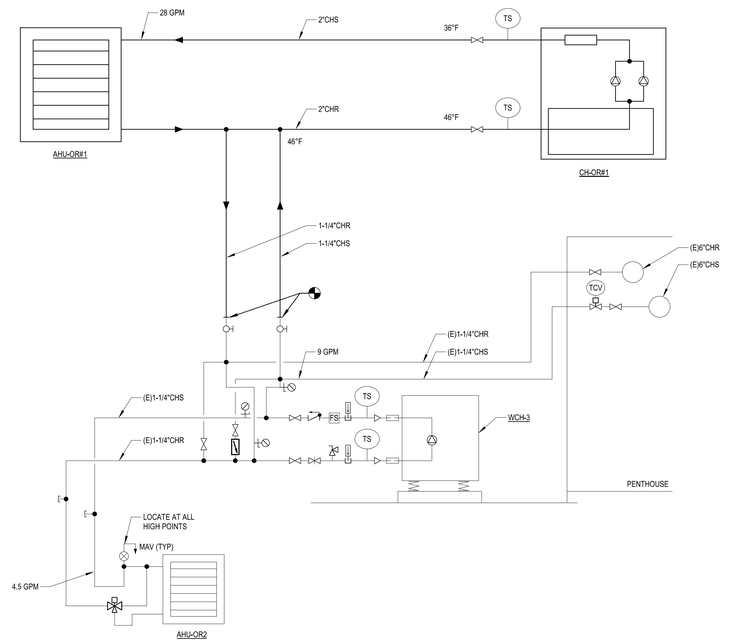


3 M4.00 EXISTING AHU OR1 & AHU OR2 CHILLED WATER DIAGRAM
NOT TO SCALE



4 M4.00 AHU OR#1 CHILLED WATER DIAGRAM
NOT TO SCALE

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MECHANICAL CONTROL DIAGRAMS

M4.00

PRCTI20221788

BIM 360://73-19057-A0 MultiCare Good Sam Hybrid OR/MultiCare Good Sam Hybrid OR-MEADOWS_MAZ.rvt
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GENERAL:
ALL SET POINTS, SOFTWARE TIMERS, ALARM PARAMETERS SHALL BE ADJUSTABLE AND COORDINATED WITH OWNER.

AIR HANDING UNIT (REFER TO M4.00 FOR AIR HANDLING UNIT DIAGRAM)
1. OVERVIEW
1.1. THE AIR HANDLING UNIT SHALL BE CONTROLLED BY A LOCAL STANDALONE BAS CONTROL PANEL.
1.2. EQUIPMENT AND CONTROLS SHALL BE WIRED TO EMERGENCY POWER. PROVIDE AUTOMATIC RE-START UPON POWER FAILURE AND UPON RETURN TO NORMAL POWER.
1.3. AT A MINIMUM, ALL VAV TERMINAL UNITS SERVED BY AN AHU SHALL BE LINKED WITH ASSOCIATED VAV AHU CONTROLLER TO PERFORM THE FOLLOWING FUNCTIONS: OCCUPANCY SCHEDULING, STATIC PRESSURE SETPOINT RESET, DISCHARGE AIR TEMPERATURE RESET.

2. COMPONENT OPERATION

2.1. SUPPLY FAN
2.1.1. EACH SUPPLY FAN HAS BACKDRAFT DAMPER TO LIMIT LAG FAN FROM ALLOWING SUPPLY AIR TO SHORT CIRCUIT. DESIGN IS BASED UPON FAN OPEREATING AND ONE FAN AS REDUNDANT. AFTER LEAD SUPPLY FAN IS STARTED AND PROVEN RUNNING AT MINIMUM SPEED (ADJUSTABLE), THE SUPPLY FAN VARIABLE FREQUENCY DRIVE(S) SHALL MODULATE TO MAINTAIN A STABLE DUCT STATIC PRESSURE SETPOINT AS SENSED AT LEAST TWOTHIRDS OF THE WAY DOWNSTREAM OF THE SUPPLY FAN IN THE LONGEST OR MOST CRITICAL DUCT. UPON INITIAL STARTUP, FAN SPEED SHALL BE RAMPED SLOWLY FROM MINIMUM SPEED TO OPERATING SPEED WITHIN A 5 MINUTE PERIOD.
2.1.2. THE SUPPLY FAN VFD MINIMUM SPEED SETTING WITHIN THE VFD ITSELF SHALL BE OPTIMIZED IN THE FIELD DURING SYSTEM BALANCING AND COMMISSIONING TO BE AS LOW AS POSSIBLE TO MEET THE MINIMUM FLOW REQUIREMENTS FOR MOTOR COOLING.

2.2. RETURN FAN
2.2.1. THE RETURN FAN(S) SHALL OPERATE WHENEVER THE SUPPLY FAN(S) ARE OPERATING AND PROVEN RUNNING.
2.2.2. EACH RETURN FAN HAS BACKDRAFT DAMPER TO LIMIT LAG FAN FROM ALLOWING RETURN AIR TO SHORT CIRCUIT. DESIGN IS BASED UPON ONE FAN OPERATING AND ONE FAN AS REDUNDANT. AFTER THE LEAD RETURN FAN IS STARTED AND PROVEN RUNNING AT MINIMUM SPEED (ADJUSTABLE), THE RETURN FAN VARIABLE FREQUENCY DRIVE(S) SHALL MODULATE TO MAINTAIN A STABLE RETURN DUCT STATIC PRESSURE SETPOINT AS SENSED AT LEAST TWOTHIRDS OF THE WAY UPSTREAM OF THE RETURN FAN IN THE LONGEST OR MOST CRITICAL DUCT. UPON INITIAL STARTUP, FAN SPEED SHALL BE RAMPED SLOWLY FROM MINIMUM SPEED TO OPERATING SPEED WITHIN A 5 MINUTE PERIOD.
2.2.3. THE RETURN FAN VFD MINIMUM SPEED SETTING WITHIN THE VFD ITSELF SHALL BE OPTIMIZED IN THE FIELD DURING SYSTEM BALANCING AND COMMISSIONING TO BE AS LOW AS POSSIBLE TO MEET THE MINIMUM FLOW REQUIREMENTS FOR MOTOR COOLING.

2.4. DISCHARGE AIR TEMPERATURE CONTROL
2.4.1. DISCHARGE AIR TEMPERATURE SHALL BE CONTROLLED TO THE DISCHARGE AIR SETPOINT USING A PID LOOP THAT SEQUENCES THE HEATING COIL VALVE, ECONOMIZER AIR DAMPER, RETURN AIR DAMPER, AND CHILLED WATER COIL VALVE AS NECESSARY TO MAINTAIN A STABLE DISCHARGE AIR TEMPERATURE AT THE SETPOINT AND PREVENTS SIMULTANEOUS HEATING AND COOLING. LIMITS PLUS-MINUS 2F.
2.4.2 DISCHARGE AIR TEMPERATURE SETPOINT FOR THE C-SECTION SHALL MODULATE THE C-SECTION CHILLED WATER COIL VALVE

2.5. DAMPER CONTROL
2.5.1. ECONOMIZER OPERATION SHALL BE AVAILABLE WHEN THE OUTSIDE AIR ENTHALPY IS LESS THAN RETURN AIR ENTHALPY. IF THE OUTSIDE AIR ENTHALPY IS GREATER THAN THE RETURN AIR ENTHALPY, ECONOMIZER OPERATION SHALL NOT BE AVAILABLE.
2.5.2. WHEN ECONOMIZER MODE IS AVAILABLE, THE ECONOMIZER AIR DAMPER SHALL MODULATE OPEN TO 100% AS THE FIRST SOURCE OF COOLING TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT.

2.6. SETPOINT RESETS
2.6.1. DISCHARGE AIR TEMPERATURE RESET
2.6.1.1. FOR ENERGY EFFICIENCY, THE TEMPERATURE SETPOINT SHALL BE RESET IN 1 (ADJ) DEG INCREMENTS USING TRIM & RESPOND LOGIC AT A FREQUENCY OF ONCE EVERY 10 MINUTES SUCH THAT THE AHU PROVIDES THE MOST ECONOMICAL AIR TEMPERATURE POSSIBLE TO SATISFY THE VAVS DEMANDS. SETPOINT SHALL NOT BE ALLOWED TO EXCEED 65F OR DROP BELOW THE DESIGN DISCHARGE AIR TEMPERATURE. WHEN THE AHU HEATING COIL IS OPERATING, THE TEMPERATURE SETPOINT SHALL BE 55F.
2.6.1.2. THE BAS SYSTEM SHALL MONITOR COOLING SIGNAL AND HEATING SIGNAL OF ALL VAVS (TERMINAL UNITS) SERVED BY THE AHU. WHEN A COOLING SIGNAL EXCEEDS 90%, IT SHALL BE COUNTED AS A "COOLING REQUEST", WHEN THE COOLING SIGNAL IS LESS THAN 75%, IT SHALL NOT BE COUNTED. WHEN A VAV HEATING SIGNAL EXCEEDS 90%, IT SHALL BE COUNTED AS A "HEATING REQUEST". WHEN THE HEATING SIGNAL IS LESS THAN 75%, IT SHALL NOT BE COUNTED. THE CAPABILITY FOR THE USER TO OPTIONALLY DESIGNATE ZONES AS PRIORITY ZONES OR CRITICAL ZONES SHALL BE PROVIDED. FOR PRIORITY ZONE VAVS, EACH RESPECTIVE "REQUEST" SHALL BE COUNTED AS TWO "REQUESTS". AS THE "REQUEST" COUNTS INCREASES, THE RESET SHALL INCREMENTALLY RESPOND WITH AN INCREASING MAGNITUDE FOR EACH ADDITIONAL "REQUEST". WHEN A COOLING REQUEST IS RECEIVED FROM A CRITICAL ZONE, THE SETPOINT SHALL BE RESET COOLER. WHEN A HEATING REQUEST IS RECEIVED FROM A CRITICAL ZONE, THE SETPOINT SHALL BE RESET WARMER.
INITIAL SETUP SHALL INCLUDE THE C-SECION ROOM AS PRIORITY ZONE.
2.6.1.3. IF THERE ARE ZERO COOLING REQUEST AND MORE THAN ONE HEATING REQUEST, THE SETPOINT SHALL BE INCREMENTALLY RESET WARMER. IF THERE ARE ZERO HEATING REQUEST AND MORE THAN ONE COOLING REQUEST, THE SETPOINT SHALL BE INCREMENTALLY RESET COOLER.
2.6.1.4. IF THERE IS EXACTLY ONE MORE HEATING REQUEST THAN COOLING REQUESTS, THE SETPOINT SHALL HOLD IN PLACE AND NOT RESET. IF THERE IS EXACTLY ONE MORE COOLING REQUEST THAN HEATING REQUESTS, THE SETPOINT SHALL HOLD IN PLACE AND NOT RESET. IF THERE ARE 3 OR MORE REQUESTS FOR COOLING THEN THE HEATING THE SETPOINT SHALL BE INCREMENTALLY RESET COOLER. IF THERE ARE 3 OR MORE REQUESTS FOR HEATING THEN THE COOLING THE SETPOINT SHALL BE INCREMENTALLY RESET WARMER.
2.6.1.5. IF ZERO HEATING REQUEST AND ZERO COOLING REQUEST AND RETURN AIR DAMPER IS LESS THAN 85% OPEN, THEN INCREMENTALLY RESET WARMER UNTIL ONE COOLING REQUEST IS MAINTAINED OR UNTIL THE RETURN AIR DAMPER REACHES 85% OR MORE OPEN. IF ZERO HEATING REQUEST AND ZERO COOLING REQUEST AND RETURN AIR DAMPER IS OPERATING AT GREATER THAN 95%, THEN INCREMENTALLY RESET COOLER UNTIL ONE HEATING REQUEST IN MAINTAINED OR UNTIL THE RETURN AIR DAMPER REACHES 95% OR LESS.
2.6.1.6.IN THE EVENT OF LOSS OF COMMUNICATION WITH ANY VAV CONTROLLERS THE SYST EM SHALL NOT INCLUDE THEM IN THE CALCULATION. THE CALCULATION WILL HAVE CAPABILITY TO SELECT HOW MANY BOXES ARE USED IN THE ROUTINE TO DEAL WITH PROBLEM VAV CONTROLLERS.
2.6.2. STATIC PRESSURE SETPOINT RESET
2.6.2.1. FOR ENERGY EFFICIENCY, BOTH THE SUPPLY AND RETURN STATIC SETPOINTS SHALL BE RESET USING TRIM & RESPOND LOGIC SUCH THAT THE SUPPLY AND RETURN OR RELIEF FANS OPERATE AT THE SLOWEST POSSIBLE SPEED NECESSARY TO SATISFY THE ASSOCIATED VAV'S DEMANDS.
2.6.2.2. THE BAS SYSTEM SHALL MONITOR THE DAMPER POSITIONS OF ALL VAVS SERVED BY THE AHU. WHEN A VAV DAMPER EXCEEDS 90% OPEN, IT SHALL BE COUNTED AS A "REQUEST" FOR MORE STATIC. WHEN THE VAV DAMPER IS LESS THAN 75% OPEN, IT SHALL NOT BE COUNTED. FOR CRITICAL ZONE VAVS, THE "REQUESTS" SHALL BE COUNTED AS TWO "REQUESTS". AS THE "REQUEST" COUNT INCREASES, THE RESET SHALL INCREMENTALLY RESPOND WITH AN INCREASING MAGNITUDE FOR EACH ADDITIONAL "REQUEST".
2.6.2.3. AT A FREQUENCY OF ONCE EVERY 10 MINUTES, THE ASSOCIATED DUCT STATIC PRESSURE SETPOINT SHALL BE INCREMENTALLY RESET UPWARD UNTIL THE SUM OF ALL "REQUESTS" IS ONE OR LESS, OR THE SETPOINT HAS RESET TO THE MAXIMUM LIMIT ESTABLISHED BY THE TAB CONTRACTOR.
2.6.2.4. WHEN THE SUM OF ALL "REQUESTS" IS ZERO THE ASSOCIATED FAN DUCT STATIC PRESSURE SETPOINT SHALL BE RESET DOWNWARD INCREMENTALLY UNTIL THE SUM OF ALL "REQUESTS" IS ONE OR MORE OR THE SETPOINT HAS RESET TO THE MINIMUM LIMIT ESTABLISHED BY THE TAB CONTRACTOR.
2.6.2.5. IN THE EVENT OF LOSS OF COMMUNICATION WITH ANY VAV CONTROLLERS THE SYSTEM SHALL NOT INCLUDE THEM IN THE CALCULATION. THE CALCULATION WILL HAVE CAPABILITY TO SELECT HOW MANY BOXES ARE USED IN THE ROUTINE TO DEAL WITH PROBLEM VAV CONTROLLERS.
2.6.2.6. MAX DUCT STATIC PRESSURE SETPOINT SHALL BE DETERMINED BY THE TAB CONTRACTOR AS THE DUCT STATIC PRESSURE VALUE REQUIRED TO SATISFY ALL TERMINAL UNITS UNDER PEAK LOAD CONDITIONS. ALARM AT 90% OF MAXIMUM DUCT STATIC TO MINIMIZE SHUTDOWNS UNLESS ABSOLUTELY NECESSARY, PROVIDE SLOW RESPONSE TO MINIMIZE NUSENCE TRIPPING.

2.7. DEHUMIDIFICATION
2.7.1. IF THE RELATIVE HUMIDITY IN ANY ROOM ASSOCIATED WITH THE UNIT EXCEEDS 60%, THE DEHUMIDIFICATION MODE SHALL BE ENABLED. WHEN THE DEHUMIDIFICATION MODE IS ENABLED, THE COOLING COIL SUB-COOLS THE AIR BELOW THE DISCHARGE AIR TEMPERATURE SETPOINT TO REMOVE MOISTURE FROM THE AIR. THE DISCHARGE AIR TEMPERATURE SETPOINT DURING DEHUMIDIFICATION MODE SHALL BE OVERRIDDEN TOWARD 51 F, STEPPED DOWN FROM CURRENT SETPOINT BY 1F AT 10 MINUTE INTERVALS, TERMINAL UNITS SHALL PROVIDE SPACE HEATING REQUIREMENTS.

2.8 HUMIDIFICATION
1.1. SYSTEM CONSISTS OF AN ELECTRIC STEAM HUMIDIFIER AND DUCT MOUNTED NOZZLES WITH ASSOCIATED FACTORY AIRFLOW SWITCH AND HIGH HUMIDITY CUTOUT DEVICES.
1.2. HUMIDIFIER SHALL BE ENABLED BY THE BAS ANY TIME THE ASSOCIATED AHU IS RUNNING.
1.3. THROUGH A DEMAND SIGNAL TO THE HUMIDIFIER, THE BAS SHALL MODULATE THE HUMIDIFIER AS NEEDED TO MAINTAIN THE ROOM HUMIDITY AT 40%.
1.4. ROOM HUMIDITY SENSOR
1.4.1. THE BAS SHALL CONTINUALLY MONITOR THE ROOM RELATIVE HUMIDITY
1.5. FACTORY HIGH HUMIDITY CUTOUT
1.5.1. UPON DETECTION OF DUCT HUMIDITY LEVELS IN EXCESS OF 75%, THE HUMIDIFIER OPERATION SHALL BE INTERRUPTED UNTIL DUCT HUMIDITY LEVELS DROP BACK BELOW 65%.
1.6. FACTORY AIR FLOW SWITCH
1.6.1. THE DUCT MOUNTED AIR FLOW SWITCH SHALL NOT ALLOW THE HUMIDIFIER TO OPERATE UNLESS SUFFICIENT AIRFLOW IS CONTINUALLY PROVEN.
1.7. SAFETIES AND ALARMS
1.7.1. THE BAS SHALL MONITOR THE STATUS OF THE BOILER FAULTS AND ALARMS AND IF HUMIDIFIER IS INTERRUPTED DUE TO HIGH HUMIDITY CUTOUT OUR AIRFLOW PROVING SWITCH, THEN AN ALARM SHALL BE GENERATED AT THE BAS.
1.7.2. AN ALARM SHALL BE GENERATED AT THE BAS IF ROOM HUMIDITY EXCEEDS 60% OR DROPS BELOW 30% FOR MORE THAN 5 MINUTES.

6. SAFETIES
6.1. FREEZE PROTECTION
6.1.1. IF THE COOLING COIL TEMPERATURE DROPS BELOW 40°F FOR 5 MINUTES, ALLOW THE ECONOMIZER DAMPER TO MODULATE TO FULLY CLOSED AS NECESSARY TO MAINTAIN A DISCHARGE AIR TEMPERATURE ABOVE 40°F.
6.1.2. IF THE COOLING COIL TEMPERATURE DROPS BELOW 34°F FOR 10 MINUTES, SHUT DOWN SUPPLY AND RETURN FANS, CLOSE OUTDOOR AIR DAMPERS.

6.2.1. ON DETECTION OF SMOKE FROM THE UNIT OR DUCT-MOUNTED SMOKE DETECTORS OR ON SIGNAL FROM THE FIRE ALARM SYSTEM, THE SUPPLY AND RETURN FANS SHALL BE STOPPED VIA A HARDWIRE SAFETY SHUTDOWN.
6.2.2. THE MINIMUM, ECONOMIZER AIR AND EXHAUST AIR DAMPERS WILL BE CLOSED AND THE RETURN AIR SHALL OPEN TO 100%. THE COOLING COIL VALVE WILL BE CLOSED. THE HEATING COIL VALVE SHALL MODULATE TO MAINTAIN A HEATING COIL TEMPERATURE ABOVE 40°F.

6.3. LOW/HIGH STATIC PRESSURE
6.3.1. ON DETECTION OF EITHER LOW OR HIGH STATIC PRESSURE SWITCH TRIP IN THE SUPPLY AIR OR RETURN AIR DUCTWORK, THE SUPPLY AND RETURN FANS SHALL BE STOPPED VIA A HARDWIRE SAFETY SHUTDOWN WITH A MANUAL RESET BUTTON.
6.3.2. INITIAL SETPOINTS SHALL BE 4" WC. FOR THE STATIC PRESSURE HIGH LIMIT AND NEGATIVE 4" WC. FOR THE LOW STATIC PRESSURE LIMIT. PROVIDE BOTH DIGITAL AND ANALOG SENSORS AT HIGH SAFETY SWITCH LOCATION.
6.3.3. THE ECONOMIZER AIR AND EXHAUST AIR DAMPERS WILL CLOSE TO 0% AND THE RETURN AIR SHALL OPEN TO 100%.
6.3.4. THE COOLING COIL VALVE WILL BE CLOSED TO 0%. THE HEATING COIL VALVE SHALL MODULATE TO MAINTAIN A HEATING COIL TEMPERATURE ABOVE 40°F. SEND AN ALARM INDICATING LOW OR HIGH STATIC PRESSURE.

6.4. FILTER DP
6.4.1. UPON SENSING AN EXCESSIVE PRESSURE DIFFERENTIAL VALUE ACROSS THE FILTER BANK AN ALARM SHALL BE SENT TO THE BAS SYSTEM INDICATING DIRTY FILTER STATUS. COORDINATE ALARM SETPOINTS WITH OWNER AND FILTER MANUFACTURER.

TYPICAL VARIABLE VOLUME SUPPLY TERMINAL UNITS
1. EQUIPMENT OVERVIEW
1.1. THE VARIABLE VOLUME TERMINAL UNIT IS CONTROLLED INDEPENDENT OF SYSTEM PRESSURE FLUCTUATIONS BY AN APPLICATION SPECIFIC DDC CONTROLLER USING ELECTRIC ACTUATION. THE SPACE SERVED BY THE TERMINAL UNIT IS IN OCCUPIED AND UNOCCUPIED MODES CONTROLLED AS FOLLOWS:
2. OPERATING MODES
2.1. OCCUPIED
2.1.1. THE TERMINAL UNIT AIRFLOW IS CONTROLLED WITHIN THE SCHEDULED MINIMUM AND MAXIMUM SUPPLY AIR VOLUME SETTINGS. THE DDC CONTROLLER MEASURES THE SUPPLY AIRFLOW THROUGH THE TERMINAL UNIT. AS THE AIRFLOW DECREASES BELOW SETPOINT THE TERMINAL UNIT DAMPER MODULATES OPEN TO INCREASE AIRFLOW. AS THE AIRFLOW INCREASES ABOVE SETPOINT THE TERMINAL UNIT DAMPER MODULATES CLOSED TO DECREASE AIRFLOW.
2.1.2. COOLING MODE
2.1.2.1. THE CONTROLLER MONITORS THE ROOM TEMPERATURE SENSOR AND AIR VELOCITY SENSOR AND MODULATES THE TERMINAL UNIT DAMPER TO THE SCHEDULED MINIMUM AIRFLOW TO MAINTAIN THE OCCUPIED COOLING SETPOINT. AS THE ROOM TEMPERATURE INCREASES ABOVE SETPOINT THE DDC CONTROLLER COOLING SIGNAL INCREASES AND THE AIR VOLUME SETPOINT INCREASES TO THE SCHEDULED MAXIMUM AIRFLOW SETPOINT. AS THE CALL FOR COOLING DECREASES THE AIR VOLUME SETPOINT DECREASES TO THE SCHEDULED MINIMUM AIRFLOW SETPOINT.
2.1.3. HEATING MODE
2.1.3.1. THE CONTROLLER MONITORS THE ROOM TEMPERATURE SENSOR AND AIR VELOCITY SENSOR AND MODULATES THE TERMINAL UNIT DAMPER TO THE SCHEDULED MINIMUM AIRFLOW TO MAINTAIN THE OCCUPIED HEATING SETPOINT. AS THE ROOM TEMPERATURE DECEASES BELOW SETPOINT THE DDC CONTROLLER HEATING SIGNAL INCREASES AND THE REHEAT CONTROL VALVE MODULATES OPEN TO MAINTAIN THE ROOM TEMPERATURE AT SETPOINT. AS THE CALL FOR HEATING DECREASES THE REHEAT CONTROL VALVE MODULATES CLOSED TO MAINTAIN THE ROOM TEMPERATURE AT SETPOINT.
2.2. UNOCCUPIED
2.2.1. THE CONTROLLER SHALL CLOSE THE TERMINAL UNIT DAMPER TO THE TERMINAL UNIT. THE DDC CONTROLLER SHALL MONITOR THE ROOM TEMPERATURE SENSOR AND SHALL BE CONTROLLED IN EITHER COOLING OR HEATING MODES TO MAINTAIN THE SPACE AT THE UNOCCUPIED COOLING AND HEATING SETPOINTS, PROVIDE MORNING WARMUP, COOLDOWN AND VENTILATION PURGE SEQUENCES PRIOR TO THE SCHEDULED OCCUPIED START TIMES.
3. OPERATING SETPOINTS
3.1. ROOM SENSOR SETPOINT SHALL HAVE DEADBAND CONTROL BETWEEN HEATING AND COOLING SETPOINTS WHICH VARIES BY ROOM TYPE TO MEET BOTH WASHINGTON ENERGY CODE AND FGI GUIDELINES FOR TEMPERATURE CONTROL ACCORDING TO THE FOLLOWING SCHEDULE:

	TYPE	DEADBAND
3.1.1.1.	PATIENT ROOM	1 DEG F
3.1.1.2.	CSECTION	1 DEG F
3.1.1.3.	TREATMENT ROOM	1 DEG F
3.1.1.4.	CATH LAB	1 DEG F
3.1.1.5.	EXAM ROOM	1 DEG F
3.1.1.6.	LDR,LDRP ROOM	1 DEG F
3.1.1.7.	ICU	1 DEG F
3.1.1.8.	NURSERY	1 DEG F
3.1.1.9.	ALL OTHER ROOMS	5 DEG F

4. SAFETIES AND ALARMS
4.1. DDC SYSTEM SHALL ALARM IF SPACE TEMPERATURE IS ABOVE THE COOLING SETPOINT BY MORE THAN 5 DEG F FOR MORE THAN 10 MINUTES. DDC SYSTEM SHALL ALARM IF SPACE TEMPERATURE IS BELOW THE HEATING SETPOINT BY MORE THAN 5 DEG F FOR MORE THAN 10 MINUTES.
4.2. DDC SYSTEM SHALL ALARM IF THE TERMINAL UNIT DAMPER IS OPEN 100% AND THE CONTROLLER SENSES AIRFLOW BELOW 20% AIRFLOW SETPOINT FOR MORE THAN 5 MINUTES.
4.3. DDC SYSTEM MONITORS THE TERMINAL UNIT SUPPLY AIR TEMPERATURE TO SPACE. DDC SYSTEM SHALL ALARM IF REHEAT COIL VALVE IS OPEN 100% AND THE SUPPLY AIR TEMPERATURE IS BELOW THE ALARM SETPOINT (65 DEG F INITIALLY, ADJUSTABLE) FOR MORE THAN 5 MINUTES. ROOM TEMPERATURE SENSOR SETPOINT SHALL BE ADJUSTABLE.
4.4. ROOM TEMPERATURE SENSOR SHALL HAVE AN OCCUPANCY OVERRIDE BUTTON TO ENABLE THE TERMINAL UNIT TO BE SET TO THE OCCUPIED MODE FOR A SET PERIOD OF TIME (2 HOURS INITIALLY, ADJUSTABLE) BY THE USER.
4.5. ALL ALARM SETPOINTS AND ALARM TIMERS SHALL BE ADJUSTABLE THROUGH THE BAS GRAPHICAL USER INTERFACE.

ROOM PRESSUIZATION CONTROL
1. ROOM PRESSURIZATION CONTROL AND MONITORING
1.1. IN ADDITION TO TEMPERATURE CONTROL AND MONITORING AS DESCRIBED ABOVE, ROOMS REQUIRING PRESSURIZATION SHALL HAVE PRESSURE CONTROL AND ROOM PRESSURE MONITORING.
2. ROOM OPERATION
2.1. POSITIVE PRESSURE OPERATING ROOM
2.1.1. SPACE PRESSURIZATION SHALL BE MONITORED WITH A DPS RELATIVE TO ADJACENT CORRIDOR. THE AHU MODULATES PRIMARY AIR TO MAINTAIN REQUIRED MINIMUM POSITIVE SPACE PRESSURIZATION (0.02 IN. WG) TO EACH OF THE TWO SPACES.
2.1.2. DIGITAL INTERFACE ROOM PRESSURE MONITOR SHALL BE LOCATED IN CORRIDOR AND DISPLAY ROOM TEMPERATURE AND HUMIDITY, PRESSURE DIFFERENTIAL (+ OR - 0.001 IN WG) AND HAVE RED FLASHING AND GREEN CONTINUOUS INDICATING LIGHTS TYPICAL TO CORRIDOR.

Authorized to Begin Construction
WA ST Department of Health - Construction Review Services has authorized this project to begin construction.
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03/08/2023 8:24:59 PM
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PERMIT SET
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REVISIONS

73-19057-00

CONTROLS - SEQUENCE OF OPERATIONS

M4.01

BIM 360://73-19057-A0 MultiCare Good Sam Hybrid OR/MultiCare Good Sam Hybrid OR-MEADOWS_MAZ.rvt
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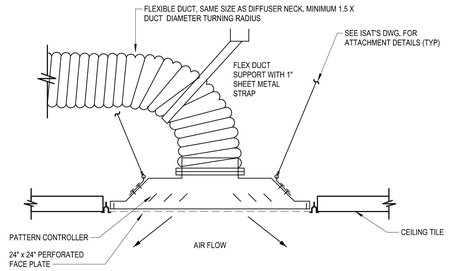
•Separate electrical permit is required with Washington State Department of Labor & Industries.

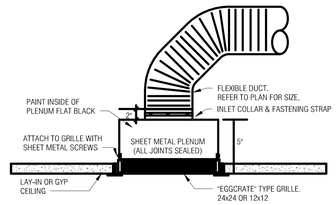
https://lni.wa.gov/licensing-permits/electrical/electrical-permits-fees-and-inspections or Licensing information: Call 1-800-647-0982



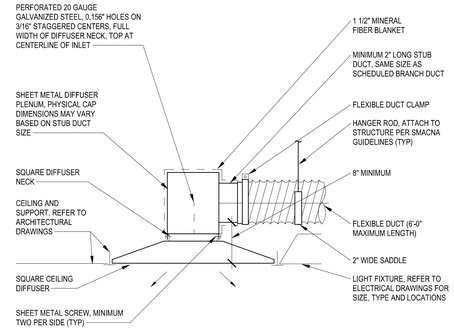
NOTES:

1. DIFFUSER FLANGE TO MATCH CEILING MFR'S. REQUIREMENTS.
2. THIS DETAIL ONLY APPLIES TO LOCATIONS WHERE 1.5 TIMES DUCT DIAMETER MIN. TURNING RADIUS CAN BE USED. FOR TIGHT CEILING CONDITIONS, USE DIFFUSER W/ PLENUM DETAIL.

1 M5.00 LAY-IN CEILING DIFFUSER
NOT TO SCALE



2 M5.00 RETURN/EXHAUST GRILLE CONNECTION
12" = 1'-0"



NOTE:
LAY-IN CEILING INDICATED, REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPE. DIFFUSER BORDER STYLE TO BE COMPATABLE WITH ADJACENT CEILING.

3 M5.00 DIFFUSER - CEILING SQUARE
NOT TO SCALE

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- See accompanying project comment form for review status and corrections.
- This is not a building permit, check with your local building department.

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PRCTI20221788

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Project Number: 206-002

Good Samaritan
A ministry of MultiCare Health System

HYBRID OR #1
MULTICARE GOOD SAMARITAN HOSPITAL
401 15TH AVE SE, PUYALLUP, WA 98372

PERMIT SET
11/11/2022
REVISIONS

73-19057-00

MECHANICAL DETAILS

M5.00

ELECTRICAL SYMBOL SCHEDULE

DESIGNATION SYMBOLS

1	KEY NOTE TAG
A / E1,1	DETAIL REFERENCE BUBBLE DETAIL NUMBER SHEET BEARING DETAIL
EF / 1	EQUIPMENT TAG

CONDUIT SYMBOLS

	CONDUIT INSTALLED CONCEALED ABOVE CEILINGS, IN WALLS IN FINISHED AREAS, OR EXPOSED IN UNFINISHED AREAS
	CONDUIT INSTALLED BELOW FINISHED FLOOR OR BELOW GRADE
	CONDUIT TURNING UP
	CONDUIT TURNING DOWN
	CONDUIT STUBBED OUT WITH BUSHING
	CONDUIT STUBBED OUT AND CAPPED
	FLEXIBLE CONDUIT WITH SINGLE POINT OF CONNECTION AT ELECTRICAL EQUIPMENT
G	GROUNDING CONDUCTOR
	CONDUIT HOMERUN; ROUTE TO PANELBOARD, CABINET, OR TERMINAL BOARD INDICATED, AND TERMINATE CONDUCTORS TO CIRCUIT OVER CURRENT PROTECTIVE DEVICE

APPLICABLE CODES

MODIFY FOR SPECIFIC PROJECT

17 NFPA 70, NATIONAL ELECTRICAL CODE (NEC)
18 NFPA 99, HEALTH CARE FACILITIES CODE
18 NFPA 101, LIFE SAFETY CODE
19 NFPA 110, STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS
18 I-CODES (INTERNATIONAL CODES)
CAL CITY AND STATE AMENDMENTS

SINGLE LINE SYMBOLS

	MOTOR
30A 3P 25A	FUSED DISCONNECT SWITCH SWITCH XX/XX/XX = AMP SWITCH/POLES/AMP FUSE
30A 3P	HEAVY DUTY NON-FUSED DISCONNECT SWITCH SWITCH XX/XX = AMP SWITCH/POLES
	MOTOR STARTER
J	COMBINATION MOTOR STARTER
VFD	VARIABLE FREQUENCY DRIVE
	AUTOMATIC TRANSFER SWITCH
	AUTOMATIC TRANSFER SWITCH WITH BY-PASS SWITCH
T	UTILITY TRANSFORMER
	TRANSFORMER
PANEL '1NL1' 225A MCB	PANELBOARD
G	GENERATOR
	STATIONARY CIRCUIT BREAKER; RATING AS SHOWN ON PLANS
	DRAWOUT CIRCUIT BREAKER; RATING AS SHOWN ON PLANS
	SWITCH AND FUSE; RATING AS SHOWN ON PLANS
	SWITCH AND FUSE; RATING AS SHOWN ON PLANS
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
M	INLINE METER
M	METER AND CTS
	GROUND
	BUS DUCT

SINGLE LINE DIAGRAM LEGEND

	(E) - EXISTING TO REMAIN
	(D) - DEMOLITION WORK
	(N) - NEW WORK
	(F) FUTURE WORK
100NG	FEEDER TAG

ELECTRICAL DRAWING INDEX

POWER PLAN SYMBOLS

J	JUNCTION BOX
	PUSH BUTTON STATION
T	TRANSFORMER
P	PUSH PLATE (FOR AUTOMATIC DOOR)
PB	PUSH BUTTON (FOR AUTOMATIC DOOR)
	277/480 SURFACE MOUNTED PANELBOARD
	277/480 FLUSH MOUNTED PANELBOARD
	120/208 SURFACE MOUNTED PANELBOARD
	120/208 FLUSH MOUNTED PANELBOARD

WIRING DEVICE SYMBOLS

	120V, SINGLE RECEPTACLE OUTLET
	120V, SPECIAL MOUNTING HEIGHT SINGLE RECEPTACLE OUTLET
	120V, DUPLEX RECEPTACLE OUTLET
	120V, SPECIAL MOUNTING HEIGHT DUPLEX RECEPTACLE OUTLET
	120V, CONTROLLED DUPLEX RECEPTACLE OUTLET
	120V, 5MA GFCI DUPLEX RECEPTACLE OUTLET
	120V, SPECIAL MOUNTING HEIGHT 5MA GFCI DUPLEX RECEPTACLE OUTLET
	120V, CONTROLLED 5MA GFCI DUPLEX RECEPTACLE OUTLET
	120V, DOUBLE DUPLEX RECEPTACLE OUTLET
	120V, SPECIAL MOUNTING HEIGHT DOUBLE DUPLEX RECEPTACLE OUTLET
	120V, CONTROLLED DOUBLE DUPLEX RECEPTACLE OUTLET
	120V, 5MA GFCI DOUBLE DUPLEX RECEPTACLE OUTLET
	120V, SPECIAL MOUNTING HEIGHT 5MA GFCI DOUBLE DUPLEX RECEPTACLE
	120V, CONTROLLED 5MA GFCI DOUBLE DUPLEX RECEPTACLE
	SPECIAL PURPOSE RECEPTACLE, VOLTAGE AND NEMA AS NOTED
	WALL MOUNTED EQUIPMENT CONNECTION
	EQUIPMENT CONNECTION
	POKE THROUGH; SEE SPECIFICATIONS
	120V, DUPLEX RECEPTACLE OUTLET, FLOOR/ CEILING MOUNTED
	120V, DOUBLE DUPLEX RECEPTACLE OUTLET, FLOOR/ CEILING MOUNTED
	POWER POLE CONNECTION TO MODULAR FURNITURE
	SURFACE RACEWAY - TYPE, OUTLETS, SPACING AND FINISH AS NOTED

WIRING DEVICE DESIGNATIONS

22 — CIRCUIT NUMBER (WHERE SHOWN)
CR

- CR - CRITICAL BRANCH RECEPTACLE
- EQ - EQUIPMENT SYSTEM RECEPTACLE
- LS - LIFE SAFETY BRANCH RECEPTACLE
- M - FOR MONITORING EQUIPMENT
- IG - ISOLATED GROUND RECEPTACLE
- T - TAMPER RESISTANT RECEPTACLE
- TV - TELEVISION RECEPTACLE
- WP - WEATHERPROOF, IN-SERVICE TYPE COVER
- USB - USB RECEPTACLE

SECURITY SYMBOLS

CR	CARD READER. PROVIDE BOX AND RACEWAY TO ACCESSIBLE CEILING SPACE.
IC	INTERCOM. PROVIDE BOX AND RACEWAY TO ACCESSIBLE CEILING SPACE.
CAM1	CCTV. PROVIDE BOX AND RACEWAY TO ACCESSIBLE CEILING SPACE.

NURSE CALL SYMBOLS

CB — HEXAGON SYMBOL - WALL MOUNT DEVICE
- CB - CODE BLUE STATION
- SA - STAFF ASSIST STATION

D — DIAMOND SYMBOL - CEILING MOUNT DEVICE
- D - DOME LIGHT

NM — RECTANGLE SYMBOL - NURSE CALL EQUIPMENT REQUIRING 120V POWER
- NM - NURSE CALL MASTER STATION

NOTES:
A. PROVIDE PROVISIONS ONLY (BACKBOX, CONDUIT AND PULLSTRING TO ACCESSIBLE CEILING), COORDINATE WITH NURSE CALL VENDOR.
B. COORDINATE EXACT LOCATIONS AND FINAL MOUNTING HEIGHTS OF ALL NURSE CALL DEVICES WITH ARCHITECTURAL ELEVATIONS.

LUMINAIRE SYMBOLS

	RECESSED DOWNLIGHT
	RECESSED ADJUSTABLE DOWNLIGHT
	SURFACE DOWNLIGHT
	SURFACE ADJUSTABLE DOWNLIGHT
	RECESSED TROFFER
	SURFACE TROFFER
H	WALL MOUNT
	SURFACE LINEAR
	SURFACE STRIP
	CONCEALED LED STRIP / TAPE
	EXIT SIGN CEILING MOUNT - ARROW AND FACES AS SHOWN ON PLANS
	EXIT SIGN WALL MOUNT - ARROW AND FACES AS SHOWN ON PLANS
L	WALL MOUNTED EXIT SIGN LOW LEVEL

LIFE SAFETY & CRITICAL SYMBOLS

	LIFE SAFETY AND CRITICAL SURFACE STRIP
	LIFE SAFETY AND CRITICAL RECESSED
	LIFE SAFETY AND CRITICAL SURFACE
	LIFE SAFETY AND CRITICAL PENDANT

REFER TO LUMINAIRE DESIGNATIONS FOR FURTHER BRANCH DIFFERENTIATION.

LUMINAIRE DESIGNATIONS

R1
L1-2,a
CR

- E - EXTERIOR
- P - PENDANT
- R - RECESSED (CEILING OR WALL)
- S - SURFACE MOUNTED (CEILING OR WALL)
- T - TRACK
- U - UNDERCABINET
- W - WALL MOUNTED
- X - EXIT / EMERGENCY
- O - OWNER PROVIDED, CONTRACTOR INSTALLED

PANEL NAME - CIRCUIT, SWITCH LEG OR CONTROL ZONE (WHERE SHOWN)

BLANK - NORMAL
CR - CRITICAL
LS - LIFE SAFETY
EM - EMERGENCY

LIGHTING CONTROL SYMBOLS

a
Sos — a - SWITCH LEG(S)

BLANK - SINGLE POLE SWITCH
2 - DOUBLE POLE SINGLE THROW
3 - 3 WAY SWITCH
4 - 4 WAY SWITCH
D - DIMMER
D3 - DIMMER, 3 WAY
DOS - DIMMER OCCUPANCY SENSOR SWITCH
K - KEY OPERATED
LV - LOW VOLTAGE
OS - OCCUPANCY SENSOR SWITCH

OS1
a
z# — # - DEVICE NUMBER
a,b - SWITCH LEG(S)
z# - CONTROL ZONE(S)

CS - CONTROL STATION
OS - OCCUPANCY SENSOR
TS - TOUCH SCREEN

WITH STEM - WALL MOUNT
WITHOUT STEM - CEILING MOUNT

NOTES:
A. SWITCH LEG DESIGNATION USED FOR ROOM WITH STANDALONE LIGHTING CONTROLS.
B. CONTROL ZONE DESIGNATION USED FOR LIGHTING CONTROL ZONES PART OF PROGRAMMABLE LIGHTING CONTROL PANEL.

FIRE ALARM SYMBOLS

F	FIRE ALARM MANUAL PULL STATION
	FIRE ALARM DOOR HOLDER
H	AUDIBLE FIRE ALARM, (H=HIGH LEVEL), CHIME OR SPEAKER, SEE SPECIFICATIONS
CD	VISUAL FIRE ALARM, (CD=CANDELLA)
	VISUAL FIRE ALARM, WALL MOUNTED
H CD	AUDIBLE/VISUAL COMBO FIRE ALARM, (H=HIGH LEVEL, CD=CANDELLA) CHIME OR SPEAKER, SEE SPECIFICATIONS
	AUDIBLE/VISUAL COMBO FIRE ALARM, CEILING MOUNTED
RTS	REMOTE TEST SWITCH AND INDICATOR
	FIRE ALARM HEAT DETECTOR (1)
	FIRE ALARM SMOKE DETECTOR (2)
	FIRE ALARM DUCT DETECTOR
	FIRE ALARM FIRE/SMOKE DAMPER
	FIREMEN PHONE / RESCUE ASSISTANCE (3)
AIM	FIRE ALARM ADDRESSABLE INPUT MODULE
AOM	FIRE ALARM ADDRESSABLE OUTPUT MODULE
SOV	FIRE ALARM SOLENOID VALVE
WF	FIRE SPRINKLER WATER FLOW SWITCH
VS	FIRE SPRINKLER VALVE TAMPER SWITCH
MIC	FIRE ALARM VOICE EVACUATION MICROPHONE
FAA	FIRE ALARM ANNUNCIATOR
FACP	FIRE ALARM CONTROL PANEL
FATC	FIRE ALARM TERMINAL CABINET
FARA	FIRE ALARM REMOTE ANNUNICATOR PANEL
FCIP	FIRE ALARM CONTROL AND INDICATING PANEL
FPRP	FIRE ALARM PUMP STATUS PANEL
FTS	FIRE ALARM TELEPHONE CABINET
GRP	FIRE ALARM GENERATOR STATUS
VCS	FIRE ALARM VOICE COMMUNICATION CABINET

FIRE ALARM KEYED NOTES

1. THE FOLLOWING NOTATIONS MAY BE USED WITH A HEAT DETECTOR TO FURTHER DEFINE THE SYMBOL:
   - F = FIXED
   - R = RATE OF RISE
   - F/R = COMBO FIXED/RATE OF RISE
2. THE FOLLOWING NOTATIONS MAY BE USED WITH SMOKE DETECTOR TO FURTHER DEFINE THE SYMBOL:
   - P = PHOTOELECTRIC
   - I = IONIZATION
   - PI = COMBINATION PHOTOELECTRIC/IONIZATION
   - BT = BEAM TRANSMITTER
   - BR = BEAM RECEIVER
   - S = SOUNDER BASE
   - R = RELAY BASE
   - E = ELEVATOR
3. THE FOLLOWING NOTATIONS MAY BE USED WITH FIREMAN/RESCUE PHONE TO FURTHER DEFINE THE SYMBOL:
   - J = FIREMEN PHONE JACK
   - H = FIREMEN PHONE HANDSET
   - RA = RESCUE ASSISTANCE HANDSET

FIRE ALARM GENERAL NOTES

A. PROVIDE A COMPLETE DESIGN/BUILD FIRE ALARM PACKAGE IN ACCORDANCE WITH ALL CODES, REGULATIONS AND LOCAL AHJ.
B. AT SUCH TIME THAT A PHYSICAL CONNECTION IS MADE BETWEEN EXISTING AND NEW CONSTRUCTION WHEREBY THE NEW CONSTRUCTION BECOMES PART OF THE EXISTING BUILDING OR WHEN THE FIRE SEPARATION BETWEEN EXISTING AND NEW CONSTRUCTION IS REMOVED, PROVIDE A TEMPORARY FIRE ALARM SYSTEM SIMILAR TO THAT DESCRIBED ABOVE INCLUDING PULL STATIONS, NOTIFICATION DEVICES, HEAT DETECTORS, MONITOR MODULES AND POWER SUPPLIES. TEMPORARY FIRE ALARM PROVISIONS SHALL BE MONITORED BY THE EXISTING FIRE ALARM SYSTEM. MAINTAIN TEMPORARY SYSTEMS IN OPERATION UNTIL PERMANENT FIRE ALARM EQUIPMENT IS INSTALLED, CONNECTED TO THE EXISTING SYSTEM, AND PLACED INTO OPERATION.
C. FIRE ALARM CONDUCTORS AND CABLES SHALL BE ENCLOSED IN METAL CONDUIT. FIRE ALARM CONDUIT SHALL BE IDENTIFIED BY RED PAINT.
D. AUDIBLE NOTIFICATION APPLIANCES SHALL GENERATE PRIVATE MODE SOUND PRESSURE LEVELS UNLESS OTHERWISE NOTED.
E. REFER TO MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR DUCT DETECTORS, SMOKE DAMPERS, TAMPER SWITCHES, FLOW SWITCHES, PRE-ACTION OR DRY-TYPE SPRINKLER SYSTEMS REQUIRED TO BE MONITORED OR CONTROLLED BY THE FIRE ALARM SYSTEM.
F. PROVIDE DUCT-MOUNTED SMOKE DETECTORS AS INDICATED ON THE MECHANICAL DOCUMENTS. PROVIDE CEILING MOUNTED REMOTE INDICATOR AT EACH DUCT DETECTOR.
G. SMOKE DAMPERS IN CORRIDOR WALLS SHALL CLOSE UPON SIGNAL FROM CORRIDOR SMOKE DETECTORS IN ACCORDANCE WITH IBC 715.3.2.1, METHOD 4. SMOKE DAMPERS IN NON-CORRIDOR WALLS SHALL CLOSE UPON SIGNAL FROM DUCT MOUNTED SMOKE DETECTORS IN ACCORDANCE WITH IBC 715.3.2.1 METHOD 1. SEE MECHANICAL DOCUMENTS FOR LOCATIONS OF DAMPERS AND DUCT MOUNTED SMOKE DETECTORS.
H. PROVIDE FIRE ALARM CONNECTIONS TO HVAC SYSTEM CONTROLS AND DEVICES FOR PROPER OPERATION, INCLUDING SHUTDOWN. SEE MECHANICAL DOCUMENTS FOR QUANTITIES, LOCATIONS, AND ADDITIONAL REQUIREMENTS. UPON DETECTION OF FIRE IN ANY AREA OF THE BUILDING (SMOKE, HEAT, OR SPRINKLER FLOW) THE FIRE ALARM SYSTEM SHALL CAUSE THE AIR HANDLER OR AIR HANDLERS SERVING THE SMOKE COMPARTMENT WHERE THE ALARM INITIATED TO SHUTDOWN. THE EXHAUST FANS ASSOCIATED WITH THAT SMOKE COMPARTMENT TO SHUT DOWN, AND ALL SMOKE DAMPERS ASSOCIATED WITH THOSE FANS TO CLOSE. REFER TO ARCHITECTURAL PLANS FOR THE BOUNDARIES OF SMOKE COMPARTMENTS, AND REFER TO MECHANICAL DUCT PLANS FOR WHICH FANS SERVE EACH SPACE. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR THE SEQUENCE OF OPERATION OF THE FIRE ALARM SYSTEM.
I. FIRE ALARM CONTROL AND MONITORING, INCLUDING AIR HANDLER SHUTDOWN AND DAMPER CLOSURE SHALL BE ACCOMPLISHED USING SUPERVISED FIRE ALARM WIRING TO WITHIN THREE FEET OF THE DEVICE BEING CONTROLLED OR MONITORED. FOR THE PURPOSE OF THIS MEASUREMENT ON AIR HANDLERS, THE MOTOR STARTER OR VFD IS THE DEVICE BEING CONTROLLED. FOR THE PURPOSE OF THIS MEASUREMENT ON DAMPERS, THE DAMPER POWER CIRCUIT IS THE DEVICE BEING CONTROLLED, PROVIDED THE DAMPERS ARE SELF CLOSING AND HELD OPEN ELECTRICALLY. CONTROL SIGNALS SHALL ALSO BE SENT TO THE BUILDING CONTROL SYSTEM (BAS), BUT THIS DOES NOT SATISFY THE REQUIREMENT FOR SUPERVISED FIRE ALARM CONTROL OF THE DEVICES.
J. PROVIDE FIRE ALARM SYSTEM CONNECTION TO SECURITY LOCK SYSTEMS TO UNLOCK EGRESS DOORS UNDER ALARM CONDITIONS.
K. VISUAL NOTIFICATION DEVICE MOUNTING HEIGHT SHALL BE TO CENTER OF LAMP.
L. COORDINATE LOCATIONS OF CEILING MOUNTED SMOKE DETECTORS WITH MECHANICAL SYSTEMS. DETECTORS SHALL NOT BE IN DIRECT AIR FLOW OR WITHIN 3 FEET OF SUPPLY DIFFUSERS.
M. PROVIDE FIRE ALARM CONNECTIONS TO AUTOMATIC OPERATED DOORS TO DISABLE AUTO DOOR OPENING UNDER ALARM CONDITIONS, EXCEPT FOR MAIN VESTIBULE DOORS OR UNLESS OTHERWISE NOTED.

ABBREVIATIONS

A, AMP	AMPERE	IG	ISOLATED GROUND,
AC	ALTERNATING CURRENT	HOA	HAND - OFF - AUTO
ACT	ABOVE COUNTER TOP	HP	HORSEPOWER
AIC	AMPERE INTERRUPTING CAPACITY	HPF	HIGH POWER FACTOR
AFF	ABOVE FINISHED FLOOR	LED	LIGHT EMITTING DIODE
AFG	ABOVE FINISHED GRADE	LLF	LIGHT LOSS FACTOR
ATS	AUTOMATIC TRANSFER SWITCH	LRC	LIGHTING RELAY CABINET
AF	FRAME RATING IN AMPERES	MCB	MAIN CIRCUIT BREAKER
AS	SWITCH RATING IN AMPERES	MLO	MAIN LUGS ONLY
AT	TRIP RATING IN AMPERES	MCA	MINIMUN CIRCUIT AMPS
AWG	AMERICAN WIRE GAUGE	MOCP	MAXIMUM OVER CURRENT PROTECTION
AV	AUDIO VISUAL	(N)	NEW
C	CONDUIT	N	NEUTRAL
CFOI	CONTRACTOR FURNISHED OWNER INSTALLED	NC	NORMALLY CLOSED
CKT	CIRCUIT	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
CLG	CEILING	NL	NIGHT LIGHT
CL	CONNECTED LOAD	NO	NORMALLY OPEN
CCT	CORRELATED COLOR TEMPERATURE	NTS	NOT TO SCALE
CRI	COLOR RENDERING INDEX	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
(D)	DEMOLISH EXISTING	OC	OVER CURRENT
DF	DEMAND FACTOR	PB	PULL BOX
DL	DESIGN LOAD	Ø PH	PHASE
DC	DIRECT CURRENT	PNL	PANEL
DPDT	DOUBLE POLE, DOUBLE THROW	PVC	POLYVINYL CHLORIDE CONDUIT
DPST	DOUBLE POLE SINGLE THROW	P	POLE
DIST	DISTRIBUTION	PWR	POWER
(E)	EXISTING TO REMAIN	(R)	RELOCATE EXISTING
EC	EMPTY CONDUIT	RCP	REFLECTED CEILING PLAN
ELEC	ELECTRICAL	RSC	RIGID STEEL CONDUIT
ELEV	ELEVATOR	SPDT	SINGLE POLE, DOUBLE THROW
E, EM	EMERGENCY	SPST	SINGLE POLE, SINGLE THROW
EMT	ELECTRO METALLIC TUBING	SWBD	SWITCHBOARD
EMS	EMERGENCY MANAGEMENT SYSTEM	SWGR	SWITCH GEAR
FA	FIRE ALARM	TB, TTB	TERMINAL BACKBOARD
FSD	FIRE SMOKE DAMPER	TC	TERMINAL CABINET
FVNR	FULL-VOLTAGE, NON-REVERSING	TEL	TELEPHONE
FVR	FULL-VOLTAGE, REVERSING	V	VOLT
FLA	FULL LOAD AMPS (NAME PLATE)	VD	VOLTAGE DROP
FLC	FULL LOAD CURRENT (NEC)	VFD	VARIABLE FREQUENCY DRIVE
(F)	FUTURE	VA	VOLT AMPERES
GFCI	GROUND FAULT CIRCUIT INTERRUPTING	W	WATT
G, GND	GROUND	W	WIRE
GEN	GENERATOR	XFMR	TRANSFORMER

ELECTRICAL GENERAL NOTES

A. ALL ELECTRICAL WORK SHALL COMPY WITH THE CURRENT APPROVED EDITION OF THE NATIONAL ELECTRICAL CODE, AS ACCEPTED AND AMENDED BY LOCAL ORDINANCES.
B. WHERE GROUNDED CONDUCTORS OF DIFFERENT SYSTEMS ARE INSTALLED IN THE SAME RACEWAY, CABLE, BOX, AUXILIARY GUTTER, OR OTHER TYPE OF ENCLOSURE, EACH GROUNDED CONDUCTOR SHALL BE IDENTIFIED BY SYSTEM PER NEC ARTICLE 200.6 (D). MEANS OF IDENTIFICATION SHALL BE PERMANENTLY POSTED AT EACH BRANCH CIRCUIT PANELBOARD.
C. PER NEC ART 210.5 (C), UNDERGROUNDED CONDUCTORS OF MORE THAN ONE NOMINAL VOLTAGE SYSTEM SHALL BE IDENTIFIED BY SYSTEM. PROVIDE MEANS OF IDENTIFICATION AS REQUIRED PER THIS ARTICLE.
D. PER NEC ART 215.12, FEEDER IDENTIFICAITON IS REQUIRED WHEN MORE THAN ONE NOMINAL VOLTAGE SYSTEM EXISTS. PROVIDE MEANS OF IDENTIFICATION AS REQUIRED PER THIS ARTICLE.
E. VERIFY FINAL PLACEMENT AND CONNECTION REQUIREMENTS PRIOR TO ROUGHING IN EQUIPMENT UTILITIES.
F. FINAL ACCEPTANCE OF WORK IN PLACE SHALL BE SUBJECT TO APPROVAL BY OWNER'S REPRESENTATIVE. INSTALLATION APPROVAL SHALL BE BASED ON APPROVED SUBMITTAL SHOP DRAWINGS AND LOCAL INSPECTIONS.
G. SUBMIT RED-LINE RECORD DRAWINGS WITHIN TWO (2) WORK WEEKS OF DATE OF NOTIFICATION OF FINAL APPROVAL.
H. ALL WORK SHOWN ON DRAWINGS IS IN PART SCHEMATIC, INTENDED TO CONVEY SCOPE OF WORK AND GENERAL LAYOUT. VERIFY ALL EXISTING CONDITIONS AND MAKE ADJUSTMENTS AS REQUIRED. ELECTRICAL DRAWINGS ARE LARGELY DIAGRAMMATIC AND, THEREFORE, REPRESENT INSTALLATION INTENT AND GUIDELINES; IT IS THE CONTRACTOR'S RESPONSIBILITY TO COVER ALL CONDITIONS ON THEIR PREPARED SHOP DRAWINGS.
I. PROVIDE UP-TO-DATE, ACCURATE, AND LEGIBLE CIRCUIT DIRECTORY WHICH APPLIES TO PANELBOARDS AND SWITCHBOARDS AS REQUIRED BY NEC ART. 408.4 DIRECTORY SHALL BE LOCATED ON THE FACE OR ON THE DOOR OF EACH PANELBOARD OR AT EACH SWITCH ON A SWITCHBOARD. WITHIN EACH PANELBOARD PRIOR TO FINAL ACCEPTANCE OF WORK IN PLACE.
J. LABEL ALL WIRING DEVICES WITH SOURCE PANELBOARD AND CIRCUIT NUMBER ON COVER PLATE. SEE SPECIFICATIONS.
K. LABEL ALL NEW PANELBOARDS, SWITCHBOARDS AND MOTOR CONTROL CENTERS WITH ENGRAVED LAMINATED-PLASTIC NAMEPLATES MOUNTED WITH CORROSION-RESISTANT SCREWS. SEE SPECIFICATIONS.
L. ALL INTERIOR OUTLET, JUNCTION AND PULL BOXES SHALL BE METALLIC, SIZED PER CODE FOR THE NUMBER OF CONDUCTORS THEREIN.
M. ALL ELECTRICAL RACEWAYS SHALL BE CONCEALED IN THE WALLS AND ABOVE SUSPENDED CEILING UNLESS OTHERWISE NOTED.
N. ALL CONDUCTORS SHALL BE #12 AWG MINIMUM TYPE THHN/THWN UNLESS OTHERWISE NOTED.
O. ALL CEILING MOUNTED ELECTRICAL DEVICES SHALL BE SUPPORTED FROM THE CEILING GRID, NOT FROM CEILING TILE. LIGHTING SHALL BE SUPPORTED FROM STRUCTURE ABOVE.
P. ELECTRICAL PLANS ARE MOSTLY DIAGRAMMATIC. CONTRACTOR SHALL PROVIDE CONNECTIONS BETWEEN FIXTURES AND LIGHTING CONTROL DEVICES SUCH AS OCCUPANCY SENSORS, LIGHT SWITCHES, AND LIGHTING CONTROL PANEL TO PROVIDE AN OPERABLE LIGHTING SYSTEM.
Q. IN THE EVENT OF ANY INCONSISTENCY BETWEEN ITEMS INDICATED ON THE PLANS AND/OR THE SPECIFICATIONS, THE ONE WHICH PROVIDED THE MOST COMPLETE WORK OR HIGHER STANDARD SHALL PREVAIL.
R. SUPPLY AND INSTALL ALL REQUIRED SUPPORTS AND BRACING OF EQUIPMENT AND CONDUITS FOR PROPER EQUIPMENT INSTALLATIONS AND CODE COMPLIANCE.
S. ALL EXPOSED CONDUITS SHALL BE INSTALLED AT RIGHT ANGLE TO ROOM OR STRUCTURE. EXPOSED CONDUITS SHALL BE SUPPORTED FROM BUILDING STRUCTURE USING APPROVED PIPE HANGERS.
T. ALL CONDUITS SHALL BE SIZED AS PER NEC UNLESS LARGER SIZES ARE NOTED ON THE DRAWINGS.
U. ALL CUTTING, PATCHING AND PAINTING REQUIRED FOR THE CONCEALED INSTALLATION OF CONDUITS SHALL BE PROVIDED BY THE CONTRACTOR. DO NOT CUT OR DRILL STRUCTURAL MEMBERS WITHOUT WRITTEN APPROVAL FROM STRUCTURAL ENGINEER. ALL CUTTING AND PATCHING SHALL BE NEAT, AND PATCHING SHALL MATCH ADJACENT SURFACE AS TO TEXTURE AND FINISH.
V. ALL PENETRATIONS THROUGH FIRE RATED WALLS, FLOORS OR CEILINGS SHALL BE SEALED IN ACCORDANCE WITH A UL APPROVED SYSTEM THAT MAINTAINS THE INTEGRITY OF THE EXISTING FIRE RATING. PROVIDE AN ENCLOSURE OF EQUAL FIRE RESISTANT RATING AROUND ALL FIXTURES AND EQUIPMENT INSTALLED IN OR PENETRATING FIRE RATED SEPARATIONS.
W. ALL DATA CABLING TO BE PROVIDED BY THE OWNERS'S IT VENDOR. COORDINATE ROUGH-IN WORK WITH OWNER'S IT VENDOR.

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STATE OF WASHINGTON — DEPARTMENT OF HEALTH — FACILITIES PLAN REVIEW — APPROVED

MAZZETTI
2013 4TH AVENUE, SUITE 200
SEATTLE, WA 98121
(T) 415.362.3071
www.mazzetti.com
Project Number: 206-002

Good Samaritan Hospital
A part of MultiCare Health System

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

- See accompanying project comment form for review status and corrections.
- This is not a building permit, check with your local building department.

03/08/2023 8:25:28 PM

HYBRID OR #1
MULTICARE GOOD SAMARITAN HOSPITAL
401 15TH AVE SE, PUYALLUP, WA 98372

PERMIT SET
11/11/2022
REVISIONS

73-19057-00

ELECTRICAL COVER SHEET

E0.01

PRCTI20221788

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SPECIFICATIONS

260500 COMMON WORK RESULTS FOR ELECTRICAL

A. SCOPE OF WORK

1. COMPLY WITH THE GENERAL CONDITIONS OF THIS CONTRACT. THE REQUIREMENTS OF THIS SPECIFICATION ARE IN ADDITION TO THE REQUIREMENTS OF THE GENERAL CONDITIONS.

2. UNLESS OTHERWISE NOTED, PROVIDE DEMOLITION OF EXISTING POWER RECEPTACLES, LIGHT FIXTURES, RACEWAYS, WIRING, VOICE/DATA OUTLETS AND VOICE/DATA CABLING. DEMOLISH FIRE ALARM DEVICES AND WIRING WHERE IN CONFLICT WITH NEW WORK.

3. PROVIDE ALL LABOR AND MATERIAL NECESSARY TO ACCOMPLISH THE WORK SPECIFIED HEREIN AND AS SHOWN ON THE DRAWINGS.

4. COORDINATE WORK WITH ALL OTHER TRADES.

5. VISITING THE SITE AND VERIFYING EXISTING CONDITIONS PRIOR TO SUBMITTING BID IS ENCOURAGED. REFER TO THE REQUEST FOR BID ADVERTISEMENTS FOR THE PRE-BID WALKTHROUGH DATE.

6. REMOVE ALL WASTE AND RUBBISH FROM THE SITE ON A DAILY BASIS.

B. WARRANTY: WORKMANSHIP AND MATERIALS SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER. PROVIDE ADDITIONAL WARRANTY FOR VOICE/DATA SYSTEM AS NOTED ELSEWHERE.

C. REGULATIONS

1. ELECTRICAL WORK SHALL COMPLY WITH THE FOLLOWING CODES AS PRESENTLY APPLICABLE:

A. NATIONAL ELECTRICAL CODE (NEC)

B. WASHINGTON STATE NONRESIDENTIAL ENERGY CODE (NREC) WITH PUYALLUP AMENDMENTS

C. WASHINGTON ADMINISTRATIVE CODE (WAC) WITH PUYALLUP AMENDMENTS

D. WASHINGTON STATE DEPARTMENT OF LABOR AND INDUSTRIES

2. PERMITS: OBTAIN AND PAY FOR ALL REQUIRED PERMITS.

3. SAFETY MEASURES: PROVIDE A SAFE ENVIRONMENT TO PROTECT EMPLOYEES AND ALL OTHERS FROM INJURY. COMPLY WITH "SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION," VOLUME 36, NO. 75, PART II, OF THE FEDERAL REGISTER BY THE U.S. DEPARTMENT OF LABOR.

D. SUBMITTAL AND SHOP DRAWINGS: PRIOR TO INSTALLATION, SUBMIT CATALOG DATA FOR LUMINAIRES AND WIRING DEVICES IN ELECTRONIC PDF FORMAT.

E. OPERATIONS AND MAINTENANCE MANUALS: PROVIDE MAINTENANCE AND OPERATIONS DATA FOR ALL ELECTRICAL EQUIPMENT AND SIGNAL AND COMMUNICATIONS SYSTEMS IN ELECTRONIC PDF FORMAT.

F. RECORD DRAWINGS: CORRECTIONS AND CHANGES MADE DURING THE PROGRESS OF THE WORK SHALL BE NEATLY RECORDED AS ACTUALLY INSTALLED FOR AS-BUILT RECORDS. SUBMIT TO THE ARCHITECT UPON PROJECT COMPLETION.

G. CERTIFICATES OF INSPECTION: SUBMIT SIGNED-OFF PERMITS FROM THE CODE ENFORCING AGENCIES TO THE OWNER UPON PROJECT COMPLETION.

H. PRODUCT LISTING OR LABELING: ALL ELECTRICAL EQUIPMENT SHALL BE LISTED AND LABELED BY UNDERWRITERS' LABORATORIES, INC.

I. MATERIAL AND EQUIPMENT: ALL MATERIALS AND EQUIPMENT SHALL BE NEW UNLESS NOTED OTHERWISE. PROTECT ALL MATERIALS AND EQUIPMENT FROM DAMAGE OR CORROSION.

J. CUTTING AND PATCHING: PROVIDE ALL REQUIRED CUTTING AND PATCHING FOR THE ELECTRICAL WORK.

K. EXISTING CONDITIONS

1. GENERAL: SPECIFIC SCOPE OF DEMOLITION WORK AND OPERATING CONDITIONS TO BE ENCOUNTERED SHALL BE VERIFIED BY ON-SITE REVIEW PRIOR TO SUBMITTING BID. DEMOLITION WORK IN GENERAL IS NOTED OR SHOWN ON THE DOCUMENTS BASED UPON AVAILABLE "DRAWINGS OF RECORD" AND MAY NOT SHOW THE ACTUAL CONDITIONS AS THEY PRESENTLY EXIST.

2. OWNER-RETAINED EQUIPMENT: THE OWNER MAY WISH TO RETAIN CERTAIN SPECIFIC ITEMS SCHEDULED FOR DEMOLITION. THE CONTRACTOR SHALL CAREFULLY REMOVE THESE ITEMS, PROVIDE PROTECTION AND PACKAGING AS MAY BE REQUIRED TO PROTECT THE EQUIPMENT AND TURNOVER SAID EQUIPMENT TO THE OWNER AT A PLACE DESIGNATED ON THE JOBSITE. ANY EQUIPMENT THAT THE OWNER DOES NOT DESIRE TO RETAIN SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE REMOVED FROM THE SITE.

3. UNUSED CONDUIT AND WIRING: ALL UNUSED CONDUCTORS RESULTING FROM THIS PROJECT SHALL BE REMOVED. ALL UNUSED CONDUIT SHALL BE REMOVED EXCEPT WHERE LOCATED IN OR ABOVE EXISTING CONSTRUCTION WHICH IS NOT BEING ALTERED AND WOULD REQUIRE REMOVAL AND REPLACEMENT OF THE EXISTING CONSTRUCTION.

4. EXISTING TEL/DATA CABLES AND OUTLETS: PROVIDE DEMOLITION OF EXISTING VOICE DATA OUTLETS EXCEPT WHERE OTHERWISE SHOWN. VERIFY EXTENT OF WORK PRIOR TO SUBMITTING BID. PROPERLY SUPPORT AND MAINTAIN IN SERVICE ANY REMAINING VOICE/DATA SYSTEM WIRING INSTALLED EXPOSED ABOVE SUSPENDED CEILINGS WITHIN THE PROJECT AREA. SECURE CABLES TO STRUCTURE ABOVE USING TIE WRAPS SECURED TO INDEPENDENT TIE WIRES SUSPENDED FROM STRUCTURE ABOVE.

5. EXISTING RACEWAYS: PROPERLY SUPPORT ALL EXISTING RACEWAYS ABOVE SUSPENDED CEILINGS WHERE WORK IS TAKING PLACE. VERIFY EXTENT OF WORK PRIOR TO SUBMITTING BID.

L. CONTINUITY OF SERVICE: PERMANENTLY REROUTE OR RELOCATE EXISTING WIRING AND/OR EQUIPMENT WHICH IS IN CONFLICT WITH EXISTING BUILDING ALTERATIONS AND WHICH IS REQUIRED TO BE MAINTAINED IN USE.

M. DEMOLITION

1. COORDINATE SCOPE OF ELECTRICAL DEMOLITION WITH ARCHITECTURAL, MECHANICAL, AND PLUMBING DRAWINGS.

2. UNLESS OTHERWISE NOTED, REMOVE ALL ELECTRICAL LUMINAIRES, EQUIPMENT, SYSTEMS, DEVICES, OUTLETS, SWITCHES, PULL BOXES, JUNCTION BOXES, ETC. AS REQUIRED TO COMPLETELY TAKE OUT THE ELECTRICAL ITEMS WITHIN SCOPE OR SHOWN TO BE REMOVED. DISCONNECT AND REMOVE ALL ELECTRICAL PROVISIONS TO EQUIPMENT BEING REMOVED. REMOVE ALL WIRING, CONDUIT, RACEWAYS, OUTLET BOXES, ETC. SUPPORTING OR SERVING THE ITEMS REMOVED.

3. REMOVE BRANCH CIRCUIT WIRING AND CONDUCTORS BACK TO PANELBOARD OR TO LAST OUTLET OR JUNCTION BOX THAT WILL REMAIN IN SERVICE. WHERE COMPLETE CIRCUITS ARE DEMOLISHED, REMOVE WIRING AND RACEWAY BACK TO THE BRANCH CIRCUIT PANELBOARD. REVISE THE PANELBOARD SCHEDULE TO INDICATE THAT THE DEMOLISHED CIRCUIT'S BREAKER IS “SPARE”.

4. REMOVE ALL CONDUCTORS, WIRING, AND CONDUIT (WHERE PRESENT) INCLUDING, BUT NOT LIMITED TO, FIRE ALARM, POWER, VOICE/DATA, SECURITY, NURSE CALL, INTERCOM, AND PAGING IN DEMOLITION AREA THAT ARE NO LONGER IN USE OR ALREADY ABANDONED. NO CONDUCTORS OR CABLES SHALL BE ABANDONED IN PLACE. REMOVE EXISTING WIRING AND CONDUIT BACK TO SOURCE.

5. CONCEALED CONDUIT THAT CANNOT BE REMOVED DUE TO INACCESSIBILITY MAY BE ABANDONED. CONDUCTORS SHALL BE REMOVED, AND CONDUIT CUT FLUSH WITH SURFACE

6. OUTLET BOXES THAT CANNOT BE REMOVED DUE TO FLUSH MOUNTING IN PARTITIONS NOT BEING REMOVED SHALL BE PROVIDED WITH A BLANK DEVICE PLATE UNLESS NOTED TO BE FILLED AND FINISHED FLUSH WITH WALL.

7. MAINTAIN CONTINUITY OF ALL FEEDERS, SYSTEMS CONTROL WIRING, MISCELLANEOUS AUXILIARY SYSTEMS, ETC. THAT PASS THROUGH THE RENOVATED SPACE AT ALL TIMES. ANY DAMAGE, DISRUPTION OR DISCONNECTION TO THESE SYSTEMS SHALL BE REPAIRED IMMEDIATELY, REPLACED AND/OR RE-ROUTED AS REQUIRED TO MAINTAIN CONTINUITY OF THE SYSTEMS. PROVIDE WIRING AND RACEWAY NECESSARY TO MAINTAIN CONTINUITY OF ELECTRICAL SERVICE TO EXISTING OUTLETS THAT REMAIN WHEN POWER TO SUCH OUTLETS IS INTERRUPTED BECAUSE OF DEMOLITION OF OTHER DEVICES ON THE SAME CIRCUIT.

8. SEAL OPENINGS IN FIRE RATED PARTITIONS CREATED BY THE REMOVAL OF ELECTRICAL EQUIPMENT. MAINTAIN FIRE RATING OF WALL OR PARTITION.

9. SEE SPECIFICATIONS FOR DISPOSITION OF SALVAGED MATERIALS AND EQUIPMENT. ALL ITEMS NOTED TO BE REUSED SHALL BE REMOVED FROM THEIR EXISTING LOCATION, CLEANED, AND INSTALLED AT THEIR NEW LOCATION WITH THE PROPER CIRCUIT CONNECTIONS AND INSTALLATION SUPPORTS.

10. SYMBOLS SHOWN ARE TYPICAL AND LOCATIONS ARE APPROXIMATE, AND THEY ARE NOT INTENDED TO LIMIT THE AMOUNT OF DEMOLITION. COORDINATE WITH EXISTING CONDITIONS AND THESE NOTES AND REMOVE ALL APPLICABLE SYSTEMS AND COMPONENTS CONFLICTING WITH FINISHED DESIGN INTENT.

11. EXISTING BRANCH WIRING SHOWN IS DIAGRAMMATICAL ONLY AND IS BASED ON EXISTING AS-BUILT DRAWINGS AND CASUAL (NON-DESTRUCTIVE) FIELD OBSERVATION. COORDINATE WITH ACTUAL EXISTING CONDITIONS FOR NUMBER OF CONDUCTORS PER CONDUIT AND EXACT LOCATIONS OF CONDUIT RUNS.

N. PHASE ROTATION: CHECK CONNECTIONS TO ALL NEW AND EXISTING THREE-PHASE EQUIPMENT FOR PROPER PHASE ROTATION. DISCONNECT ALL DEVICES THAT COULD BE DAMAGED BY THE APPLICATION OF VOLTAGE OR REVERSED PHASE SEQUENCE.

O. REMOVAL AND REPLACEMENT OF EXISTING ACCESSIBLE CEILING PANELS, LIGHTING FIXTURES AND SPEAKERS: REMOVE AND REINSTALL ALL NECESSARY CEILING PANELS, LIGHTING FIXTURES, SPEAKERS AND OTHER EXISTING EQUIPMENT IN EXISTING ACCESSIBLE CEILINGS AS REQUIRED TO INSTALL THE ELECTRICAL WORK.

P. ANCHORAGE AND BRACING: PROVIDE COMPLETE SEISMIC ANCHORAGE AND BRACING FOR THE LATERAL AND VERTICAL SUPPORT OF CONDUIT, LIGHT FIXTURES, AND ELECTRICAL EQUIPMENT AS REQUIRED BY THE INTERNATIONAL BUILDING CODE.

Q. FIRESTOPPING: PROVIDE FIRE STOPPING FOR ALL PENETRATIONS THROUGH RATED WALLS, CEILINGS, AND FLOORS.

R. PAINTING: PAINT ALL EXPOSED RACEWAYS, EXCEPT SURFACE MOUNTED RACEWAY (SMR), IN FINISHED AREAS TO MATCH ADJACENT SURFACES.

S. INSTRUCTION: CONTRACTOR SHALL INSTRUCT THE OWNER IN THE USE AND OPERATION OF ALL SYSTEMS INSTALLED UNDER THE SCOPE OF THIS CONTRACT.

T. OWNER-FURNISHED EQUIPMENT: PROVIDE COMPLETE ELECTRICAL SERVICE AND CONNECTION TO ALL OWNER-FURNISHED EQUIPMENT.

260519 LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

A. WIRE AND CABLE:

1. BRANCH CIRCUITS AND HOMERUNS: TYPE THHN OR THWN, 600-VOLT INSULATION, STRANDED [OR SOLID] COPPER CONDUCTOR. MINIMUM CONDUCTOR SIZE:

a. NEUTRAL: #12 AWG

b. GROUND: #12 AWG

c. PHASE CONDUCTORS (MORE THAN SIX IN A RACEWAY): #10 AWG

d. PHASE CONDUCTORS (SIX OR LESS IN A RACEWAY): #12 AWG

2. FEEDERS: FEEDERS SHALL BE SIZED AS SHOWN ON THE DRAWINGS AND COLOR-CODED IN ACCORDANCE WITH LIST BELOW. MAKE NO SPLICES UNLESS SHOWN ON THE PLANS.

3. COLOR CODING REQUIREMENTS: 120/208 VOLT, 3-PHASE, 4-WIRE SYSTEMS

a. PHASE A: BLACK

b. PHASE B: RED

c. PHASE C: BLUE

d. NEUTRAL: WHITE

e. GROUND: GREEN

f. TRAVELERS: YELLOW (FOR 3- AND 4-WAY SWITCHING)

g. CONTROLS: BLACK WITH WIRE NUMBERS ON EACH CONDUCTOR

4. COLOR CODING REQUIREMENTS: 277/480 VOLT, 3-PHASE, 4-WIRE SYSTEMS:

a. PHASE A: BROWN

b. PHASE B: ORANGE

c. PHASE C: YELLOW

d. NEUTRAL: GRAY

e. GROUND: GREEN

f. TRAVELERS: LAVENDER (FOR 3- AND 4-WAY SWITCHING)

g. CONTROLS: BLACK WITH NUMBERS ON EACH CONDUCTOR

4. ISOLATED POWER BRANCH CIRCUITS

A. VOLTAGE:120-V

B. L1: ORANGE WITH STRIPE

C. L2: BROWN WITH STRIPE

D. GROUND: GREEN

E. STRIPES SHALL BE A DISTINCTIVE COLOR OTHER THAN WHITE, GREEN OR GRAY PER NEC 517.160.

5. SPLICES AND TERMINATIONS: LIGHTING AND RECEPTACLE BRANCH CIRCUIT CONDUCTORS UP TO NO. 10 AWG SHALL BE SPLICED WITH WING NUT TYPE CONNECTORS.

B. CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

1. FEEDERS: TYPE THHN/THWN-2 OR XHHW-2, SINGLE CONDUCTORS IN RACEWAY

2. BRANCH CIRCUITS: TYPE THHN/THWN-2, SINGLE CONDUCTORS IN RACEWAY

3. ISOLATED POWER BRANCH CIRCUITS: TYPE XHHW-2, SINGLE CONDUCTORS IN RACEWAY.

4. CLASS 1 CONTROL CIRCUITS: TYPE THHN/THWN-2, IN RACEWAY.

5. CLASS 2 CONTROL CIRCUITS: TYPE THHN/THWN-2, IN RACEWAY.

260526 GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

A. GENERAL: PROVIDE THROUGH THE ENTIRE ELECTRICAL SYSTEM. A SEPARATE GREEN EQUIPMENT GROUNDING CONDUCTOR SHALL BE PROVIDED IN ALL LIGHTING AND POWER RACEWAYS.

B. BONDING: INSULATED GROUNDING BUSHINGS SHALL BE INSTALLED TO BOND ALL FEEDER CONDUITS TO THE SWITCHBOARD GROUND BUS OR PANEL GROUND BUS AT BOTH ENDS OF FEEDER RACEWAYS. INSULATED GROUNDING BUSHINGS SHALL BE INSTALLED TO BOND ALL FEEDER CONDUITS TO THE GROUND BUS OR PANEL ENCLOSURES AT BOTH ENDS OF THE RUNS.

C. NEUTRAL GROUNDING: THE NEUTRAL POINT OF ALL TRANSFORMERS SHALL BE SOLIDLY GROUNDED TO THE GROUNDING SYSTEM AND TRANSFORMER ENCLOSURE WITH CODE SIZE GROUND CONDUCTORS. THE NEUTRAL BUS IN EACH PANELBOARD SHALL BE ISOLATED FROM GROUND. THE NEUTRAL SHALL BE GROUNDED ONLY AT A SINGLE POINT AT THE MAIN SWITCHBOARD OR AT SEPARATELY DERIVED SYSTEM TRANSFORMERS.

D. RECEPTACLE GROUNDING: CONNECT THE GROUND TERMINAL OF ALL RECEPTACLES BY UTILIZING A SEPARATE GROUNDING CONDUCTOR BETWEEN THE RECEPTACLE GROUNDING SCREW AND THE GROUND CONDUCTOR PROVIDED IN THE BRANCH CIRCUIT. INTEGRAL MOUNTING STRAPS WITHIN THE RECEPTACLE CONNECTED TO THE DEVICE MOUNTING STRAPS ARE NOT APPROVED AS A GROUNDING METHOD.

E. FLEXIBLE CONDUIT GROUNDING: PROVIDE A SEPARATE GROUNDING CONDUCTOR IN ALL FLEXIBLE CONDUIT RUNS INCLUDING WATERTIGHT FLEXIBLE CONDUIT WITH INTEGRAL GROUNDING STRAPS. INSTALL GROUND CONDUCTOR INSIDE CONDUIT WITH UNGROUNDED CONDUCTORS.

F. GROUND CONNECTIONS: GROUND CONNECTIONS TO BUILDING STEEL, GROUND RODS AND CABLE TAPS SHALL UTILIZE AN EXOTHERMIC WELDING PROCESS. CADWELD, ERICO PRODUCTS, INC., OR APPROVED EQUAL.

260533 RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

A. RACEWAYS

1. RIGID METALLIC CONDUIT: ZINC-COATED STEEL WITH FULL THREADED CONNECTIONS.

2. ELECTRICAL METALLIC TUBING (EMT): ZINC-COATED STEEL.

3. FLEXIBLE METALLIC CONDUIT: HELICALLY WOUND GALVANIZED STEEL, SECURELY INTERLOCKED, RWS (REDUCED WALL STEEL) TYPE.

4. LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT: HELICALLY WOUND, GALVANIZED STEEL, INTERLOCKED, WITH INTEGRAL GROUND CONDUCTOR AND OVERALL PVC JACKET.

B. FITTINGS

1. RIGID METALLIC CONDUIT:

a. COUPLINGS: THREADED-METALLIC TYPE OF THE SAME MATERIAL AS THE CONDUIT.

b. LOCKNUTS: STEEL UP TO 2"INCHES, MALLEABLE IRON FOR 2-1/2 INCHES AND LARGER.

c. BUSHINGS: BAKELITE OR PLASTIC UP TO 2", MALLEABLE IRON WITH INSULATING COLLAR FOR 2-1/2 INCHES AND LARGER.

d. UNIONS: ZINC-PLATED MALLEABLE IRON, THREE PIECE CONDUIT COUPLING.

e. ELECTRICAL METALLIC TUBING (EMT): STEEL SET-SCREW TYPE. FITTINGS 2" AND LARGER SHALL BE STEEL AND MAY BE SETSCREW TYPE CONTAINING DUAL SETSCREWS ON EACH SIDE OF COUPLING.

2. RIGID NONMETALLIC CONDUIT: SLIP-ON, NON-THREADED TYPE OF SAME MATERIAL AS CONDUIT.

3. FLEXIBLE METALLIC CONDUIT: STEEL, ONE- OR TWO-SCREW CLAMP TYPE.

4. LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT: GALVANIZED STEEL, COMPRESSION TYPE.

5. CONDUIT STRAPS: HEAVY DUTY, TWO-HOLE PRESSED STEEL.

C. OUTLET AND DEVICES BOXES

1. INTERIOR SURFACE-MOUNTED IN UNFINISHED AREAS: ONE-PIECE PRESSED STEEL, ELECTRO-GALVANIZED, SIZE AND DEPTH REQUIRED BY CODE, EXCEPT 4-INCH SQUARE OR 4-INCH OCTAGONAL MINIMUM.

2. INTERIOR FLUSH-MOUNTED: SAME AS ABOVE EXCEPT PROVIDE PLASTER RING EXTENSION TO FINISHED SURFACE.

JUNCTION AND PULL BOXES: INTERIOR AREAS, STEEL, SCREW COVER, CODE GAUGE AND SIZE. LARGE JUNCTION AND PULL BOXES SHALL BE FABRICATED SHEET STEEL WITH BAKED ENAMEL FINISH AND RETURN FLANGE WITH SCREW RETAINED COVER.

D. JUNCTION AND PULL BOXES:

1. INTERIOR: STEEL, SCREW COVER, CODE GAUGE AND SIZE. LARGE JUNCTION AND PULL BOXES SHALL BE FABRICATED SHEET STEEL WITH BAKED ENAMEL FINISH AND RETURN FLANGE WITH SCREW RETAINED COVER.

2. EXTERIOR: GASKETED METAL COVER PLATE, LISTED AND LABELED FOR LOCATION AND USE.

E. EXECUTION

1. GENERAL:

a. COORDINATION: THE CONTRACTOR SHALL REVIEW ALL DRAWINGS, DETAILS AND ELEVATIONS PRIOR TO ROUGH-IN. WHERE EQUIPMENT IS FURNISHED BY OTHERS, THE CONTRACTOR SHALL ASCERTAIN THE PROPER VOLTAGE, LOAD AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.

b. MATERIALS: ALL MATERIALS OF A SPECIFIC TYPE SHALL BE PROVIDED BY THE SAME MANUFACTURER THROUGHOUT THE PROJECT.

2. RACEWAY TYPES: INSTALL RACEWAY TYPES AND SIZES AS LISTED BELOW:

a. RIGID METALLIC CONDUIT: IN CONCRETE AND MASONRY AND EXPOSED EXTERIORS.

b. ELECTRICAL METALLIC TUBING (EMT): ALL AREAS OTHER THAN ABOVE. MAY BE USED FOR FEEDERS WITH INTEGRAL GREEN GROUND CONDUCTOR.

c. RIGID NONMETALLIC CONDUIT: EXTERIOR UNDERGROUND INSTALLATIONS. 90 DEGREE ELBOWS TO BE GALVANIZED RIGID STEEL.

d. FLEXIBLE METALLIC CONDUIT: RECESSED FIXTURE CONNECTIONS, INTERIOR CONCEALED EQUIPMENT CONNECTIONS, EXPANSION JOINTS AND SOUND CONTROL. NOT TO BE USED EXPOSED INSTALLATIONS WITHIN THE BUILDING.

e. LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT: EXTERIOR EQUIPMENT CONNECTIONS.

f. MINIMUM RACEWAY SIZE SHALL BE 3/4 INCH

3. RACEWAY INSTALLATION:

a. CONCEALMENT: ALL RACEWAYS SHALL BE CONCEALED IN FINISHED AREAS. WHERE EXISTING WALL SURFACES ARE INACCESSIBLE, SURFACE METAL RACEWAYS FOR THESE EXCEPTIONS MAY BE PROVIDED WHEN APPROVED.

b. EXPOSED RACEWAYS: INSTALL EXPOSED RACEWAYS AS HIGH AS POSSIBLE, ABOVE DUCTWORK, PARALLEL OR AT RIGHT ANGLES TO BUILDING LINES.

c. EXPANSION AND EARTHQUAKE JOINTS: RACEWAYS SHALL NOT BE INSTALLED IN CONCRETE SLAB OR WALL CONSTRUCTION WHEN PASSING THROUGH AN EXPANSION OR EARTHQUAKE JOINT. RACEWAYS SHALL BE INSTALLED IN FURRED OR SUSPENDED CEILING SPACES WITH A MINIMUM OF 24 INCHES OF FLEXIBLE CONDUIT CROSSING THE EXPANSION OR EARTHQUAKE JOINTS.

d. ROUTING: ALL RACEWAYS SHALL BE INSTALLED PARALLEL OR AT RIGHT ANGLES TO THE BUILDING CONSTRUCTION UNLESS PROHIBITED BY A PHYSICAL OBSTRUCTION.

e. RACEWAY SUPPORTS: RACEWAYS SHALL BE SUPPORTED WITH HEAVY-DUTY, ONE-HOLE, PRESSED STEEL STRAPS ON INTERIOR SURFACES. SUPPORT PENDANT-MOUNTED RACEWAYS ON 3/8-INCH ROD WITH PEAR-SHAPED HANGER OR TRAPEZE-TYPE HANGER WITH 3/8-INCH ROD (MINIMUM) AND 1-5/8-INCH SQUARE PREFORMED CHANNEL AND PIPE CLAMPS. PARALLEL, SURFACE-MOUNTED RACEWAYS SHALL BE SUPPORTED FROM 1-5/8-INCH SQUARE PREFORMED CHANNEL AND PIPE CLAMPS. ALL FITTINGS AND SUPPORTS SHALL BE HOT-DIP GALVANIZED IN EXTERIOR AREAS.

f. INDEPENDENT SUPPORT: CONDUITS SHALL NOT BE SUPPORTED FROM THE CEILING SUSPENSION SYSTEM, DUCTS, PIPES OR OTHER SYSTEMS FOREIGN TO THE ELECTRICAL INSTALLATION. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE KEPT INDEPENDENT FROM ANY OTHER TRADE.

g. PULL BOXES WITH COVERS: SHALL BE PROVIDED AS SHOWN ON THE DRAWINGS OR AS REQUIRED BY CODE. ALL PULL BOXES SHALL BE LOCATED SO AS TO BE ACCESSIBLE.

h. FLEXIBLE CONDUIT: SHALL BE USED ONLY FOR LIGHTING FIXTURE PIGTAILS IN ACCESSIBLE CEILINGS, FLUSH-MOUNTED SPEAKER PIGTAILS IN ACCESSIBLE CEILINGS, SOUND CONTROL, MOTOR CONNECTIONS AND AT BUILDING EXPANSION JOINTS AS SPECIFIED. ANY OTHER PROPOSED USE OF FLEXIBLE CONDUIT MUST BE APPROVED PRIOR TO INSTALLATION.

i. PENETRATIONS: RACEWAYS WHICH PASS THROUGH BUILDING ROOF, EXTERIOR WALLS OF BUILDING ABOVE OR BELOW GRADE AND FLOOR SLABS ON GRADE SHALL BE SEALED ON THE INTERIOR SIDE OF THE BUILDING USING NON-HARDENING SEALING COMPOUND AFTER ALL CONDUCTORS HAVE BEEN INSTALLED IN THE RACEWAY. SEALING MATERIAL SHALL BE SPECIFICALLY DESIGNED FOR ELECTRICAL WIRING SYSTEMS.

j. CONDUIT PASSING THROUGH BUILDING ROOF: PROVIDE A 4 LB. LEAD PLUMBING VENT FLASHING WITH A COUNTER FLASHING ATTACHED ABOVE USING A GALVANIZED STEEL CLAMP.

k. CONDUIT PENETRATING MEMBRANES: ALL CONDUITS PENETRATING WALLS OR SLABS WITH MEMBRANES SHALL BE INSTALLED WITH APPROVED MEMBRANE CLAMPING DEVICES IN ORDER TO PROVIDE NECESSARY SEAL.

l. EXTERIOR WALLS: CONDUITS PASSING THROUGH EXTERIOR WALLS BELOW GRADE AND/OR BRIDGING AN AREA WHICH WAS PREVIOUSLY EXCAVATED AND BACKFILLED SHALL BE RIGIDLY SUPPORTED BY A STRUCTURALLY REINFORCED CONCRETE DUCT BANK SPANNING BETWEEN THE BUILDING WALL AND A BEARING SURFACE ON UNDISTURBED EARTH.

m. EMPTY RACEWAYS: PROVIDE A NYLON PULL STRING IN ALL EMPTY RACEWAYS.

4. BOXES AND FITTINGS:

a. GENERAL: BOXES SHALL BE SUPPORTED SECURELY AND INDEPENDENTLY. MOUNT BOXES ON BUILDING SURFACES OR SUPPORT WITH TRAPEZE HANGER AS DESCRIBED IN RACEWAY INSTALLATION. JUNCTION BOXES SHALL NOT BE USED UNLESS THE NUMBER OF BENDS, PULLING LENGTH, OR CIRCUIT REQUIREMENTS NECESSITATES THEIR INSTALLATION. JUNCTION OR PULL BOX OPENINGS MUST BE ACCESSIBLE.

b. SOUND CONTROL: WHERE BOXES ARE MOUNTED IN A COMMON WALL, THEY SHALL WHEREVER POSSIBLE, BE OFFSET HORIZONTALLY SO THAT THEY ARE NOT MOUNTED BACK-TO-BACK. CONNECT OFFSET BOXES WITH FLEXIBLE CONDUIT NOT TO EXCEED 18 INCHES IN LENGTH.

260553 IDENTIFICATION FOR ELECTRICAL SYSTEMS

A. GENERAL: LABEL ALL JUNCTION BOXES, TERMINAL CABINETS, ETC., WITH THE CIRCUIT NUMBER OR LOW-VOLTAGE SYSTEM CONTAINED WITHIN.

B. EQUIPMENT NAMEPLATES: SHALL BE ENGRAVED IN 1/16 INCH THICK PHENOLIC LETTERS A MINIMUM OF 3/16 INCH HIGH. COLORING SHALL BE WHITE LETTERS ON BLACK BACKGROUND FOR NORMAL EQUIPMENT AND WHITE LETTERS ON RED BACKGROUND FOR EMERGENCY EQUIPMENT.

260800 COMMISSIONING

A. GENERAL: CONTRACTOR SHALL PROVIDE PERSONNEL AND EQUIPMENT TO COMMISSION THE ELECTRICAL SYSTEMS AS OUTLINED IN THE COMMISSIONING PLAN, AS SPECIFIED HEREIN, AND AS DIRECTED BY THE COMMISSIONING AGENT.

B. THE FOLLOWING SYSTEMS SHALL BE FUNCTIONALLY TESTED AS PART OF THE COMMISSIONING PROCESS:

1. LIGHTING CONTROLS

C. PRE-FUNCTIONAL CHECKLIST

1. CONTRACTOR SHALL COMPLETE PRE-FUNCTIONAL CHECKLISTS FOR EACH PANELBOARD, TRANSFORMER, AND EQUIPMENT LISTED ABOVE INSTALLED ON THE PROJECT. THE PRE-FUNCTIONAL TEST SCRIPTS ARE TO BE PROVIDED BY THE CONTRACTOR AND REVIEWED BY THE COMMISSIONING AGENT. COMPLETED PRE-FUNCTIONAL CHECKLISTS SHALL BE SUBMITTED TO THE COMMISSIONING AGENT.

D. FUNCTIONAL TEST SCRIPTS

1. CONTRACTOR, AT THE DIRECTION OF THE COMMISSIONING AGENT, SHALL COMPLETE FUNCTIONAL TESTING OF THE ELECTRICAL EQUIPMENT ACCORDING TO FUNCTIONAL TEST SCRIPTS DEVELOPED BY THE COMMISSIONING AGENT. PRIOR TO FUNCTIONAL TESTING, THE CONTRACTOR SHALL PROVIDE A CERTIFICATE OF READINESS STATING THE SPECIFIC EQUIPMENT IS READY FOR FUNCTIONAL TESTING AND ANY REQUIRE PREREQUISITES HAVE BEEN COMPLETED. THE FUNCTIONAL TEST SCRIPTS SHALL BE COMPLETED BY THE COMMISSIONING AGENT.

2. THE CONTRACTOR SHALL HAVE A FACTORY-AUTHORIZED FIELD TECHNICIAN PRESENT DURING FUNCTIONAL TESTING OF THE ELECTRICAL EQUIPMENT UNLESS OTHERWISE NOTED BY THE COMMISSIONING AGENT.

E. FIELD TEST AND START-UP REPORTS

1. THE CONTRACTOR SHALL SUBMIT FIELD TEST REPORTS FOR CIRCUIT BREAKERS, AND TESTS AS IDENTIFIED IN THE COMMISSIONING EQUIPMENT MATRIX.

2. THE CONTRACTOR SHALL SUBMIT ALL VENDOR START-UP REPORTS TO THE COMMISSIONING AGENT, CXA TO REVIEW THESE REPORTS FOR COMPLETENESS.

260923 LIGHTING CONTROL DEVICES

A. TOGGLE SWITCHES

1. APPROVED MANUFACTURERS: COOPER, HUBBELL, P & S OR LEVITON. ALL PART NUMBERS REFER TO HUBBELL.

2. SWITCHES, 120/277V, 20A

a. SINGLE POLE: HBL1221

b. THREE WAY: HBL1223

c. FOUR WAY: HBL1224

B. DIMMER SWITCHES

1. APPROVED MANUFACTURERS: LUTRON, LEVITON OR WATTSTOPPER.

2. MODULAR, FULL-WAVE, SOLID-STATE UNITS WITH INTEGRAL, QUIET ON-OFF, WITH AUDIBLE FREQUENCY AND EMI/RFI SUPPRESSION FILTERS.

3. CONTINUOUSLY ADJUSTABLE SLIDER WITH SINGLE-POLE OR THREE-WAY SWITCHING.

4. FLUORESCENT AND LED LAMP DIMMER SWITCHES: MODULAR, COMPATIBLE WITH DIMMER BALLASTS AND DRIVERS.

C. DEVICE PLATES: BRUSHED STAINLESS STEEL, P&S/SIERRA OR APPROVED EQUAL.

1. GENERAL: INSTALL DEVICES LEVEL, PLUMB AND SQUARE WITH BUILDING LINES.

D. INDOOR OCCUPANCY SENSORS

1. APPROVED MANUFACTURERS: COOPER, HUBBELL, LEVITON, ACUITY, LUTRON, WATTSTOPPER

2. WALL SWITCH SENSOR LIGHT SWITCH: SWITCHBOX-MOUNTED, COMBINATION LIGHTING-CONTROL SENSOR AND CONVENTIONAL SWITCH LIGHTING-CONTROL UNIT USING DUAL (ULTRASONIC AND PASSIVE INFRARED) TECHNOLOGY COMPLYING WITH UL 20. FIELD SELECTABLE AUTOMATIC ON OR MANUAL ON, AUTOMATIC OFF WITH FIELD ADJUSTABLE OFF TIME DELAY 0-30 MINUTES.

3. CEILING OCCUPANCY SENSORS: DUAL TECHNOLOGY TYPE USING BOTH PASSIVE INFRARED AND ULTRASONIC TECHNOLOGY.

262726 WIRING DEVICES

A. WIRING DEVICES

1. APPROVED MANUFACTURERS: COOPER, HUBBELL, P & S OR LEVITON. ALL PART NUMBERS REFER TO HUBBELL.

2. RECEPTACLE COLOR: WHITE FOR NORMAL POWER, RED FOR EMERGENCY POWER. GRAY FOR UPS POWER

3. RECEPTACLE ORIENTATION:

a. INSTALL RECEPTACLES VERTICALLY .

b. INSTALL RECEPTACLES WITH THE GROUND PIN UP.

B. RECEPTACLES

1. WEATHER RESISTANT RECEPTACLES: SPECIFICATION-GRADE, 20-AMPERE, 125-VOLT, GROUNDED TYPE, GFR5362TR SERIES WITHIN USE COVER.

2. DUPLEX RECEPTACLES: HOSPITAL-GRADE, 20-AMPERE, 125-VOLT, GROUNDED TYPE, HBL8300H SERIES.

3. DOUBLE DUPLEX RECEPTACLES: HOSPITAL-GRADE, 20-AMPERE, 125-VOLT, GROUNDED TYPE, HBL8300H SERIES.

4. GROUND FAULT INTERRUPTION RECEPTACLES: HOSPITAL-GRADE, 20-AMPERE, 120-VOLT, CLASS A, 5-MILLIAMPERE SENSITIVITY, GFR8300H SERIES.

5. TAMPER-RESISTANT DUPLEX RECEPTACLES: HOSPITAL-GRADE, 20-AMPERE, 125-VOLT, GROUNDED TYPE WITH SPRING-LOADED PLASTIC SHUTTERS THAT OPEN ONLY WHEN A TWO OR THREE BLADED PLUG IS INSERTED, GFR8300HTR SERIES.

262813 FUSES

A. MANUFACTURES: BUSSMAN, FERREZ SHAWMUT OR LITTLEFUSE.

B. PROVIDE 200,000 AIC, CURRENT LIMITING, UL TIME DELAY FUSES AS FOLLOWS:

1. FEEDERS 600 AMPS AND LESS: CLASS RK-1, LPN-RK FOR 250-VOLT, DUAL ELEMENT; CLASS RK-1, LPS-RK FOR 600-VOLT, DUAL ELEMENT.

2. MOTOR CIRCUIT 600 VOLTS AND BELOW: CLASS RK-1 OR CLASS J SIZED AT 125 PERCENT FLC OF MOTOR.

262816 ENCLOSED SWITCHES AND CIRCUIT BREAKERS

A. APPROVED MANUFACTURER'S: GENERAL ELECTRIC, SIEMENS, CUTLER-HAMMER OR SQUARE D.

B. ENCLOSURE: WHERE INSTALLED INDOORS PROVIDE NEMA 1 ENCLOSURE AND WHERE THEY ARE TO BE INSTALLED OUTDOORS PROVIDE NEMA 3R ENCLOSURE.

C. SINGLE-PHASE MOTOR: MOTORS 1/3 HP OR LESS PROVIDE WITH TOGGLE-TYPE, 20-AMP, 120-VOLT RATING, SPECIFICATION-GRADE DISCONNECT SWITCHES.

D. THREE-PHASE MOTOR: MOTORS 1/2 HP AND LARGER PROVIDE WITH HORSEPOWER-RATED, HEAVY-DUTY, 30 AMPERE MINIMUM, 3-POLE DISCONNECT SWITCHES.

E. EQUIPMENT DISCONNECTS: SHALL BE FUSED OR NON-FUSED AS REQUIRED BY THE EQUIPMENT MANUFACTURER, RATED AT 125 PERCENT OF FULL LOAD NAMEPLATE AMPERAGE OR RATED HORSEPOWER, HEAVY-DUTY TYPE.

F. DISCONNECTS: PROVIDE DISCONNECTS AT ALL MOTORS AND OTHER EQUIPMENT ITEMS UNLESS THE EQUIPMENT HAS A SELF-CONTAINED, CODE APPROVED DISCONNECTING METHOD. EQUIPMENT DISCONNECTS SHALL BE FUSED OR NON-FUSED AS REQUIRED BY THE EQUIPMENT MANUFACTURER.

270500 COMMON WORK RESULTS FOR COMMUNICATIONS

A. PROVIDE PROVISIONS ONLY (CONDUIT, BACKBOX, PULLSTRING) FOR COMMUNICATIONS AND DATA DEVICES SHOWN ON THE PLANS. CABLING AND FACEPLATES SHALL BE PROVIDED BY OTHERS.

B. ALL SIGNAL AND COMMUNICATIONS CABLING SHALL BE PLENUM RATED. CABLING SHALL BE RUN OPEN ABOVE THE CEILING VIA JUNCTION-HOOKS IN ACCESSIBLE LOCATIONS.

C. PROVIDE METALLIC RACEWAYS FOR CABLES INSTALLED IN WALLS, ABOVE INACCESSIBLE CEILINGS, EXPOSED OR WHERE SUBJECT TO PHYSICAL DAMAGE. RACEWAY FILL SHALL NOT EXCEED 40 PERCENT. RACEWAY SIZE SHALL BE 1 INCH MINIMUM.

D. PROVIDE STI EZ-PATH OR EQUIVALENT FIRE RATED PATHWAY WHERE CABLING PATHWAYS CROSS FIRE-RATED WALLS.

283111 DIGITAL, ADDRESSABLE FIRE-ALARM SYSTEMS

A. PROVIDE A COMPLETE DESIGN/BUILD FIRE ALARM PACKAGE IN ACCORDANCE WITH ALL CODES, REGULATIONS AND LOCAL AHJ. FOR EXISTING FIRE ALARM SYSTEMS TO REMAIN PROVIDE A COMPLETE DESIGN/BUILD PACKAGE FOR THE EXTENSION OF THE EXISTING FIRE ALARM SYSTEM IN THE PROJECT AREA. THE EXISTING FIRE ALARM SYSTEM MUST REMAIN IN OPERATION AT ALL TIMES. PROVIDE A “FIRE WATCH” IF THE EXISTING FIRE ALARM MUST BE TAKEN OUT OF SERVICE.

B. INTERIM LIFE SAFETY MEASURES (IN AREA OF WORK): IN ALL AREAS OF THE EXISTING BUILDING THAT ARE WITHIN THE SCOPE OF THE CONSTRUCTION WORK:

1. MAINTAIN THE EXISTING FIRE ALARM SYSTEM IN CONTINUOUS OPERATION AT ALL TIMES. WHERE IT IS NECESSARY TO REMOVE EXISTING FIRE ALARM SYSTEM COMPONENTS AND WIRING TO ACCOMMODATE DEMOLITION WORK, PROVIDE TEMPORARY SYSTEMS. TEMPORARY SYSTEMS SHALL INCLUDE FIRE ALARM PULL STATIONS AT EXITS FROM THE EXISTING BUILDING AT EACH FLOOR, HEAT DETECTORS IN CONSTRUCTION OR PERMANENT CORRIDORS, NOTIFICATION DEVICES WITHIN THE AREA, AND ADDRESSABLE INTERFACE MODULES AND POWER SUPPLIES. TEMPORARY FIRE ALARM PROVISIONS SHALL BE MONITORED BY THE EXISTING FIRE ALARM SYSTEM. MAINTAIN TEMPORARY SYSTEMS IN OPERATION UNTIL PERMANENT FIRE ALARM EQUIPMENT IS INSTALLED AND CONNECTED TO THE EXISTING SYSTEM AND PLACED INTO OPERATION.

C. INTERIM LIFE SAFETY MEASURES (IN NEWLY CONSTRUCTED AREAS):

1. AT SUCH TIME THAT A PHYSICAL CONNECTION IS MADE BETWEEN EXISTING AND NEW CONSTRUCTION WHEREBY THE NEW CONSTRUCTION BECOMES PART OF THE EXISTING BUILDING OR WHEN THE FIRE SEPARATION BETWEEN EXISTING AND NEW CONSTRUCTION IS REMOVED, PROVIDE A TEMPORARY FIRE ALARM SYSTEM SIMILAR TO THAT DESCRIBED ABOVE INCLUDING PULL STATIONS, NOTIFICATION DEVICES, HEAT DETECTORS, MONITOR MODULES AND POWER SUPPLIES. TEMPORARY FIRE ALARM PROVISIONS SHALL BE MONITORED BY THE EXISTING FIRE ALARM SYSTEM. MAINTAIN TEMPORARY SYSTEMS IN OPERATION UNTIL PERMANENT FIRE ALARM EQUIPMENT IS INSTALLED, CONNECTED TO THE EXISTING SYSTEM, AND PLACED INTO OPERATION.

2. FIRE ALARM CONDUCTORS AND CABLES SHALL BE ENCLOSED IN METAL CONDUIT. FIRE ALARM CONDUIT SHALL BE IDENTIFIED BY RED PAINT.

3. AUDIBLE NOTIFICATION APPLIANCES SHALL GENERATE PRIVATE MODE SOUND PRESSURE LEVELS UNLESS OTHERWISE NOTED.

4. REFER TO MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR DUCT DETECTORS, SMOKE DAMPERS, TAMPER SWITCHES, FLOW SWITCHES, PRE-ACTION OR DRY-TYPE SPRINKLER SYSTEMS REQUIRED TO BE MONITORED OR CONTROLLED BY THE FIRE ALARM SYSTEM.

5. PROVIDE DUCT-MOUNTED SMOKE DETECTORS AS INDICATED ON THE MECHANICAL DOCUMENTS. PROVIDE CEILING MOUNTED REMOTE INDICATOR AT EACH DUCT DETECTOR.

6. SMOKE DAMPERS IN CORRIDOR WALLS SHALL CLOSE UPON SIGNAL FROM CORRIDOR SMOKE DETECTORS IN ACCORDANCE WITH IBC 715.3.2.1, METHOD 4. SMOKE DAMPERS IN NON-CORRIDOR WALLS SHALL CLOSE UPON SIGNAL FROM DUCT MOUNTED SMOKE DETECTORS IN ACCORDANCE WITH IBC 715.3.2.1 METHOD 1. SEE MECHANICAL DOCUMENTS FOR LOCATIONS OF DAMPERS AND DUCT MOUNTED SMOKE DETECTORS.

7. PROVIDE FIRE ALARM CONNECTIONS TO HVAC SYSTEM CONTROLS AND DEVICES FOR PROPER OPERATION, INCLUDING SHUTDOWN. SEE MECHANICAL DOCUMENTS FOR QUANTITIES, LOCATIONS, AND ADDITIONAL REQUIREMENTS. UPON DETECTION OF FIRE IN ANY AREA OF THE BUILDING (SMOKE, HEAT, OR SPRINKLER FLOW) THE FIRE ALARM SYSTEM SHALL CAUSE THE AIR HANDLER OR AIR HANDLERS SERVING THE SMOKE COMPARTMENT WHERE THE ALARM INITIATED TO SHUTDOWN, THE EXHAUST FANS ASSOCIATED WITH THAT SMOKE COMPARTMENT TO SHUT DOWN, AND ALL SMOKE DAMPERS ASSOCIATED WITH THOSE FANS TO CLOSE. REFER TO ARCHITECTURAL PLANS FOR THE BOUNDARIES OF SMOKE COMPARTMENTS, AND REFER TO MECHANICAL DUCT PLANS FOR WHICH FANS SERVE EACH SPACE. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR THE SEQUENCE OF OPERATION OF THE FIRE ALARM SYSTEM.

8. FIRE ALARM CONTROL AND MONITORING, INCLUDING AIR HANDLER SHUTDOWN AND DAMPER CLOSURE SHALL BE ACCOMPLISHED USING SUPERVISED FIRE ALARM WIRING TO WITHIN THREE FEET OF THE DEVICE BEING CONTROLLED OR MONITORED. FOR THE PURPOSE OF THIS MEASUREMENT ON AIR HANDLERS, THE MOTOR STARTER OR VFD IS THE DEVICE BEING CONTROLLED. FOR THE PURPOSE OF THIS MEASUREMENT ON DAMPERS, THE DAMPER POWER CIRCUIT IS THE DEVICE BEING CONTROLLED, PROVIDED THE DAMPERS ARE SELF CLOSING AND HELD OPEN ELECTRICALLY. CONTROL SIGNALS SHALL ALSO BE SENT TO THE BUILDING CONTROL SYSTEM (BAS), BUT THIS DOES NOT SATISFY THE REQUIREMENT FOR SUPERVISED FIRE ALARM CONTROL OF THE DEVICES.

9. PROVIDE FIRE ALARM SYSTEM CONNECTION TO SECURITY LOCK SYSTEMS TO UNLOCK EGRESS DOORS UNDER ALARM CONDITIONS.

10. VISUAL NOTIFICATION DEVICE MOUNTING HEIGHT SHALL BE TO CENTER OF LAMP.

11. COORDINATE LOCATIONS OF CEILING MOUNTED SMOKE DETECTORS WITH MECHANICAL SYSTEMS. DETECTORS SHALL NOT BE IN DIRECT AIR FLOW OR WITHIN 3 FEET OF SUPPLY DIFFUSERS.

12. PROVIDE FIRE ALARM CONNECTIONS TO AUTOMATIC OPERATED DOORS TO DISABLE AUTO DOOR OPENING UNDER ALARM CONDITIONS, EXCEPT FOR MAIN VESTIBULE DOORS OR UNLESS OTHERWISE NOTED.

END OF ELECTRICAL SPECIFICATIONS

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

- See accompanying project comment form for review status and corrections.
- This is not a building permit, check with your local building department.

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Project Number: 206-002

Good Samaritan
A part of MultiCare Health System

HYBRID OR #1
MULTICARE GOOD SAMARITAN HOSPITAL
401 15TH AVE SE, PUYALLUP, WA 98372

PERMIT SET
11/11/2022
REVISIONS

73-19057-00

ELECTRICAL SHEET SPEC

E0.02

Lighting, Motor and Electrical Requirements List, pg 1 of 10

The following information is necessary to check a permit application for compliance with the lighting systems, motors and electrical system requirements in the Washington State Energy Code, Commercial Provisions.
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Project:
GSH Hybrid OR - 2018 WSEC
401 15TH AVE SE
PUYALLUP, WA 98372

Date: 2022-11-01

Applies	Code Section	Component	Compliance Information Required In Permit Documentation	Location in Documents	Building Department Notes
LIGHTING SCOPE					
	C103.1	Construction documents - General	For a shell & core or tenant space (first build-out) project, indicate if there is no lighting scope included in the project.		
NA	C103.1	Construction documents - General	For an alteration project, indicate if there is no lighting scope included in the project.		
LIGHTING CONTROLS					
YES	C405.2	Lighting controls, general	For all lighting fixtures, indicate lighting control method on plans for spaces and lighting zone(s) served, or exception taken	E2.01	
	C405.2, Option 2	Luminaire level lighting controls (LLLC)	Indicate on plans all fixtures provided with LLLC in lieu of C405.2 lighting controls; provide description of control capabilities and performance parameters		
	C405.2.5, Item 3 C405.2.1.1 C405.2.3.1	Lighting in dwelling units (dormitory, hotel and all other than multifamily)	Indicate method of automatic control of all installed luminaires in dwelling units in buildings other than multifamily (occupancy or light reduction controls)		
	C405.2.5, Item 2	Lighting in sleeping units	Indicate method of automatic off control of all installed luminaires in sleeping units (vacancy or key card control); also refer to Receptacles		
YES	C405.2.3 C405.2.3.1 C405.2.5	Manual controls	Indicate on plans the method of manual lighting control, location of manual control device and the area or specific application it serves	E2.01	
YES	C405.2.3.1 C405.2.1.1 C405.2.4	Manual interior light reduction controls	Indicate on plans which method of manual 50% lighting load reduction is provided, or indicate applicable exception	E2.01	
YES	C405.2.1 C405.2.2.1 C405.2.1, Exception 3	Method of automatic shut-off control	Indicate on plans the method of automatic shut-off control during unoccupied periods (occupancy sensor, time switch or digital timer switch) for all lighting zones	E2.01	
NA	C405.2.1	Occupant sensor controls	Indicate on plans all luminaires that are controlled by occupant sensor controls; indicate controls are configured to turn luminaires 100% off when the space is unoccupied		
NA	C405.2.1 C405.2.1.1	Occupant sensor controls	Indicate if occupant sensor controls are configured to be manual on or automatic on to not more than 50% power; indicate spaces eligible for exception that allows automatic on to 100% power		

Lighting, Motor and Electrical Requirements List, pg 2 of 10

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NA	C405.2.1.2	Occupant sensor controls - warehouses spaces	Indicate each aisleway and corridor within a warehouse space are designated as separate zones that are independently controlled		
NA			Indicate occupant sensors are configured to automatically reduce lighting power by 50% when the zone is unoccupied and 100% off after the zone is unoccupied for over 20 minutes; indicate controls are configured to automatically restore lighting to full power when the zone or space is occupied		
NA	C405.2.1.3	Occupant sensor controls - open plan office areas	For open plan office areas larger than 300 sf, indicate general lighting is provided with vacancy controls that reduce lighting power by not less than 80% and are configured to turn luminaires 100% off when the space is unoccupied; indicate that no individual control zone area exceeds 600 sf		
	C405.2.1.4	Occupant sensor controls - parking garages	Indicate parking garage general lighting is provided with vacancy controls that reduce lighting power by not less than 30% and are configured to turn luminaires 100% off when no vehicles or pedestrians are present, unless eligible for an exception; indicate that no individual control zone area exceeds 3,600 sf		
NA	C405.2.1.5	Occupant sensor controls - enclosed fire-rated stairwells	Indicate stairway lighting is provided with vacancy controls that reduce lighting power by not less than 50% when the stairway in unoccupied		
NA	C405.2.2.1	Automatic time switch controls	Indicate spaces on plans where time switch controls turn luminaires 100% off during unoccupied hours		
NA			Indicate spaces on plans where time switch controls are configured to turn on lighting to full power versus 50% power		
NA			Indicate locations of override switches on plans and the lighting zone(s) served; indicate that the area(s) served by each override switch does not exceeds 5,000 sf		
NA	C405.2.1, Exception 3	Digital timer switch	Indicate digital timer switch control includes: manual on/off, time delay, audible and visual indication of impending time-out		
NA	C405.2.4.2 C405.2.4.3	Daylight zones - Sidelit and toplit	Indicate primary and secondary sidelit daylight zone floor areas on plans		
NA			Indicate toplit daylight zone floor areas on plans		
NA			For small vertical fenestration assemblies (rough opening less than 10 percent of primary daylight zone floor area) where daylight responsive controls are not required, provide fenestration area to daylight zone floor area calculation(s)		

Lighting, Motor and Electrical Requirements List, pg 3 of 10

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NA	C405.2.4	Daylight responsive controls	Indicate on plans lighting zone(s) served by daylight responsive controls; indicate that the area served by each control device does not exceeds 2,500 sf		
NA			Identify sidelit and toplit daylight zones that are not provided with daylight sensing controls and the exception(s) that apply		
NA	C405.2.4.1.1	Daylight responsive controls	Indicate on plans the lighting load reduction method (continuous dimming, or stepped dimming that provides at least two even steps between 0%-100% of rated power)		
NA	C405.2.4.1	Daylight responsive controls	Indicate that daylight sensing controls are configured to completely shut off all controlled lights in the lighting zone		
NA	C405.2.5	Additional controls - Specific application lighting controls	Identify spaces and lighting fixtures on plans that require specific application lighting controls per this section		
NA	C405.2.5, Item 1	Display and accent lighting	Indicate on plans that manual controls are provided that control display, accent lighting and display case lighting independently from both general area lighting and other lighting applications within the same space		
NA			Indicate manual and automatic (occupant sensor or time switch) lighting control methods		
	C405.2.5, Item 3	Hotel/motel guest rooms	Indicate method of automatic control - vacancy or captive key control of all installed luminaires and switched receptacles in guest room		
NA	C405.2.5, Item 1	Supplemental task lighting	Indicate method and location of manual and automatic shut-off control (occupant sensor or time switch) for supplemental task lighting, including under-shelf or under-cabinet lighting		
NA	C405.2.5, Item 1	Lighting equipment for sale or demonstration	Indicate on plans that lighting equipment for sale or demonstration are controlled independently from both general area lighting and other lighting applications within the same space		
NA			Indicate manual and automatic (occupant sensor or time switch) lighting control methods		
NA	C405.2.5, Item 4	Lighting for non-visual applications	Identify all eligible non-visual lighting applications on plans; indicate that the area served by each control device does not exceeds 4,000 sf		
NA			Indicate on plans that non-visual lighting are controlled independently from both general area lighting and other lighting applications within the same space		

Lighting, Motor and Electrical Requirements List, pg 4 of 10

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NA			Indicate method of manual lighting control and applicable automatic lighting control		
NA	C405.2.5, Item 5	Means of egress lighting	Identify on plans egress fixtures that function as both normal and emergency means of egress illumination		
NA			Provide calculation of lighting power density of total egress lighting		
NA			If total egress lighting power density is greater than 0.02 W/sq. ft., indicate on plans egress fixtures requiring automatic shut-off during unoccupied periods		
NA			Indicate method of automatic shut-off control		
YES	C405.4.1 C405.4.2	Lighting control of exempt interior lighting	Indicate that exempt interior lighting equipment and lighting located within spaces that are eligible for a lighting power exemption are controlled independently from non-exempt and general area lighting	OR PROCEDURE & CNTRL RM - E2.01	
	C405.2.6	Exterior lighting controls	For decorative exterior lighting, indicate on plans automatic daylight shut-off controls, or exception taken		
			For exterior lighting that is not decorative, indicate on plans automatic daylight or time-switch shut-off controls and setback controls; or indicate exception taken		
			For lighting requiring setback controls, include control sequence that reduces lighting power by at least 30% between 12am-6am, or from 1 hour after closing to 1 hour before opening, or based upon motion sensor		
			For building facade and landscape lighting, indicate control sequence for shut-off control is based on dawn-to-dusk and business opening/closing schedule; indicate whether automatic or time switch controls will be provided for this function		
	C405.5.2	Lighting control of exempt exterior lighting	Indicate that exempt exterior lighting and lighting located within exterior areas/surfaces that eligible for a lighting power exemption are controlled independently from non-exempt exterior lighting		
	C405.5.4	Exterior gas-fired lighting appliances	Indicate ignition system is a method other then continuously burning pilot light		
YES	C405.2.7	Area controls - Master control switches and circuit power limit	Indicate location(s) of master control switch(es) intended to control multiple independent switches; circuit breaker may not be used as a master control switch	E2.01	
YES			Verify that no 20 amp circuit controlled by a single switch or automatic control is loaded beyond 80%	E4.01	
ADDITIONAL EFFICIENCY CREDIT - ENHANCED INTERIOR LIGHTING CONTROLS					

Lighting, Motor and Electrical Requirements List, pg 5 of 10

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	C406.4	Enhanced digital lighting controls	To comply with additional efficiency credit, indicate on plans that interior lighting fixtures are configured with all of the following control functions, as applicable: 1) Each fixture is individually addressed, or exception taken; 2) Fixtures are configured for continuous dimming; 3) No more than eight fixtures are controlled by a single daylight sensor; 4) In enclosed and open office areas, illumination levels of overhead general area lighting is configured to be individually adjusted by occupants		
			Include calculations that demonstrate the total lighting power of all interior lighting fixtures configured with enhanced lighting controls is no less than 90% of the total interior lighting power for the area the enhanced lighting controls credit is being applied to		
INTERIOR LIGHTING POWER & EFFICACY					
YES	C405.4.1 C405.4.2	Total connected interior lighting power	Include all luminaires in interior lighting fixture schedule; indicate fixture types, lamps, ballasts, and manufacturer's watts per fixture for the installed lamp	E2.01	
YES			Identify spaces eligible for lighting power exemption on plans and in WSEC interior lighting compliance reports; indicate the exception applied	E2.01	
YES			Identify lighting equipment eligible for lighting power exemption in fixture schedule and in WSEC interior lighting compliance reports; indicate the exception applied	E2.01	
	C405.1 C405.1.1	Lighting in dwelling units (multifamily)	For all installed luminaires, include lamp type and number of lamps in lighting fixture schedule; for lamps that are not LED, T-8 or small diameter fluorescent, indicate efficacy of other lamp types is 65 lumens per watt or greater		
			For all installed luminaires, indicate in lighting fixture schedule whether complying via lighting power density or by qualifying lamp type; if by lamp type, include number of lamps		
			For all installed luminaires, indicate in lighting fixture schedule whether complying via lighting power density or by qualifying lamp type; if by lamp type, include number of lamps		
INTERIOR LIGHTING POWER CALCULATION - INDICATE COMPLIANCE PATH TAKEN					
NA	C405.4.2.1	Building Area Method	Demonstrate that total proposed wattage per building area does not exceed maximum allowed wattage per building area; identify locations of building areas on plans; provide WSEC exterior lighting compliance reports		

Lighting, Motor and Electrical Requirements List, pg 6 of 10

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YES	C405.4.2.2	Space-By-Space Method	Demonstrate that total proposed wattage does not exceed maximum allowed wattage; identify locations of space types on plans, including retail display areas and areas with display, highlight and decorative lighting; provide WSEC exterior lighting compliance reports	E0.03	
ADDITIONAL EFFICIENCY CREDITS - REDUCED INTERIOR LIGHTING POWER DENSITY					
NA	C406.3.1 C406.3.2	Reduced interior lighting power density	To comply with additional efficiency credit, demonstrate that total connected interior lighting wattage is 10% or 20% less than the total maximum allowed lighting wattage for the area the reduced lighting power credit is being applied to; indicate whether lighting power allowance is based on the building area method or space-by-space method; provide WSEC exterior lighting compliance reports		
	C406.3	Reduced interior lighting power density - dwelling unit lamp efficacy	For project with dwelling units, to comply with additional efficiency credit indicate in lighting fixture schedule that lamps within installed interior luminaires have an efficacy rating of at least 65 lumens per watt; include number of lamps and provide calculations that demonstrate at least 95% of lamps have this efficacy rating		
EXTERIOR LIGHTING POWER & EFFICACY					
	C405.5.2	Total connected exterior lighting power	Include all luminaires in exterior lighting fixture schedule; indicate fixture types, lamps, ballasts, and manufacturer's watts per fixture for the installed lamp		
			Identify exterior applications eligible for lighting power exemption on plans and in WSEC exterior lighting compliance reports; indicate exception applied		
	C405.5.3(1)	Exterior lighting zone	Indicate building exterior lighting zone as specified by the AHJ		
	C405.5.1	Exterior building grounds lighting	For building grounds fixtures rated at greater than 50 watts, indicate rated lamp efficacy (in lumens per watt) in fixture schedule		
EXTERIOR LIGHTING POWER CALCULATION					
	C405.5.3	Tradable allowances	Demonstrate that total proposed tradable surface wattage does not exceed maximum allowed tradable surface wattage (including base site allowance); identify locations of tradable surfaces on plans; provide WSEC exterior lighting compliance reports		

Lighting, Motor and Electrical Requirements List, pg 7 of 10

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			Demonstrate that proposed wattage per non-tradable surface type does not exceed maximum allowed wattage per non-tradable surface type (including base site allowance remaining after tradable allowance calculation); identify locations of non-tradable surfaces on plans; provide WSEC exterior lighting compliance reports		
LIGHTING ALTERATIONS					
YES	C503.6.1	Interior and parking garage lighting fixture alterations	Where ≥ 50% of existing luminaires in an interior space or parking garage are replaced; indicate compliance path (building area or space-by-space method); include all new and existing-to-remain luminaires in WSEC interior lighting compliance reports; indicate proposed lighting wattage does not exceed maximum allowed per compliance path	E0.03	
NA			Where < 50% of existing luminaires in an interior space or parking garage are replaced; indicate total existing lighting wattage in each space prior to alteration; include all new and existing-to-remain luminaires in WSEC interior lighting compliance reports; indicate proposed total lighting wattage in alteration area does not exceed total existing lighting wattage prior to alteration		
			Where ≥ 50% of existing exterior lighting wattage is replaced; include all new and existing-to-remain luminaires in WSEC exterior lighting compliance reports; indicate proposed total exterior lighting wattage does not exceed maximum allowed		
			Where < 50% of existing exterior lighting wattage is replaced; indicate total existing lighting wattage prior to alteration; include all new and existing-to-remain luminaires in WSEC interior exterior compliance reports; indicate proposed total exterior lighting wattage does not exceed total existing wattage prior to alteration		
YES	C503.6.2	Interior lighting wiring and circuiting alterations	Where new wiring is installed to serve new interior luminaires and /or luminaires are relocated to a new circuit; indicate manual and automatic lighting controls are provided (as applicable) - manual (C405.2.3); occupancy sensor (C405.2.1); light reduction (C405.2.3); daylight responsive (C405.2.4); specific application (C405.2.5)	E2.01	
			Where new wiring is installed to serve new exterior luminaires and /or luminaires are relocated to a new circuit; indicate automatic lighting controls are provided (C405.2.6)		

Lighting, Motor and Electrical Requirements List, pg 8 of 10

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	C503.6.3	Lighting panel alterations	Where a new interior and/or exterior lighting panel is installed or an existing panel is moved (all new raceway and conductor wiring), indicate all applicable lighting controls requirements apply		
	C503.6.4	Newly-created rooms	Where interior space(s) is reconfigured (permanently installed walls or ceiling-height partitions) to create new enclosed spaces, indicate all applicable lighting controls requirements apply		
NA	C504.2	Lighting repairs	Identify existing luminaires being upgraded with bulb and / or ballast replacement; indicate fixture alteration does not increase existing fixture wattage		
NA	C505.1	Change of interior space use	Identify spaces on plans where the building area type or space use type is being changed from one type to another per Tables C405.4.2(1) or (2)		
NA			Indicate compliance method (building area or space-by-space); include all new and existing-to-remain luminaires in WSEC interior lighting compliance reports; indicate proposed lighting wattage does not exceed maximum allowed per compliance path		
RECEPTACLES					
	C405.10	Controlled receptacles	Identify all controlled and uncontrolled receptacles on electrical plans in each space in which they are required; include receptacle configuration such as spacing between controlled and uncontrolled, duplex devices, etc		
			Provide schedule that lists the number of controlled and uncontrolled receptacles in each space where controlled receptacles are required - classrooms, private offices, open office areas, conference rooms, copy rooms, break rooms and modular partitions/workstations		
			Indicate on plans the method of automatic control for each controlled receptacle zone (occupant sensor or programmable time-of-day control); indicate that each zone served by a single controller does not exceed 5,000 sf		
	C405.2.5, Item 2	Switched receptacles in sleeping units	Indicate method of automatic off control of all switched receptacles in sleeping units (vacancy or key card control)		
	C503.6.6	Electrical receptacle alerations	Where new receptacles are added or replaced within an alteration project that is 5,000 sf or larger, indicate receptacles are provided with automatic controls per C405.10, or exception taken		
MOTORS, TRANSFORMERS, ELECTRIC METERS, INTERIOR TRANSPORTATION					

Lighting, Motor and Electrical Requirements List, pg 9 of 10

2018 WSEC Requirements for Commercial Buildings including Group R2, R3 & R4 over 3 stories & all R1 -- Administered by ©2022 NEEA, All rights reserved
The following information is necessary to check a permit application for compliance with the lighting systems, motors and electrical system requirements in the Washington State Energy Code, Commercial Provisions.
For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

	C405.6	Electrical transformers	Include electrical transformer schedule on electrical plans; indicate transformer type, size, efficiency, or exception taken		
NA	C405.11	Feeders and branch circuits	Provide documentation that demonstrates maximum voltage drop across feeders and branch circuits does not exceed 5%		
	C405.7	Dwelling unit electrical energy consumption	Indicate on electrical plans that each dwelling unit in Group R-2 has a separate electrical energy meter		
	C405.8	Electric motor efficiency	Include all motors, including fractional hp motors, in electric motor schedule on electrical plans; indicate motor type, horsepower, rpm, rated efficiency, or exception applied		
	C405.9.1	Elevator cabs	For luminaires in each elevator cab, provide calculations that demonstrate average efficacy is not less than 35 lumens per watt		
			For elevators that do not have an integral air conditioning system, indicate rated watts per cfm for elevator cab ventilation fans do not exceed 0.33 watts per cfm		
			Indicate automatic controls that de-energize lighting and ventilation fans when elevator is stopped and unoccupied for a period of 15 minutes or more		
	C405.9.2	Escalators and moving walks	Indicate escalators comply with ASME A17.1/CSA B44; automatic controls are configured to reduce operational speed to the minimum permitted when not in use		
	C405.9.3	Regenerative drive	Indicate all one-way down or reversible escalators are provided with a variable frequency regenerative drive		
DOCUMENTATION AND SYSTEM REQUIREMENTS TO SUPPORT COMMISSIONING (CX)					
	C408.4	Scope of electrical power and lighting systems commissioning	Indicate that all electrical systems (receptacles, transformers, motors, vertical and horizontal transportation) for which the WSEC requires control functions and / or configuration to perform specific functions are required to be commissioned		
			Where total building lighting load is > 20 kW, or where total lighting load of luminaires requiring daylight sensing and / or occupancy control > 10 kW, indicate that all automatic lighting control systems are required to be commissioned; or provide building lighting power calculation demonstrating eligibility for exception		
	C405.13 C408.1.1 C408.1.2 C408.1.4.2 C103.6.3	Commissioning requirements in construction documents	Indicate Cx requirements in plans and specifications for all applicable electrical and lighting control systems per C408		

Lighting, Motor and Electrical Requirements List, pg 10 of 10

2018 WSEC Requirements for Commercial Buildings including Group R2, R3 & R4 over 3 stories & all R1 -- Administered by ©2022 NEEA, All rights reserved
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For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

	C408.1.2 C408.1.2.1 C408.1.4 C103.6.3	Commissioning requirements in construction documents	Include general summary of Cx plan per C408.1.2 including: 1) Narrative description of activities; 2) Responsibilities of the Cx team; 3) Schedule of activities including verification of project close out documentation per C103.6; 4) Conflict of interest plan (if required)		
	C408.1.2 C408.1.4 C103.6.3	Commissioning requirements in construction documents	Include in general summary that a Cx project report and Compliance Checklist (Figure C408.1.4.1) shall be completed by the Certified Cx Professional and provided to the owner prior to the final electrical inspection		
YES	C408.4.1	Functional performance testing criteria	Identify in plans and specifications the intended operation of all equipment and controls during all modes of operation, including interfacing between new and existing-to-remain systems	E0.01/E0.02	
PROJECT CLOSE OUT DOCUMENTATION					
YES	C103.6.3	Project close out documentation requirements	Indicate in plans that project close out documentation is required including WSEC lighting compliance reports that document all interior and exterior lighting area and / or surface types, lighting power allowances and installed densities	E0.01/E0.02	

If "no" is selected for any question, provide explanation.

LIGHTING COMPLIANCE SUMMARY

2018 WSEC Compliance Forms for Commercial Buildings including Group R2, R3 & R4 over 3 stories and all R1

Project & Applicant Information	**Project Title**	GSH Hybrid OR - 2018 WSEC	For Building Department Use: **Date: Nov 01, 2022**
	Project Address	401 15TH AVE SE PUYALLUP, WA 98372	
	Applicant Name	Mahta Ahmadnia	
	Applicant Phone	206-432-5064	
	Applicant Email	mahmadnia@dlrgroup.com	

For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

General Occupancy	All Commercial	**General Building Use Type**			Healthcare, Hospital	**Building Cond. Floor Area**	169,884
General Project Types	Alteration	**New Building or Addition Lighting Scope**		**Alteration Lighting Scope**	Interior Lighting	**Project Cond. Floor Area**	1,325
						Floors Above Grade	2
						Compliance Method	Compliance Method 1 - General
Lighting Project Description	New LED and Integral Ceiling Lighting for OR T.I.						

Lighting Compliance Scope and Method	**Project Type**	**Interior / Exterior** (Interior includes both interior & parking)	**Luminaire Replacement Scope**	**Compliance Method**	**LPA Calculation Adjustment**	**Compliance Verification**
	Alteration	Interior Lighting	50% or more replaced	Space by space	No Calculation Adjustments allowed	**COMPLIES**
Additional Efficiency Options Included						

Project Title	**GSH Hybrid OR - 2018 WSEC**	**Date**	**Nov 01, 2022**
Lighting Power Calculation	**ALTERATION - INTERIOR LIGHTING (50% or more replaced)**	**Compliance Verification**	**COMPLIES**
Compliance Method	**Space by space**	**LPA Calculation Adjustment**	**none**

Interior Lighting Power Allowance - Space by Space

General Space Type	Specific Space Type	Ceiling Height (Ft)	Gross Interior Area (SF)	LPA (Watts/SF)	Total Watts Allowed (SF x LPA x 1)	Total Proposed Watts (LPD + Display LPD)	Compliance Status
Healthcare facility	Operating room		735	2.26	1,661		
				Proposed Total LPD		**301**	
	Totals				**1,661**	**301**	**COMPLIES**

Proposed Lighting Power Density

Fixture Type	Fixture ID	Quantity of Fixtures (#F)	Watts or Wattage Limit per Fixture (WpF)	Total Linear Feet (LF)	Watts per Linear Foot (WpLF)	Total Watts Proposed (#F x WpF) or (LF x WpLF)
Individual Fixtures						
Troffer	R1	7	43			301
Exempt Fixtures						
Medical & dental task	INTEGRAL CEILING LIGHTING	1				
					Proposed Total LPD	**301**

Project Title	**GSH Hybrid OR - 2018 WSEC**	**Date**	**Nov 01, 2022**
Proposed Fixtures Details	**ALTERATION - INTERIOR LIGHTING (50% or more replaced)**		

Fixture Type/Application	Fixture ID	Location in Documents	Lamp Type		New or Existing-to-Remain
Individual Fixtures					
Troffer	R1	E2.01	LED		New
	Fixture Description: GASKETED LED 1X4			Are these fixtures located within a daylight zone?: No	
	Do these fixtures require specific application lighting controls?: None required				
Exempt Fixtures					
Medical & dental task	INTEGRAL CEILING LIGHTING	E2.01			New
	Fixture Description: INTEGRAL CEILING LIGHTING			Do these fixtures require specific application lighting controls?: Exit access & egress lighting per IBC Section 1006.1	

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

- See accompanying project comment form for review status and corrections.
- This is not a building permit, check with your local building department.

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PERMIT SET
11/11/2022
REVISIONS

73-19057-00

WSEC COMPLIANCE FORMS

E0.03

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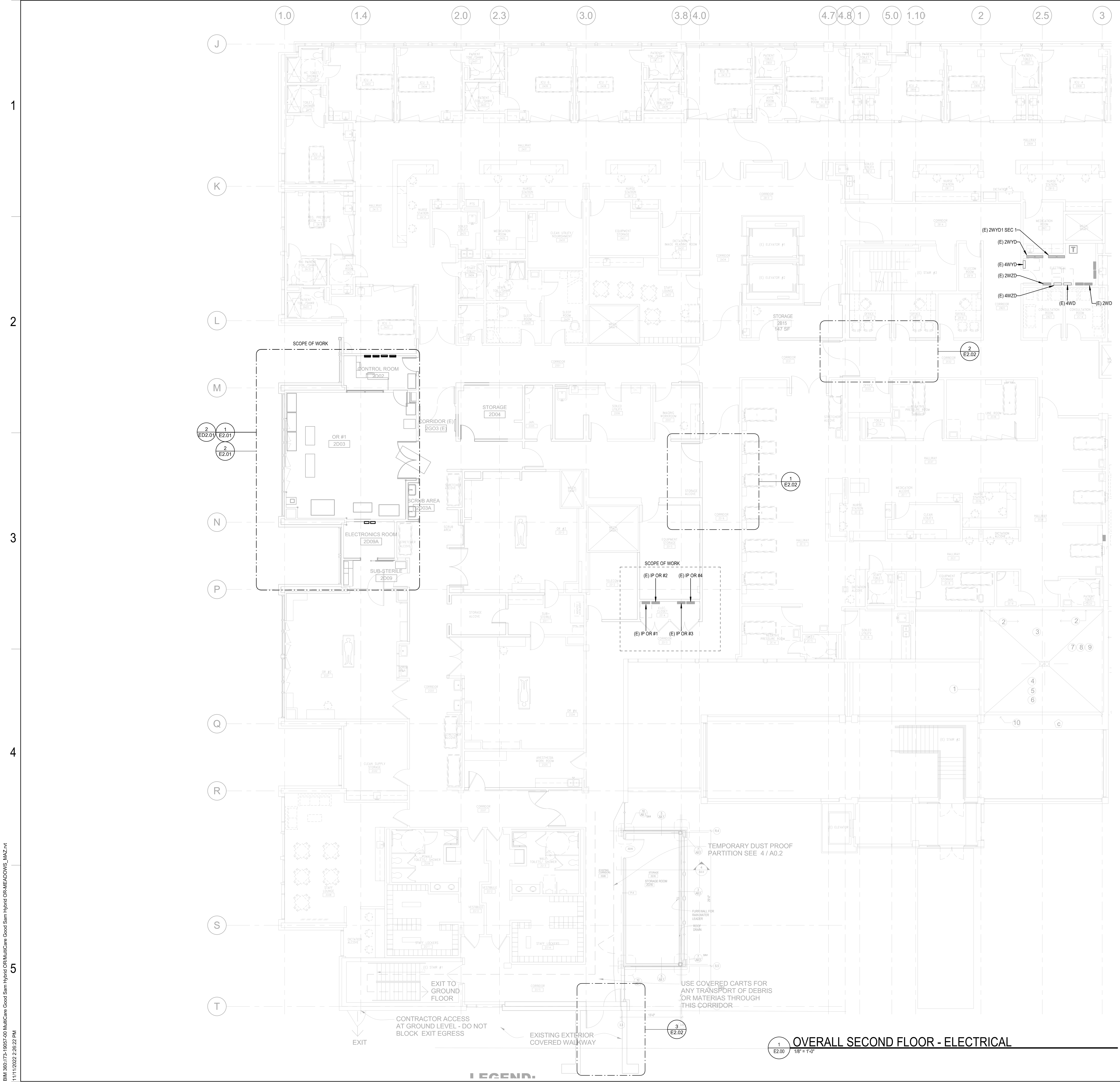

OVERALL SECOND FLOOR - ELECTRICAL

1/8" = 1'-0"

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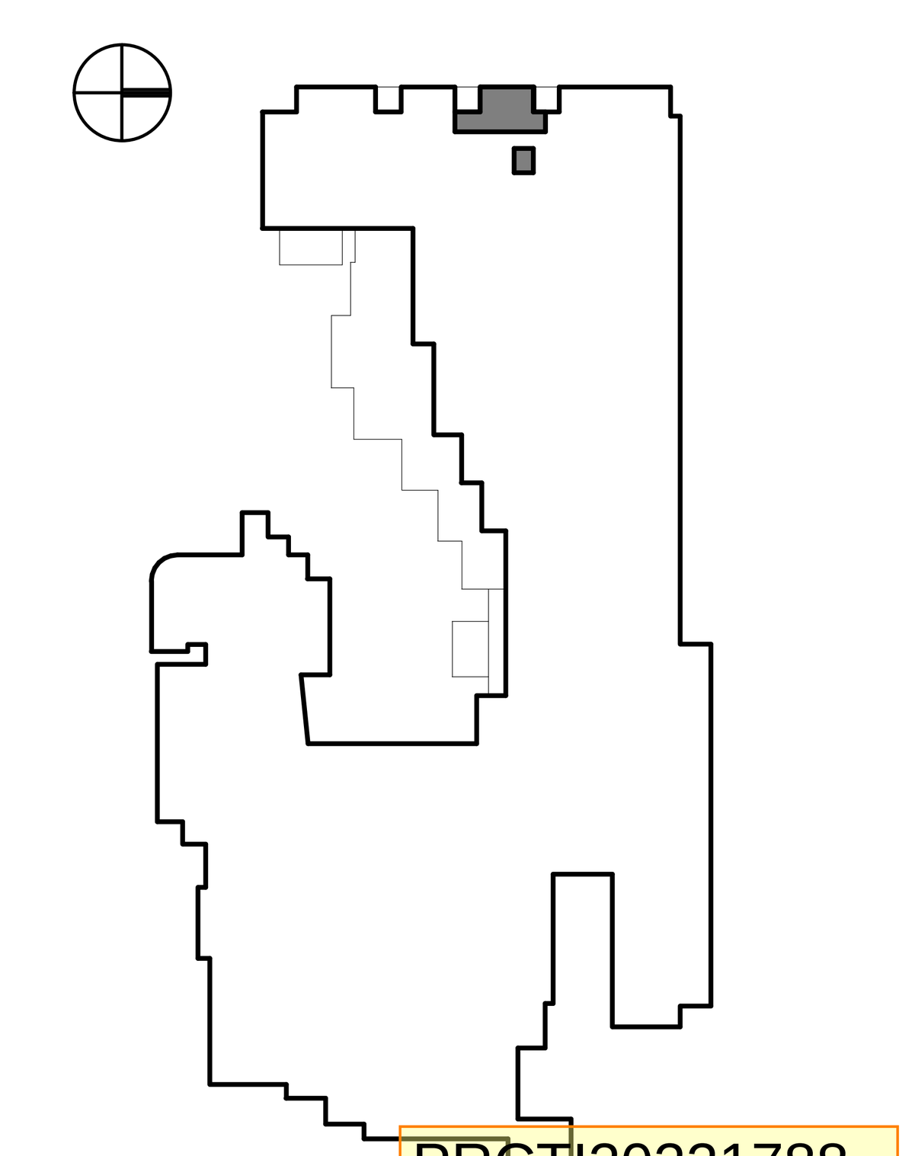
KEY PLAN - LEVEL 2

AREA OF WORK



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ELECTRICAL OVERALL SECOND FLOOR

E2.00

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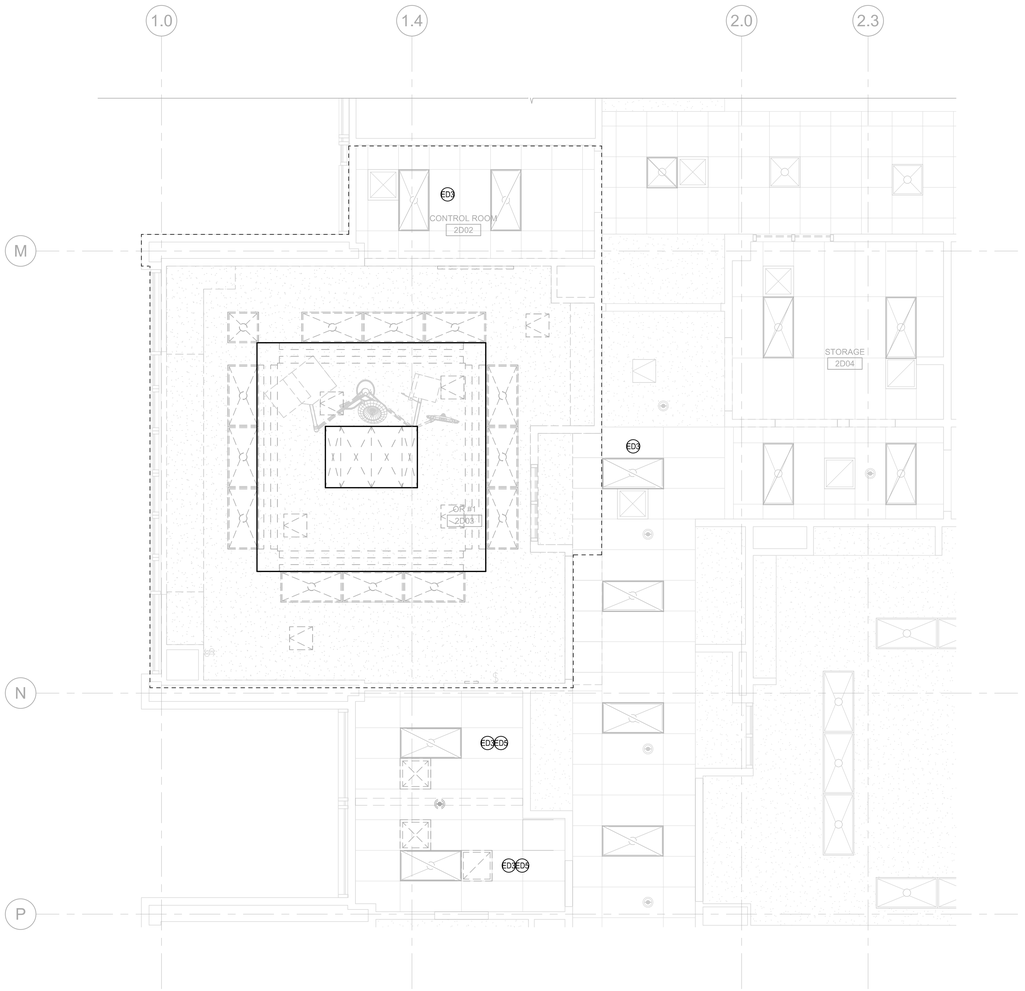
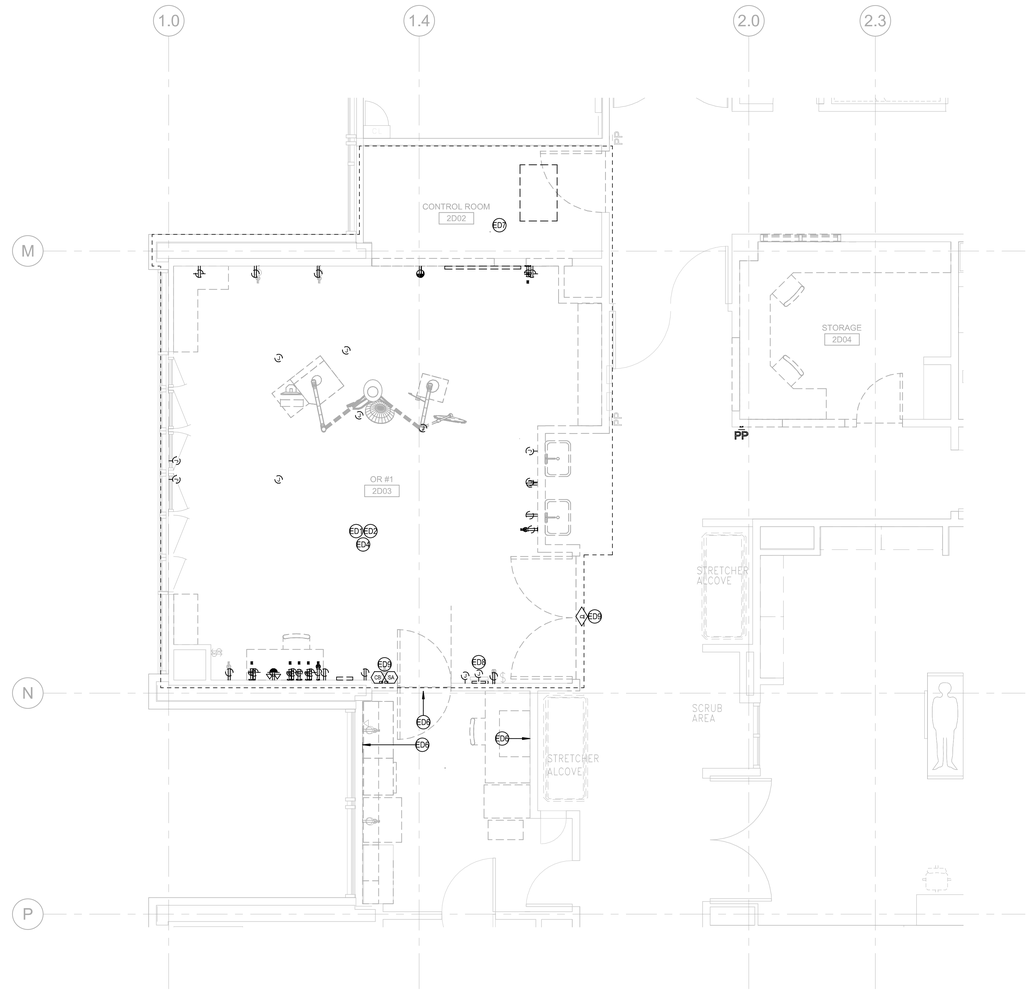


1 ED2.01 SECOND FLOOR - LIGHTING DEMO

1/4" = 1'-0"



2 ED2.01 SECOND FLOOR PLAN - ELECTRICAL DEMO

1/4" = 1'-0"

SHEET NOTES

A. EXISTING INFORMATION ARE BASED ON EXISTING AS-BUILTS. CONTRACTOR TO FIELD VERIFY EXACT SITE CONDITIONS PRIOR TO ANY WORK.

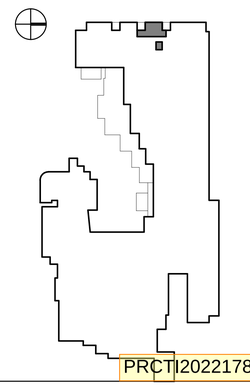
B. REFER TO SIEMENS SHOP DRAWING PLANS FOR SIEMENS SUPPLIED EQUIPMENT AND MATERIALS, EXACT LOCATIONS OF EQUIPMENT AND RELATED DEVICES, WIREWAYS, CONDUIT, ENCLOSURES, ETC. AND COORDINATE POWER AND CONTROL CONNECTIONS PRIOR TO ROUGH IN.

KEYNOTES

ED1	ALL ELECTRICAL DEVICES IN THIS SPACE TO BE REMOVED, ALONG WITH ALL ASSOCIATED WIRING, UNLESS NOTED OTHERWISE.
ED2	EXISTING FIRE ALARM DEVICES IN THIS SPACE TO BE DISCONNECTED AND RECONNECTED IN SAME LOCATION ON NEW CEILING.
ED3	EXISTING LIGHTING AND CONTROLS IN THIS SPACE TO REMAIN, UNLESS NOTED OTHERWISE.
ED4	EXISTING NURSE CALL DEVICES IN THIS SPACE TO REMAIN.
ED5	EXISTING LIGHTING TO BE CONNECTED TO NEW CONTROLS. SEE NEW WORK PLAN FOR ADDITIONAL INFORMATION.
ED6	EXISTING ELECTRICAL DEVICES ALONG THIS WALL TO BE REMOVED, ALONG WITH ALL ASSOCIATED WIRING, UNLESS NOTED OTHERWISE.
ED7	ALL ELECTRICAL DEVICES IN THIS SPACE TO REMAIN, UNLESS NOTED OTHERWISE.
ED8	EXISTING ISOLATED POWER PANEL REMOTE ANNUCIATOR TO BE RELOCATED.
ED9	NURSE CALL DEVICES TO BE DISCONNECTED AND REMOVED. WIRING TO BE REMOVED TO ACCESSIBLE CEILING SPACE TO BE EXTENDED TO NEW LOCATION IN NEW WORK PHASE.

KEY PLAN - LEVEL 2

AREA OF WORK



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ELECTRICAL ENLARGED DEMO PLANS

ED2.01

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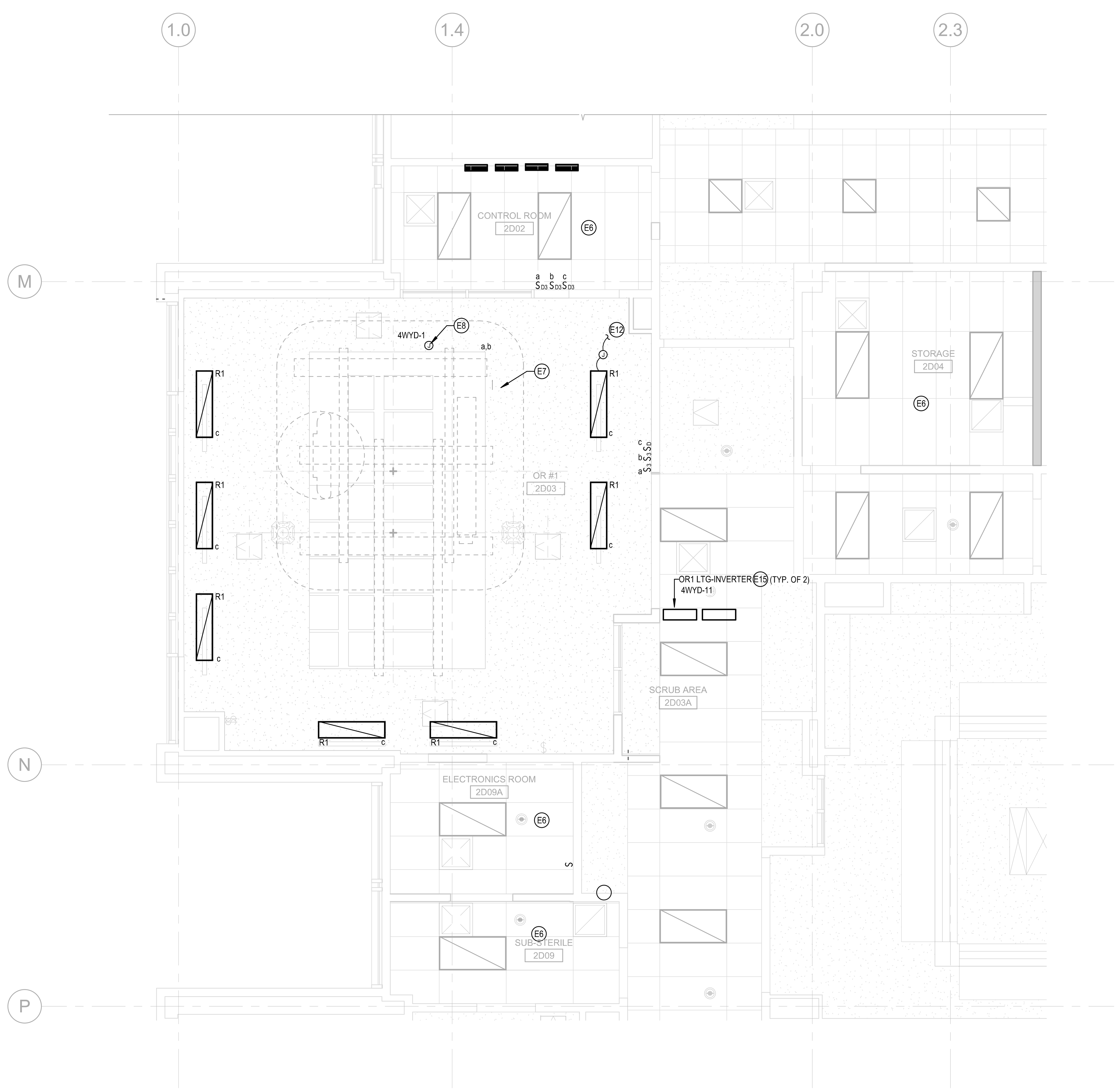
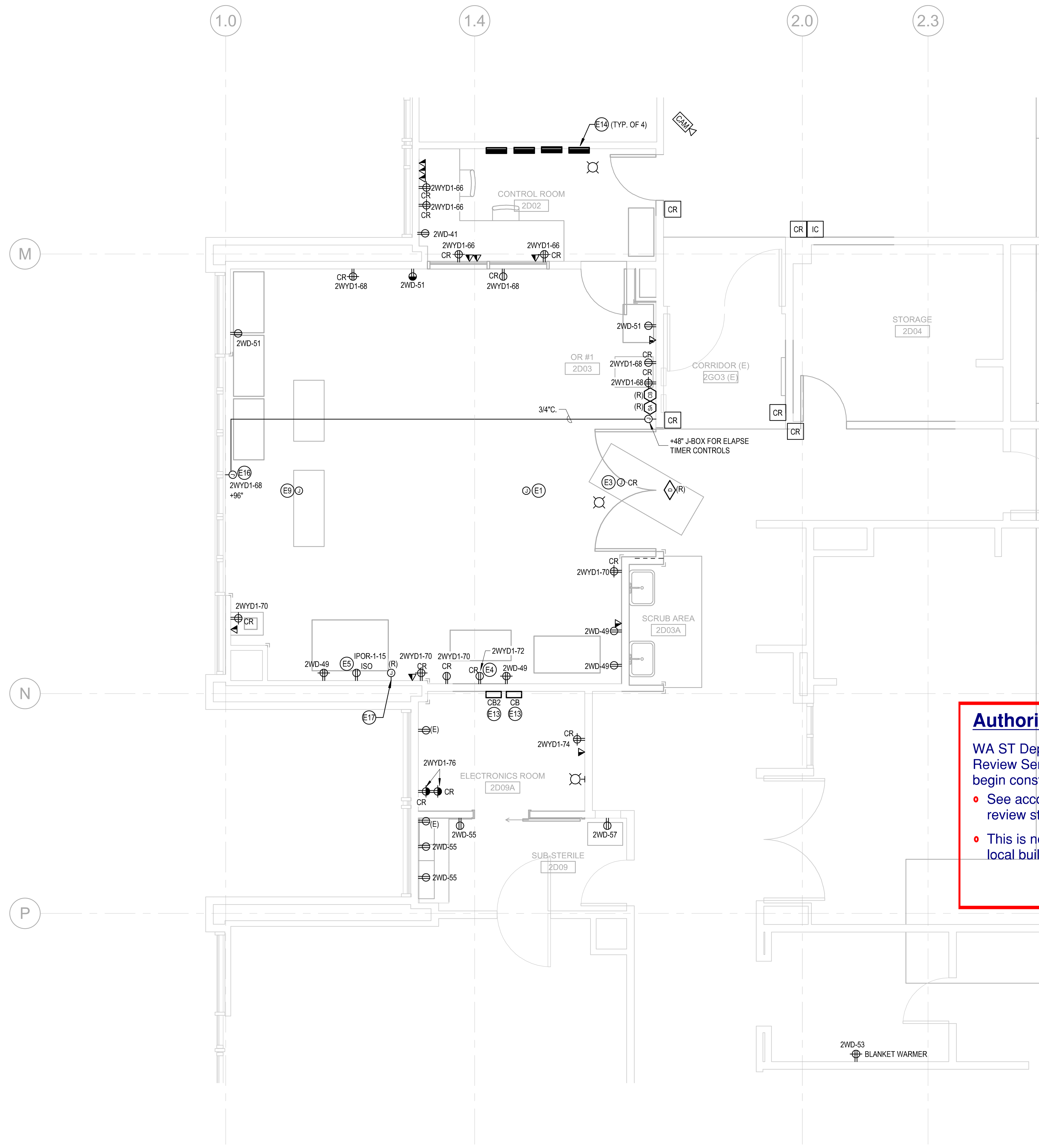
LUMINAIRE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	MODEL	LUMENS	WATTS	CCT	CRI	FINISH	DRIVER TYPE	DIMMING INTERFACE	VOLTS	NOTES
R1	RECESSED MOUNTED 1' X 4' OR LUMINAIRE SEALED AND GASKETED WITH INTEGRAL DIMMING DRIVER AND POWER SUPPLY.	KENALL	MEDMASTER M4SEDI SERIES	4027	43 W	4000K	90	WHITE	INTEGRAL DRIVER	0-10V	277 V	



1 / E2.01 SECOND FLOOR - LIGHTING
1/4" = 1'-0"



2 / E2.01 SECOND FLOOR PLAN - ELECTRICAL
1/4" = 1'-0"

Authorized to Begin Construction

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LIGHTING SHEET NOTES

A. REFER TO ARCHITECTURAL DRAWINGS FOR SCOPE OF WORK AREAS.

B. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND ORIENTATION OF LUMINAIRES AND DEVICES, CEILING TYPES AND MOUNTING HEIGHTS PRIOR TO INSTALLATION.

C. ALL LUMINAIRES AND DEVICES SHOWN ARE NEW, UNLESS OTHERWISE NOTED.

D. REFER TO LUMINAIRE SCHEDULE FOR MORE INFORMATION.

E. WHERE POSSIBLE INSTALL ADJACENT SWITCHES UNDER ONE COMMON FACEPLATE.

F. ALL NEW CONDUIT SHALL BE CONCEALED IN WALLS AND CEILING OR BELOW FLOORS, UNLESS OTHERWISE NOTED.

G. WHERE EXPOSED CONDUIT IS NOTED, CONTRACTOR SHALL IDENTIFY ROUTING IN FIELD AND OBTAIN ARCHITECT'S APPROVAL OF ROUTING PRIOR TO ROUGH-IN. EXPOSED CONDUIT SHALL BE ROUTED TIGHT TO STRUCTURE.

H. MINIMUM 0-10V CONTROL WIRE SIZE SHALL BE #16 AWG FOR RUNS LONGER THAN 400'. FOR RUNS SHORTER THAN 400', PROVIDE #18 AWG WIRE. PROVIDE 0-10V WIRING TO ALL DIMMABLE 0-10V LIGHTING FIXTURES.

I. PROVIDE A DEDICATED NUETRAL FOR EACH CIRCUIT.

J. CLEAN AND RELAMP EXISTING TO REMAIN LUMINAIRES WITHIN SCOPE.

K. REUSE EXISTING UNUSED CIRCUITS IN SCOPE OF WORK.

SHEET NOTES

A. REFER TO ARCHITECTURAL DRAWINGS FOR SCOPE OF WORK AREAS.

B. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT MOUNTING HEIGHT AND LOCATION OF ALL DEVICES AND MISCELLANEOUS EQUIPMENT PRIOR TO INSTALLATION.

C. ALL DEVICES SHOWN ARE NEW, UNLESS OTHERWISE NOTED.

D. COORDINATE EXACT EQUIPMENT LOCATION OF ALL MECHANICAL AND PLUMBING EQUIPMENT WITH MECHANICAL AND PLUMBING DRAWINGS PRIOR TO INSTALLATION. INSTALL PER MANUFACTURER RECOMMENDATIONS. REFER TO EQUIPMENT SCHEDULE AND PANEL SCHEDULES FOR MORE INFORMATION.

E. NO PIPING, DUCTS OR OTHER EQUIPMENT FOREIGN TO THE ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN THE DEDICATED SPACES FOR SWITHBOARDS AND PANELBOARDS.

F. ALL NEW CONDUIT SHALL BE CONCEALED IN WALLS AND CEILING OR BELOW FLOORS, UNLESS OTHERWISE NOTED.

G. WHERE EXPOSED CONDUIT IS NOTED, CONTRACTOR SHALL IDENTIFY ROUTING IN FIELD AND OBTAIN ARCHITECT'S APPROVAL OF ROUTING PRIOR TO ROUGH-IN. EXPOSED CONDUIT SHALL BE ROUTED TIGHT TO STRUCTURE.

H. WIRE SIZES ARE BASED ON BEST ESTIMATE OF HOW WIRING WILL BE ROUTED IN THE FIELD. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING INCREASED WIRE SIZES DUE TO FIELD CONDITIONS RESULTING IN EXTENDED CONDUIT PATHS. GROUND WIRE SIZES ARE REQUIRED TO BE ADJUSTED PER ARTICLE 250 OF THE NEC WHEN WIRES ARE INCREASED FOR VOLTAGE DROP.

I. CONTRACTOR TO MAINTAIN CONTINUITY OF CIRCUITS FEEDING DEVICES INDICATED TO REMAIN AND ANY CIRCUITS SERVICING DEVICES OUTSIDE THE PROJECT BOUNDARY.

J. PROVIDE A DEDICATED NUETRAL FOR EACH CIRCUIT.

K. REFER TO VENDOR SHOP DRAWINGS FOR EXACT MOUNTING HEIGHT AND LOCATION OF ALL DEVICES AND MISCELLANEOUS EQUIPMENT PRIOR TO INSTALLATION.

KEYNOTES

E1 PROVIDE POWER FOR CEILING MOUNTED NURSE BOOM FROM ISOLATION PANEL. COORDINATE ROUTING WITH MEDICAL SYSTEM VENDOR. SEE ISOLATION PANEL SCHEDULE FOR CIRCUITING.

E3 PROVIDE POWER FOR DOOR OPERATOR. DOOR OPERATOR SHALL HAVE OVERRIDE FUNCTION TO DISABLE OPERATORS DURING CASE.

E4 PROVIDE POWER FOR ANESTHESIA PYXIS.

E5 PROVIDE POWER FOR ANESTHESIA MACHINE.

E6 EXISTING LIGHTING AND CONTROLS TO REMAIN.

E7 LIGHTING SHALL BE PROVIDED BY INTEGRATED CEILING MANUFACTURER. COORDINATE POWER CONNECTION AS REQUIRED. INTEGRATED CEILING LIGHTING SHALL BE CONTROLLED BY ZONE "a" FOR INTERIOR AND ZONE "b" FOR EXTERIOR, DIMMABLE.

E8 PROVIDE POWER CONNECTION TO INTEGRATED CEILING LIGHTING SYSTEM FROM CONTROL PANELS LOCATED IN CONTROL ROOM. PROVIDE ALL CONDUIT AND WIRING TO CONTROLS AND INTEGRATED CEILING PER MANUFACTURER REQUIREMENTS.

E9 PROVIDE POWER FOR CEILING MOUNTED ANESTHESIA BOOM FROM ISOLATION PANEL. COORDINATE ROUTING WITH MEDICAL SYSTEM VENDOR. SEE ISOALATION PANEL SCHEDULE FOR CIRCUITING.

E10 LIGHTING TO BE CONNECTED TO OR#1 LIGHTING INVERTER.

E12 INTERCEPT AND EXTEND EXISTING CRITICAL BRANCH LIGHTING CIRCUIT TO NEW LED LUMINAIRES.

E13 ENCLOSED CIRCUIT BREAKER. REFER TO ONE LINE DIAGRAM ON SHEET E3.01 FOR CIRCUIT DESIGNATION, SIZE, FEEDER AND ADDITIONAL INFORMATION.

E14 INTEGRATED CEILING LED DRIVER CABINET. REFER TO ULTRASUITE SHOP DRAWINGS FOR REQUIRED CONNECTIONS AND ADDITIONAL INFORMATION. REFER TO ONE LINE DIAGRAM ON SHEET E3.01 FOR ADDITIONAL INFORMATION.

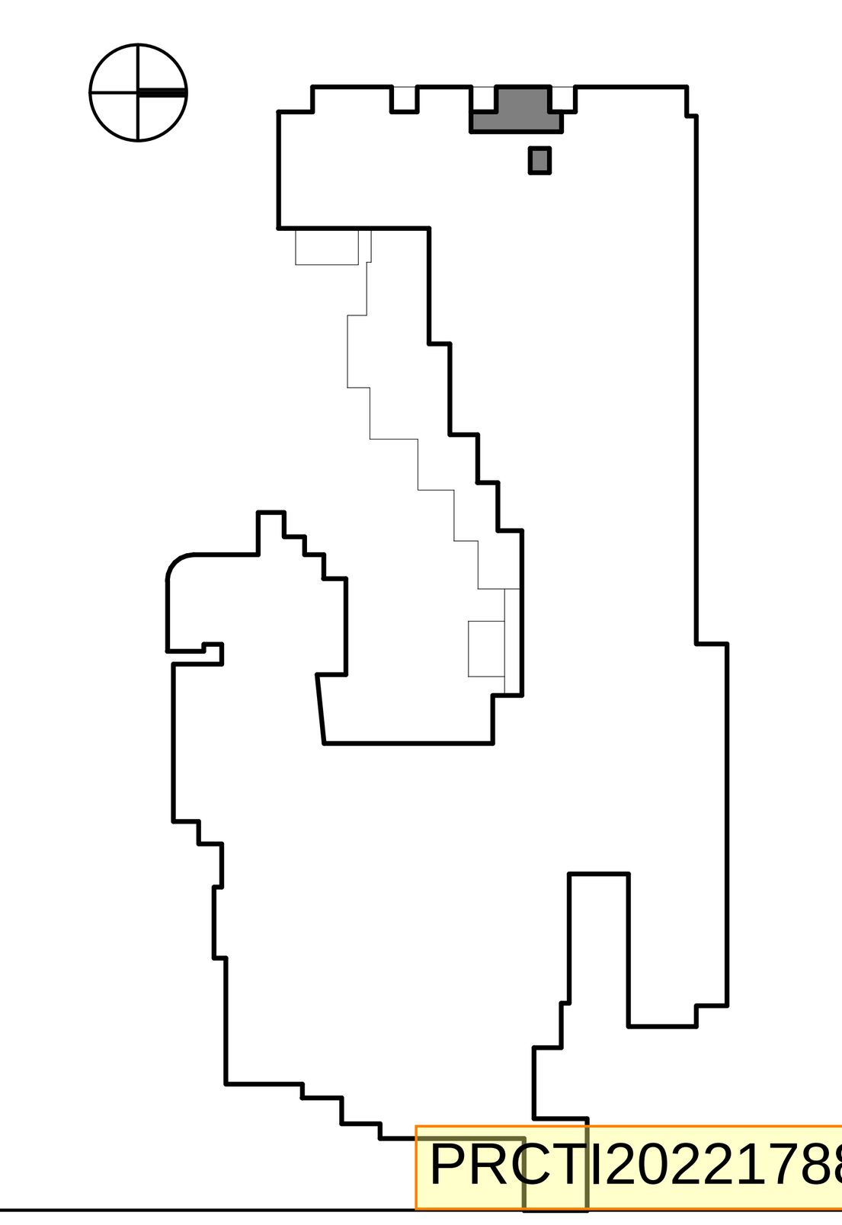
E15 PROVIDE 250VA MYERS ILLUMINATOR LVM INVERTER FOR EMERGENCY LIGHTING IN OR#1 AND LOCATE IN ACCESSIBLE CEILING SPACE.

E16 PROVIDE BRANCH CIRCUIT CONNECTION TO ELAPSE TIMER.

E17 NEW LOCATION OF EXISTING ISOLATED POWER PANEL REMOTE ANNUCIATOR.

KEY PLAN - LEVEL 2

AREA OF WORK



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ERIC C. SWEET — STATE OF WASHINGTON — 40943 — REGISTERED PROFESSIONAL ENGINEER

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ELECTRICAL ENLARGED PLANS

E2.01

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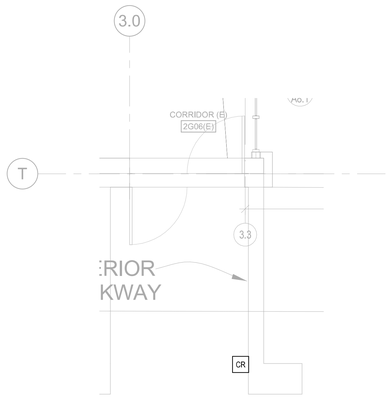
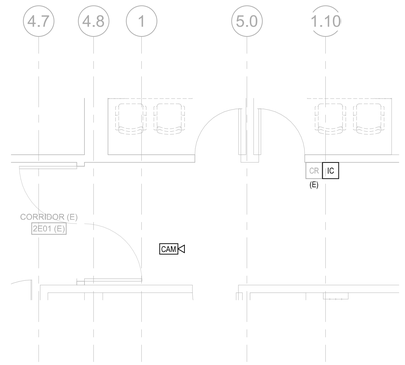
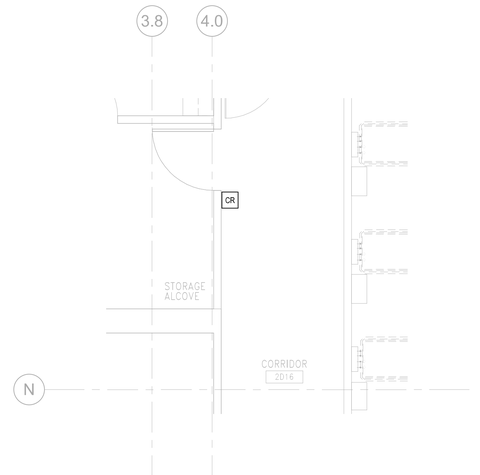


3 E2.02 ELECTRICAL ENLARGED PLAN - CORRIDOR 2G06
1/4" = 1'-0"



2 E2.02 ELECTRICAL ENLARGED PLAN - CORRIDOR 2E02
1/4" = 1'-0"



1 E2.02 ELECTRICAL ENLARGED PLAN - CORRIDOR 2D16
1/4" = 1'-0"

SHEET NOTES

A. REFER TO ARCHITECTURAL DRAWINGS FOR SCOPE OF WORK AREAS.

B. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT MOUNTING HEIGHT AND LOCATION OF ALL DEVICES AND MISCELLANEOUS EQUIPMENT PRIOR TO INSTALLATION.

C. ALL DEVICES SHOWN ARE NEW, UNLESS OTHERWISE NOTED.

D. COORDINATE EXACT EQUIPMENT LOCATION OF ALL MECHANICAL AND PLUMBING EQUIPMENT WITH MECHANICAL AND PLUMBING DRAWINGS PRIOR TO INSTALLATION. INSTALL PER MANUFACTURER RECOMMENDATIONS. REFER TO EQUIPMENT SCHEDULE AND PANEL SCHEDULES FOR MORE INFORMATION.

E. NO PIPING, DUCTS OR OTHER EQUIPMENT FOREIGN TO THE ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN THE DEDICATED SPACES FOR SWITHBOARDS AND PANELBOARDS.

F. ALL NEW CONDUIT SHALL BE CONCEALED IN WALLS AND CEILING OR BELOW FLOORS, UNLESS OTHERWISE NOTED.

G. WHERE EXPOSED CONDUIT IS NOTED, CONTRACTOR SHALL IDENTIFY ROUTING IN FIELD AND OBTAIN ARCHITECT'S APPROVAL OF ROUTING PRIOR TO ROUGH-IN. EXPOSED CONDUIT SHALL BE ROUTED TIGHT TO STRUCTURE.

H. WIRE SIZES ARE BASED ON BEST ESTIMATE OF HOW WIRING WILL BE ROUTED IN THE FIELD. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING INCREASED WIRE SIZES DUE TO FIELD CONDITIONS RESULTING IN EXTENDED CONDUIT PATHS. GROUND WIRE SIZES ARE REQUIRED TO BE ADJUSTED PER ARTICLE 250 OF THE NEC WHEN WIRES ARE INCREASED FOR VOLTAGE DROP.

I. CONTRACTOR TO MAINTAIN CONTINUITY OF CIRCUITS FEEDING DEVICES INDICATED TO REMAIN AND ANY CIRCUITS SERVICING DEVICES OUTSIDE THE PROJECT BOUNDARY.

J. PROVIDE A DEDICATED NUETRAL FOR EACH CIRCUIT.

K. REFER TO VENDOR SHOP DRAWINGS FOR EXACT MOUNTING HEIGHT AND LOCATION OF ALL DEVICES AND MISCELLANEOUS EQUIPMENT PRIOR TO INSTALLATION.

Authorized to Begin Construction

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Project Number: 206-002

Good Samaritan
A part of MultiCare Health System

HYBRID OR #1
MULTICARE GOOD SAMARITAN HOSPITAL
401 15TH AVE SE, PUYALLUP, WA 98372

PERMIT SET
11/11/2022
REVISIONS

73-19057-00

ELECTRICAL ENLARGED PLANS

E2.02

BIM 360://73-19057-A0 MultiCare Good Sam Hybrid OR/MultiCare Good Sam Hybrid OR-MEADOWS_MAZ.rvt
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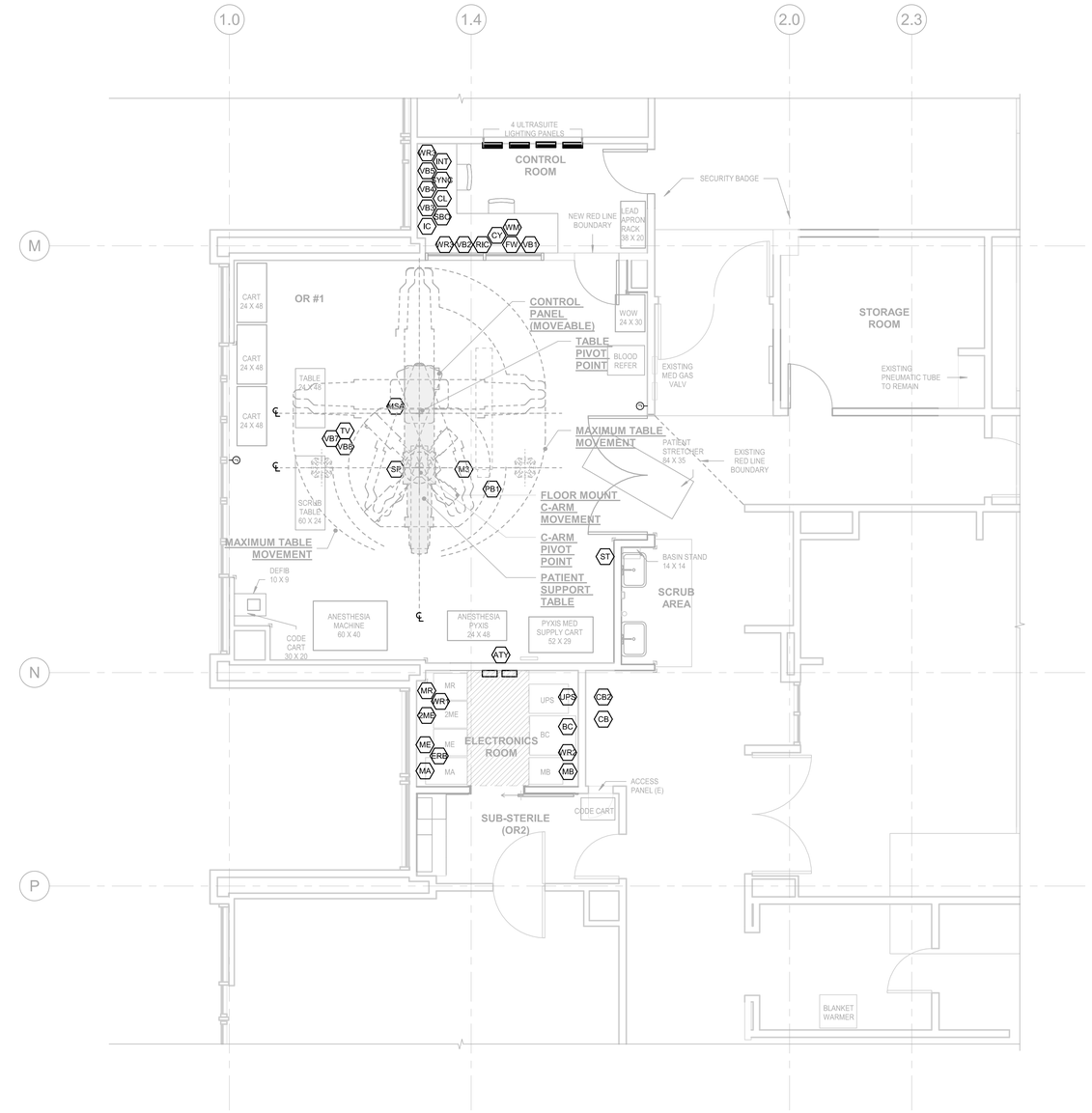

1 E2.03 SECOND FLOOR PLAN - BOX & CONDUIT PLAN

1/4" = 1'-0"

SHEET NOTES

A. REFER TO ARCHITECTURAL DRAWINGS FOR SCOPE OF WORK AREAS.

B. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT MOUNTING HEIGHT AND LOCATION OF ALL DEVICES AND MISCELLANEOUS EQUIPMENT PRIOR TO INSTALLATION.

C. ALL DEVICES SHOWN ARE NEW, UNLESS OTHERWISE NOTED.

D. COORDINATE EXACT EQUIPMENT LOCATION OF ALL MECHANICAL AND PLUMBING EQUIPMENT WITH MECHANICAL AND PLUMBING DRAWINGS PRIOR TO INSTALLATION. INSTALL PER MANUFACTURER RECOMMENDATIONS. REFER TO EQUIPMENT SCHEDULE AND PANEL SCHEDULES FOR MORE INFORMATION.

E. NO PIPING, DUCTS OR OTHER EQUIPMENT FOREIGN TO THE ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN THE DEDICATED SPACES FOR SWITHBOARDS AND PANELBOARDS.

F. ALL NEW CONDUIT SHALL BE CONCEALED IN WALLS AND CEILING OR BELOW FLOORS, UNLESS OTHERWISE NOTED.

G. WHERE EXPOSED CONDUIT IS NOTED, CONTRACTOR SHALL IDENTIFY ROUTING IN FIELD AND OBTAIN ARCHITECT'S APPROVAL OF ROUTING PRIOR TO ROUGH-IN. EXPOSED CONDUIT SHALL BE ROUTED TIGHT TO STRUCTURE.

H. WIRE SIZES ARE BASED ON BEST ESTIMATE OF HOW WIRING WILL BE ROUTED IN THE FIELD. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING INCREASED WIRE SIZES DUE TO FIELD CONDITIONS RESULTING IN EXTENDED CONDUIT PATHS. GROUND WIRE SIZES ARE REQUIRED TO BE ADJUSTED PER ARTICLE 250 OF THE NEC WHEN WIRES ARE INCREASED FOR VOLTAGE DROP.

I. CONTRACTOR TO MAINTAIN CONTINUITY OF CIRCUITS FEEDING DEVICES INDICATED TO REMAIN AND ANY CIRCUITS SERVICING DEVICES OUTSIDE THE PROJECT BOUNDARY.

J. PROVIDE A DEDICATED NUETRAL FOR EACH CIRCUIT.

K. REFER TO VENDOR SHOP DRAWINGS FOR EXACT MOUNTING HEIGHT AND LOCATION OF ALL DEVICES AND MISCELLANEOUS EQUIPMENT PRIOR TO INSTALLATION.

Authorized to Begin Construction

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03/08/2023 8:28:44 PM

NO.	FROM	TO	CONDUIT QTY	CONDUIT SIZE
1	ERB	GE	1	3/4"
2	ERB	ROOM OUTLETS	1	3/4"
3	MA	WL	1	3/4"
4	ATY	DS	1	3/4"
5	ATY	MA	1	2-1/2"
6	ATY	TV	1	3/4"
7	SP	ME	2	1-1/2"
8	SP	ME	1	1-1/2"
9	SP	ME	1	1"
10	SP	ME	1	2-1/2"
11	SP	MR	1	2"
12	SP	MR	1	2-1/2"
13	MSA	MA	1	2"
14	MSA	MA	1	3"
15	MSA	MA	1	1-1/2"
16	MSA	MR	1	2"
17	MSA	MR	1	2"
18	TV	MA	1	1-1/2"
19	TV	MA	1	2-1/2"
20	TV	MR	1	2"
21	TV	MB	1	1-1/2"
22	TV	MB	1	1-1/2"
23	TV	WM	1	3/4"
24	CY	MR	1	2"
25	CY	MA	1	1-1/2"
26	CY	MA	1	2-1/2"
27	MR	WM	1	1-1/2"
28	PB1	2ME	1	2-1/2"
29	PB1	2ME	1	1"
30	PB1	2ME	1	1"

NO.	FROM	TO	CONDUIT QTY	CONDUIT SIZE
31	PB1	2ME	2	1-1/2"
32	PB1	MR	2	2-1/2"
33	PB1	MR	1	2-1/2"
34	PB1	MR	1	1-1/2"
35	PB1	MA	1	2"
36	TV	WR3	2	1-1/2"
37	MSA	WR3	2	1-1/2"
38	TBD	TBD	-	-
39	TBD	ERB	-	-
40	VB1	MB	1	1"
41	VB2	MB	1	1"
42	VB3	MB	1	1"
43	VB4	MB	1	1"
44	VB5	MB	1	1"
45	VB6	MB	1	1"
46	VB6	CY	1	1"
47	WR2	WR3	1	1"
48	PWR SPLY	M3	1	3/4"
49	IC	MSA	1	3"
50	IC	MA	1	3"
51	MB	WM	1	1-1/2"
52	MR	CY	1	1"
53	TV2	MB	1	2-1/2"
54	PNL 4WYD	CB2	1	SEE ONE LINE
55	PNL4WYD	CB2	1	SEE ONE LINE
56	CB2	UPS	1	SEE ONE LINE
57	UPS	CB2	1	SEE ONE LINE
58	CB2	ERB	1	3/4"
59	MA	ERB	1	3/4"
60	WR	ERB	1	3/4"

NO.	FROM	TO	CONDUIT QTY	CONDUIT SIZE
61	CB2	UPS	1	SEE ONE LINE
62	CB2	ST	1	3/4"
63	UPS	ST	1	3/4"
64	UPS	CB	1	SEE ONE LINE
65	CB	MA	1	SEE ONE LINE
66	UPS	MA	1	SEE ONE LINE
67	SBO	UPS	1	3/4"
68	BC	UPS	1	3/4"
69	BC	UPS	1	3/4"
70	INT	MSA	1	TBD

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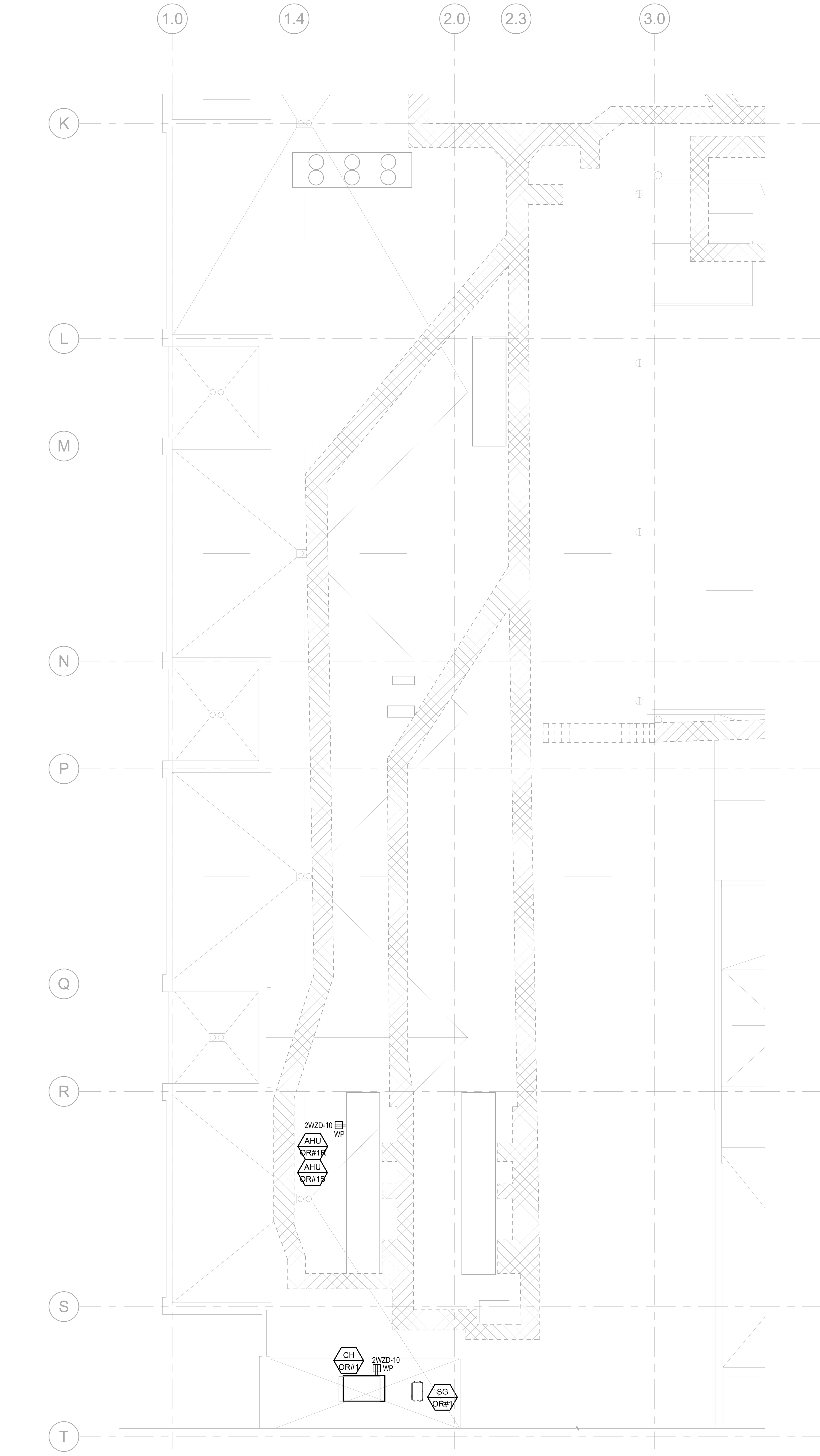
ELECTRICAL BOX AND CONDUIT PLAN

E2.03



ROOF PLAN - ELECTRICAL

1 E2.05 1/8" = 1'-0"

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EQUIPMENT SCHEDULE

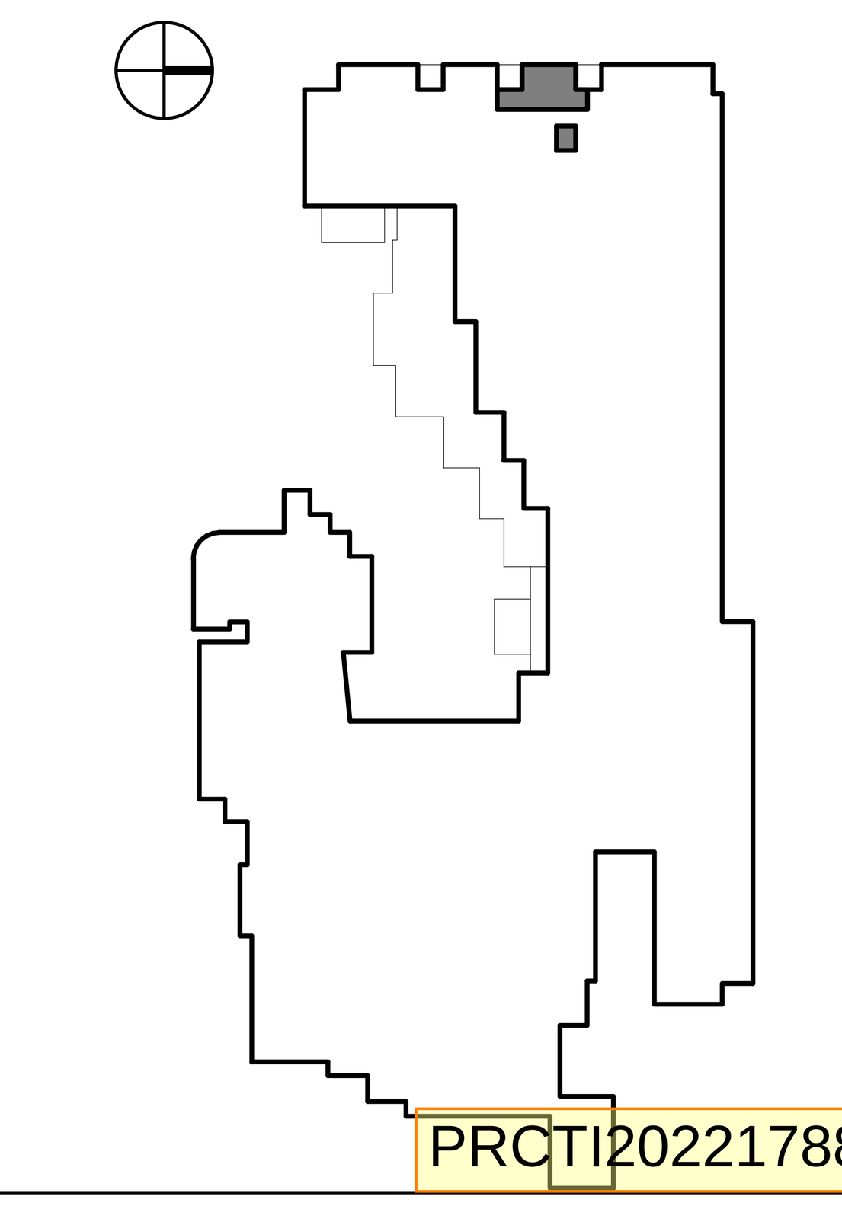
GENERAL NOTES:
A. STANDARD ABBREVIATIONS DO NOT APPLY TO EQUIPMENT DESIGNATION COLUMN
B. VERIFY CB/FUSE AND WIRING REQUIREMENTS WITH SUBMITTALS PRIOR TO WIRING UNITS

NOTES:
1. PROVIDE CONNECTION TO EMS (EMS WIRING BY SEPARATE DIVISION)
2. PROVIDE LINE VOLTAGE THERMOSTAT
3. INTERLOCK FAN WITH LIGHTING OCCUPANCY SENSOR

MARK	NO.	DESCRIPTION	LOAD			VOLTS	POLES	DISCONNECT		POWER WIRING	COND.	PANEL	NOTES
			MCA	MOCP	KVA			SWITCH	FUSE				
AHU	OR#1R	AIR HANDLING UNIT RETURN	9.3	20	6.2	480	3	30	20.00 A	3#10 & 1#10G	3/4"	4WZD	PROVIDE CONNECTION TO (2) VFDS PROVIDED BY DIV 23
AHU	OR#1S	AIR HANDLING UNIT SUPPLY	17.3	25	11.5	480	3	30	25.00 A	3#10 & 1#10G	3/4"	4WZD	PROVIDE CONNECTION TO (2) VFDS PROVIDED BY DIV 23
CH	OR#1	CHILLER	34.6	45	16.69	480	3	60	45.00 A	4#6 & 1#10G	1"	4WZD	
SG	OR#1	STEAM GENERATOR - HUMIDIFIER	16.5	25	13.5	480	3	30	25.00 A	3#10 & 1#10G	3/4"	4WZD	

KEY PLAN - LEVEL 2

AREA OF WORK



PRCTI20221788

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MAZZETTI

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ELECTRICAL ROOF PLAN

E2.05

LIFE SAFETY BRANCH

CRITICAL BRANCH

SCOPE OF WORK

ESSENTIAL EQUIPMENT BRANCH

NORMAL POWER

SCOPE OF WORK

KEYNOTES

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TO EMERGENCY SWITCHBOARDS IN GENERATOR BUILDING

3/4"C, 2#12 & 1#12G

INV1 250VA
OR#1
INV2 250VA
OR#1

3/4"C, 2#8, 1#8 EGC

PANEL IP OR #1
PANEL IP OR #2
PANEL IP OR #3
PANEL IP OR #4

PANEL 4WYD 400A MLO

2"C, 3#3/0, 1#6 EGC

112.5kVA 480V–208Y/120V 3ø, 4W

2-1/2"C, 4#4/0, 1#2 EGC

PANEL 2WYD1 225A MCB
PANEL 2WYD1 225A MLO
PANEL 2WYD 225A MCB
PANEL 2WYD 225A MLO

MCC 4WZPH

3-1/2"C, 3-600kcmil, 1#2 EGC

ELEVATOR 480V, 3ø 40 HP
100A/3P SHUNT TRIP C/B
ELEVATOR 480V, 3ø 40 HP
100A/3P SHUNT TRIP C/B

1-1/2"C, 3#1, 1#6 EGC

PANEL 4WZD 100A MLO

1"C, 3#4, 1#8 EGC

45kVA 480V–208Y/120V 3ø, 4W

1-1/2"C, 4#1, 1#6 EGC

PANEL 2WZD 100A MCB

MCC 4WPH

2"C, 3#4/0, 1#4 EGC

PENTHOUSE

PANEL 4WD 225A MLO

2"C, 3#3/0, 1#6 EGC

112.5kVA 480V–208Y/120V 3ø, 4W

2-1/2"C, 4#4/0, 1#2 EGC

PANEL 2WD 225A MCB
PANEL 2WD 225A MLO
PANEL 2WD1 225A MCB
PANEL 2WD1 225A MLO

HYBRID OR#1 EQUIPMENT
2"C, 4#2/0 & 1#2/0G
"UPS"
1-1/2"C, 4#3 & 1#3G
MAIN CABINET "MA"
125A 3P ST
"CB2"
"CB"
80A 3P

SECOND FLOOR

PANEL 4WXC 100A MLO

1/2"C, 3#12

9kVA 480V–208Y/120V 3ø, 4W

1/2"C, 4#10, 1#12 EGC

#8

PANEL 2WXC 30A MCB

PANEL 4WYC 100A MLO

1-1/4"C, 3#2, 1#6 EGC

PANEL 2WYC1 SECT 1 RM#F170
PANEL 2WYC1 SECT 2 RM#F170
PANEL 2WYC RM#F158

PANEL 2WZC

1-1/4"C, 3#2, 1#6 EGC

PANEL 4WC RM#F170
PANEL 2WC SECT 1 RM#F158
PANEL 2WC SECT 2 RM#F158
PANEL 2WC1 SECT 1 RM#F170
PANEL 2WC1 SECT 2 RM#F170
PANEL 2WC1 SECT 3

1-1/2"C, 4#1/0, 1#6 EGC

FIRST FLOOR

1-1/4"C, 4#2, 1#6 EGC

2-1/2"C, 5#4/0, 2#6 EGC

PANEL 2WYB1 RM#G060
PANEL 2WYB RM#G051

ELEVATOR 480V, 3ø 20 HP
50A/3P SHUNT TRIP C/B

2-1/2"C, 4#4/0, 1#4 EGC

PANEL 4WB RM#G060
PANEL 2WB SECT 1 RM#G051
PANEL 2WB SECT 2 RM#G051
PANEL 2WB1 SECT 1 RM#G060
PANEL 2WB1 SECT 2 RM#G060

GROUND LEVEL

3-1/2"C, 3-600kcmil, 1#2 EGC

1"C, 3#4, 1#8 EGC

BASEMENT LEVEL

1-1/4"C, 4#2, 1#6 EGC

PANEL 4WXA
PANEL 2WXA

1/2"C, 3#12

1/2"C, 4#10, 1#12 EGC

9kVA 480V–208Y/120V 3ø, 4W

#8

ATS WX 100A/4P

3-1/2"C, 4#750kcmil, 1#3 EGC

ATS WY1 400A/4P

2-1/2"C, 4#4/0, 1#4 EGC

PANEL 4WYA 225A

2"C, 3#4/0, 1#4 EGC

ATS WY 225A/4P

K13

3-1/2"C, 4-600kcmil, 1#2 EGC

PANEL 2WYA 400A

112.5kVA 480V–208Y/120V 3ø, 4W

#1/0

(2) 3-1/2"C, 3-600kcmil, 1#1/0 EGC EACH

PANEL 4WZA 400A

3-1/2"C, 3-600kcmil, 1#2 EGC

PANEL 4WZDP 800A MCB

ATS WZ 800A/3P

1-1/2"C, 4#1, 1#6 EGC

PANEL 2WZA 125A

45kVA 480V–208Y/120V 3ø, 4W

#6

PANEL 4WA1

PANEL 4WA 100A
PANEL 2WA 600A

1-1/4"C, 4#2, 1#6 EGC

PANEL 2WA1

(2) 3"C, 4–350kcmil, 1#1 EGC EACH

CHILLER 480V, 3ø 270 FLA

#2

225kVA 480V–208Y/120V 3ø, 4W

MRI TRAILER

200A 150AF

(N) 2"C, 4#2/0 & 1#2/0G LENGTH ~ 250'-0"

SCOPE OF WORK

1500kVA 12470V–480Y/277V 3ø, 4W

3/0

1/0

2000/3

100/3
100/3
150E

TO MANHOLE

SWITCHBOARD "W"
2,000A BUS
480Y/277V, 3 PHASE, 4 WIRE
50% NEUTRAL

100/3
225/3
800/3
225/3
225/3
225/3
400/3
400/3
400/3
150/3
SPACE
(N) 125A 3P LSIG
SPACE
SPACE

2-1/2"C, 4#4/0, 1#4 EGC
3-1/2"C, 3-600kcmil, 1#2 EGC
2"C, 4#1/0, 1#1/0 EGC

DROP–OFF LEVEL
CENTRAL PL

PRCTI20221788

DLR GROUP | SALUS

STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER

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ELECTRICAL ONE-LINE DIAGRAM

E3.01

A	B	C	D	E	F

LOAD VERIFICATION SCHEDULE

PANEL NAME	SYSTEM TYPE	VOLTAGE	EXISTING LOAD	EXISTING LOAD + 125%	30-DAY/12MO LOAD METERING	TOTAL ESTIMATED DEMAND	TOTAL LOAD (EXISTING+NEW)	TOTAL AMPS (EXISTING+NEW)	MCB RATING
2WD	NORMAL	208V	7,920	9,900	10/7/22 - 11/7/22	3,300	13,200	36.67	225A
4WD	NORMAL	480V	32,825	41,031	10/7/22 - 11/7/22	3,300	44,331	53.35	225A
4WA	NORMAL	480V	8,726	10,907	10/7/22 - 11/7/22	3,300	14,207	17.10	100A
2WZD	EQUIPMENT	208V	3,888	4,860	10/7/22 - 11/7/22	360	5,220	14.50	100A
4WZD	EQUIPMENT	480V	9,557	11,946	10/7/22 - 11/7/22	48,250	60,196	72.44	100A
4WZPH	EQUIPMENT	480V	144,843	181,054	10/7/22 - 11/7/22	48,610	229,664	276.37	400A
4WZDP	EQUIPMENT	480V	156,477	195,597	10/7/22 - 11/7/22	48,610	244,207	293.87	800A
2WYD1	CRITICAL	208V	12,996	16,245	10/7/22 - 11/7/22	5,500	21,745	60.40	225A
4WYD	CRITICAL	480V	58,752	73,440	10/7/22 - 11/7/22	9,020	82,460	99.23	400A
SWBD W	NORMAL	480V	413,615	517,019	10/1/21 - 10/1/22	60,570	577,589	695.05	2000A

(E) PANELBOARD: 2WYD1

VOLTS (L-L): 208V | PHASE: 3 | WIRES: 4
PANEL TYPE: CRITICAL | MOUNTING: SURFACE | ENCLOSURE: NEMA 1 | FED FROM: 4WYD
MCB: 225A /3P | BUS RATING: 225A | AIC RATING: 10,000 AIC | LOCATION: 2ND FL ELEC RM
OPTIONS: FEED THROUGH LUGS , EXISTING PANEL - NEW WORK SHOWN IN BOLD

CKT	DESCRIPTION	NOTES	LOAD TYPE	LOAD (KVA)	OC DEVICE AMPS	OC DEVICE POLES	PHASE	OC DEVICE AMPS	OC DEVICE POLES	LOAD (KVA)	LOAD TYPE	DESCRIPTION	NOTES	CKT
1	EXSITING LOADS				20	1	A	20	1			EXISTING...		2
3	EXSITING LOADS				20	1	B	20	1			EXISTING...		4
5	EXSITING LOADS				20	1	C	20	1			EXISTING...		6
7	EXSITING LOADS				20	1	A	20	1			EXISTING...		8
9	EXSITING LOADS				20	1	B	25	1			EXISTING...		10
11	EXSITING LOADS				20	1	C	20	1			EXISTING...		12
13	EXSITING LOADS				20	1	A	20	1			EXISTING...		14
15	EXSITING LOADS				20	1	B	20	1			EXISTING...		16
17	EXSITING LOADS				20	1	C	20	1			EXISTING...		18
19	EXSITING LOADS				20	1	A	20	1			EXISTING...		20
21	EXSITING LOADS				20	1	B	20	1			EXISTING...		22
23	EXSITING LOADS				20	1	C	20	1			EXISTING...		24
25	EXSITING LOADS				20	1	A	20	1			EXISTING...		26
27	EXSITING LOADS				20	1	B	20	1			EXISTING...		28
29	EXSITING LOADS				20	1	C	20	1			EXISTING...		30
31	EXSITING LOADS				20	1	A	20	1			EXISTING...		32
33	EXSITING LOADS				20	1	B	20	1			EXISTING...		34
35	EXSITING LOADS				20	1	C	20	1			EXISTING...		36
37	EXSITING LOADS				20	1	A	20	1			EXISTING...		38
39	EXSITING LOADS				20	1	B	20	1			EXISTING...		40
41	EXSITING LOADS				20	1	C	20	1			EXISTING...		42
43	EXSITING LOADS				20	1	A	20	1			EXISTING LOADS		44
45	EXSITING LOADS				20	1	B	20	1			EXISTING LOADS		46
47	EXSITING LOADS				20	1	C	20	1			EXISTING LOADS		48
49	EXSITING LOADS				20	1	A	20	1			EXISTING LOADS		50
51	EXSITING LOADS				20	1	B	20	1			EXISTING LOADS		52
53	EXSITING LOADS				20	1	C	20	1			EXISTING LOADS		54
55	EXSITING LOADS				20	1	A	20	1			EXISTING LOADS		56
57	EXSITING LOADS				20	1	B	20	1			EXISTING LOADS		58
59	EXSITING LOADS				20	1	C	20	1			SPARE		60
61	EXSITING LOADS				20	1	A	30	2			EXISTING LOADS		62
63	SPARE				20	1	B	-	-			" "		64
65	SPARE				20	1	C	20	1	1.08	2	**RECEPT CONTROL ROOM 2D02**		66
67	EXSITING LOADS				20	2	A	20	1	1.08	2	**RECEPT OR#1 2D03**	1	68
69	" "				-	-	B	20	1	1.26	2	**RECEPT OR#1 2D03**	1	70
71	EXSITING LOADS				20	1	C	20	1	1.00	2	**RECEPT OR#1 PYXIS 2D03**	1	72
73	EXSITING LOADS				20	1	A	20	1	0.36	2	**RECEPT ELECTRONCIS 2D09A**		74
75	SPARE				20	1	B	20	1	0.72	2	**RECEPT ELECTRONCIS 2D09A**		76
77	SPARE				20	1	C	20	1			SPARE		78
79	EXSITING LOADS				20	1	A	20	1			SPARE		80
81	EXSITING LOADS				20	1	B	20	1			SPARE		82
83	EXSITING LOADS				20	1	C	20	1			SPARE		84

KVA PER PHASE

A	B	C
1.44	1.98	2.08

LOAD TYPE (NUMBER)	1	2	3		5	6	7	8		
LOAD TYPE (DESCRIPTION)	Lighting	Receps	Motors	L. Mot.	Kitch	Elevator	Equip	Imaging	Total	
THIS PANEL: 2WYD1	0.00	5.50	0.00	0.00	0.00	0.00	0.00	0.00	5.50	
TOTAL CONNECTED LOAD (KVA)	0.00	5.50	0.00	0.00	0.00	0.00	0.00	0.00	5.50	KVA
DEMAND FACTOR:	1.25	50%>10k...	1.00	1.25	1.00	1.00	1.00	NEC		
(NEC CODE SECTION)					(220.56)	(620.14)		(517.73(A...		
TOTAL DESIGN LOAD (KVA)	0.00	5.50	0.00	0.00	0.00	0.00	0.00	0.00	5.50	KVA
TOTAL DESIGN LOAD (AMPS)									15.27	AMPS

NOTES:
1.) GFCI CIRCUIT BREAKER
2.)
3.)

\# OF KITCHEN EQUIP.: 0
\# OF ELEVATORS: 0
\# OF IMAGING EQUIP: 0

PANELBOARD: 2WZD

VOLTS (L-L): 208 V | PHASE: 3 | WIRES: 4 | OPTIONS: EXISTING
PANEL TYPE: EQ | MOUNTING: SURFACE | ENCLOSURE: NEMA 1
MCB: 225 A | BUS RATING: 225A | AIC RATING: 10,000 AIC | SUPPLY FROM:

CKT	DESCRIPTION	NOTES	AMPS	POLES	A		B		C		POLES	AMPS	NOTES	DESCRIPTION	CKT
1	SPACE	--	--	1	--	0					1	15 A	--	EF-1 - ROOF	2
3	SPACE	--	--	1			--	0			1	15 A	--	EF-2 - ROOF	4
5	SPACE	--	--	1					--	0	1	15 A	--	EF-3 - ROOF	6
7	SPACE	--	--	1	--	0					1	15 A	--	EF-4 - ROOF	8
9	SPACE	--	--	1			--	**0.36**			**1**	**20 A**		**REC - ROOF**	10
11	SPACE	--	--	1					--	--	1	--	--	SPACE	12
13	SPACE	--	--	1	--	--					1	--	--	SPACE	14
15	SPACE	--	--	1			--	--			1	--	--	SPACE	16
17	SPACE	--	--	1					--	--	1	--	--	SPACE	18
19	SPACE	--	--	1	--	--					1	--	--	SPACE	20
21	SPACE	--	--	1			--	--			1	--	--	SPACE	22
23	SPACE	--	--	1					--	--	1	--	--	SPACE	24
25	SPACE	--	--	1	--	--					1	--	--	SPACE	26
27	SPACE	--	--	1			--	--			1	--	--	SPACE	28
29	SPACE	--	--	1					--	--	1	--	--	SPACE	30
31	SPACE	--	--	1	--	--					1	--	--	SPACE	32
33	SPACE	--	--	1			--	--			1	--	--	SPACE	34
35	SPACE	--	--	1					--	--	1	--	--	SPACE	36
37	SPACE	--	--	1	--	--					1	--	--	SPACE	38
39	SPACE	--	--	1			--	--			1	--	--	SPACE	40
41	SPACE	--	--	1					--	--	1	--	--	SPACE	42
				TOTAL LOAD:	0 kVA		0.36 kVA		0 kVA						
				TOTAL AMPS:	0 A		3 A		0 A						

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIPMENT	360 VA	100.00%	360 VA		
				TOTAL CONNECTED LOAD:	0.36 kVA
				TOTAL ESTIMATED LOAD:	0.36 kVA
				TOTAL CONNECTED CURRENT:	1 A
				TOTAL EST. DEMAND CURRENT:	1 A

NOTES:
CC = CONTROLLED CIRCUIT, H = HACR, G = GFCI, A = AFCI, G/A = COMBO GFCI/AFCI, L = BREAKER LOCK

(E) PANELBOARD: 4WYD

VOLTS (L-L): 480V | PHASE: 3 | WIRES: 4
PANEL TYPE: CRITICAL | MOUNTING: SURFACE | ENCLOSURE: NEMA 1 | FED FROM: 4WYA
MCB: MLO | BUS RATING: 400A | AIC RATING: 14,000 AIC | LOCATION:
OPTIONS: EXISTING PANEL - NEW WORK SHOWN IN BOLD

CKT	DESCRIPTION	NOTES	LOAD TYPE	LOAD (KVA)	OC DEVICE AMPS	OC DEVICE POLES	PHASE	OC DEVICE AMPS	OC DEVICE POLES	LOAD (KVA)	LOAD TYPE	DESCRIPTION	NOTES	CKT
1	**LTG: OR#1 INTEGRATED CEILING**		1	4.02	20	1	A	20	1			SPARE		2
3	SPARE				20	1	B	20	1			SPARE		4
5	SPARE				20	1	C	20	1			SPARE		6
7	LTG: OR #1 INT. CLNG		1		20	1	A	20	1			SPARE		8
9	LTG: OR SUITE		1		20	1	B	20	1			LTG: EAST		10
11	**LTG: OR #1 INVERTER**		1	0.30	20	1	C	20	1			LTG: EAST		12
13	LTG: OR #2		1		20	1	A	20	1			LTG: EAST		14
15	LTG: OR #3		1		20	1	B	20	1			SPARE		16
17	LTG: OR #4		1		20	1	C	20	1			SPARE		18
19	LTG: ICU 1 - ICU 8		1		20	1	A	20	1			SPARE		20
21	LTG: NURSE STATION		1		20	1	B	20	1			SPARE		22
23	SPARE				20	1	C	20	1			SPACE		24
25	OR-1 ISOLATION PANEL		7		30	2	A	20	1			SPACE		26
27			7				B	20	1			SPACE		28
29	OR-2 ISOLATION PANEL		7		30	2	C	20	1			SPACE		30
31			7				A	20	1			SPACE		32
33	OR-3 ISOLATION PANEL		7		30	2	B	20	1			SPACE		34
35			7				C	20	1			SPACE		36
37	OR-4 ISOLATION PANEL		7		30	2	A	100	3			PANEL 2WYD, 2WYD1 (XFMR)		38
39			7				B							40
41	SPACE				20	1	C							42

KVA PER PHASE

A	B	C
4.02	0.00	0.30

LOAD TYPE (NUMBER)	1	2	3		5	6	7	8		
LOAD TYPE (DESCRIPTION)	Lighting	Receps	Motors	L. Mot.	Kitch	Elevator	Equip	Imaging	Total	
THIS PANEL: 4WYD	4.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.32	
SUB-FEED BREAKER: IPOR-1	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	3.52	
TOTAL CONNECTED LOAD (KVA)	4.32	3.52	0.00	0.00	0.00	0.00	0.00	0.00	7.84	KVA
DEMAND FACTOR:	1.25	50%>10kVA	1.00	1.25	1.00	1.00	1.00	NEC		
(NEC CODE SECTION)					(220.56)	(620.14)		(517.73(A...		
TOTAL DESIGN LOAD (KVA)	5.40	3.52	0.00	0.00	0.00	0.00	0.00	0.00	8.92	KVA
TOTAL DESIGN LOAD (AMPS)									10.73	AMPS

NOTES:
1.)
2.)
3.)

\# OF KITCHEN EQUIP.: 0
\# OF ELEVATORS: 0
\# OF IMAGING EQUIP: 0

(E) PANELBOARD: IPOR-1

VOLTS (L-L): 208V | PHASE: 1 | WIRES: 3
PANEL TYPE: CRITICAL | MOUNTING: RECESSED | ENCLOSURE: NEMA 1 | FED FROM: 4WYD VIA ISO XFRMR
MCB: MLO | BUS RATING: 30A | AIC RATING: 10,000 AIC | LOCATION: 2ND FL ELEC RM
OPTIONS: EXISTING PANEL - NEW WORK SHOWN IN BOLD , ISOLATED POWER PANEL

CKT	DESCRIPTION	NOTES	LOAD TYPE	LOAD (KVA)	OC DEVICE AMPS	OC DEVICE POLES	PHASE	OC DEVICE AMPS	OC DEVICE POLES	LOAD (KVA)	LOAD TYPE	DESCRIPTION	NOTES	CKT
1	**ANES BOOM**		2	0.18	20	1	A	20	1	0.18	2	**NURSE BOOM**		2
3	**ANES BOOM**		2	0.18	20	1	B	20	1	0.18	2	**NURSE BOOM**		4
5	**ANES BOOM**		2	0.18	20	1	A	20	1	0.18	2	**NURSE BOOM**		6
7	**ANES BOOM**		2	0.18	20	1	B	20	1	0.18	2	**NURSE BOOM**		8
9	**ANES BOOM**		2	0.18	20	1	A	20	1	0.18	2	**NURSE BOOM**		10
11	**ANES BOOM**		2	0.18	20	1	B	20	1	0.18	2	**NURSE BOOM**		12
13	**ANES BOOM BRAKES**		2	0.18	20	1	A	20	1	0.18	2	**NURSE BOOM BRAKES**		14
15	**ANESTISIA MACHINE 2D03**		2	1.00	20	1	B	20	1			SPARE		16

KVA PER PHASE

A	B
1.44	2.08

LOAD TYPE (NUMBER)	1	2	3		5	6	7	8		
LOAD TYPE (DESCRIPTION)	Lighting	Receps	Motors	L. Mot.	Kitch	Elevator	Equip	Imaging	Total	
THIS PANEL: IPOR-1	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	3.52	
TOTAL CONNECTED LOAD (KVA)	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	3.52	KVA
DEMAND FACTOR:	1.25	50%>10k...	1.00	1.25	1.00	1.00	1.00	NEC		
(NEC CODE SECTION)					(220.56)	(620.14)		(517.73(A...		
TOTAL DESIGN LOAD (KVA)	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	3.52	KVA
TOTAL DESIGN LOAD (AMPS)									16.92	AMPS

NOTES:
1.)
2.)
3.)

\# OF KITCHEN EQUIP.: 0
\# OF ELEVATORS: 0
\# OF IMAGING EQUIP: 0

PANELBOARD: 2WD

VOLTS (L-L): 208 V | PHASE: 3 | WIRES: 4 | OPTIONS: EXISTING
PANEL TYPE: NORMAL | MOUNTING: SURFACE | ENCLOSURE: NEMA 1
MCB: 225 A | BUS RATING: 225A | AIC RATING: 10,000 AIC | SUPPLY FROM:

CKT	DESCRIPTION	NOTES	AMPS	POLES	A		B		C		POLES	AMPS	NOTES	DESCRIPTION	CKT
1	SPARE	--	20 A	1	0	0					1	20 A	--	SPARE	2
3	SPARE	--	20 A	1			0	0			1	20 A	--	SPARE	4
5	SPARE	--	20 A	1					0	0	1	20 A	--	SPARE	6
7	SPARE	--	20 A	1	0	0					1	20 A	--	SPARE	8
9	SPARE	--	20 A	1			0	0			1	20 A	--	SPARE	10
11	SPARE	--	20 A	1					0	0	1	20 A	--	SPARE	12
13	SPARE	--	20 A	1	0	0					1	20 A	--	SPARE	14
15	SPARE	--	20 A	1			0	0			1	20 A	--	SPARE	16
17	SPARE	--	20 A	1					0	0	1	20 A	--	SPARE	18
19	SPARE	--	20 A	1	0	0					1	20 A	--	SPARE	20
21	SPARE	--	20 A	1			0	0			1	20 A	--	SPARE	22
23	SPARE	--	20 A	1					0	0	1	20 A	--	SPARE	24
25	SPARE	--	20 A	1	0	0					1	20 A	--	SPARE	26
27	SPARE	--	20 A	1			0	0			1	20 A	--	SPARE	28
29	SPARE	--	20 A	1					0	0	1	20 A	--	SPARE	30
31	SPARE	--	20 A	1	0	0					1	20 A	--	SPARE	32
33	SPARE	--	20 A	1			0	0			1	20 A	--	SPARE	34
35	SPARE	--	20 A	1					0	0	1	20 A	--	SPARE	36
37	SPARE	--	20 A	1	0	0					1	20 A	--	SPARE	38
39	SPARE	--	20 A	1			0	0			2	20 A	--	SPARE	40
41	REC - CONTROL RM 2D02		20 A	1					0.18	0					42
43	SPARE	--	20 A	1	0	0					1	20 A	--	SPARE	44
45	SPARE	--	20 A	1			0	0			1	20 A	--	SPARE	46
47	SPARE	--	20 A	1					0	0	1	20 A	--	SPARE	48
49	**RECS - OR#1**		20 A	1	1.08	0					1	20 A	--	SPARE	50
51	**RECS - OR#1**		20 A	1			1.04	0			1	20 A	--	SPARE	52
53	**BLANKET WARMER**		20 A	1					1	0	1	20 A	--	SPARE	54
55	RECEPTACLE		20 A	1	0.54	0					1	20 A	--	SPARE	56
57	RECEPTACLE		20 A	1			0.18	0			1	20 A	--	SPARE	58
59										0	1	20 A	--	SPARE	60
61						0					1	20 A	--	SPARE	62
63	SPARE	--	20 A	1			0	0			1	20 A	--	SPARE	64
65	SPARE	--	20 A	1					0	0	1	20 A	--	SPARE	66
67	SPARE	--	20 A	1	0	0					1	20 A	--	SPARE	68
69	SPARE	--	20 A	1			0	0			1	20 A	--	SPARE	70
71	SPARE	--	20 A	1					0	0	1	20 A	--	SPARE	72
73	SPARE	--	20 A	1	0	0					1	20 A	--	SPARE	74
75	SPARE	--	20 A	1			0	0			1	20 A	--	SPARE	76
77	SPARE	--	20 A	1					0	0	1	20 A	--	SPARE	78
79	SPARE	--	20 A	1	0	0					1	20 A	--	SPARE	80
81	SPARE	--	20 A	1			0	0			1	20 A	--	SPARE	82
83	SPARE	--	20 A	1					0	0	1	20 A	--	SPARE	84
				TOTAL LOAD:	1.62 kVA		1.22 kVA		1.18 kVA						
				TOTAL AMPS:	14 A		10 A		10 A						

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
RECEPTACLE	2080 VA	100.00%	2080 VA		
EQUIPMENT	1940 VA	100.00%	1940 VA	TOTAL CONNECTED LOAD:	4.02 kVA
				TOTAL ESTIMATED LOAD:	4.02 kVA
				TOTAL CONNECTED CURRENT:	11 A
				TOTAL EST. DEMAND CURRENT:	11 A

NOTES:
CC = CONTROLLED CIRCUIT, H = HACR, G = GFCI, A = AFCI, G/A = COMBO GFCI/AFCI, L = BREAKER LOCK

PANELBOARD: 4WZD

VOLTS (L-L): 480 V | PHASE: 3 | WIRES: 4 | OPTIONS: EXISTING
PANEL TYPE: EQ | MOUNTING: SURFACE | ENCLOSURE: NEMA 1
MCB: 225 A | BUS RATING: 225A | AIC RATING: 14,000 AIC | SUPPLY FROM:

CKT	DESCRIPTION	NOTES	AMPS	POLES	A		B		C		POLES	AMPS	NOTES	DESCRIPTION	CKT
1					0	0									2
3	(E) CRU-1	--	15 A	3			0	0			3	90 A	--	(E) PANEL 2WZD (45KVA XFMR)	4
5									0	0					6
7					3.83										8
9	**AHU-OR-1S**		**25 A**	**3**			3.83								10
11									3.83						12
13					0	0									14
15	(E) AHU-OR2	--	15 A	3			0	0			3	25 A	--	(E)H-OR2	16
17									0	0					18
19					0	0									20
21	(E)WCH-3	--	15 A	3			0	0			3	25 A	--	(E)H-OR2	22
23									0	0					24
25					5.56	0									26
27	**CH-OR1**		**45 A**	**3**			5.56	0			3	25 A	--	(E)H-OR4	28
29									5.56	0					30
31					0										32
33	(E)P-FCU-1	--	15 A	3			0								34
35									0						36
37					2.07	4.5									38
39	**AHU-OR-1R**		**20 A**	**3**			2.07	4.5			**3**	**25 A**		**SG-OR1**	40
41									2.07	4.5					42
				TOTAL LOAD:	15.96 kVA		15.96 kVA		15.96 kVA						
				TOTAL AMPS:	58 A		58 A		58 A						

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIPMENT	47890 VA	100.00%	47890 VA		
				TOTAL CONNECTED LOAD:	47.89 kVA
				TOTAL ESTIMATED LOAD:	47.89 kVA
				TOTAL CONNECTED CURRENT:	58 A
				TOTAL EST. DEMAND CURRENT:	58 A

NOTES:
CC = CONTROLLED CIRCUIT, H = HACR, G = GFCI, A = AFCI, G/A = COMBO GFCI/AFCI, L = BREAKER LOCK

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

- See accompanying project comment form for review status and corrections.
- This is not a building permit, check with your local building department.

03/08/2023 8:28:58 PM

PRCTI20221788

DLRGROUP | SALUS
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Good Samaritan
A part of MultiCare Health System

HYBRID OR #1
MULTICARE GOOD SAMARITAN HOSPITAL
401 15TH AVE SE, PUYALLUP, WA 98372

PERMIT SET
11/11/2022
REVISIONS

73-19057-00

ELECTRICAL PANEL SCHEDULES & LOAD CALCULATIONS

E4.01

PLUMBING SYMBOL SCHEDULE

SYMBOL LEGEND

Symbol	Description
	EXISTING PIPE
	EXISTING PIPE, FIXTURE OR EQUIPMENT TO BE REMOVED
	SOIL OR WASTE PIPING ABOVE FLOOR
	SOIL OR WASTE PIPING BELOW FLOOR
	VENT PIPING
	COLD WATER PIPING
	HOT WATER PIPING
	HOT WATER RETURN PIPING
SW	SOFT WATER PIPING
CD	CONDENSATE DRAINAGE PIPING
SD	STORM DRAIN
SD	STORM DRAIN BELOW FLOOR
OFD	OVERFLOW DRAINAGE PIPING
G	NATURAL GAS PIPING
MG	MEDIUM PRESSURE GAS
FOS	FUEL OIL SUPPLY PIPING
FOR	FUEL OIL RETURN PIPING
FOV	FUEL OIL VENT PIPING
TW	TEMPERED WATER
CO2	CARBON DIOXIDE PIPING
N2	NITROGEN PIPING
N20	NITROUS OXIDE PIPING
O2	OXYGEN PIPING
MA	MEDICAL AIR PIPING
MV	MEDICAL VACUUM PIPING
WAGD	WASTE ANESTHETIC GAS DISPOSAL PIPING
LA	LABORATORY AIR PIPING
LVAC	LABORATORY VACUUM PIPING
LW	LABORATORY WASTE PIPING
LV	LABORATORY VENT PIPING
GW	GREASE WASTE PIPING
GW	GREASE WASTE PIPING BELOW FLOOR
IW	INDIRECT WASTE
ICW	INDUSTRIAL COLD WATER PIPING
IHW	INDUSTRIAL HOT WATER PIPING
IHWR	INDUSTRIAL HOT WATER RETURN PIPING
GWS	GRAY WATER SYSTEM
CA	COMPRESSED AIR PIPING
IA	INSTRUMENT AIR
DI	DEIONIZED WATER
140°HW	140° HOT WATER PIPING
140°HWR	140° HOT WATER RETURN PIPING
ROS	REVERSE OSMOSIS WATER SUPPLY
ROR	REVERSE OSMOSIS WATER RETURN

GENERAL NOTES

1. ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE PLUMBING CODE, BUILDING CODE, NATIONAL FIRE PROTECTION CODE, AND ALL OTHER APPLICABLE CODES AND REGULATIONS AS CURRENTLY ADOPTED BY AUTHORITY HAVING JURISDICTION.
2. COORDINATE PLUMBING SYSTEMS WITH WORK OF OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION. PROVIDE ALL FITTINGS, OFFSETS AND TRANSITIONS AS REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.
3. COORDINATE LOCATIONS OF ALL ROOF OPENINGS WITH STRUCTURAL, MECHANICAL AND ARCHITECTURAL PLANS PRIOR TO ANY INSTALLATION.
4. PLATFORMS, CURBS AND FLASHINGS FOR PLUMBING EQUIPMENT SHALL BE AS INDICATED ON THE STRUCTURAL AND ARCHITECTURAL PLANS, UNLESS NOTED OTHERWISE. COORDINATE EXACT SIZES OF REQUIRED OPENINGS AND SUPPORTS FOR FURNISHED EQUIPMENT.
5. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS AND APPLICABLE CODES. PROVIDE ALL FITTINGS, TRANSITIONS, VALVES AND OTHER DEVICES REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.
6. MAINTENANCE LABEL SHALL BE AFFIXED TO ALL PLUMBING EQUIPMENT AND A MAINTENANCE MANUAL SHALL BE PROVIDED TO OWNER'S REP.
7. PIPES SHALL BE SUPPORTED AND BRACED PER SMACNA "GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS."
8. HORIZONTAL PIPING THRU METAL STUDS IS PROHIBITED.
9. HOUSEKEEPING PADS SHALL BE 4 INCHES HIGH WITH A MINIMUM OF 6 INCHES BEYOND EQUIPMENT (INTERIOR ONLY).

SYMBOL LEGEND

Symbol	Description
	SHUT OFF VALVE, SEE SPECIFICATIONS FOR VALVE TYPE
	BUTTERFLY VALVE
	GLOBE VALVE
	BALL VALVE
	CHECK VALVE
	ANGLE VALVE
	TEMPERATURE AND PRESSURE RELIEF VALVE
	BALANCING VALVE
	GAS COCK VALVE
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
	PRESSURE REGULATING VALVE
	PRESSURE REDUCING VALVE ASSEMBLY
	SOLENOID VALVE
	OS & Y VALVE
	STRAINER
	STRAINER WITH HOSE BIBB
	HOSE BIBB
	SHOCK ABSORBER (WATER HAMMER ARRESTOR)
FS	FLOW SWITCH
TS	TAMPER SWITCH
M	METER
	PRESSURE GAUGE
	THERMOMETER
	FLEXIBLE CONNECTION
	UNION
	REDUCER
	DIRECTION FLOW
	PIPE ANCHOR
	PIPE UP
	PIPE DOWN
	VALVE IN VERTICAL
	PIPE CONNECTION, TOP
	PIPE CONNECTION, BOTTOM
	CAPPED PIPE
	PIPE SLEEVE
	WALL CLEANOUT
	FLOOR CLEANOUT
	GRADE CLEANOUT
	MEDICAL GAS ALARM PRESSURE SWITCH
	MEDICAL GAS ZONE VALVE BOX
	MEDICAL GAS ALARM PANEL
FS-1	FLOOR SINK (FULL GRADE) (HALF GRATE)
FD-1	FLOOR DRAIN
RD-1 OFD-1	ROOF DRAIN/ OVERFLOW DRAIN
	POINT OF CONNECTION
1	SHEET NOTE DESIGNATION
EQPT 1	EQUIPMENT DESIGNATION EQUIPMENT NUMBER
1 X.X	DETAIL REFERENCE BUBBLE DETAIL NUMBER SHEET BEARING DETAIL

ABBREVIATIONS

AAP	AREA ALARM PANEL (MED. GAS)	LA	LAB AIR
AD	AREA DRAIN	LAV	LAVATORY
AFF	ABOVE FINISHED FLOOR	LB	POUND
AP	ACCESS PANEL	LV	LAB VENT
ARCH	ARCHITECTURAL	LVAC	LAB VACUUM
AS	AUTOMATIC FIRE SPRINKLER	LW	LAB WASTE
AV	ACID VENT	MA	MEDICAL AIR
AW	ACID WASTE	MAI	MEDICAL AIR INTAKE
BFF	BELOW FINISHED FLOOR	MAP	MASTER ALARM PANEL (MED. GAS)
BFG	BELOW FINISHED GRADE	MAX	MAXIMUM
BHP	BRAKE HORSEPOWER	MBH	THOUSAND BTU PER HOUR
BV	BALANCING VALVE	MG	NATURAL GAS - MEDIUM PRESSURE
CA	COMPRESSED AIR	MIN	MINIMUM
CD	CONDENSATE DRAIN	MV	MEDICAL VACUUM
CFF	CAPPED FOR FUTURE CONNECTION	MVE	MEDICAL VACUUM EXHAUST
CFM	CUBIC FEET PER MINUTE	N2	NITROGEN
CHV	CHECK VALVE	N2O	NITROUS OXIDE
COND	CONDENSATE	(N)	NEW
CONN	CONNECTION	NC	NORMALLY CLOSED
CONT	CONTINUATION	NO	NORMALLY OPEN
CSS	CLINICAL SERVICE SINK	NO.	NUMBER
CSP	COMBINATION STANDPIPE	OFD	OVERFLOW DRAIN
CTE	CONNECT TO EXISTING	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
CU. FT.	CUBIC FEET	OS&Y GV	OUTSIDE STEM AND YOKE GATE VALVE
CU. IN.	CUBIC INCHES	PAS	PRE-ACTION AUTOMATIC SPRINKLER
CW	COLD WATER	PD	PUMPED DISCHARGE
DF	DRINKING FOUNTAIN	PG	PRESSURE GAUGE
DFU	DRAINAGE FIXTURE UNITS	POC	POINT OF CONNECTION
DIA	DIAMETER	PRV	PRESSURE REDUCING VALVE ASSEMBLY
DI	DEIONIZED WATER	PSI	POUNDS PER SQUARE INCH
DW	DISHWASHER	PWR	PURE WATER RETURN
(E)	EXISTING	PWS	PURE WATER SUPPLY
EEW	EMERGENCY EYE WASH	R	RELOCATE OR RELOCATED
EL	ELEVATION	RD	ROOF DRAIN
ESH	EMERGENCY SHOWER	ROS	REVERSE OSMOSIS WATER SUPPLY
ETV	EEW/ESH TEMPERING VALVE	ROR	REVERSE OSMOSIS WATER RETURN
EWC	ELECTRIC WATER COOLER	RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
F	FIRE MAIN	RPM	REVOLUTIONS PER MINUTE
FCO	FLOOR CLEANOUT	S	SOIL OR WASTE
FCV	FLOW CONTROL VALVE	SD	STORM DRAINAGE
FD	FLOOR DRAIN	SOV	SHUT-OFF VALVE IN RISER
FHC	FIRE HOSE CABINET	SK	SINK
FHV	FIRE HOSE VALVE	SPD	SPRINKLER DRAIN
FIN.FLR.	FINISHED FLOOR		SQUARE FEET
FOT	FUEL OIL TANK	SQ. FT.	SQUARE FEET
FPT	FIRE PUMP TEST	SS	SANITARY SEWER
FS	FLOOR SINK	SSC	SURGEON'S SCRUB SINK
FT	FEET	SW	SOFTENED WATER
G	NATURAL GAS	TDL	TOTAL DEVELOPED LENGTH OF PIPE
GAL	GALLON	TP	TRAP PRIMER
GCO	GRADE CLEANOUT	TS	TAMPER SWITCH
GPM	GALLONS PER MINUTE	TW	TEMPERED WATER
GV	GATE VALVE	TYP	TYPICAL
GW	GREASE WASTE	UON	UNLESS OTHERWISE NOTED
GWS	GRAY WATER SYSTEM	UR	URINAL
HB	HOSE BIBB	V	VENT
HP	HORSEPOWER	VTR	VENT THROUGH ROOF
HW	HOT WATER	W	WASTE
HWR	HOT WATER RETURN	WAGD	WASTE ANESTHETIC GAS DISPOSAL
HZ	HERTZ	WC	WATER CLOSET
IA	INSTRUMENT AIR	WCO	WALL CLEANOUT
ICW	INDUSTRIAL/ NON-POTABLE COLD WATER	WH	WATER HEATER
IEWH	INSTANTANEOUS ELECTRIC WATER HEATER	WHA	WATER HAMMER ARRESTER
IHW	INDUSTRIAL/ NON-POTABLE HOT WATER	WHB	WALL HYDRANT BOX
IHWR	INDUSTRIAL/ NON-POTABLE HOT WATER RETURN	WSFU	WATER SUPPLY FIXTURE UNITS
IN	INCHES	WSP	WET STANDPIPE
I.E.	INVERT ELEVATION	ZVB	ZONE VALVE BOX - MEDICAL GAS
IW	INDIRECT WASTE		
KW	KILOWATT		

FIRE PROTECTION

Symbol	Description
F	FIRE MAIN PIPING
AS	AUTOMATIC FIRE SPRINKLER PIPING
CSP	COMBINATION STANDPIPE
WSP	WET STANDPIPE
SPD	SPRINKLER DRAIN PIPING
FPT	FIRE PUMP TEST HEADER PIPING

FIRE PROTECTION GENERAL NOTES

1. THE AUTOMATIC SPRINKLER SYSTEM SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT EDITION OF THE NFPA 13. PENETRATIONS OF RATED ASSEMBLIES SHALL BE FIRE-STOPPED. FIRE-STOPPING SHALL BE AN APPROVED MATERIAL. INSTALLATION OF THE SYSTEM SHALL NOT BE STARTED UNTIL COMPLETE PLANS AND SPECIFICATIONS (INCLUDING WATER SUPPLY INFORMATION AND TYPE OF EXISTING SPRINKLER SYSTEM, IF ANY) HAVE BEEN APPROVED BY THE AUTHORITY HAVING JURISDICTION. AT VARIOUS STAGES AND UPON COMPLETION, THE SYSTEM MUST BE TESTED IN THE PRESENCE OF THE ENFORCING AGENCY.
2. COORDINATE LOCATIONS OF ALL SPRINKLER HEADS WITH THE ARCHITECTURAL REFLECTED CEILING PLANS AND ELECTRICAL LIGHTING LAYOUT. PRIOR TO FABRICATION, SUBMIT LAYOUT DRAWINGS FOR ARCHITECTURAL ACCEPTANCE. COORDINATE LOCATIONS OF ALL SPRINKLER MAINS, BRANCH PIPING, ETC. WITH OTHER TRADES.
3. SPRINKLER HEAD TOLERANCE IN CEILING TILES IS +1" FROM CENTER OF TILE.
4. DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW ALL OFFSETS OR FITTINGS REQUIRED. THE FIRE SPRINKLER CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES TO AVOID CONFLICTS WITH DUCTS, LIGHTS, FIXTURES, PIPING, ETC.
5. THE FIRE SPRINKLER CONTRACTOR IS TO COORDINATE WITH THE UNDERGROUND SITE UTILITIES CONTRACTOR. THE UNDERGROUND FIRE MAIN PIPING SHALL BE INCLUDED ON SPRINKLER SHOP DRAWINGS AND CALCULATIONS SUBMITTED TO THE LOCAL FIRE MARSHALL FOR APPROVAL.
6. THE SPACING AND DETAILS OF THE SUPPORT AND BRACING OF THE FIRE SPRINKLER PIPING SHALL COMPLY WITH THE CURRENT EDITION OF NFPA 13. PROVIDE ANCHORAGE DETAILS AND CALCULATIONS FOR THE CONNECTION OF SWAY BRACING TO THE STRUCTURE. DESIGN LOADS FOR THE ANCHORAGE MAY BE COMPUTED PER NFPA 13, CURRENT EDITION. ALL SHOP DRAWINGS OF THE SPRINKLER SYSTEM SHALL BE SUBMITTED TO THE AUTHORITY HAVING JURISDICTION FOR REVIEW AND APPROVAL, PRIOR TO INSTALLATION.

PLUMBING DRAWING INDEX

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PERMIT SET
11/11/2022
REVISIONS

73-19057-00

PLUMBING SYMBOLS AND ABBREVIATIONS

P0.01

PLUMBING SPECIFICATIONS

GENERAL

A. PERFORM ALL WORK IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE, LOCAL COUNTY FIRE MARSHALLS, CITY CODES, O.S.H.A. AND N.F.P.A. CODES, REGULATIONS OF THE STATE HEALTH DEPT., AND THE RULES AND REGULATIONS OF ALL LOCAL TOWN, STATE AND FEDERAL AUTHORITIES HAVING JURISDICTION. PROVIDE OWNER WITH CERTIFICATES OF INSPECTION. THIS CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR THE COMPLETION OF THIS WORK.

PIPE, FITTINGS, SUPPORTS, AND ACCESSORIES

A. DIELECTRIC FITTINGS SHALL BE USED AT ALL DISSIMILAR METAL CONNECTIONS.

B. DOMESTIC HOT AND COLD WATER PIPING: TYPE "L" ASTM B-88, HARD DRAWN COPPER TUBE WITH ASTM B-75 WROUGHT COPPER SWEAT FITTINGS CONFORMING TO ANSI B16.22. SOLDER SHALL BE "LEAD FREE" CONTAINING LESS THAN 0.2 PERCENT LEAD CONTENT.

VALVES AND ACCESSORIES

WATER VALVES FOR USE IN COPPER LINES SHALL BE RATED 175 PSIG WOG. BRASS BODY, BALL TYPE.

PROVIDE SHUT-OFF VALVES ON ALL BRANCH LINES.

HANGERS AND SUPPORTS

PRODUCTS OF B-LINE SYSTEMS INC., OR BASIC ENGINEERING INC., WILL BE ACCEPTABLE IN PLACE OF A PARTICULAR MANUFACTURER'S CATALOG FIGURE NUMBER SPECIFIED HEREIN.

OVERHEAD SUPPORTS: PROVIDE ONE OF THE FOLLOWING TYPES OF HANGER FOR OVERHEAD SUPPORT OF HORIZONTAL PIPING:

1. FOR COPPER TUBING WHERE HANGERS ARE IN DIRECT CONTACT WITH TUBING, USE CLEVIS TYPE STEEL HANGER, COPPER PLATED, GRINNELL FIG. CT-65, WITH SUPPORTING ROD TO SUIT.
2. FOR ALL OTHER PIPING 4 INCHES AND SMALLER, USE CLEVIS TYPE HANGERS, GRINNELL FIG. 260.

WALL SUPPORTS: PROVIDE ONE OF THE FOLLOWING TO SUPPORT HORIZONTAL PIPING FROM WALL.

1. WHERE NO PROVISION FOR EXPANSION AND CONTRACTION IS REQUIRED AND PIPE CAN BE LOCATED CLOSE TO WALL, USE STEEL J-HOOKS, SUITABLE FOR PIPE SIZES UP TO 3 INCHES, GRINNELL FIG. 126.

INSULATION

INSULATION SHALL BE APPLIED BY EXPERIENCED PERSONNEL IN ACCORDANCE WITH BEST TRADE PRACTICE GUIDED BY MANUFACTURER'S PRINTED INSTALLATION DIRECTIONS.

INSULATION SHALL BE ARMSTRONG OR APPROVED EQUAL FIBERGLASS PIPE INSULATION. ARMSTRONG OR APPROVED EQUAL ADHESIVE INSULATION TAPE SHALL BE PROVIDED.

ALL INSULATION JACKETS, OR FACINGS AND ADHESIVES USED TO ADHERE JACKET OR FACING TO THE INSULATION, INCLUDING FITTINGS AND BUTT STRIPS, SHALL HAVE NON-COMBUSTIBLE FIRE AND SMOKE HAZARD SYSTEM RATING AND LABEL AS TESTED BY ASTM-84-91a, NFPA 255 & UL 723 NOT EXCEEDING FLAME SPREAD 25, SMOKE DEVELOPED 50. ALL PRODUCTS SHALL BE AS MANUFACTURED BY ARMSTRONG CORPORATION OR AN APPROVED EQUAL.

PIPING INSULATION
THE FOLLOWING PIPING, FITTINGS, FLANGES AND VALVES SHALL BE INSULATED.
DOMESTIC COLD WATER - 1"
DOMESTIC HOT WATER - 1"

INSULATION THICKNESS FOR PIPING FITTINGS, FLANGES, AND VALVES SHALL BE NOT LESS THAN INDICATED ABOVE.

FIXTURE INSTALLATION

INSTALL EACH FIXTURE WITH TRAP, EASILY REMOVABLE FOR SERVICING AND CLEANING.

PROVIDE CHROME PLATED RIGID OR FLEXIBLE SUPPLIES TO FIXTURES WITH SCREWDRIVER STOPS, REDUCERS, AND ESCUTCHEONS.

INSTALL COMPONENTS LEVEL AND PLUMB.

INSTALL AND SECURE FIXTURE IN PLACE WITH CHAIN, CARRIERS, AND BOLTS AS REQUIRED.

SEAL FIXTURES TO WALL AND FLOOR SURFACES WITH SEALANT.

MOUNT FIXTURES TO THE HEIGHTS AS SHOWN ON DRAWINGS. ALL GIVEN HEIGHTS ARE ASSUMED TO BE ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.

INSPECTION, TESTS, ADJUSTMENT AND ACCEPTANCE
DISINFECTION OF DOMESTIC WATER PIPING

PRIOR TO STARTING WORK, VERIFY SYSTEM IS COMPLETE, FLUSHED AND CLEAN.

ENSURE PH OF WATER TO BE TREATED BETWEEN 7.4 AND 7.6 BY ADDING ALKALI (CAUSTIC SODA OR SODA ASH) OR ACID (HYDROCHLORIC).

INJECT DISINFECTANT, FREE CHLORINE IN LIQUID, POWDER, TABLET OR GAS FORM, THROUGHOUT SYSTEM TO OBTAIN 50 TO 80 MG/L RESIDUAL.

BLEED WATER FROM OUTLETS TO ENSURE DISTRIBUTION AND TEST FOR DISINFECTANT RESIDUAL AT MINIMUM 15 PERCENT OF OUTLETS.

MAINTAIN DISINFECTANT IN SYSTEM FOR 24 HOURS.

IF FINAL DISINFECTANT RESIDUAL TESTS LESS THAN 25 MG/l REPEAT TREATMENT.

FLUSH DISINFECTANT FROM SYSTEM UNTIL RESIDUAL EQUAL TO THAT OF INCOMING WATER OR 1 MG/L.

TAKE SAMPLES NO SOONER THAN 24 HOURS AFTER FLUSHING, FROM 10 PERCENT OF OUTLETS AND FROM WATER ENTRY, AND ANALYZE IN ACCORDANCE WITH AWWA C601.

ADJUSTMENTS, REPAIRS, AND TESTS

THIS CONTRACTOR SHALL ADJUST, REPAIR AND TEST THE PLUMBING SYSTEMS AS SPECIFIED HEREIN.

CORRECT DEFECTS DISCLOSED BY TESTS OR INSPECTION: REPLACE DEFECTIVE PARTS WHEN DIRECTED. REPLACING DEFECTIVE PARTS USE ONLY NEW MATERIAL, IN CASE OF PIPE REPLACE WITH SAME LENGTH AS DEFECTIVE PIECES. CAULKING OF SCREWED JOINTS WILL NOT BE PERMITTED. REPEAT TESTS AFTER DEFECTS HAVE BEEN CORRECTED AND PARTS REPLACED, AS DIRECTED, UNTIL PRONOUNCED SATISFACTORY.

THE COST OF REPAIRS & RESTORATION OF WORK OF OTHER TRADES DAMAGED BY THE TESTS, OR CUTTING THAT HAD TO BE DONE IN CONNECTION WITH TESTS SHALL BE MADE AT NO EXTRA COST TO OWNER.

INSPECTION

THE CONTRACTOR SHALL OBTAIN ALL INSPECTION REQUIRED BY LAWS, ORDINANCES AND REGULATIONS OF WASHINGTON STATE DEPARTMENT OF LABOR & INDUSTRY, AND OTHER AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL OBTAIN CERTIFICATES OF INSPECTION AND SUBMIT THEM TO THE OWNER AND SHALL PAY FOR ALL FEES, CHARGES, AND OTHER EXPENSES IN CONNECTION WITH THE SAME, INCLUDING SAME IN CONTRACT PRICE.

THIS CONTRACTOR SHALL FURNISH AND INSTALL SUCH TEST TEES AND PLUG FITTINGS IN THE WORK AS MAY BE REQUIRED BY LOCAL AUTHORITIES FOR THEIR TEST, AND ANY OTHER TEST REQUIRED, AND SHALL ASCERTAIN INFORMATION FROM LOCAL AUTHORITIES AS TO ALL REQUIREMENTS BEFORE INSTALLATION OF WORK. NO CLAIMS FOR EXTENSION OF TIME WILL BE ENTERTAINED WHICH ARISES FROM FAILURE TO OBTAIN THIS INFORMATION IN TIME, OR SECURING THE NECESSARY PERMITS AND ARRANGING FOR REQUIRED INSPECTION.

DEMOLITION

PERFORM ALL DEMOLITION OR INTERFACE WORK REQUIRED IN THE EXISTING BUILDING FOR THE REMOVAL OF, OR INTERFACE WITH, EXISTING EQUIPMENT OR PIPING. RELOCATE OR MODIFY THE EXISTING PIPING OR TUBING AS REQUIRED BY ANY GENERAL CONSTRUCTION ALTERATIONS OR BY THE INSTALLATION OF NEW TUBING OR PIPING IN THE EXISTING BUILDING.

FOR ITEMS THAT REMAIN THE PROPERTY OF THE OWNER, REFER TO THE DRAWINGS. IN COORDINATION WITH THE OWNER'S REPRESENTATIVES, THESE MATERIALS SHALL BE MADE AVAILABLE FOR THEIR INSPECTION AND DECISION AS TO WHETHER THE OWNER WILL RETAIN POSSESSION. ITEMS SELECTED FOR RETENTION SHALL BE DELIEVERED TO A LOCATION ON THE PREMISES SELECTED BY THE OWNER AND TURNED OVER TO THEM. TAKE REASONABLE CARE TO AVOID DAMAGE TO THIS MATERIAL. ALL MATERIAL NOT SELECTED FOR RETENTION BY THE OWNER AND DEBRIS SHALL BE DISPOSED OF BY THE CONTRACTOR.

IF PIPE OR EQUIPMENT TO REMAIN IS DAMAGED OR DISTURBED, REMOVE DAMAGED PORTIONS AND INSTALL NEW PRODUCT OF EQUAL CAPACITY AND QUALITY.

WORK ABANDONED IN PLACE: CUT AND REMOVE UNDERGROUND PIPE A MINIMUM OF 2 INCHES BEYOND FACE OF ADJACENT CONSTRUCTION. CAP AND PATCH SURFACE TO MATCH EXISTING FINISH.

REUSE OF MATERIALS: REUSE OF MATERIALS IS PROHIBITED UNLESS SPECIFICALLY INDCATED OR APPROVED BY ARCHITECT. NOTIFY ARCHITECT IN DISCOVERY OF ANY HAZARDOUS MATERIALS.

TEMPORARY DISCONNECTION: REMOVE, STORE, CLEAN, REINSTALL, RECONNECT, AND MAKE OPERATIONAL EQUIPMENT INDICATED FOR RELOCATION.

END OF SPECIFICATION SECTION

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PLUMBING FIXTURE CONNECTION SCHEDULE

NOTES:
1 EXISTING FIXTURE TO BE RELOCATED
2
3

	DESCRIPTION		CONNECTION SIZE					SPECIFICATION			FAUCET						SPECIFICATION
MARK	ADA	MOUNT	P-TRAP	HOT	COLD	WASTE	VENT	MATERIAL	MANUFACTURER	MODEL	TYPE	HANDLES	FINISH	OUTLET	OPERATION	GPM	NOTES
P5-2				3/4"	3/4"	2"	1-1/2"										1

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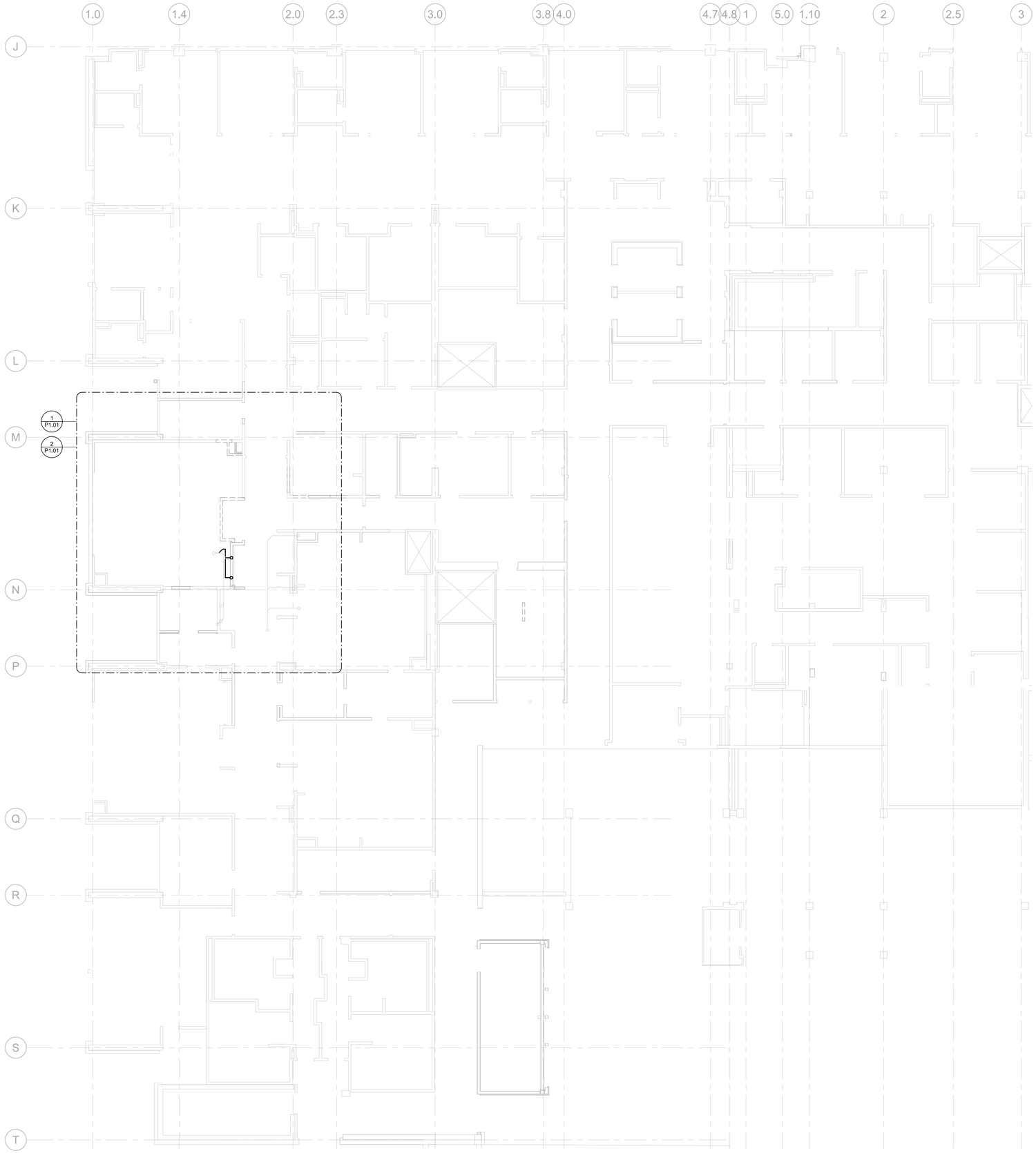
PLUMBING SHEET SPEC & SCHEDULES

P0.10



1 P1.00 OVERALL FIRST FLOOR - PLUMBING
1/8" = 1'-0"

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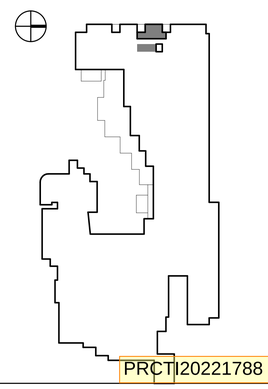
KEY PLAN - LEVEL 2

AREA OF WORK



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PLUMBING
OVERALL FIRST
FLOOR

P1.00

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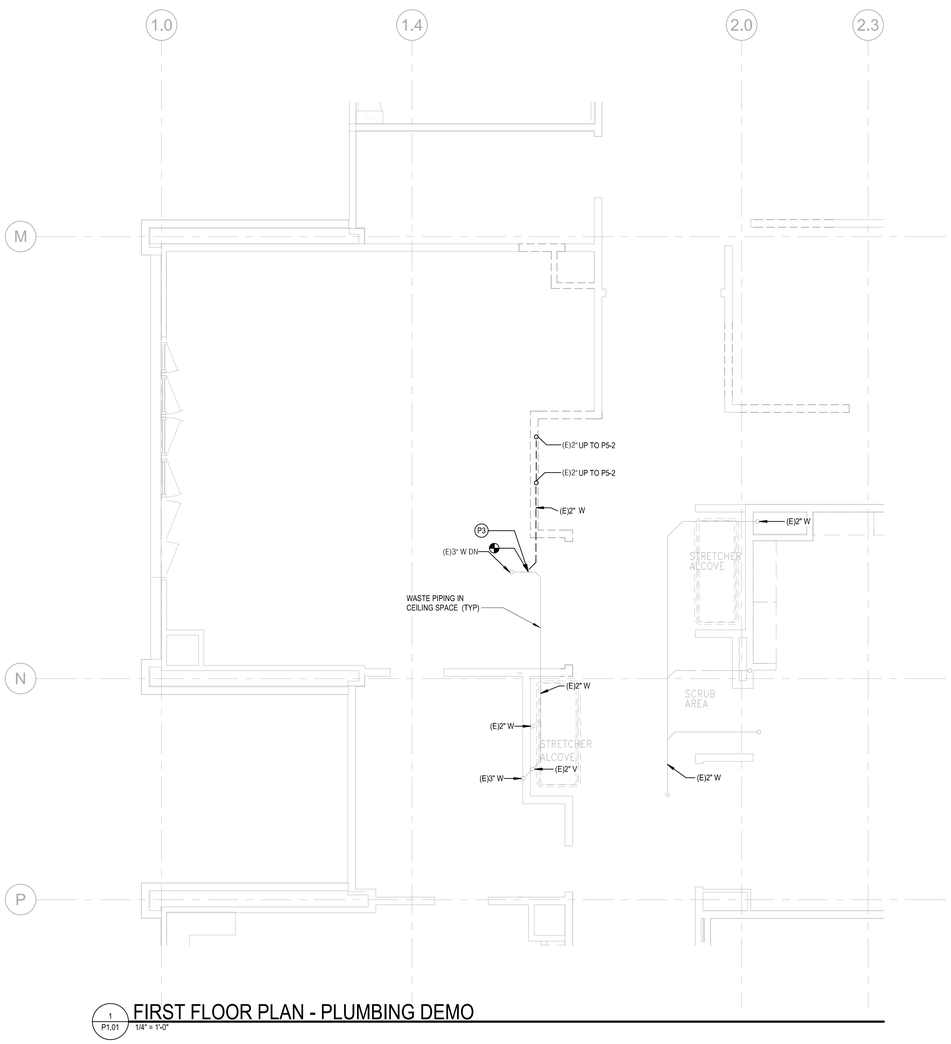
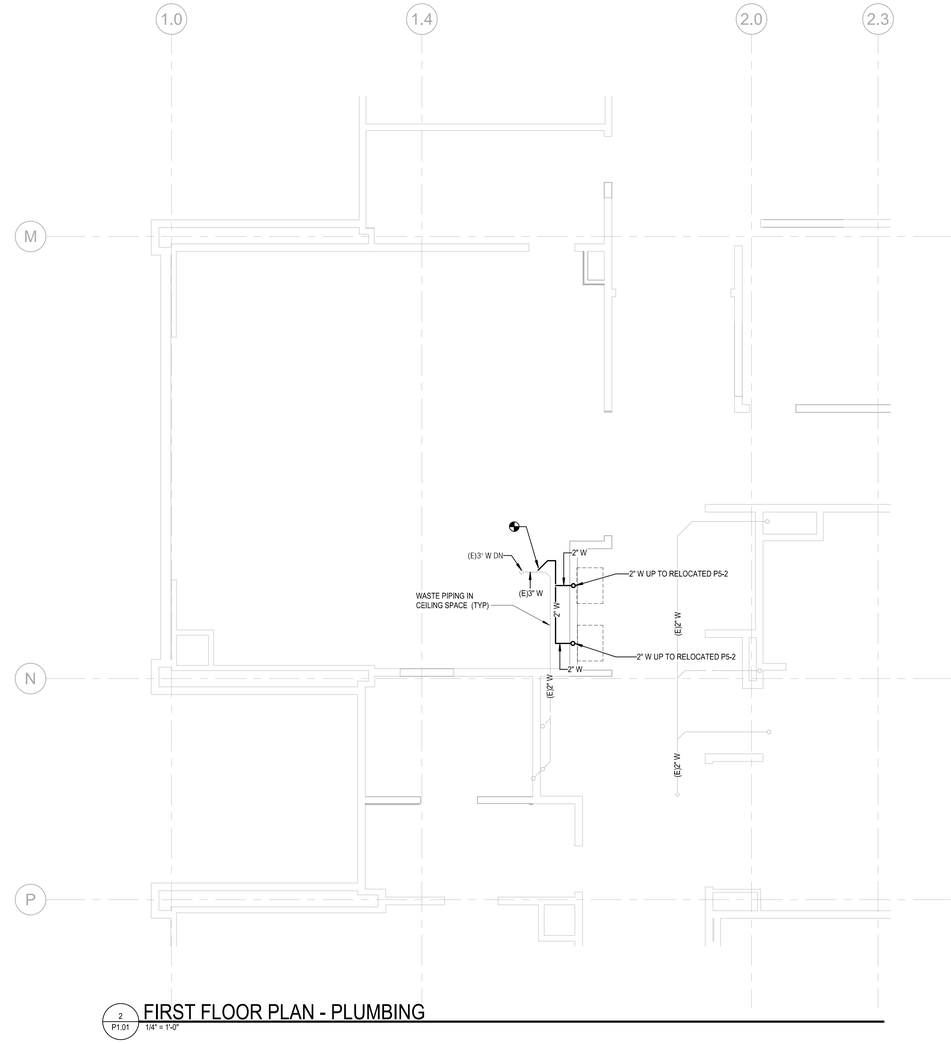


1 P1.01 FIRST FLOOR PLAN - PLUMBING DEMO
1/4" = 1'-0"



2 P1.01 FIRST FLOOR PLAN - PLUMBING
1/4" = 1'-0"

KEYNOTES

P3 DEMOLISH WASTE PIPING AND CAP NEAR MAIN.

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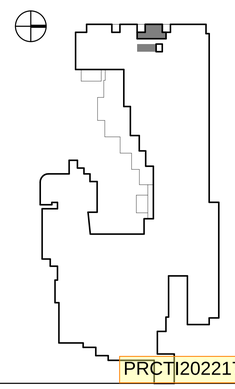
KEY PLAN - LEVEL 2

AREA OF WORK



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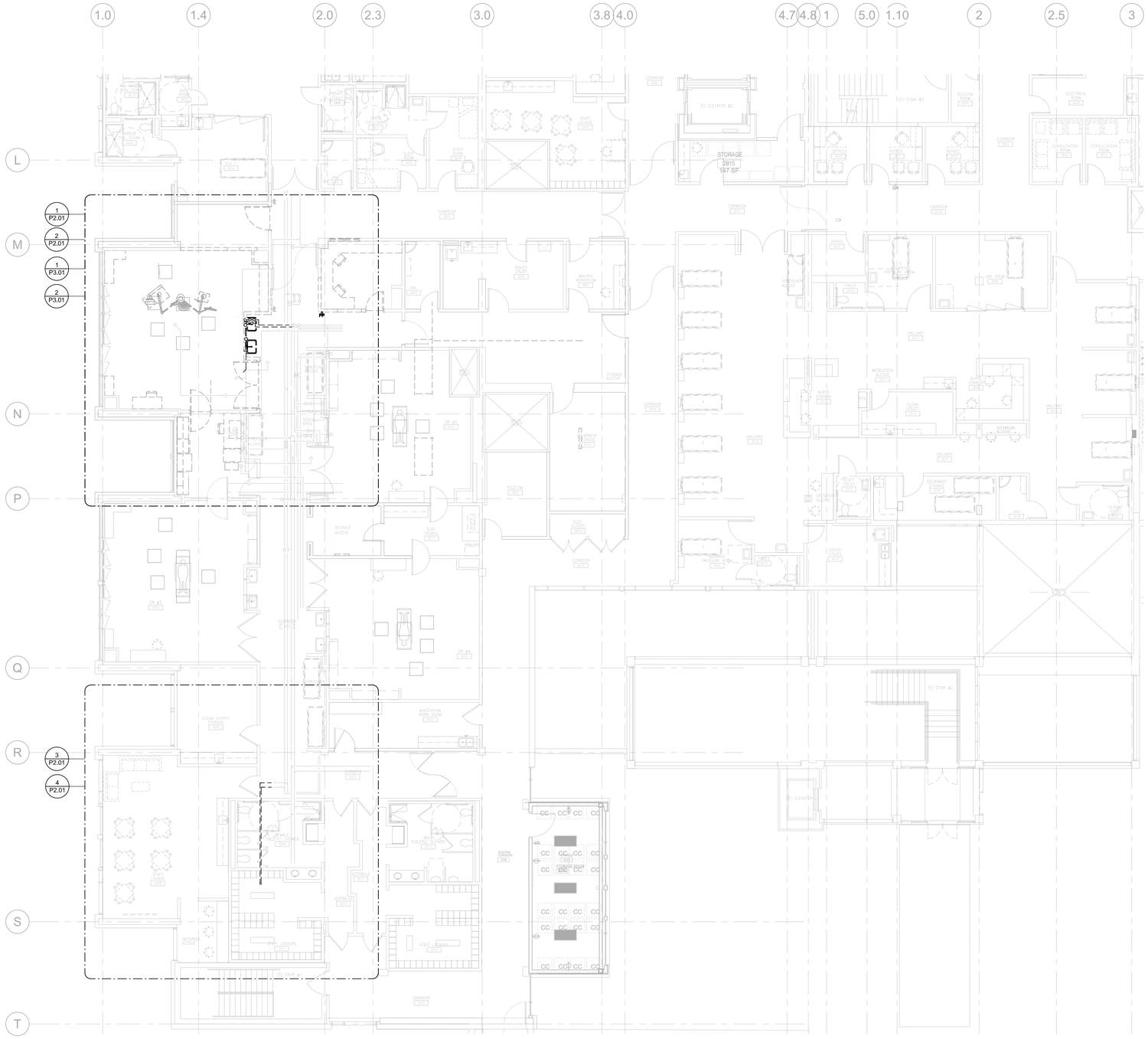
PLUMBING LEVEL 1 ENLARGED PLANS

P1.01



1 P2.00 OVERALL SECOND FLOOR - PLUMBING
1/8" = 1'-0"

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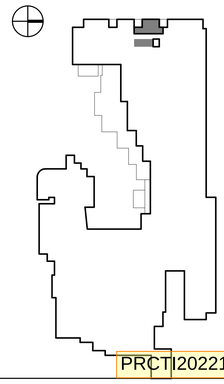
KEY PLAN - LEVEL 2

AREA OF WORK



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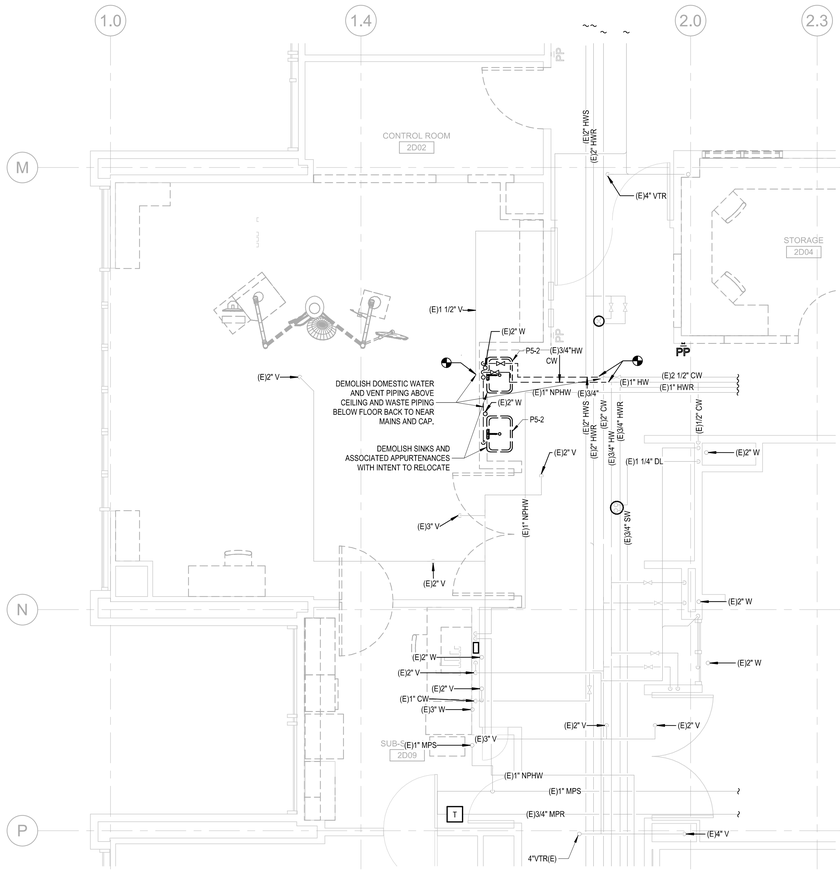
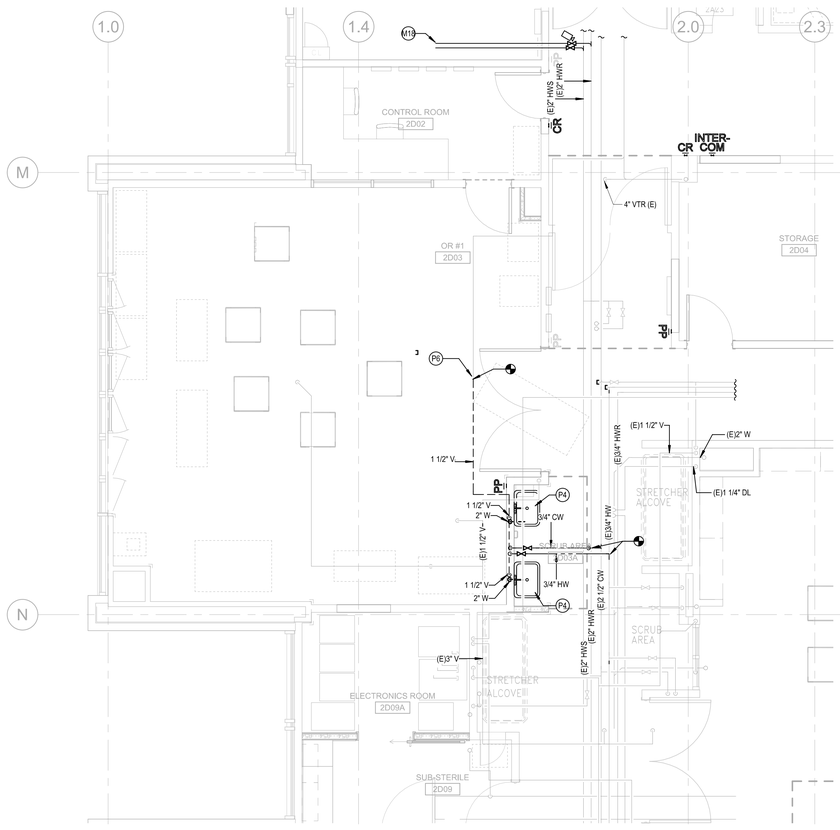
PLUMBING
OVERALL
SECOND FLOOR

P2.00



1 P2.01 1/4" = 1'-0"

SECOND FLOOR OR#1 SUITE - PLUMBING DEMO

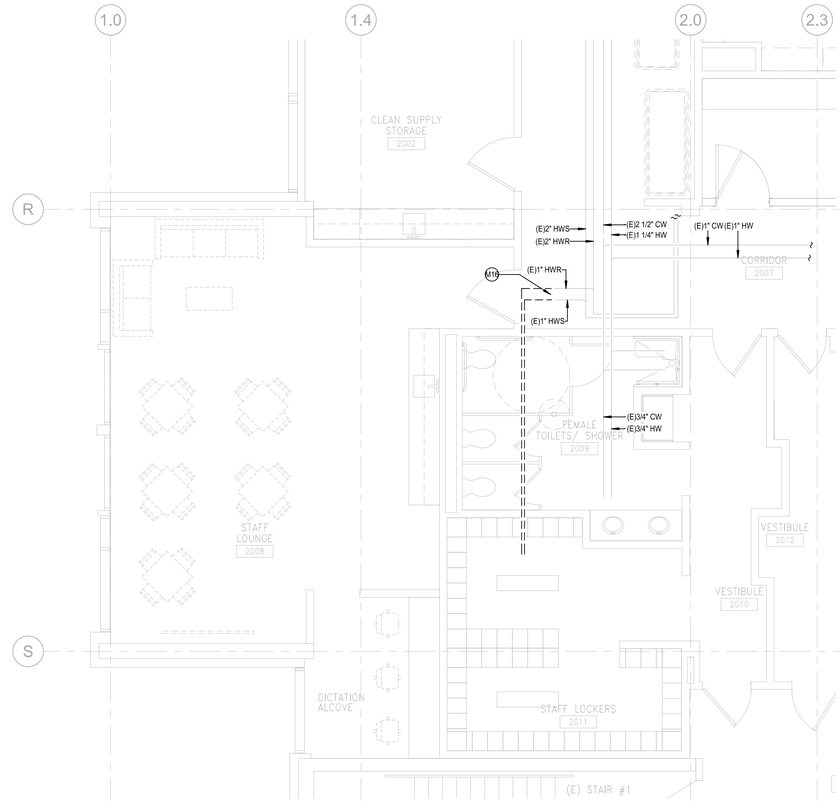


2 P2.01 1/4" = 1'-0"

SECOND FLOOR OR#1 SUITE - PLUMBING

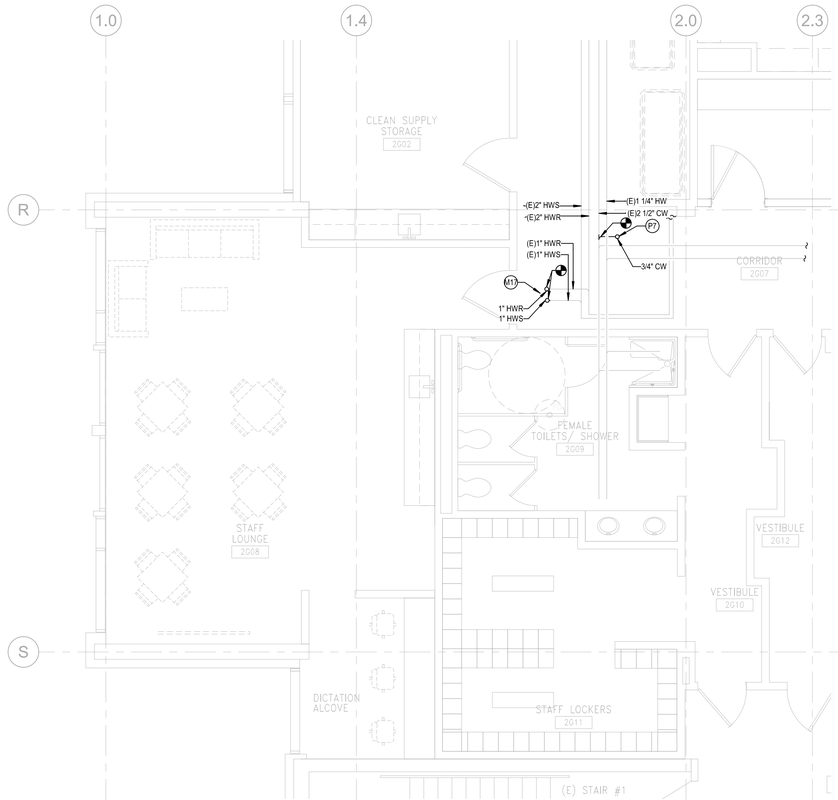
KEYNOTES

M16 DEMO EXISTING HHW SERVING AHU OR#1 BACK TO L2 CEILING CAVITY WITH INTENT TO REROUTE TO NEW AHU.
M17 ROUTE HHW PIPING THROUGH CEILING TO NEW AHU.
M18 ROUTE 3/4" HHWS/R TO NEW VAV TU 2019.
P4 RELOCATE EXISTING P5-2 FIXTURES.
P6 CONNECT 1-1/2" V INTO EXISTING VENT LINE.
P7 ROUTE 3/4" CW TO NEW STEAM GENERATOR ON ROOF.



3 P2.01 1/4" = 1'-0"

SECOND FLOOR HHW TO AHU - PLUMBING DEMO



4 P2.01 1/4" = 1'-0"

SECOND FLOOR HHW TO AHU - PLUMBING

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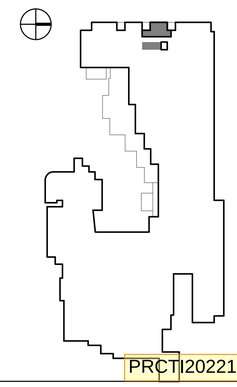
KEY PLAN - LEVEL 2

AREA OF WORK



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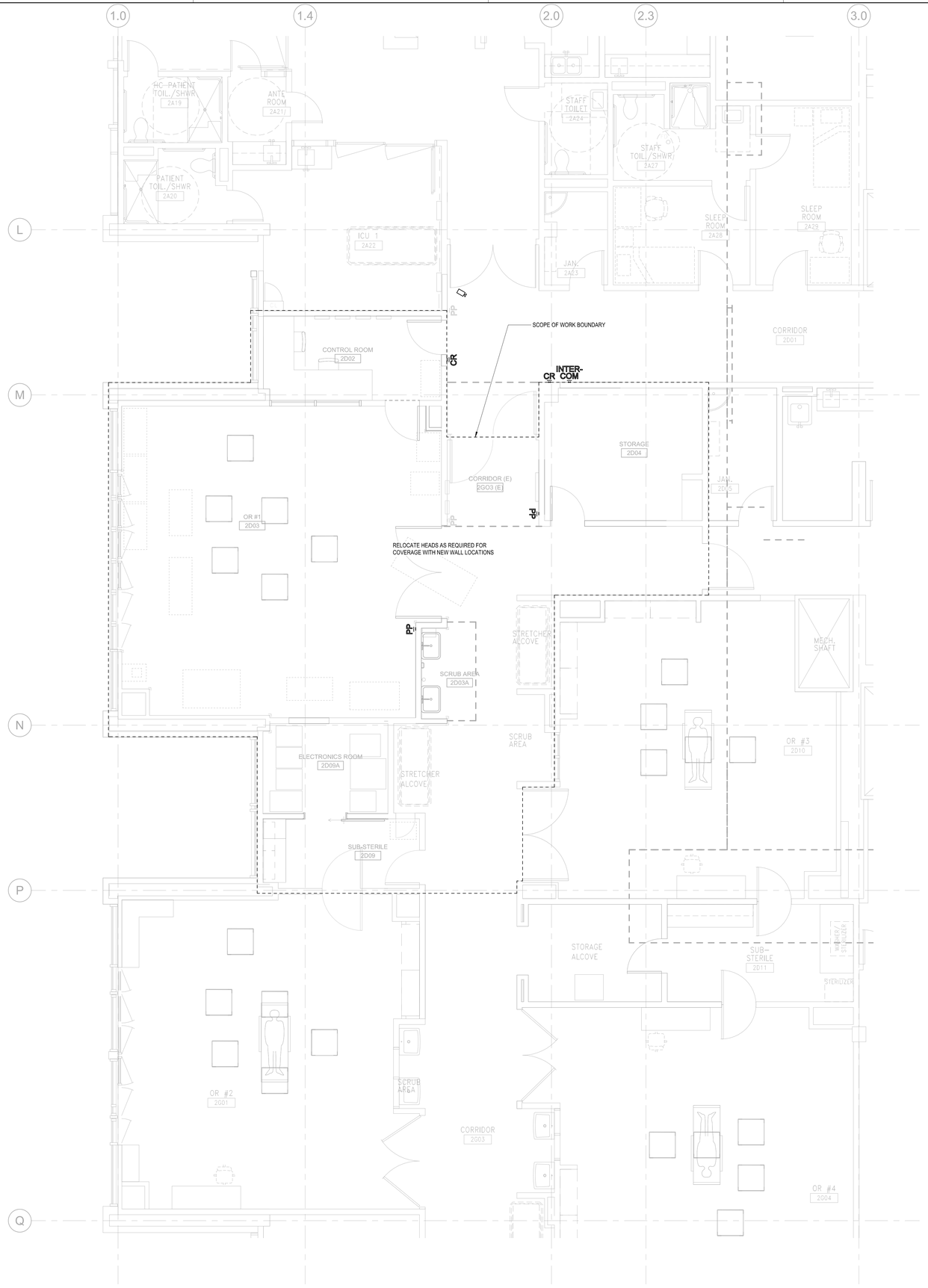
PLUMBING LEVEL 2 ENLARGED PLANS

P2.01



1 P2.03 SECOND FLOOR PLAN - FIRE PROTECTION
1/4" = 1'-0"

KEYNOTES

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

- See accompanying project comment form for review status and corrections.
- This is not a building permit, check with your local building department.

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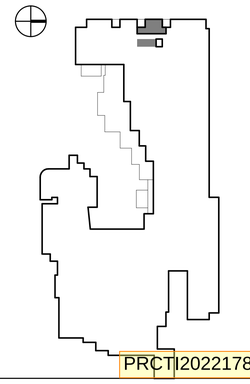
KEY PLAN - LEVEL 2

AREA OF WORK



PRCT20221788

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Project Number: 206-002

Good Samaritan
A part of MultiCare Health System

HYBRID OR #1
MULTICARE GOOD SAMARITAN HOSPITAL
401 15TH AVE SE PUYALLUP, WA 98372

PERMIT SET
11/11/2022
REVISIONS

73-19057-00

FIRE PROTECTION OVERALL SECOND FLOOR

P2.03

KEYNOTES

P1 DEMO MED GAS PIPING FROM EXISTING BOOM. CAP AT VALVE.

P2 DEMO MED GAS PIPING FROM EXISTING BOOM WITH INTENT TO EXTEND TO NEW BOOM.

P5 CAP CO2 AT VALVE.

MEDICAL GAS OUTLET SCHEDULE

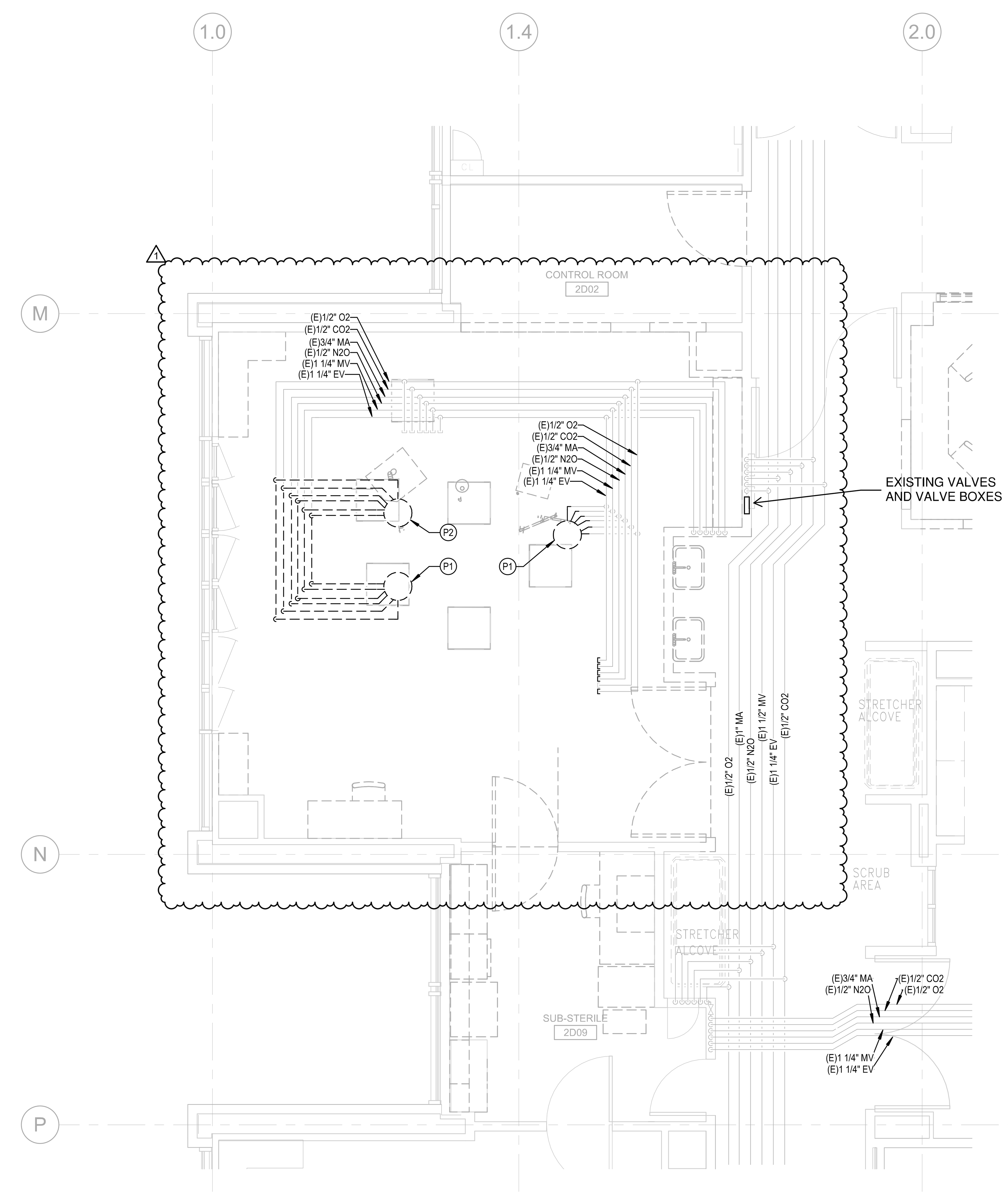
NOTES:

1.

2.

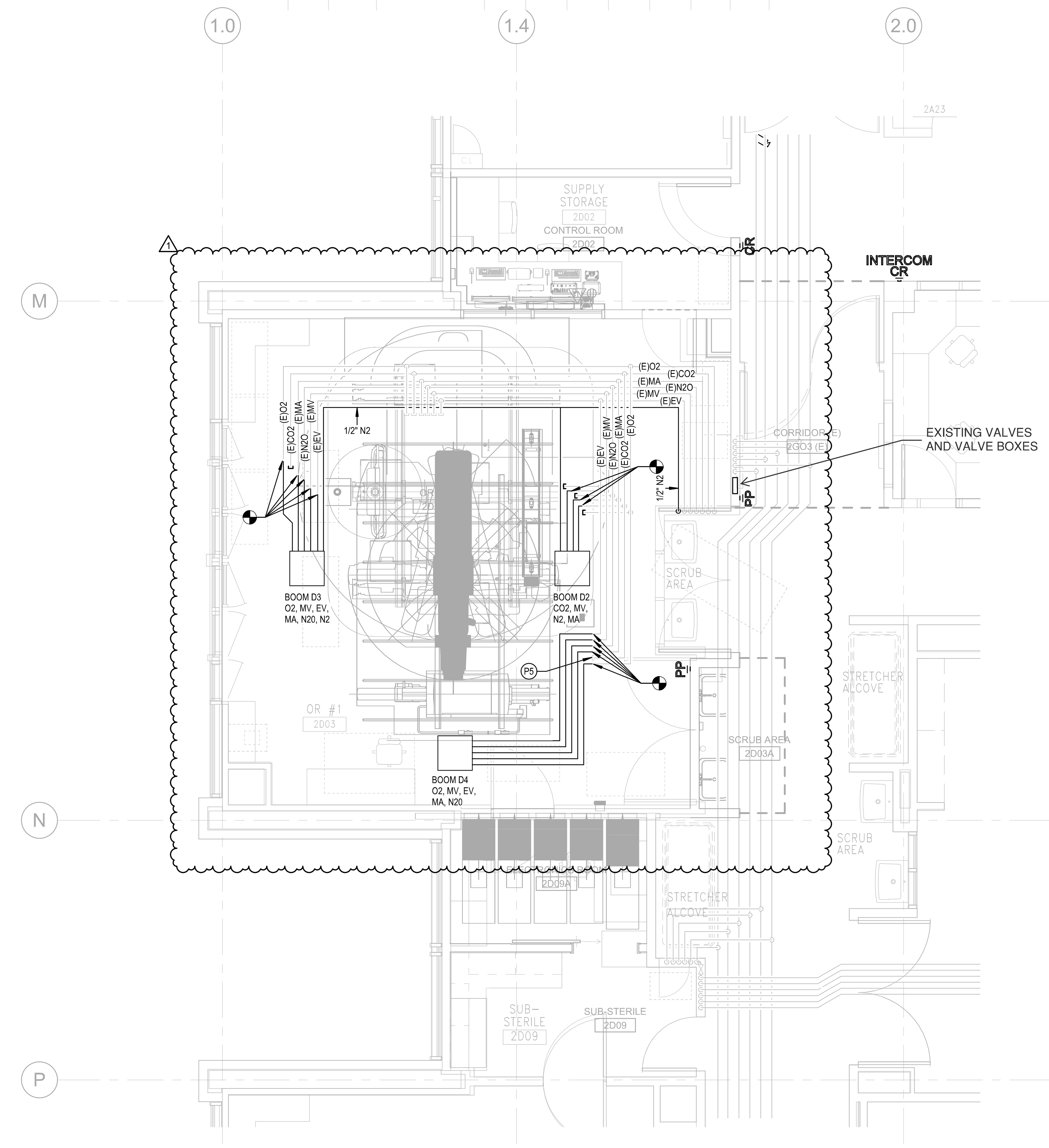
3.

MARK	TYPE	MANUFACTURER	NUMBER OF OUTLETS							NOTES
			O2	N2O	MA	MV	CO2	VE	N2	
D2	BOOM	STRYKER			1	2	1		1	
D3	BOOM	STRYKER	1	1	1	1		1		
D4	BOOM	STRYKER	2	1	1	3		1		



1 P3.01 SECOND FLOOR PLAN - PLUMBING PRESSURE AND MED GAS DEMO

1/4" = 1'-0"



2 P3.01 SECOND FLOOR PLAN - PLUMBING PRESSURE AND MED GAS

1/4" = 1'-0"

Authorized to Begin Construction

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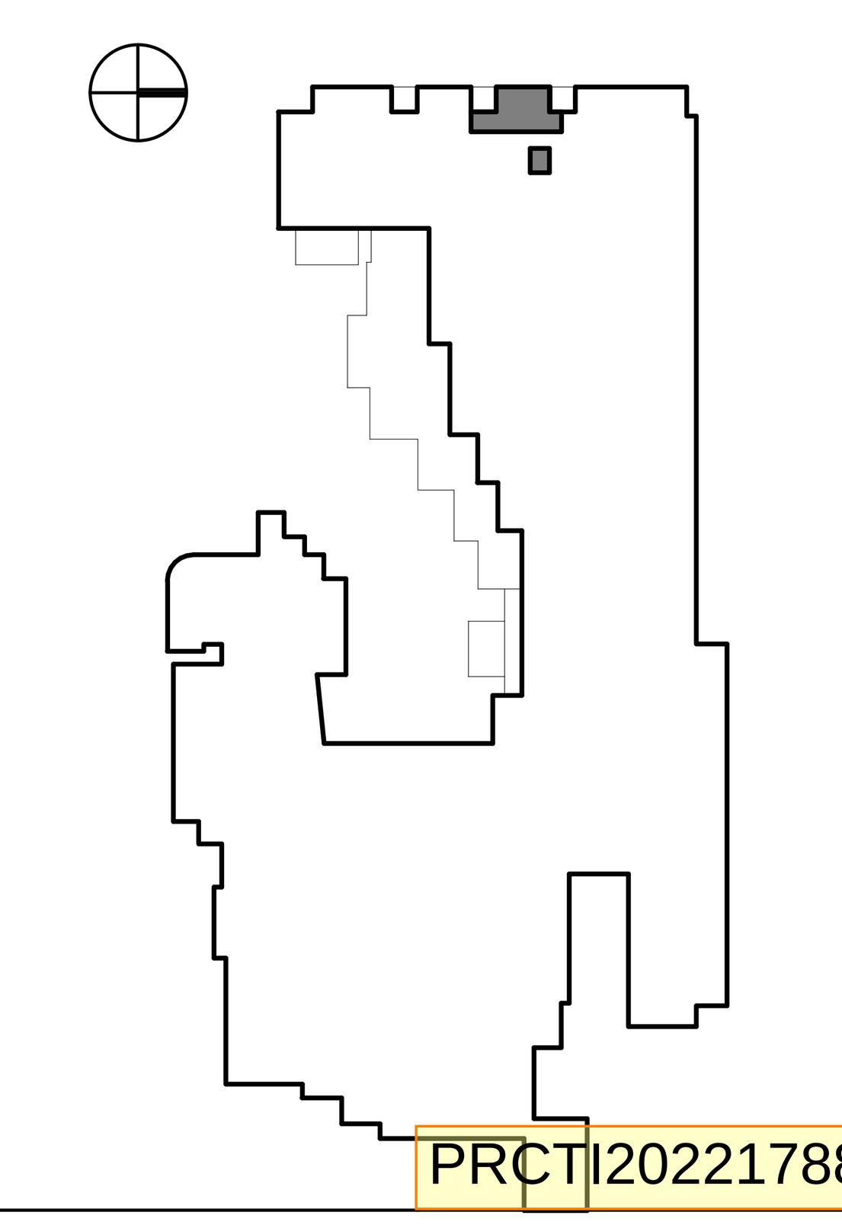
03/08/2023 8:29:17 PM

KEY PLAN - LEVEL 2

AREA OF WORK



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PERMIT SET
11/11/2022
REVISIONS
1 03/06/23 MED GAS BOOMS

73-19057-00

MED GAS LEVEL 2 ENLARGED PLAN

P3.01

GENERAL STRUCTURAL NOTES

THE FOLLOWING NOTES APPLY UNLESS INDICATED OTHERWISE:

GOVERNING CODE:

INTERNATIONAL BUILDING CODE, 2018 EDITION.

AUTHORITY HAVING JURISDICTION (AHJ):

CITY OF PUYALLUP, WA

DESIGN LOADS:

LIVE:

ROOF LIVE	= 20 PSF
FLOORS	= 80 PSF
PARTITIONS	= 20 PSF
LOBBY,FIRST FLOOR, CORRIDOR & STAIRS	= 100 PSF

SEE DESIGN LOADING DIAGRAMS FOR AREA LOADS(S-021 & FOLLOWING).

SNOW:

Pg = 20 PSF   Is = 1.0
Ce = 1.0,   Cs = 1.0,   Ct = 1.0
Pf = 25 PSF (PER WABO-SEAW WHITE PAPER #8)

SNOW DRIFT LOADING NOT REQUIRED PER WABO-SEAW WHITE PAPER #8: GUIDELINES FOR DETERMINING SNOW LOAD IN WASHINGTON STATE.

SEISMIC:

SITE CLASS D   RISK CATEGORY II   Ie = 1.0
Ss = 1.300   S1 = 0.510
Sds = 0.867   Sd1 = 0.510
SEISMIC DESIGN CATEGORY D

SEISMIC DEMANDS ON NONSTRUCTURAL COMPONENTS PER ASCE 7-10 13.3.1:
Ip = 1.0,   ap = 1.0,   Rp = 2.5

APPLICABLE CODES AND STANDARDS:

BUILDING CODE	INTERNATIONAL BUILDING CODE (IBC), 2018 EDITION
ACI	AMERICAN CONCRETE INSTITUTE, "BUILDING CODE FOR STRUCTURAL CONCRETE" (ACI 318), 2014 EDITION
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION, "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" (AISC 360-2016 EDITION)
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION, "SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS" (ANSI / AISC 341), 2016 EDITION
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS, "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURAL" (ASCE 7), 2016 EDITION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM INTERNATIONAL)
AWS	AMERICAN WELDING SOCIETY, "STRUCTURAL WELDING CODE - STEEL" (AWS A2.4), 2012 EDITION
AWS	AMERICAN WELDING SOCIETY, "STRUCTURAL WELDING CODE - STEEL" (AWS D1.1), 2015 EDITION
AWS	AMERICAN WELDING SOCIETY, "STRUCTURAL WELDING CODE - STEEL" (AWS D1.4), 2018 EDITION
AWS	AMERICAN WELDING SOCIETY, "STRUCTURAL WELDING CODE - STEEL" (AWS D1.8), 2016 EDITION
ICC	COUNCIL - EVALUATION SERVICE (ICC-ES)
MSJC	THE MASONRY SOCIETY, "BUILDING CODE REQUIREMENTS AND SPECIFICATION FOR MASONRY STRUCTURES AND RELATED COMMENTARIES" (TMS 402 / ACI 530), 2013 EDITION
RCSC	RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS, "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS", 2014 EDITION

SUPPORT OF NON-STRUCTURAL/NON-BUILDING EQUIPMENT AND STRUCTURES SHALL COMPLY WITH THE APPLICABLE CODE AS NOTED BELOW:

NFPA 13
ASCE 7-2016 CH 13 AND CH 15
IBC 2018

REINFORCED CONCRETE:

UNLESS OTHERWISE NOTED, ALL CONCRETE SHALL BE AS FOLLOWS:
f'c = 5,000 PSI, @ 28 DAYS MAXIMUM W/C = 0.42, MINIMUM
6 SACKS OF CEMENT PER CUBIC YARD

THE USE OF FLY ASH, OTHER POZZOLANS, SILICA FUME, OR SLAG SHALL CONFORM TO ACI 318 SECTIONS 4.3.1 AND 4.4.2. MAXIMUM AMOUNT OF FLY ASH SHALL BE 25% OF TOTAL CEMENTITIOUS CONTENT. CONCRETE USED IN ELEVATED SLABS AND BEAMS IN FLOORS WITH A DIMENSION GREATER THAN 125 FEET SHALL HAVE A SHRINKAGE LIMIT OF 0.045% AT 28 DAYS MEASURED IN ACCORDANCE WITH ASTM C157. SUBMIT LABORATORY TEST RESULTS TO SER FOR APPROVAL PRIOR TO CONSTRUCTION. SUBMIT MIX DESIGNS. SEE SPECIFICATIONS FOR ADMIXTURES.

TABLE R1

EXPOSURE CATEGORIES AND CLASS (ACI 318-14, TABLE 19.3.1.1)

MIN f'c, PSI	MAX W/C	FREEZING AND THAWING Fx	SULFATE Sx	WATER PERMEABILITY Wx	CORROSION PROTECTION OF REINF Cx
4000	0.46	F0 (NOT APPLICABLE)	S0 (NOT APPLICABLE)	W0 (NOT APPLICABLE)	C1 (MODERATE)
4500	0.45	F1 (MODERATE)	S0 (NOT APPLICABLE)	W0 (NOT APPLICABLE)	C1 (MODERATE)
5000 OR HIGHER	0.42	F0 (NOT APPLICABLE)	S0 (NOT APPLICABLE)	W0 (NOT APPLICABLE)	C1 (MODERATE)

REINFORCEMENT:

UNLESS OTHERWISE NOTED, REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60 UON. SUBMIT REINFORCING STEEL SHOP DRAWINGS WITH DETAILS INCLUDING HOOKS AND BENDS PER ACI 315 MANUAL OF STANDARD PRACTICE AND ACI 318.

ALL REINFORCING STEEL CALLOUTS ARE IN INCHES ON CENTER UNLESS OTHERWISE NOTED.

WELDED WIRE FABRIC PER ASTM A185. DEFORMED WELDED WIRE FABRIC PER ASTM A497. FURNISH IN FLAT SHEETS, NOT ROLLS. LAP EDGES 1 1/2 MESH MINIMUM.

REINFORCING SPLICES SHALL CONFORM TO ACI 301 SECTION 3.3.2.7. REFER TO "LAP SPLICE AND DEVELOPMENT LENGTH SCHEDULE" FOR TYPICAL REINFORCEMENT SPLICES. SPLICES INDICATED ON INDIVIDUAL SHEETS SHALL CONTROL OVER THE SCHEDULE. MECHANICAL CONNECTIONS MAY BE USED WHEN APPROVED BY THE SER. FOR REINFORCING WITHIN THE LATERAL SYSTEM (SHEAR WALLS) AND REINFORCING CONNECTING THE DIAPHRAGM SLAB TO THE LATERAL SYSTEM, MECHANICAL SPLICE STRENGTH IS INCREASED TO DEVELOP 125% OF THE SPECIFIED TENSILE STRENGTH OF THE SPLICED BAR.

FIELD BENDING OF ASTM A615 REINFORCING BAR SIZES #3 TO #5 MAY BE FIELD BENT COLD THE FIRST TIME. OTHER BARS REQUIRE PREHEATING. DO NOT TWIST BARS. BARS SHALL NOT BE BENT PAST 45 DEGREES.

SEE ARCHITECTURAL DRAWINGS FOR ALL GROOVES, CHAMFERS, FEATURE STRIPS, COLOR, TEXTURE, AND ALL OTHER FINISH DETAILS AT ALL EXPOSED CONCRETE SURFACES, UNLESS OTHERWISE NOTED. PROVIDE 3/4" CHAMFER STRIPS AT ALL EXPOSED CONCRETE EDGES.

CONSTRUCTION JOINTS:

ALL CONSTRUCTION JOINTS IN SLABS, JOISTS, BEAMS, AND GIRDERS SHALL BE OFFSET A DISTANCE EQUAL TO TWICE THE WIDTH OF THE BEAM.

ALL CONSTRUCTION, CONTROL, AND ISOLATION JOINTS FOR SLABS ON GRADE SHALL BE IN ACCORDANCE WITH THE TYPICAL SLAB ON GRADE DETAILS. THE CONTRACTOR SHALL SUBMIT THE PROPOSED LOCATIONS OF CONSTRUCTION JOINTS TO THE ENGINEER FOR ACCEPTANCE BEFORE STARTING CONSTRUCTION.

SLEEVES:

EXCEPT AS DETAILED ON STRUCTURAL DRAWINGS, NO CONCRETE FOOTINGS, BEAMS, OR GIRDERS SHALL BE SLEEVED FOR PIPING OR DUCTS, UNLESS APPROVED BY THE SER.

BEAMS AND SLABS:

RIGIDLY SUPPORT BARS WITH CONCRETE BLOCKS OR APPROVED ACCESSORIES. PROVIDE #5 SUPPORTS BARS ALL SLABS.

WHERE MAIN SLAB BARS ARE PARALLEL TO A SUPPORT, PROVIDE #4 @ 12 TOP BARS EXCEPT #4@18 TOP BARS FOR SLABS LESS THAN 6" THICK, EXTENDING 2'-0" BEYOND EACH FACE OF SUPPORT INTO SLAB. WHERE SLAB IS ON ONE SIDE ONLY, PROVIDE A 90° STANDARD HOOK AT DISCONTINUOUS FACE.

AT SLAB OPENINGS OVER 12" SQUARE, PROVIDE TWO ADDITIONAL BOTTOM MAIN SLAB BARS OR 2-#5 MINIMUM ON ALL FOUR SIDES OF THE OPENING EXTENDING 40 DIAMETER PAST OPENING. PROVIDE 1-#5x4'-0" DIAGONAL BOTTOM BAR ALL FOUR CORNERS.

PROVIDE SLAB TEMPERATURE BARS AS FOLLOWS :

4" SLABS, #3 @ 15 BOTTOM,
5" SLABS, #4 @ 18 BOTTOM,
6" SLABS, #4 @ 18 BOTTOM,
7" SLABS, #4 @ 15 BOTTOM,
8" SLABS, #3 @ 18 TOP, #4 @ 18 BOTTOM
9" SLABS, #3 @ 18 TOP, #4 @ 18 BOTTOM
10" SLABS, #3 @ 16 TOP, #4 @ 18 BOTTOM
11" SLABS, #4 @ 18 TOP, #4 @ 18 BOTTOM
12" SLABS, #4 @ 18 TOP, #4 @ 18 BOTTOM

FLOOR FLATNESS AND FLOOR LEVELNESS:

ALL CONCRETE SLABS (INCLUDING SLABS ON GRADE) SHALL HAVE A MINIMUM FLOOR FLATNESS (FF) OF 20 AS MEASURED IN ACCORDANCE WITH ACI 117. CONCRETE SLABS THAT WILL RECEIVE WOOD FLOORING SHALL HAVE A MINIMUM FF OF 35. ALL CONCRETE SLABS ON GRADE SHALL HAVE A MINIMUM FLOOR LEVELNESS OF 20 AS MEASURED IN ACCORDANCE WITH ACI 117.

WALLS, CURBS & PARAPETS:

REINFORCE AS FOLLOWS:

6" WALLS, #4 @ 12 HORIZONTAL AND VERTICAL @ CENTER OF WALL
8" WALLS, #5 @ 15 HORIZONTAL AND VERTICAL @ CENTER OF WALL
10" WALLS, #4 @ 16 HORIZONTAL AND VERTICAL EACH FACE
12" WALLS, #4 @ 12 HORIZONTAL AND VERTICAL EACH FACE

AT OPENINGS OVER 12" SQUARE, PROVIDE 2-#5 BARS @ CENTER OF WALL ALL FOUR SIDES, EXCEPT 10" WALLS AND OVER PROVIDE 1-#6 BAR EACH FACE ALL FOUR SIDES, EXTENDING 40 DIAMETER PAST OPENING. PROVIDE 1-#5x4'-0" DIAGONAL BAR @ CENTER OF WALL ALL FOUR CORNERS.

AT CORNERS, PROVIDE CORNER BAR IN OUTSIDE FACE OF SAME SIZE AND SPACING AS HORIZONTAL BARS OF INTERSECTING WALL, LAP 40 DIAMETER EACH LEG.

PROVIDE 2-#5 LONGITUDINAL BARS AT TOP OF WALLS. PROVIDE ROUGHENED SURFACE AT CONSTRUCTION JOINTS.

PROVIDE VERTICAL DOWELS OF SAME SIZE, NUMBER AND SPACING AS VERTICAL BARS.

GROUT:

GROUT - 5,000 PSI MINIMUM 7-DAY CUBE STRENGTH PER ASTM C1157-11. GROUT TO BE PREMIXED, NON-SHRINK "MASTERFLOW 928 GROUT" BY MASTER BUILDERS OR APPROVED EQUAL. USE SPECIFIC GROUT MIX RECOMMENDED BY MANUFACTURE FOR EACH GROUT APPLICATION AND FOLLOW MANUFACTURER'S INSTRUCTIONS.

WELDED HEADED STUD ANCHORS:

ALL WELDED HEADED STUDS ASTM A108, MIN Fy = 55 KSI. HEADED STUDS SHALL CONFORM TO REQUIREMENTS OF AWS D1.1.

ANCHOR BOLTS:

ANCHOR BOLTS, ASTM F1554, GR 36. SPECIAL INSPECTION REQUIRED. SET ALL ANCHOR BOLTS FOR STRUCTURAL STEEL MEMBERS BY TEMPLATE.

ANCHOR RODS:

ANCHOR RODS SHALL BE ASTM F1554 GRADE 36 WITH CLASS 1A THREADS, UNLESS NOTED OTHERWISE. FURNISH ANCHOR RODS PREFABRICATED WITH MATCHING DOUBLE HEAVY HEX NUTS JAMMED AT THE END EMBEDDED IN CONCRETE. FURNISH HARDENED PLATE WASHERS, LOCK WASHERS, AND MATCHING HEAVY HEX NUTS FOR SECURING THE BASE PLATE TO THE ANCHOR RODS.

HOOKED ANCHOR RODS SHALL NOT BE USED EXCEPT WHERE NOTED. A RIGID STEEL TEMPLATE SHALL BE USED TO LOCATE ANCHOR RODS WHILE PLACING CONCRETE. ANCHOR RODS SHALL HAVE SUFFICIENT LENGTH TO PROVIDE THE MINIMUM EMBEDMENT SHOWN ON THE DRAWINGS, MEASURED FROM THE FACE OF THE CONCRETE TO THE NEAR FACE OF THE DOUBLE NUT, WITH ADEQUATE EXTENSION AS REQUIRED TO RECEIVE THE BASE PLATE WITH FULL THREAD PROJECTION FOR NUT INSTALLATION.

ANCHOR ROD INSTALLATION SHALL BE COORDINATED WITH REINFORCING AND FORMWORK. LEVELING NUTS SHALL NOT BE USED EXCEPT AFTER EVALUATION BY THE CONTRACTOR'S ERECTION ENGINEER. AFTER BASE INSTALLATION, ANCHOR ROD NUTS SHALL BE INSTALLED TO A SNUG-TIGHT CONDITION. NO HEATING OR BENDING OF THE ANCHOR RODS IS PERMITTED. HOLES IN THE BASE MATERIAL SHALL NOT BE ENLARGED BY BURNING.

SCREW ANCHORS:

"TITEN HD" BY SIMPSON STRONG-TIE ANCHOR SYSTEMS (ICC-ESR-2713) OR "HUS-EZ" BY HILTI FASTENING SYSTEMS (ICC-ESR-3027) OR "WEDGE BOLT+ SCREW ANCHOR" BY POWERS FASTENERS (ICC-ESR-2526) OR APPROVED EQUAL. ICC CERTIFICATION REQUIRED. SPECIAL INSPECTION REQUIRED.

DRILL-IN EXPANSION BOLTS:

"KWIK-BOLT TZ" BY HILTI FASTENING SYSTEMS (ICC-ESR-1917), "STRONG BOLT 2" BY SIMPSON STRONG-TIE ANCHOR SYSTEMS (ICC-ESR-3037) OR APPROVED EQUAL. ICC CERTIFICATION REQUIRED. SPECIAL INSPECTION REQUIRED.

DRILL-IN ADHESIVE ANCHOR:

FOR ANCHORAGE TO UNREINFORCED MASONRY OR BRICK, USE "HIT HY 70" ADHESIVE ANCHOR SYSTEM FOR UNREINFORCED MASONRY OR BRICK WITH CAVITIES (ICC-ESR-3027) OR APPROVED EQUAL. ICC CERTIFICATION REQUIRED. SPECIAL INSPECTION REQUIRED.

FOR ANCHORAGE TO SOLID MASONRY OR CONCRETE, USE "HIT-HY 200" BY HILTI FASTENING SYSTEMS (FOR EMBEDMENT DEPTH LESS THAN OR EQUAL TO 20 BAR DIAMETERS) (ICC-ESR-3187), OR "HIT RE 500 V3" ADHESIVE ANCHOR SYSTEM BY HILTI FASTENING SYSTEMS (ICC-ESR-3814), OR "SET-XP" EPOXY ANCHOR SYSTEM BY SIMPSON STRONG-TIE ANCHOR SYSTEMS (ICC-ESR-2508), OR "SET-3G" EPOXY ANCHOR SYSTEM BY SIMPSON STRONG-TIE ANCHOR SYSTEMS (ICC-ESR-4057) OR APPROVED EQUAL. ICC CERTIFICATION REQUIRED. SPECIAL INSPECTION REQUIRED.

ANCHORAGE INTO EXISTING CONCRETE OR MASONRY:

ALL FASTENERS ATTACHING TO EXISTING CONCRETE OR MASONRY MUST HAVE THE CONCRETE OR MASONRY SURFACE OR HOLE BE CLEANED AND PREPARED PER MANUFACTURER'S REQUIREMENTS FOR THE TYPE OF ANCHOR BEING USED.

INSTALL ONLY WHERE SPECIFICALLY SHOWN IN THE DETAILS OR ALLOWED BY SER. ALL POST-INSTALLED ANCHORS TYPES AND LOCATIONS SHALL BE APPROVED BY THE SER AND SHALL HAVE A CURRENT ICC-EVALUATION SERVICE REPORT THAT PROVIDES RELEVANT DESIGN VALUES NECESSARY TO VALIDATE THE AVAILABLE STRENGTH EXCEEDS THE REQUIRED STRENGTH. SUBMIT CURRENT MANUFACTURER'S DATA AND ICC ESR REPORT TO SER FOR APPROVAL REGARDLESS OF WHETHER OR NOT IT IS A PRE-APPROVED ANCHOR. ANCHORS SHALL BE INSTALLED IN STRICT ACCORDANCE TO ICC-ESR AND MANUFACTURER'S INSTRUCTIONS. NO REINFORCING BARS SHALL BE DAMAGED DURING INSTALLATION OF POST-INSTALLED ANCHORS. SPECIAL INSPECTION SHALL BE PER THE TESTS AND INSPECTIONS SECTION. ANCHOR TYPE, DIAMETER AND EMBEDMENT SHALL BE AS INDICATED ON DRAWINGS.

GROUTING REINFORCING BARS AND BOLTS:

REINFORCING BARS AND BOLTS EMBEDDED IN EXISTING CONCRETE SHALL BE GROUTED INTO HOLES DRILLED INTO THE EXISTING CONCRETE. HOLES MAY BE CUT BY EITHER ROTARY PERCUSSION DRILLING FOLLOWED BY AIR BLOWOUT WITH OIL-FREE COMPRESSED AIR OR DIAMOND CORE BORING FOLLOWED BY WATER FLUSH. THE CONTRACTOR SHALL CHIP AWAY A SUFFICIENT QUANTITY OF CONCRETE COVER FOR EXISTING REINFORCING TO ASSURE LOCATION OF DRILL HOLES SO THAT THEY CLEAR EXISTING REINFORCING. CONSULT MANUFACTURER'S RECOMMENDATIONS FOR PROPER INSTALLATION METHODS, INCLUDING PRE-WETTING HOLES.

FOR REINFORCING BARS EMBEDDED LESS THAN 2'-0", INSTALL A MEASURED AMOUNT OF GROUT INTO THE BOTTOM OF THE HOLE WITH A CAULKING GUN EQUIPPED WITH AN EXTENSION NOZZLE. INSERT THE BAR OR BOLT DISPLACING THE GROUT AND SECURE IT IN THE CENTER OF THE HOLE. REMOVE EXCESS GROUT FROM AROUND THE HOLES BEFORE IT HARDENS.

FOR REINFORCING BARS EMBEDDED DEEPER THAN 2'-0", INSERT THE BAR IN THE HOLE AND USE AN APPROVED PRESSURE GROUTING PROCEDURE TO INSTALL A MEASURED AMOUNT OF GROUT.

GROUT FOR BONDING REINFORCING BARS AND BOLTS INTO EXISTING CONCRETE SHALL BE AN APPROVED EPOXY BONDING AGENT. APPROVED ADHESIVE GROUTS INCLUDE HILTI HIT ADHESIVE ANCHOR (ICC-ES ER-4419) OR APPROVED EQUAL. PROVIDE POSITIVE PROTECTION SO DOWELS ARE NOT DISTURBED DURING CURING.

TABLE R2

REINFORCING BAR DEVELOPMENT AND LAP SPLICE LENGTH SCHEDULE

BAR SIZE		#3	#4	#5	#6	#7	#8	#9	#10	#11
STD HOOK LENGTH		6"	8"	10"	1'-0"	1'-2"	1'-4"	1'-7"	1'-10"	2'-0"
HOOKED BAR DEVELOPMENT LENGTH, Ldh	f'c=3,000 PSI	6"	8"	10"	12"	1'-2"	1'-4"	1'-6"	1'-8"	1'-0"
	f'c=4,000 PSI	6"	7"	9"	10"	1'-0"	1'-2"	1'-3"	1'-5"	1'-5"
	f'c=5,000 PSI	6"	6"	8"	9"	11"	1'-0"	1'-2"	1'-4"	1'-5"
	f'c=6,000 PSI	6"	6"	7"	9"	10"	11"	1'-1"	1'-2"	1'-4"
	f'c=7,000 PSI	6"	6"	7"	8"	9"	10"	10"	1'-3"	1'-4"
	f'c=8,000 PSI	6"	6"	6"	8"	9"	10"	11"	1'-0"	1'-2"
TYPICAL DEVELOPMENT LENGTH, Ld	f'c=3,000 PSI	1'-5"	1'-10"	2'-4"	2'-9"	4'-0"	4'-7"	5'-2"	5'-10"	6'-6"
	f'c=4,000 PSI	1'-3"	1'-7"	2'-0"	2'-5"	3'-6"	4'-0"	4'-6"	5'-1"	5'-7"
	f'c=5,000 PSI	1'-1"	1'-5"	1'-10"	2'-2"	3'-2"	3'-7"	4'-0"	4'-6"	5'-0"
	f'c=6,000 PSI	1'-0"	1'-4"	1'-8"	2'-0"	2'-10"	3'-3"	3'-8"	4'-2"	4'-7"
	f'c=7,000 PSI	1'-0"	1'-3"	1'-6"	1'-10"	2'-8"	3'-0"	3'-5"	3'-10"	4'-3"
	f'c=8,000 PSI	1'-0"	1'-2"	1'-5"	1'-9"	2'-6"	2'-10"	3'-2"	3'-7"	4'-0"
TYPICAL LAP SPLICE LENGTH, Ls	f'c=3,000 PSI	1'-10"	2'-5"	3'-0"	3'-7"	5'-3"	6'-0"	6'-9"	7'-7"	8'-5"
	f'c=4,000 PSI	1'-7"	2'-1"	2'-7"	3'-1"	4'-6"	5'-2"	5'-10"	6'-7"	7'-3"
	f'c=5,000 PSI	1'-5"	1'-11"	2'-4"	2'-10"	4'-1"	4'-8"	5'-3"	5'-11"	6'-6"
	f'c=6,000 PSI	1'-4"	1'-9"	2'-2"	2'-7"	3'-9"	4'-3"	4'-9"	5'-4"	5'-11"
	f'c=7,000 PSI	1'-4"	1'-7"	2'-0"	2'-4"	3'-5"	3'-11"	4'-5"	5'-0"	5'-6"
	f'c=8,000 PSI	1'-4"	1'-6"	1'-10"	2'-3"	3'-3"	3'-8"	4'-2"	4'-8"	5'-2"
DEVELOPMENT LENGTH OF TOP BARS IN THICK CONCRETE, Lt	f'c=3,000 PSI	1'-10"	2'-5"	3'-0"	3'-7"	5'-3"	6'-0"	6'-9"	7'-7"	8'-5"
	f'c=4,000 PSI	1'-7"	2'-1"	2'-7"	3'-1"	4'-6"	5'-2"	5'-10"	6'-7"	7'-3"
	f'c=5,000 PSI	1'-5"	1'-11"	2'-4"	2'-10"	4'-1"	4'-8"	5'-3"	5'-11"	6'-6"
	f'c=6,000 PSI	1'-4"	1'-9"	2'-2"	2'-7"	3'-9"	4'-3"	4'-9"	5'-4"	5'-11"
	f'c=7,000 PSI	1'-2"	1'-7"	2'-0"	2'-4"	3'-5"	3'-11"	4'-5"	5'-0"	5'-6"
	f'c=8,000 PSI	1'-2"	1'-6"	1'-10"	2'-3"	3'-3"	3'-8"	4'-2"	4'-8"	5'-2"
LAP SPLICE LENGTH OF TOP BARS IN THICK CONCRETE, Lts	f'c=3,000 PSI	2'-4"	3'-2"	3'-11"	4'-8"	6'-9"	7'-9"	8'-9"	9'-10"	10'-9"
	f'c=4,000 PSI	2'-1"	2'-9"	3'-5"	4'-1"	5'-11"	6'-9"	7'-7"	8'-6"	9'-6"
	f'c=5,000 PSI	1'-10"	2'-5"	3'-0"	3'-8"	5'-3"	6'-0"	6'-9"	7'-8"	8'-6"
	f'c=6,000 PSI	1'-8"	2'-3"	2'-9"	3'-4"	4'-10"	5'-6"	6'-2"	7'-0"	7'-9"
	f'c=7,000 PSI	1'-7"	2'-1"	2'-7"	3'-1"	4'-6"	5'-1"	5'-9"	6'-5"	7'-2"
	f'c=8,000 PSI	1'-6"	1'-11"	2'-5"	2'-11"	4'-2"	4'-9"	5'-4"	6'-0"	6'-8"

STRUCTURAL STEEL:

GENERAL:

STRUCTURAL STEEL MATERIALS SHALL CONFORM TO THE REQUIREMENTS LISTED IN AISC 360 SECTION A3. UNLESS OTHERWISE NOTED ON THE PLANS OR DETAILS, ALL STRUCTURAL STEEL MATERIALS SHALL CONFORM TO THE FOLLOWING:

WIDE FLANGE (W) AND TEE (WT) SHAPES	ASTM A992, Fy = 50 KSI
CHANNEL (C) AND ANGLE (L) SHAPES	ASTM A36, Fy = 36 KSI
STRUCTURAL PLATE (PL)	ASTM A36, Fy = 36 KSI
HOLLOW STRUCTURAL SECTIONS, SQ/RECT (HSS)	ASTM A500, GRADE C, Fy = 50 KSI
HOLLOW STRUCTURAL SECTIONS, ROUND (HSS)	ASTM A500, GRADE C, Fy = 46 KSI
STRUCTURAL PIPE (PIP)	ASTM A53, GRADE B, Fy = 35 KSI
HIGH STRENGTH, HEAVY HEX BOLTS	ASTM A325/F1852, TYPE 1 OR 3, PLAIN
HIGH STRENGTH, HEAVY HEX BOLTS,	ASTM A325/F1852, TYPE 1, GALV
HEAVY HEX NUTS	ASTM A563, GRADE & FINISH PER RCSC TABLE 2.1
WASHERS (HARDENED, FLAT, OR BEVELED)	ASTM F436, GRADE & FINISH PER RCSC TABLE 2.1
ANCHOR RODS AND ANCHOR BOLTS	ASTM F1554, GRADE 36, Fy = 36 KSI
MILD THREADED RODS	ASTM A36, Fy = 36 KSI
WELDED HEADED CONCRETE ANCHORS (HCA)	ASTM A108, NELSON/TRW H4L
WELDED SHEAR STUD CONNECTOR (WSC)	ASTM A108, NELSON/TRW S3L
DOWEL BAR ANCHORS (DBA)	ASTM A496, NELSON/TRW D2L, Fy = 70 KSI

SPECIAL INSPECTION REQUIRED. FABRICATION AND ERECTION PER AISC SPECIFICATIONS AND CODE OF STANDARD PRACTICE. SUBMIT SHOP DRAWINGS.

CAMBER FLOOR COMPOSITE BEAMS L/600 AND NON-COMPOSITE ROOF BEAMS L/800 AT MIDSPAN FOR ALL SPANS GREATER THAN OR EQUAL TO 25'-0", EXCEPT MOMENT FRAME BEAMS, UON.

ALL HSS MEMBERS SHALL HAVE A 3/16" CAP PLATE AT ENDS UNLESS CONNECTED TO PLATE OR OTHER STEEL MEMBER, UON.

CONNECTIONS:

BOLTED CONNECTIONS:

HIGH-STRENGTH BOLTS PER ASTM A325. TYPICAL BOLTED CONNECTIONS - ASTM A325-N, BEARING TYPE WITH THREADS INCLUDED IN SHEAR PLANE. TENSION HIGH-STRENGTH BOLTS PER ASTM F959 INSTALLED PER MANUFACTURER'S INSTRUCTIONS, OR USING "TWIST-OFF" TYPE TENSION CONTROL ASSEMBLIES PER ASTM F1852 INSTALLED PER MANUFACTURER'S INSTRUCTIONS, AND PER RCSC SECTION 8 AND TABLE 4.1.

WASHERS PER ASTM F436, GRADE AND FINISH PER RCSC TABLE 2.1. HEAVY HEX NUTS PER ASTM A563, GRADE AND FINISH PER RCSC TABLE 2.1. PROVIDE WASHERS OVER OUTER PLY OF SLOTTED HOLES AND OVERSIZE HOLES PER RCSC TABLE 6.1.

WELDED CONNECTIONS:

WELDING PER AWS D1.1. AND D1.8 AS APPLICABLE FOR SEISMIC ELEMENTS WITH PREQUALIFIED WELDING PROCESSES EXCEPT AS MODIFIED BY AISC 360 SECTION J2 AND AISC 341 AS APPLICABLE. WELDERS SHALL BE QUALIFIED IN ACCORDANCE WITH AWS D1.1 AND D1.8 FOR DEMAND CRITICAL WELDS REQUIREMENTS (WHERE APPLICABLE). WELDERS TO BE CERTIFIED PER WABO AND AWS FOR ROD AND POSITION. MINIMUM SIZE WELDS 3/16" CONTINUOUS FILLET OR PER AISC 360 SECTION J.2b (WHICHEVER IS LARGER), UON. USE E7018 OR E71T ELECTRODES AS APPROPRIATE FOR THE PROCESS SELECTED. WELDING OF HIGH STRENGTH ANCHOR RODS IS PROHIBITED.

STRUCTURAL STEEL SHOP DRAWINGS SHALL SHOW ALL WELDING WITH AWS A2.4 SYMBOLS. ALL WELDING SHALL BE DONE BY AWS/WABO ([STATE] ASSOCIATION OF BUILDING OFFICIALS) CERTIFIED WELDERS AND IN ACCORDANCE WITH AWS D1.1. WELDS SHOWN ON THE DRAWINGS ARE THE MINIMUM SIZES. INCREASE WELD SIZE TO AWS MINIMUM SIZES, BASED ON PLATE THICKNESS. THE MINIMUM WELD SIZE SHALL BE 3/16 INCH. FIELD WELDING SYMBOLS HAVE NOT NECESSARILY BEEN INDICATED ON THE DRAWINGS. WHERE SHOWN, PROPER FIELD WELDING PER AWS D1.1 SHALL BE USED. WHERE NO FIELD WELDING SYMBOLS ARE SHOWN, IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE USE OF SHOP AND FIELD WELDS. ALL PARTIAL PENETRATION GROOVE WELD SIZES SHOWN ON THE DRAWINGS REFER TO EFFECTIVE THROAT THICKNESS.

ALL WELDS SHALL BE MADE USING LOW HYDROGEN ELECTRODES WITH MINIMUM TENSILE STRENGTH PER AWS D1.1 (MINIMUM 70 KSI). LOW HYDROGEN SMAW ELECTRODES SHALL BE USED WITHIN 4 HOURS OF OPENING THEIR HERMETICALLY SEALED CONTAINERS, OR SHALL BE REDRIED PER AWS D1.1, SECTION 4.5. ELECTRODES SHALL BE REDRIED NO MORE THAN ONE TIME, AND ELECTRODES THAT HAVE BEEN WET SHALL NOT BE USED.

ALL WELDING SHALL BE PERFORMED IN STRICT ADHERENCE TO A WRITTEN WELDING PROCEDURE SPECIFICATION (WPS) PER AWS D1.1. ALL WELDING PARAMETERS SHALL BE WITHIN THE ELECTRODE MANUFACTURER'S RECOMMENDATIONS. WELDING PROCEDURES SHALL BE SUBMITTED TO THE OWNER'S TESTING AGENCY FOR REVIEW BEFORE STARTING FABRICATION OR ERECTION. COPIES OF THE WPS SHALL BE ON SITE AND AVAILABLE TO ALL WELDERS AND THE SPECIAL INSPECTOR.

ALL COMPLETE-PENETRATION WELDS SHALL BE ULTRASONICALLY TESTED UPON COMPLETION OF THE CONNECTION, EXCEPT PLATE LESS THAN OR EQUAL TO 1/4 INCH THICK SHALL BE MAGNETIC PARTICLE TESTED. REDUCTION IN TESTING MAY BE MADE IN ACCORDANCE WITH THE BUILDING CODE WITH APPROVAL OF THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE JOINT PREPARATIONS AND WELDING PROCEDURES THAT INCLUDE, BUT ARE NOT LIMITED TO: REQUIRED ROOT OPENINGS, ROOT FACE DIMENSIONS, GROOVE ANGLES, BACKING BARS, COPES, SURFACE ROUGHNESS VALUES, AND TAPERS AND TRANSITIONS OF UNEQUAL PARTS.

WELDS AT MEMBERS AND CONNECTIONS OF THE SEISMIC FORCE RESISTING SYSTEM SHALL BE MADE WITH FILLER METAL PRODUCING WELDS WITH A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT-LBF AT 0°F AS DETERMINED BY THE APPROPRIATE AWS A5 CLASSIFICATION TEST METHOD.

CONTRACTOR SHALL SUBMIT TO THE BUILDING OFFICIAL WELDING PROCEDURE SPECIFICATIONS VERIFYING THE ABOVE REQUIREMENTS FOR WELDS ON SEISMIC RESISTING ELEMENTS.

HEADED SHEAR STUDS:

HEADED SHEAR STUDS TO BE ASTM A108 "NELSON STUDS" BY NELSON DIVISION OF TRW INC OR APPROVED EQUAL, AUTOMATICALLY END WELDED. USE 3/4" DIA STUDS @ 12" OC MAXIMUM ON TOP OF ALL BEAMS SUPPORTING A CONCRETE SLAB, EXCEPT AT NO-WELD ZONES OF MOMENT FRAME BEAMS. STUD LENGTH TO BE 1" LESS THAN THE OVERALL CONCRETE FILLED COMPOSITE STEEL DECK THICKNESS.

PROTECTIVE COATING REQUIREMENTS:

INTERIOR STEEL:

INTERIOR STEEL EXPOSED TO VIEW SHALL BE PAINTED WITH ONE COAT OF SHOP PRIMER UNLESS OTHERWISE INDICATED BY THE PROJECT SPECIFICATIONS. APPLY FIELD TOUCH-UPS PER PROJECT SPECIFICATIONS.

UNLESS OTHERWISE NOTED, DO NOT PAINT ANY OF THE STEEL MEETING ANY OF THE FOLLOWING CONDITIONS:

- CONCEALED BY THE INTERIOR BUILDING FINISHES
- FIREPROOFED
- EMBEDDED IN CONCRETE
- WELDED: IF THE AREA REQUIRES PAINTING, DO NOT PAINT UNTIL AFTER WELD INSPECTIONS AND NON-DESTRUCTIVE TESTING REQUIREMENTS (IF ANY) ARE SATISFIED
- SPECIALLY PREPARED AS A "FAYING SURFACE" FOR TYPE SC "SLIP-CRITICAL" CONNECTIONS, INCLUDING BOLTED CONNECTIONS THAT FORM A PART OF THE SEISMIC FORCE RESISTING SYSTEM GOVERNED BY AISC 341 UNLESS THE COATING CONFORMS TO THE REQUIREMENTS OF THE RCSC BOLT SPECIFICATION AND IS APPROVED BY THE SER.

EXTERIOR STEEL:

EXPOSED EXTERIOR STEEL SHALL BE PROTECTED BY EITHER:
- PAINT, WITH AN EXTERIOR MULTI-COAT SYSTEM AS PER THE PROJECT SPECIFICATIONS. FIELD TOUCH-UP PAINTING SHALL BE AS PER THE PROJECT SPECIFICATIONS.
- GALVANIZING, UNLESS PROTECTED WITH A PAINT SYSTEM, SHALL BE HOT-DIPPED GALVANIZED, WHERE NOTED ON THE PLANS OR OTHERWISE INDICATED BY THE FINISHES SPECIFIED BY THE ARCHITECT. APPLY FIELD TOUCH-UPS PER PROJECT SPECIFICATIONS.

UPON COMPLETION OF FABRICATION, THE CONTRACTOR SHALL SUBMIT TO THE BUILDING OFFICIAL A CERTIFICATE OF COMPLIANCE FROM THE AISC CERTIFIED FABRICATOR STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

ANCHORAGE TO CONCRETE:

SHEAR STUDS ON STEEL BEAMS FOR COMPOSITE CONSTRUCTION:

HEADED SHEAR STUDS WELDED TO TOPS OF WIDE FLANGE BEAMS, SHALL BE 3/4" DIAMETER WHS WITH NOMINAL STUD LENGTHS AS INDICATED. UNLESS NOTED OTHERWISE, PROVIDE MINIMUM SHEAR STUD HEIGHT EQUAL TO THE (METAL DECK DEPTH +1 1/2") AND A MAXIMUM SHEAR STUD HEIGHT THAT ALLOWS FOR 1" OF CONCRETE COVER OVER THE STUD.

EMBEDDED STEEL PLATES FOR ANCHORAGE TO CONCRETE:

PLATES (PL) EMBEDDED IN CONCRETE WITH STUDS (WHS) OR DOWEL BAR ANCHORS (DBA) SHALL BE OF THE SIZES AND LENGTHS AS INDICATED ON THE PLANS WITH MINIMUM 1/2" DIA WHS x 6" LONG BUT PROVIDE NOT LESS THAN 3/4" INTERIOR COVER OR 1 1/2" EXTERIOR COVER TO THE OPPOSITE FACE OF CONCRETE, UNLESS NOTED OTHERWISE.

COLUMN ANCHOR RODS AND BASE PLATES:

ALL COLUMNS (VERTICAL MEMBER ASSEMBLIES WEIGHING OVER 300 POUNDS) SHALL BE PROVIDED WITH A MINIMUM OF FOUR 3/4" DIAMETER ANCHOR RODS. COLUMN BASE PLATES SHALL BE AT LEAST 3/4" THICK, UNLESS NOTED OTHERWISE. CAST-IN-PLACE ANCHOR RODS SHALL BE PROVIDED UNLESS OTHERWISE APPROVED BY THE ENGINEER. UNLESS OTHERWISE NOTED, EMBEDMENT OF CAST-IN-PLACE ANCHOR RODS SHALL BE 12 TIMES THE ANCHOR DIAMETER (12D).

ERECTION:

CONFORM TO AISC 360 SECTION M4 "ERECTION" AND AISC 303 SECTION 7 "ERECTION".

CONFORM TO AISC 360 CHAPTER N "QUALITY CONTROL AND QUALITY ASSURANCE" AND AISC 303 SECTION 8.

- THE ERECTOR SHALL MAINTAIN DETAILED ERECTION QUALITY CONTROL PROCEDURES THAT ENSURE THAT THE WORK IS PERFORMED IN ACCORDANCE WITH THESE REQUIREMENTS AND THE CONTRACT DOCUMENTS.

STEEL WORK SHALL BE CARRIED UP TRUE AND PLUMB WITHIN THE LIMITS DEFINED IN AISC 303 SECTION 7.13.

HIGH STRENGTH BOLTING SHALL COMPLY WITH THE RCSC REQUIREMENTS INCLUDING RCSC SECTION 7.2 "REQUIRED TESTING", AS APPLICABLE AND AISC 360 CHAPTER J, SECTION M2.5 AND SECTION N5.6.

WELDING OF HEADED STUD ANCHORS SHALL BE IN ACCORDANCE WITH AWS D1.1 CHAPTER 7 "STUD WELDING".

PROVIDE HEADED (SHEAR) STUD ANCHORS WELDED THROUGH THE METAL DECK TO TOPS OF BEAMS DENOTED IN PLANS.

THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AND SAFETY PROTECTION REQUIRED BY AISC 360 SECTION M4.2 AND AISC 303 SECTION 7.10 AND 7.11.

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

- See accompanying project comment form for review status and corrections.
- This is not a building permit, check with your local building department.

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STRUCTURAL DRAWING LIST

SHEET #	SHEET NAME	REV #	REV DATE

STRUCTURAL DRAWING INDEX

SHEET NO.	SHEET NAME
S0.01	GENERAL STRUCTURAL NOTES
S0.02	GENERAL STRUCTURAL NOTES
S1.01	LEVEL 2 PLAN
S1.01A	EQUIPMENT REFLECTED CEILING PLAN
S1.02	ROOF PLAN GRIDS M-N
S1.03	ROOF PLAN GRIDS Q-T
S5.01	DETAILS
S5.02	DETAILS

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DLRGROUP | SALUS

HYBRID OR #1
MULTICARE GOOD SAMARITAN HOSPITAL
401 15TH AVE SE, PUYALLUP, WA 98372

PERMIT SET
11/11/2022
REVISIONS

19057

GENERAL STRUCTURAL NOTES

S0.01

BIM 360://GOOD SAM v21/19057 MultiCare Good Sam Hybrid OR-MEADOWS - STRUCTURAL.rvt
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STEEL DECKING:

STEEL DECKING DESIGNED, MANUFACTURED AND INSTALLED PER STEEL DECK INSTITUTE SPECIFICATIONS. ICC CERTIFICATION REQUIRED. SUBMIT SHOP DRAWINGS. COMMERCIAL WEIGHT GALVANIZED FINISH ON ALL DECKING.

FLOOR DECKING:

- 3" DP x 20 GA COMPOSITE DECK, Imin = 0.898 IN4 PER FOOT, Smin = 0.505 IN^3 PER FOOT, OR
- 3" DP x 18 GA COMPOSITE DECK, Imin = 1.201 IN4 PER FOOT, Smin = 0.744 IN^3 PER FOOT, OR
- 3" DP x 16 GA COMPOSITE DECK, Imin = 1.501 IN4 PER FOOT, Smin = 0.956 IN^3 PER FOOT, OR
- 2" DP x 20 GA COMPOSITE DECK, Imin = 0.418 IN4 PER FOOT, Smin = 0.320 N^3 PER FOOT, OR
- 2" DP x 18 GA COMPOSITE DECK, Imin = 0.558 IN4 PER FOOT, Smin = 0.466 IN^3 PER FOOT, OR
- 2" DP x 16 GA COMPOSITE DECK, Imin = 0.700 IN4 PER FOOT, Smin = 0.617 IN^3 PER FOOT, OR
- 1 1/2" DP x 20 GA COMPOSITE DECK, Imin = 0.218 IN4 PER FOOT, Smin = 0.228 IN^3 PER FOOT, OR
- 1 1/2" DP x 18 GA COMPOSITE DECK, Imin = 0.299 IN4 PER FOOT, Smin = 0.311 IN^3 PER FOOT, OR
- 1 1/2" DP x 16 GA COMPOSITE DECK, Imin = 0.375 IN4 PER FOOT, Smin = 0.395 IN^3 PER FOOT

DECK TO BE CONTINUOUS OVER 3 SPANS MINIMUM WHERE POSSIBLE. fy = 50 KSI. DESIGN COMPOSITE FLOOR DECK AS A FORM PER AISI AND SDI SPECIFICATIONS AND PROVIDE EMBOSSMENTS AND INDENTATIONS IN THE DECK TO DEVELOP COMPOSITE ACTION WITH THE CONCRETE FILL. CONCRETE FILL OVER FLOOR DECK - 2 1/2" THICK, f'c = 3,000 PSI, MAXIMUM W/C = 0.50 MINIMUM 5 1/2 SACKS OF CEMENT PER CUBIC YARD, HARDROCK AGGREGATE, UNIT WEIGHT - 145 PCF MAXIMUM. REINFORCE WITH 6x6-W2.1xW2.1 WELDED WIRE FABRIC.

FASTEN FLOOR DECK UNITS TO STEEL AT TRANSVERSE, END AND SIDE SUPPORTS WITH 1/2" DIAMETER SPOT WELDS AT 12" ON CENTER. FASTEN SIDE LAPS OF ADJACENT UNITS WITH BUTTON PUNCH AT 24" ON CENTER.

ROOF DECKING:

- 3" DP x 20 GA NON-COMPOSITE DECK, Imin = 0.943 IN4 PER FOOT, Smin = 0.439 IN^3 PER FOOT, OR
- 3" DP x 18 GA NON-COMPOSITE DECK, Imin = 1.260 IN4 PER FOOT, Smin = 0.645 IN^3 PER FOOT, OR
- 3" DP x 16 GA NON-COMPOSITE DECK, Imin = 1.571 IN4 PER FOOT, Smin = 0.829 IN^3 PER FOOT, OR
- 1 1/2" DP x 20 GA NON-COMPOSITE DECK GA, Imin = 0.229 IN4 PER FOOT, Smin = 0.227 IN^3 PER FOOT, OR
- 1 1/2" DP x 18 GA NON-COMPOSITE DECK GA, Imin = 0.303 IN4 PER FOOT, Smin = 0.311 IN^3 PER FOOT, OR
- 1 1/2" DP x 16 GA NON-COMPOSITE DECK GA, Imin = 0.377 IN4 PER FOOT, Smin = 0.395 IN^3 PER FOOT

DECK TO BE CONTINUOUS OVER 3 SPANS MINIMUM WHERE POSSIBLE. fy = 50 KSI. DIAPHRAGM SHEAR CAPACITY - 400 PLF. ANCHOR SUPPORTS TO RESIST A 15 PSF UPLIFT.

FASTEN ROOF DECK UNITS TO STEEL AT TRANSVERSE, END AND SIDE SUPPORTS WITH 1/2" DIAMETER SPOT WELDS AT 12" ON CENTER. FASTEN SIDE LAPS OF ADJACENT UNITS WITH BUTTON PUNCH AT 12" ON CENTER.

PROVIDE ADDITIONAL STEEL REINFORCEMENT AND CLOSURE PIECES AS REQUIRED FOR STRENGTH, CONTINUITY OF DECKING AND SUPPORT OF OTHER WORK.

STEEL SCREWS:

"TEK" BY ITW BUILDEX OR APPROVED EQUAL. ICC CERTIFICATION REQUIRED. SPACING AND EDGE DISTANCE OF SCREWS SHALL NOT BE LESS THAN 1/2".

POWDER ACTUATED FASTENERS:

ALL POWDER ACTUATED FASTENERS (PAF) CALLED OUT ON PLAN SHALL BE HILTI X-DNI 0.145" DIA OR APPROVED EQUAL UNO (EXCEPT PAF INSTALLED IN STEEL SHALL BE HILTI X-EDNI 0.145" DIA). ALL PAF SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATION AND ICBO REPORT #2388. WHEN EMBEDDED INTO CONCRETE, THE MINIMUM PENETRATION IS 1 1/4", WITH MIN SPACING BETWEEN PAF OF 4" AND MIN EDGE DISTANCE OF 3" UNO ON PLANS.

WHEN EMBEDDED INTO STEEL, THE PIN SHALL BE DRIVEN TO A DEPTH SUCH THAT THE SHANK PIERCES THE STEEL (EXCEPT WHERE ALLOWED OTHERWISE BY ICBO ER #2388), WITH MIN SPACING BETWEEN PAF OF 1 1/2" AND MIN EDGE DISTANCE OF 1/2" UNO ON PLANS.

WHEN PAF ARE USED WITH WOOD MEMBERS, WASHERS ARE REQUIRED.

COLD-FORMED LIGHT GAGE STEEL:

DEPTH, GAUGE, AND SECTION PROPERTIES OF STEEL STUDS AND JOISTS SHALL MEET OR EXCEED THOSE OF THE SECTIONS SPECIFIED, ALL STEEL STUDS, TRACKS, JOISTS AND STRAPS SHALL HAVE G-60 GALVANIZED COATING PER ASTM A653 SPECIFICATION AS A MINIMUM. ALL SECTIONS SHALL BE FORMED FROM STEEL THAT CORRESPONDS TO THE FOLLOWING REQUIREMENTS.

ALL COLD-FORMED LIGHT GAGE STEEL FRAMING SHALL CONFORM TO AISI S100.

FOR 97, 68 & 54 MIL THICKNESS (GAGES 12, 14 & 16), STEEL SHALL BE ASTM A466 GRADE D, OR ASTM A570 GRADE E, WITH MIN YIELD STRESS 50 KSI. FOR 43, 33 & 27 MIL THICKNESS (GAGES 18, 20 & 22), STEEL SHALL BE ASTM A446 GRADE A, OR ASTM A570 GRADE C, WITH MIN YIELD STRESS OF 33 KSI. ALL TRACKS, BRIDGING, STRAPS, ETC ARE TO BE FORMED FROM STEEL OF THE SAME THICKNESS OF STUDS OR JOISTS TO WHICH THEY ARE ATTACHED, UNLESS NOTED OTHERWISE.

ALL STEEL STUDS AND JOISTS ARE SPECIFIED WITH A FOUR PART IDENTIFICATION CODE THAT IDENTIFIES THE SIZE, STYLE AND STEEL THICKNESS OF EACH MEMBER. A MEMBER NOTED AS "600S162-54" HAS THE FOLLOWING PROPERTIES:

"600" - MEMBER DEPTH IN 1/100 INCH (6")
"S" - STYLE OF MEMBER (S = STUD/JOIST, T = TRACK, U = CHANNEL, F= FURRING CHANNEL)
"162" - MEMBER FLANGE WIDTH IN 1/100 INCH (1.625" = 1-5/8")
"33" - MIN STEEL THICKNESS IN MILS (33 MILS=0.033", 20 GA)

FASTENINGS SHALL BE AS SHOWN ON THE DRAWINGS. FASTENINGS NOT SHOWN SHALL BE AS RECOMMENDED BY THE MANUFACTURER. ALL FRAMING COMPONENTS SHALL BE CUT SQUARE FOR ATTACHMENT TO PERPENDICULAR MEMBERS. STUDS SHALL BE INSTALLED IN A MANNER THAT WILL ASSURE THAT ENDS OF THE STUDS ARE POSITIONED AGAINST THE INSIDE TRACK WEB PRIOR TO STUD AND TRACK ATTACHMENT. PROVIDE WALL BRIDGING PER MANUFACTURER'S SPECIFICATIONS AND AS SHOWN IN DRAWINGS. JOISTS SHALL BE LOCATED DIRECTLY OVER BEARING STUDS.

STUD OR JOIST SPLICES ARE NOT PERMITTED AND STUD OR JOIST FLANGES ARE NOT TO BE CUT UNDER ANY CIRCUMSTANCES. PROVIDE LATERAL BRACING AT 2'-6" OC FOR ANY STUD WITHOUT GYPSUM WALLBOARD OR SHEATHING ON BOTH FLANGES IN AREAS WITHOUT SUCH WALL COVERINGS. LATERAL BRACING TO BE HORIZONTAL CHANNEL OR CUT TRACK AND STRAP TYPE.

ALL CONNECTIONS SHALL BE WELDED, SCREWED OR POWDER FASTENED AS INDICATED.

WELDS - WELDING PER AWS D1.3 AND AISI SPECIFICATION. MINIMUM WELDS 1/8" CONTINUOUS FILLET. WELDERS CERTIFIED PER AWS SPECIFICATIONS FOR ROD AND POSITION. ALL WELDS SHALL BE CLEANED AND COATED WITH RUST INHIBITIVE ZINC PAINT.

SCREWS #10 SELF DRILLING SCREWS MANUFACTURED BY GRABBER OR HILTI AND INSTALLED PER THE FASTENER MANUFACTURER'S SPECIFICATIONS. MINIMUM 1/2" LENGTH FOR LIGHT GAGE TO LIGHT GAGE CONNECTIONS, AND MINIMUM 1 1/2 ' LENGTH FOR LIGHT GAGE TO TIMBER CONNECTIONS. SCREWS SHALL BE SPACED A MINIMUM OF 1/2" BETWEEN ADJACENT SCREWS AND FROM THE METAL EDGES.

POWDER ACTUATED FASTENERS - 0.138 MINIMUM SHANK DIAMETER, MANUFACTURED BY POWERS FASTENERS, ITW RED HEAD OR HILTI AND INSTALLED PER THE FASTENER MANUFACTURER'S SPECIFICATIONS. ICC CERTIFICATION REQUIRED.

> PROVIDE MINIMUM 1 1/4" LONG POWDER ACTUATED FASTENER FOR LIGHT GAGE CONNECTIONS TO CONCRETE. POWDER ACTUATED FASTENERS IN CONCRETE SHALL BE SPACED A MINIMUM Of 4" BETWEEN ADJACENT POWDER ACTUATED FASTENER AND A MINIMUM OF 3" FROM CONCRETE EDGES. MINIMUM POWDER ACTUATED FASTENER EMBEDMENT IN CONCRETE SHALL BE 1 1/8".
>
> PROVIDE MINIMUM 1/2" LONG POWDER ACTUATED FASTENER WITH KNURLED SHANKS FOR LIGHT GAGE CONNECTIONS TO STRUCTURAL STEEL. POWDER ACTUATED FASTENERS SHALL BE SPACED A MINIMUM OF 1 1 /2" BETWEEN ADJACENT POWDER ACTUATED FASTENER IN STRUCTURAL STEEL AND A MINIMUM 1/2" FROM STEEL EDGES. THE POWDER ACTUATED FASTENER POINT SHALL BE DRIVEN COMPLETELY THROUGH THE BACK SIDE OF THE STRUCTURAL STEEL MEMBER.

MASONRY ANCHORS - 1/4" DIAMETER x 2" LONG SELF DRILLING SCREW ANCHORS, TAPCON BY ITW BUILDEX OR KWIK-CON II BY HILTI AND INSTALLED PER THE FASTENER MANUFACTURER'S SPECIFICATIONS FOR LIGHT GAGE CONNECTIONS TO CONCRETE MASONRY. ICC CERTIFICATION REQUIRED.

DRIVE-IN EXPANSION ANCHORS (MUSHROOM HEAD) - 1/4" DIAMETER 1 1/4" LONG ZAMAC HAMMER-SCREW BY POWERS FASTENERS, METAL HIT BY HILTI, OR HAMMER SET BY ITW RED HEAD AND INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS. ANCHORS IN CONCRETE SHALL BE SPACED A MINIMUM OF 4" BETWEEN ADJACENT ANCHORS AND A MINIMUM OF 3" FROM CONCRETE EDGES. MINIMUM ANCHOR EMBEDMENT IN CONCRETE SHALL BE 1 1/8". ICC CERTIFICATION REQUIRED.

EXPANSION ANCHORS - PROVIDE MINIMUM 3/8" DIAMETER KWIK BOLT TZ EXPANSION ANCHORS BY HILTI OR EQUAL WITH A MINIMUM 2 1/2" EMBEDMENT INTO CONCRETE. MINIMUM SPACING BETWEEN ADJACENT EXPANSION ANCHORS TO BE 5". EXPANSION ANCHORS SHALL BE LOCATED A MINIMUM Of 3" FROM CONCRETE EDGES. USE OVERSIZE WASHERS FOR ATTACHING LIGHT GAGE WITH EXPANSION ANCHORS. INSTALL PER THE MANUFACTURER'S SPECIFICATIONS FOR LIGHT GAGE CONNECTIONS TO CONCRETE. ICC CERTIFICATION REQUIRED.

ALL MEMBERS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS OR SLOPE CUT AS REQUIRED FOR AN ANGULAR FIT AGAINST ABUTTING MEMBERS.

FIELD CUTTING OF LIGHT GAGE MEMBERS SHALL BE DONE BY SAWING OR SHEARING. TORCH CUTTING OF LIGHT GAGE MEMBERS IS NOT PERMITTED.

DO NOT CUT OR SPLICE LIGHT GAGE FRAMING MEMBERS UNLESS OTHERWISE NOTED.

DO NOT BEAR OR CONNECT LIGHT GAGE MEMBERS WITHIN TWELVE INCHES OF THE PUNCHED OPENINGS IN THE MEMBER WEBS UNLESS THE MEMBERS ARE REINFORCED WITH A MINIMUM 12" LONG UNPUNCHED TRACK OR STUD AT THE PUNCH OPENING. THE TRACK OR STUD REINFORCING PIECE SHALL BE THE SAME SIZE AND GAGE AS THE PUNCHED MEMBER. FASTEN THE REINFORCING PIECE TO THE MEMBER WITH A MINIMUM Of FOUR SCREWS.

ADDITIONAL TEMPORARY BRACING AND SHORING SHALL BE PROVIDED AS REQUIRED TO STABILIZE THE FRAMING AND TO SUPPORT CONSTRUCTION LOADS. TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL PERMANENT BRACING IS INSTALLED AND/OR ADDITIONAL CONSTRUCTION LOADS ARE REMOVED.

THE CONTRACTOR SHALL PROVIDE LIGHT GAGE MEMBERS AT THE SIZE AND SPACING INDICATED ON THESE DRAWINGS. LARGER SIZES AND/OR CLOSER SPACING MAY BE SUBSTITUTED PROVIDED THE SUBSTITUTIONS ARE COORDINATED WITH THE PROJECT ARCHITECTURAL AND STRUCTURAL DRAWINGS.

SHEATHING ON THE LIGHT GAGE FRAMING SHALL BE INSTALLED AS INDICATED IN THE PROJECT CONSTRUCTION DOCUMENTS AND SPECIFICATIONS AND PER ASTM C385.

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH OSHA STANDARDS.

LIGHT GAGE JOISTS, RAFTERS AND TRUSSES SHALL ALIGN OVER BEARING WALL STUDS UNLESS DETAILED OTHERWISE.

HORIZONTAL BRACING SHALL BE PROVIDED WHERE GYPBOARD OR SHEATHING IS ABSENT ON ONE OR MORE SIDES OF WALL.

EXISTING STRUCTURE:

EXISTING STRUCTURAL DIMENSIONS AND MEMBER SIZES ARE FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO FABRICATION. THE CONTRACTOR SHALL VERIFY THE ACTUAL CONFIGURATION OF EXISTING CONSTRUCTION AND THE CONDITION OF THE STRUCTURE BEFORE BEGINNING WORK. ANY DISCREPANCIES OR UNSOUND CONDITIONS SHALL BE REPORTED TO THE ENGINEER FOR RESOLUTION BEFORE BEGINNING WORK. REFER TO MECHANICAL AND ELECTRICAL PLANS FOR EXISTING DUCTS, PIPING, EMBEDMENTS, AND OPENINGS NOT SHOWN.

MISCELLANEOUS:

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, AND SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE WORK. IF ANY ERROR OR OMISSION APPEARS IN THESE DRAWINGS, SPECIFICATIONS, OR OTHER DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING OF SUCH OMISSION OR ERROR BEFORE PROCEEDING WITH THE WORK, OR ACCEPT FULL RESPONSIBILITY FOR THE COST TO RECTIFY THE SAME.

THE ENGINEER HAS NOT BEEN RETAINED TO PROVIDE DESIGN AND/OR CONSTRUCTION REVIEW SERVICES RELATED TO THE CONTRACTOR'S SAFETY PRECAUTIONS OR THE MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES FOR THE CONTRACTOR TO PERFORM THEIR WORK.

VERIFY AND COORDINATE OPENINGS IN FLOORS, WALLS AND ROOF WITH THE ARCHITECTURAL DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR OTHER WALLS, FINISHES, AND DIMENSIONS. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF DUCT OPENINGS, PIPING, CONDUITS, ETC, NOT SHOWN.

SHOP DRAWINGS SHALL BE SUBMITTED AND REVIEWED PRIOR TO FABRICATION.

REFER TO THE PRODUCT SPECIFICATIONS ISSUED AS PART OF THE CONTRACT DOCUMENTS FOR INFORMATION SUPPLEMENTAL TO THESE STRUCTURAL DRAWINGS.

REFER TO THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, CIVIL AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION INCLUDING BUT NOT LIMITED TO: DIMENSIONS, ELEVATIONS, SLOPES, DOOR AND WINDOW OPENINGS, NON-BEARING WALLS, STAIR, FINISHES, DRAIN, WATERPROOFING, RAILINGS, CURTAIN WALLS, ELEVATORS, CURBS, DEPRESSIONS, MECHANICAL UNIT LOCATIONS, AND OTHER NONSTRUCTURAL ITEMS.

THE STRUCTURAL DRAWINGS ARE INTENDED TO SHOW THE GENERAL CHARACTER AND EXTENT OF THE PROJECT AND ARE NOT INTENDED TO SHOW ALL DETAILS OF THE WORK.

THE STRUCTURAL ENGINEER (SER) IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE MAIN STRUCTURE AND CONNECTIONS TO THE WOOD MODULAR STRUCTURE. THE SSE IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE WOOD MODULAR STRUCTURE IN ITS COMPLETED FORM.

THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING DETAILS AND ACCURACY OF THE WORK; FOR THE TECHNIQUES OF ASSEMBLY; AND FOR PERFORMING WORK IN A SAFE AND SECURE MANNER.

THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING PRE-CONSTRUCTION MEETINGS PRIOR TO COMMENCING WORK. PRE-CON MEETINGS, SCHEDULED APPROXIMATELY TWO WEEKS PRIOR TO THE START OF THE RELEVANT WORK, ARE REQUIRED FOR THE FOLLOWING PHASES OF CONSTRUCTION: STRUCTURAL STEEL, WOOD MODULAR INSTALLATION. ATTENDEES FOR PRE-CONSTRUCTION MEETING ARE TO INCLUDE CONTRACTOR, RELEVANT SUBCONTRACTORS, FABRICATORS, INSPECTORS, ARCHITECT/ENGINEER, AND REPRESENTATIVE OF THE AUTHORITY HAVING JURISDICTION WHERE REQUIRED. MEETING AGENDAS ARE TO INCLUDE REVIEW OF THE WORK SCOPE, PROJECT SCHEDULE RELEVANT TO THE WORK, CONTACT INFORMATION OF RESPONSIBLE PARTIES, INSPECTION POINTS, REVIEW OF MATERIAL AND ANY SPECIAL CASES OR ISSUES, PROCEDURES FOR CLARIFICATIONS IS REQUIRED, TESTING AND ACCEPTANCE, ETC.

THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND ALL JOB RELATED SAFETY STANDARDS SUCH AS OSHA AND DOSH (DEPARTMENT OF OCCUPATIONAL SAFETY AND HEALTH). CONTRACTOR IS RESPONSIBLE TO ADHERE TO OSHA REGULATIONS REGARDING STEEL ERECTION ITEMS SPECIFICALLY ADDRESSED IN THE LATEST OSHA REGULATIONS. BOLTING AND FIELD WELDING AT ALL MEMBER CONNECTION IS TO BE COMPLETED PRIOR TO THE RELEASE OF THE MEMBER FROM THE HOISTING MECHANISM UNLESS REVIEWED AND APPROVED BY THE GENERAL CONTRACTOR'S TEMPORARY BRACING AND SHORING DESIGN ENGINEER.

THE CONTRACTOR SHALL AT HIS DISCRETION EMPLOY AN SSE, A REGISTERED PROFESSIONAL ENGINEER FOR THE DESIGN OF ANY TEMPORARY BRACING AND SHORING. SUBMIT CONSTRUCTION SEQUENCE TO ARCHITECT/ENGINEER FOR REVIEW.

THE CONTRACTOR IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION AND SHALL PROVIDE TEMPORARY SHORING, BRACING AND OTHER ELEMENTS REQUIRED TO MAINTAIN STABILITY UNTIL THE STRUCTURE IS COMPLETE. IT IS THE CONTRACTORS RESPONSIBILITY TO BE FAMILIAR WITH THE WORK REQUIRED IN THE CONSTRUCTION DOCUMENTS AND THE REQUIREMENTS FOR EXECUTING IT PROPERLY.

LOADS ON THE STRUCTURE DURING CONSTRUCTION SHALL NOT EXCEED THE DESIGN LOADS AS NOTED IN DESIGN CRITERIA & LOADS BELOW OR THE CAPACITY OF PARTIALLY COMPLETED CONSTRUCTION AS DETERMINED BY THE CONTRACTOR'S SSE FOR BRACING/SHORING.

THE CONTRACTOR HAS THE RESPONSIBILITY TO NOTIFY THE SER OF ANY ARCHITECTURAL, MECHANICAL, ELECTRICAL OR PLUMBING LOAD IMPOSED ONTO THE STRUCTURE THAT DIFFERS FROM, OR THAT IS NOT DOCUMENTED ON THE ORIGINAL CONTRACT DOCUMENTS (ARCHITECTURAL / STRUCTURAL / MECHANICAL / ELECTRICAL AND PLUMBING DRAWINGS). PROVIDE DOCUMENTATION OF LOCATION, LOAD, SIZE, AND ANCHORAGE OF ALL UNDOCUMENTED LOADS IN EXCESS OF 400 POUNDS. PROVIDE MARKED-UP STRUCTURAL PLAN INDICATING LOCATIONS OF ANY NEW EQUIPMENT OR LOADS. SUBMIT PLANS TO THE ARCHITECT/ENGINEER FOR REVIEW PRIOR TO INSTALLATION.

PLAN AND DETAIL NOTES AND SPECIFIC LOADING DATA PROVIDED ON INDIVIDUAL PLANS DETAIL DRAWINGS SUPPLEMENTS INFORMATION IN THE STRUCTURAL GENERAL NOTES.

IN CASE OF DISCREPANCIES BETWEEN THE GENERAL NOTES, SPECIFICATIONS PLAN/DETAIL OR REFERENCE STANDARDS, THE ARCHITECT/ENGINEER SHALL DETERMINE WHICH SHALL GOVERN. DISCREPANCIES SHALL BE BROUGHT THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH WORK. SHOULD ANY DISCREPANCY BE FOUND IN THE CONTROL DOCUMENTS, THE CONTRACTOR WILL BE DEEMED TO HAVE INCLUDED IN THE PRICE THE MOST EXPENSIVE WAY OF COMPLETING THE WORK, UNLESS PRIOR TO THE SUBMISSION OF THE PRICE, THE CONTRACTOR ASKS FOR A DECISION FROM THE ARCHITECT AS TO WHICH SHALL GOVERN. ACCORDINGLY, ANY CONFLICT OR BETWEEN THE CONTRACT DOCUMENTS SHALL NOT BE A BASIS FOR ADJUSTMENT IN THE CONTRACT PRICE.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE. CONFLICT BETWEEN THE DRAWINGS AND ACTUAL SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK.

THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL ADJACENT UNDERGROUND UTILITIES PRIOR TO EARTHWORK, FOUNDATIONS, SHORING, AND EXCAVATION. ANY UTILITY INFORMATION SHOWN ON THE DRAWINGS AND DETAIL IS APPROXIMATE AND NOT NECESSARILY COMPLETE.

ALTERNATE PRODUCTS OF SIMILAR STRENGTH, NATURE AND FORM FOR SPECIFIED ITEMS MAY BE SUBMITTED WITH ADEQUATE TECHNICAL DOCUMENTATION TO THE ARCHITECT/ENGINEER FOR REVIEW. ALTERNATE MATERIALS THAT ARE SUBMITTED WITHOUT ADEQUATE TECHNICAL DOCUMENTATION OR THAT SIGNIFICANTLY DEVIATE FROM THE DESIGN INTENT OF MATERIALS SPECIFIED MAY BE RETURNED WITHOUT REVIEW. ALTERNATES THAT REQUIRE SUBSTANTIAL EFFORT TO REVIEW WILL NOT BE REVIEWED UNLESS AUTHORIZED BY THE OWNER.

DISCLAIMER:

THESE DESIGN DRAWINGS ARE THE PROPERTY OF ABKJ, INC, AND HAVE BEEN PREPARED SPECIFICALLY FOR THIS PROJECT IN ACCORDANCE WITH GENERALLY ACCEPTED STRUCTURAL ENGINEERING PRACTICES.

IT IS INTENDED FOR THE EXCLUSIVE USE OF THIS PROJECT ONLY. ABKJ DOES NOT GUARANTEE PROJECT PERFORMANCE IN ANY RESPECT, ONLY THAT THE WORK MEETS NORMAL STANDARDS OF PROFESSIONAL CARE. NO OTHER WARRANTY, EXPRESSED OR IMPLIED, IS PROVIDED.

SUBMITTALS:

SUBMIT FOR REVIEW:

SUBMITTALS OF SHOP DRAWINGS, AND PRODUCT DATA AND MILL TESTS ARE REQUIRED FOR ITEMS NOTED IN THE INDIVIDUAL MATERIALS SECTIONS AND FOR BIDDER-DESIGNED ELEMENTS.

SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO ANY FABRICATION OR CONSTRUCTION AND PRIOR TO SUBMISSION TO THE AHJ FOR APPROVAL FOR ALL STRUCTURAL ITEMS INCLUDING THE FOLLOWING:

- CONCRETE MIX DESIGNS
- PRECAST CONCRETE
- EMBEDDED STEEL ITEMS
- FIBER REINFORCED PLASTIC COMPOSITES
- METAL GRATINGS
- ROOF-MOUNTED COMPONENTS: SKYLIGHTS, HATCHES
- HANDRAILS, GUARDRAILS, AND BALCONY RAIL ANCHORAGES
- EXTERIOR SIGNAGE
- CANVAS AWNINGS
- TEMPORARY SHORING SYSTEMS
- METAL DECK EDGE FORMS
- MECHANICAL, ELECTRICAL, PLUMBING AND SPRINKLER HANGER PLANS

IF THE SHOP DRAWINGS DIFFER FROM OR ADD TO THE DESIGN OF THE STRUCTURAL DRAWINGS, THEY SHALL BEAR THE SEAL AND SIGNATURE OF THE [STATE] STATE REGISTERED STRUCTURAL ENGINEER WHO IS RESPONSIBLE FOR THE DESIGN.

DESIGN DRAWINGS AND CALCULATIONS OR SHOP DRAWINGS FOR THE DESIGN AND FABRICATION OF ITEMS THAT ARE DESIGNED BY OTHERS, SUCH AS STAIRS OR SKYLIGHT FRAMING, SHALL BEAR THE SEAL AND SIGNATURE OF THE [STATE] STATE REGISTERED STRUCTURAL ENGINEER WHO IS RESPONSIBLE FOR THE DESIGN AND SHALL BE SUBMITTED TO THE ARCHITECT AND THE AUTHORITY HAVING JURISDICTION FOR REVIEW PRIOR TO FABRICATION. SUBMITTED CALCULATIONS ARE FOR INFORMATION ONLY AND WILL NOT BE STAMPED OR RETURNED.

SUBMITTAL REVIEW PERIOD:

SUBMITTALS SHALL BE MADE IN TIME TO PROVIDE A MINIMUM OF TWO WEEKS FOR REVIEW BY THE ARCHITECT/ENGINEER PRIOR TO THE ONSET OF FABRICATION.

GENERAL CONTRACTOR'S PRIOR REVIEW:

PRIOR TO SUBMISSION TO THE ARCHITECT/ENGINEER, THE CONTRACTOR SHALL REVIEW THE SUBMITTAL FOR COMPLETENESS. DIMENSIONS AND QUANTITIES ARE NOT REVIEWED BY THE SER, AND THEREFORE, MUST BE VERIFIED BY THE GENERAL CONTRACTOR. CONTRACTOR SHALL PROVIDE ANY NECESSARY DIMENSIONAL DETAILS REQUESTED BY THE DETAILER AND PROVIDE THE CONTRACTOR'S REVIEW STAMP AND SIGNATURE BEFORE FORWARDING TO THE ARCHITECT/ENGINEER.

SHOP DRAWING REVIEW:

ONCE THE CONTRACTOR HAS COMPLETED HIS REVIEW, THE SER WILL REVIEW THE SUBMITTAL FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AND THE CONTRACT DOCUMENTS OF THE BUILDING AND WILL STAMP THE SUBMITTAL ACCORDINGLY. MARKINGS OR COMMENTS SHALL NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR FROM COMPLIANCE WITH THE PROJECT PLANS AND SPECIFICATIONS, NOR DEPARTURES THERE FROM. THE SER WILL RETURN SUBMITTALS IN THE FORM THEY ARE SUBMITTED IN (EITHER HARD COPY OR ELECTRONIC). FOR HARD COPY SUBMITTALS, THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THE REQUIRED NUMBER OF COPIES TO THE SER FOR REVIEW.

SHOP DRAWING DEVIATIONS:

WHEN SHOP DRAWINGS (COMPONENT DESIGN DRAWINGS) DIFFER FROM OR ADD TO THE REQUIREMENTS OF THE STRUCTURAL DRAWINGS, THEY SHALL BE DESIGNED AND STAMPED BY THE RESPONSIBLE SSE.

SPECIAL INSPECTIONS:

SPECIAL INSPECTIONS SHALL MEET THE REQUIREMENTS OF IBC CHAPTER 17.

INSPECTION NOTES:

THE CONSTRUCTION INSPECTIONS LISTED ARE IN ADDITION TO THE CALLED INSPECTIONS REQUIRED BY SECTION 110 OF THE INTERNATIONAL BUILDING CODE. SPECIAL INSPECTION IS NOT A SUBSTITUTE FOR INSPECTION BY A CITY INSPECTOR. SPECIALLY INSPECTED WORK WHICH IS INSTALLED OR COVERED WITHOUT THE APPROVAL OF THE CITY INSPECTOR IS SUBJECT TO REMOVAL OR EXPOSURE.

CONTINUOUS INSPECTION IS REQUIRED DURING THE PERFORMANCE OF THE WORK WHERE REQUIRED BY THE BUILDING CODE/LOCAL

JURISDICTION/MANUFACTURER'S REQUIREMENTS UNLESS OTHERWISE SPECIFIED.

THE SPECIAL INSPECTOR MUST BE CERTIFIED TO PERFORM THE TYPES OF INSPECTION SPECIFIED AND SHALL DEMONSTRATE COMPETENCE TO THE SATISFACTION OF THE BUILDING OFFICIAL.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INFORM THE SPECIAL INSPECTOR OR INSPECTION AGENCY AT LEAST ONE WORKING DAY BEFORE PERFORMING ANY WORK THAT REQUIRES SPECIAL INSPECTION. ALL WORK PERFORMED WITHOUT THE REQUIRED SPECIAL INSPECTION IS SUBJECT TO REMOVAL.

SPECIAL INSPECTORS SHALL:

BE UNDER THE SUPERVISION OF A [STATE] STATE REGISTERED CIVIL ENGINEER.

OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH APPROVED DRAWINGS AND SPECIFICATIONS.

FURNISH INSPECTION REPORTS TO THE BUILDING DEPARTMENT AND ENGINEER. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION; THEN, IF NOT CORRECTED, TO THE BUILDING DEPARTMENT AND ENGINEER.

SUBMIT A FINAL REPORT, SIGNED BY A [STATE] STATE REGISTERED CIVIL ENGINEER, STATING THE WORK WAS IN CONFORMANCE WITH THE APPROVED DRAWINGS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE IBC.

SPECIAL INSPECTIONS REQUIRED:

SOILS/FOUNDATIONS:

PERIODIC INSPECTION OF SOILS EARTHWORK PER TABLE 1705.6 IS REQUIRED FOR:

- FOOTING SOIL BEARING SURFACES PRIOR TO PLACING ANY REINFORCING STEEL.
- EXCAVATION DEPTH AND BEARING LAYER PRIOR TO PLACING ANY REINFORCING STEEL.
- COMPACTED FILL MATERIAL CLASSIFICATION.
- SUBGRADE PREPARATION PRIOR TO FILLING.

CONTINUOUS INSPECTION PER TABLE(S) 1705.6, 1705.7 AND 1705.8 REQUIRED FOR:

- FILLING OPERATIONS TO SATISFY REQUIREMENTS OF IBC TABLE 1705.6 AND THE GEOTECHNICAL REPORT LISTED UNDER SOILS FOUNDATIONS SECTION.
- COMPACTED FILL DENSITY TESTING OF EACH LIFT, PROPER LIFT THICKNESS.
- DRIVING AND TESTING OF DEEP FOUNDATIONS - STEEL PIPE, HP, PILES PER IBC SECTION & TABLE 1705.7 AND 1808.

SHOTCRETE CONSTRUCTION:

- CONTINUOUS INSPECTION REQUIRED PER IBC 1908 DURING THE:
  - SHOTCRETE PLACEMENT FOR THE PRECONSTRUCTION TEST PANEL (IF REQUIRED BY THE AHJ OR THE EOR).
  - TAKING OF CORE SPECIMENS FOR CONSTRUCTION SPECIMENS.
  - PLACING OF ALL PRODUCTION SHOTCRETE.

SHOP FABRICATIONS:

STEEL:

- AS REQUIRED BY IBC SECTION 1704.2.5.1 EXCEPT WHEN PERFORMED IN AN APPROVED SHOP.
- HIGH STRENGTH BOLTING, WELDING (EXCEPT WELDING PERFORMED IN AN APPROVED SHOP), MEMBER LAYOUT AND DETAILING, AND AS REQUIRED BY IBC SECTION 1705.2.
- AS REQUIRED BY IBC TABLE 1705.3.

CONCRETE:

- CONCRETE STRENGTH (WHERE f'c IS GREATER THAN 2,500 PSI, EXCEPT SLAB ON GRADE), SLUMP, AIR CONTENT AND MIX DESIGN AND AS REQUIRED BY IBC SECTION 1705.3.
- CONTINUOUS INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT AS REQUIRED BY ACI 318.
- CONTINUOUS INSPECTION OF APPLICATION OF PRESTRESS FORCES IN PRESTRESSED CONCRETE AS REQUIRED BY ACI 318.
- PERIODIC INSPECTION OF PLACEMENT OF REINFORCEMENT, BOLTS, EMBEDS AND PRESTRESSING TENDONS IN CONCRETE.

MISCELLANEOUS:

POST-INSTALLED ANCHORS TO CONCRETE AND MASONRY

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WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

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GREGORY J. LEE

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PERMIT SET
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REVISIONS

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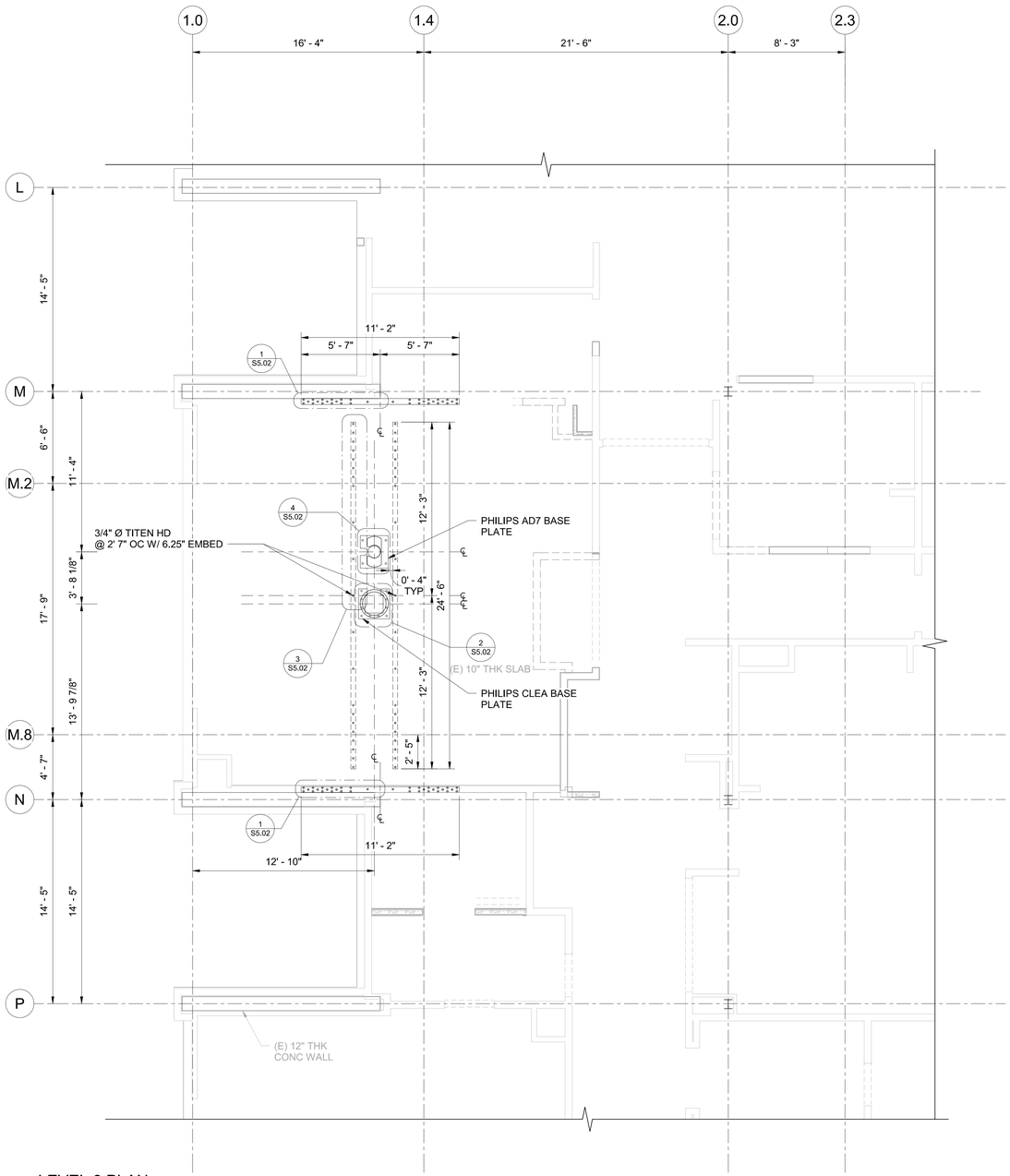
GENERAL STRUCTURAL NOTES

S0.02



1 LEVEL 2 PLAN
1/4" = 1'-0"

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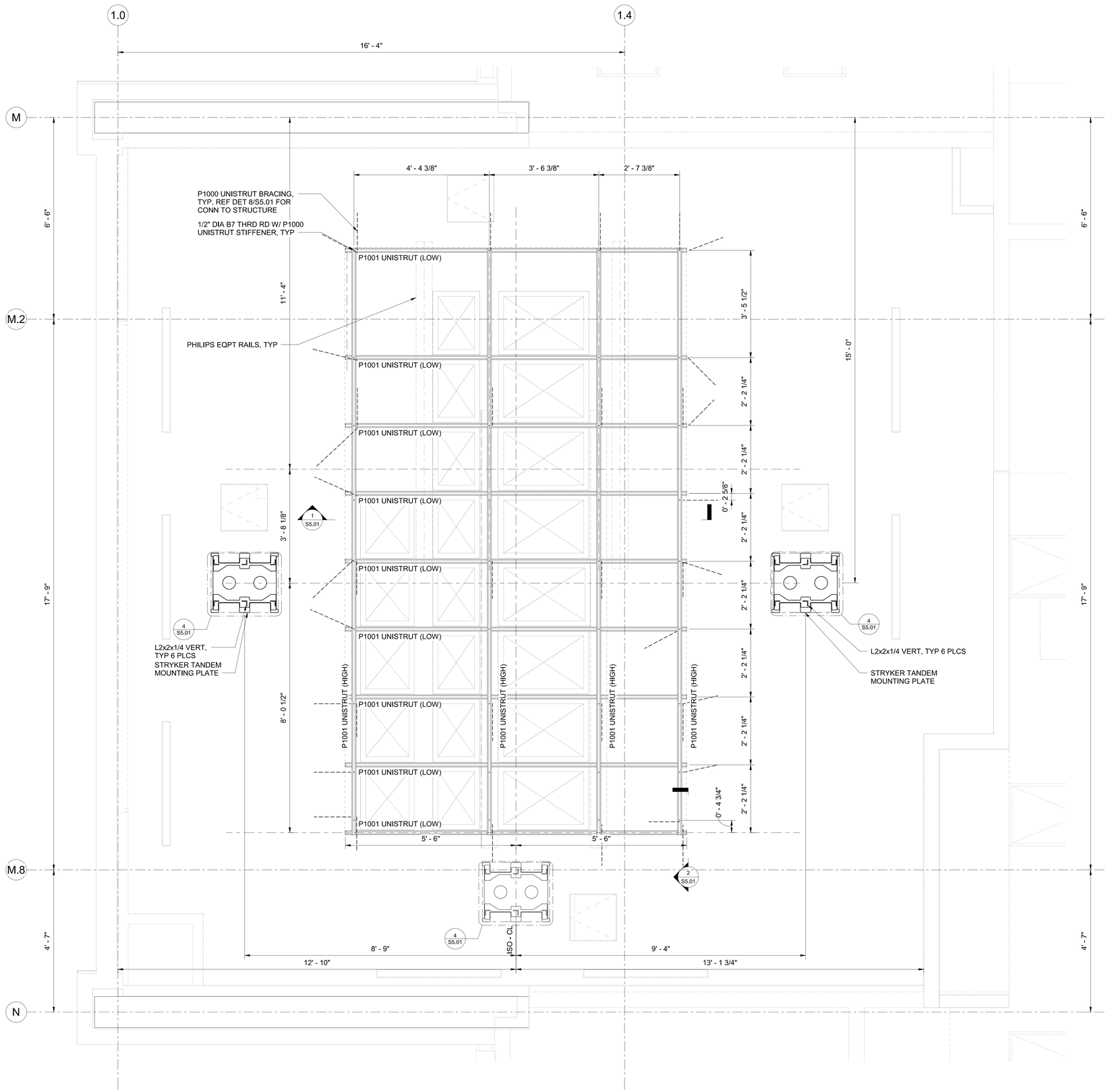
LEVEL 2 PLAN

S1.01



2 LEVEL 2 - EQUIPMENT REFLECTED CEILING PLAN
3/4" = 1'-0"

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EQUIPMENT REFLECTED CEILING PLAN

S1.01A

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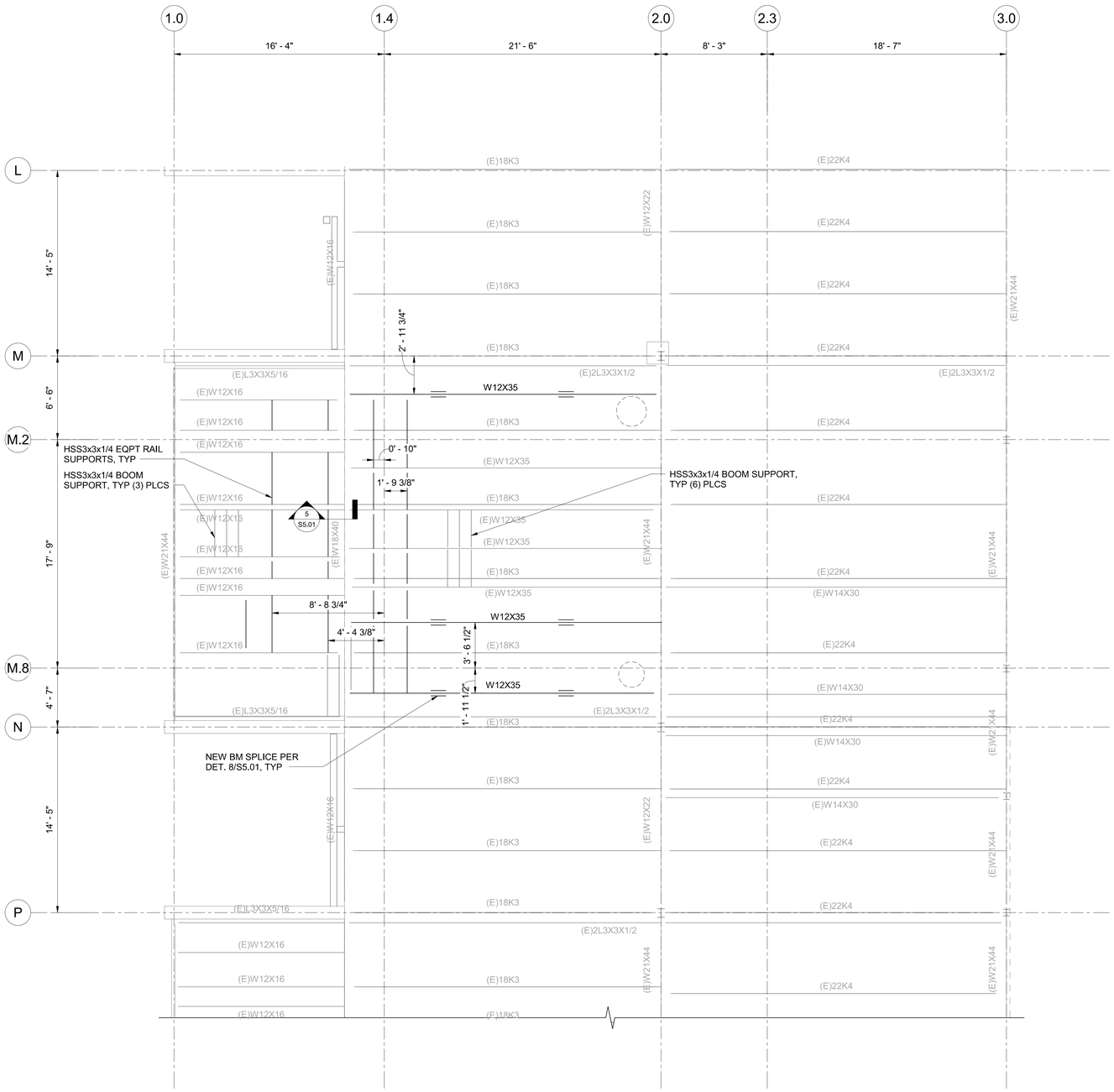

2 ROOF PLAN GRIDS M-N
1/4" = 1'-0"

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ROOF PLAN
GRIDS M-N

S1.02

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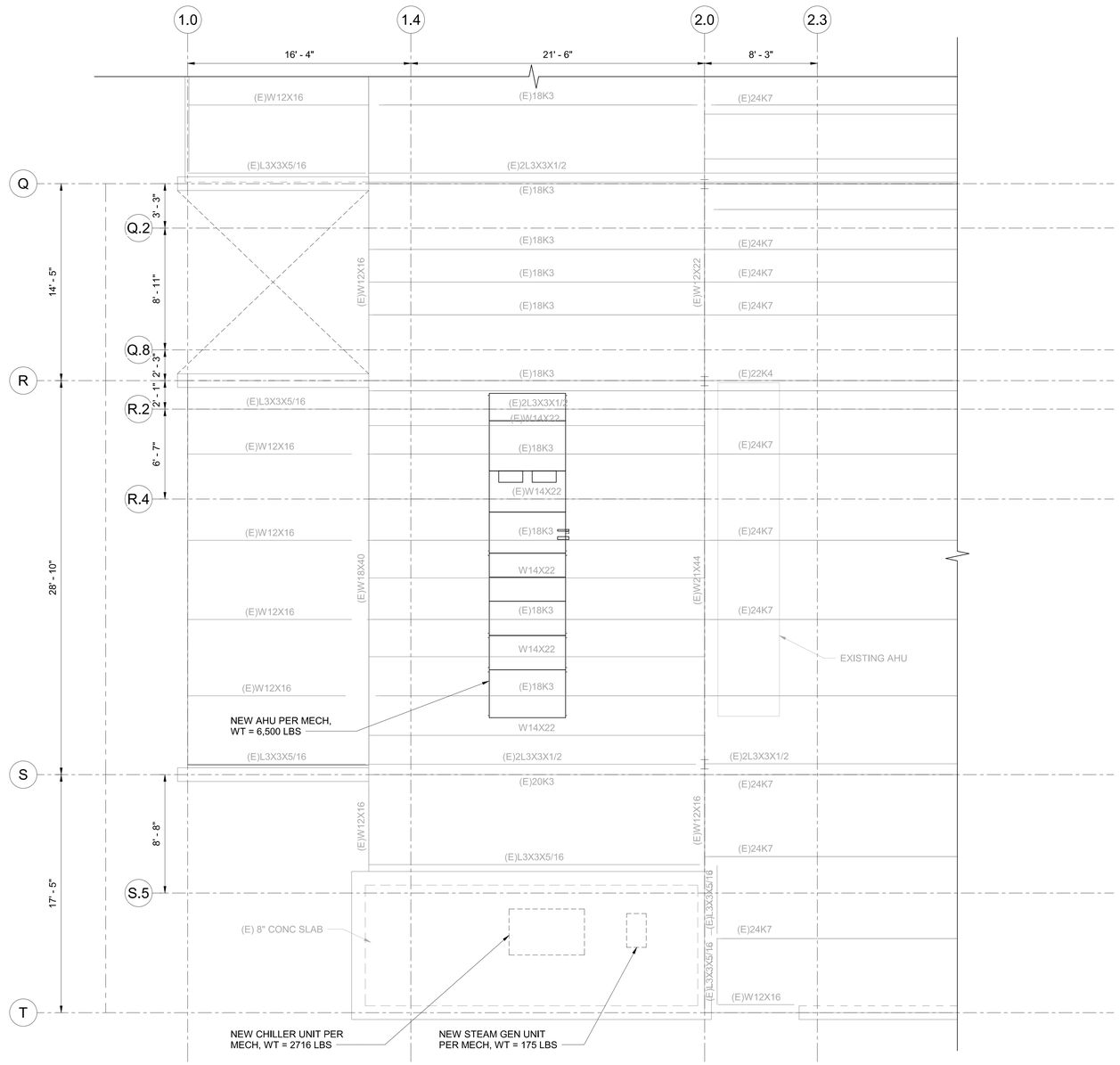

1 ROOF PLAN GRIDS Q-T
1/4" = 1'-0"

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ROOF PLAN
GRIDS Q-T

S1.03

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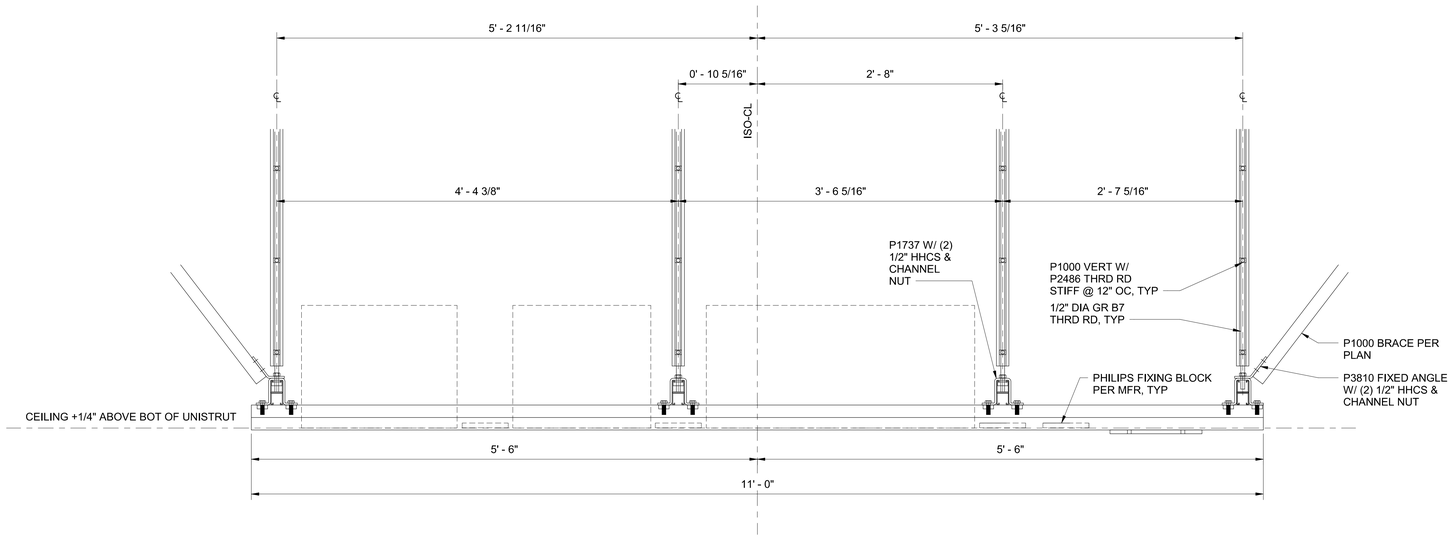
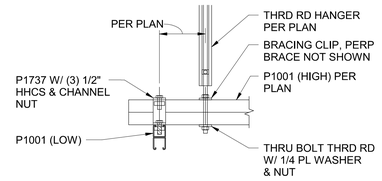
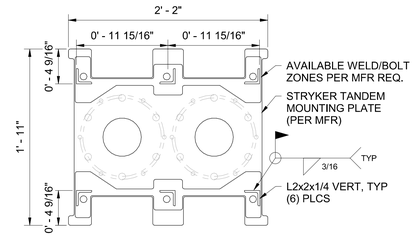


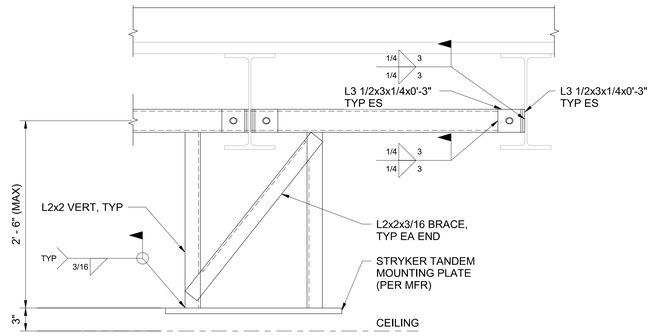
1 GSH UNISTRUT SECTION
1 1/2" = 1'-0"

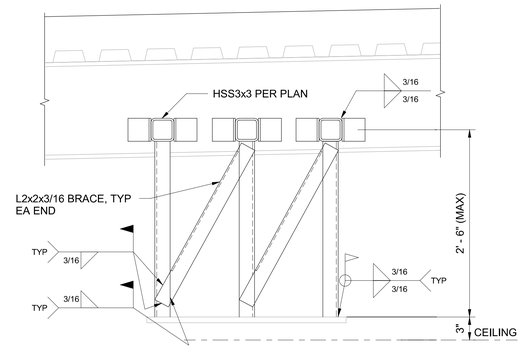


2 OFFSET ROD HANGER
1 1/2" = 1'-0"

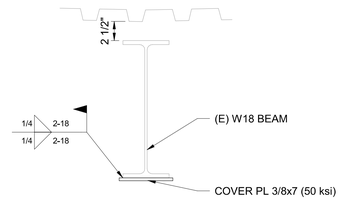


NOTE:
CONTRACTOR TO VERIFY ALL DIMENSIONS W/ VENDOR PROVIDED DRAWINGS

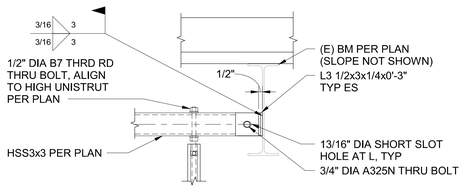




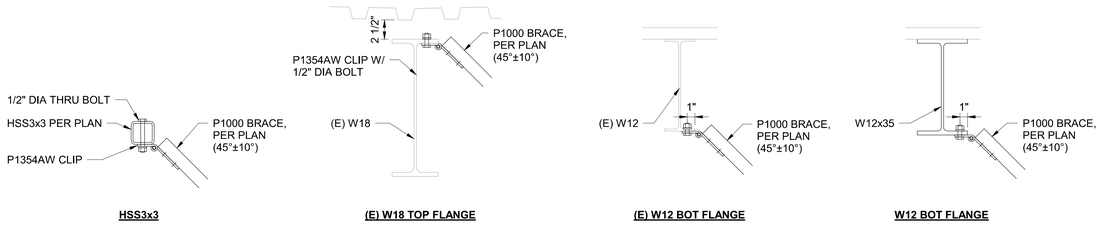
4 BOOM SUPPORT
1 1/2" = 1'-0"



5 W18 COVER PL
1 1/2" = 1'-0"



7 THRD RD CONN
1 1/2" = 1'-0"



8 UNISTRUT BRACE CONN
1 1/2" = 1'-0"

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DETAILS

S5.01

BIM 360://GOOD SAM\ V21\19057 MultiCare Good Sam Hybrid OR-MEADOWS - STRUCTURAL.rvt
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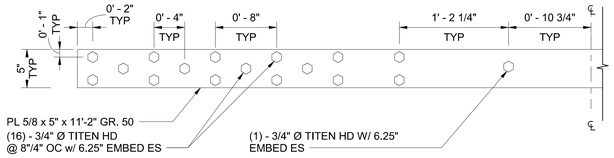
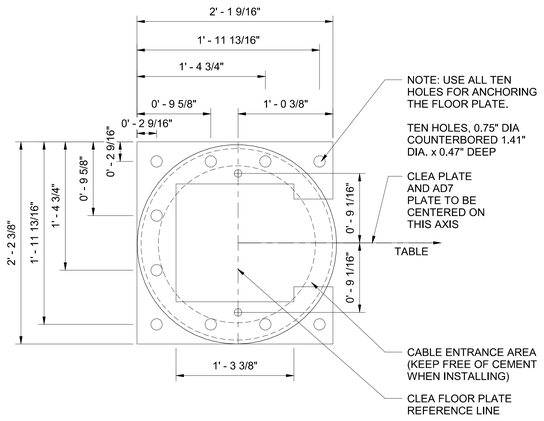
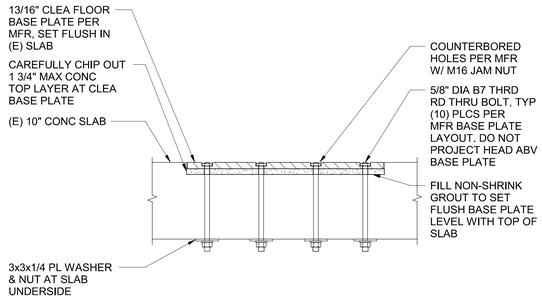


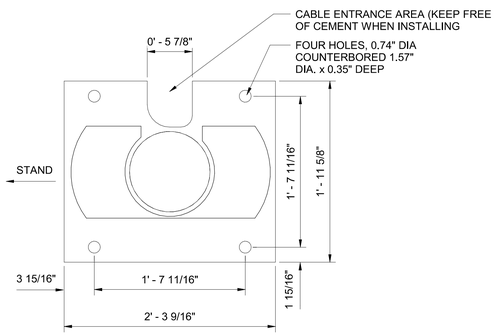
1 TOP REINF PLATE
1 1/2" = 1'-0"

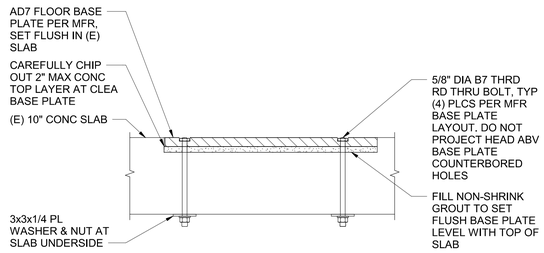




NOTE: CONTRACTOR TO SCAN ALL BOLT LOCATIONS PRIOR TO DRILLING. VERIFY ALL BASE PLATE REQUIREMENTS WITH PHILIPS DRAWINGS

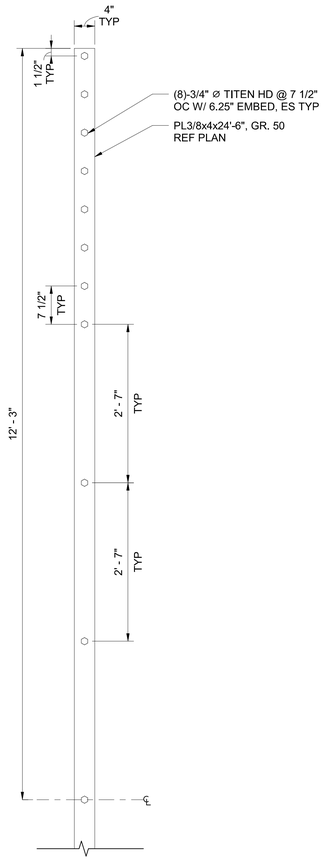
2 CLEA BASEPLATE
1 1/2" = 1'-0"





NOTE: CONTRACTOR TO SCAN ALL BOLT LOCATIONS PRIOR TO DRILLING. VERIFY ALL BASE PLATE REQUIREMENTS WITH PHILIPS DRAWINGS.

4 AD7 BASEPLATE
1 1/2" = 1'-0"



3 SLAB BOTTOM REINF PLATE
1" = 1'-0"

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

- See accompanying project comment form for review status and corrections.
- This is not a building permit, check with your local building department.

03/08/2023 8:29:33 PM

PRCTI20221788

DLRGROUP | SALUS

ABKJ
3810 NE 52nd Street,
Seattle, Washington 98105
206.340.2200 Phone
206.340.2266 fax
Good Samaritan
A part of MultiCare Health System

HYBRID OR #1
MULTICARE GOOD SAMARITAN HOSPITAL
401 15TH AVE SE, PUYALLUP, WA 98372

PERMIT SET
11/11/2022
REVISIONS

19057
DETAILS

S5.02

BIM 360://GOOD SAM v21/19057 MultiCare Good Sam Hybrid OR-MEADOWS - STRUCTURAL.rvt
11/16/2022 3:58:02 PM

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

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- This is not a building permit, check with your local building department.

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PHILIPS

www.healthcare.philips.com

Final Site Preparation Support Document

The equipment components shown in this drawing package are based on the current proposed purchase and are subject to change if modifications are made to the configuration.

*Photo shown is not site specific.

Revision History

Note for Architects and/or Contractors: If revisions are listed, these drawings must be thoroughly reviewed so that all changes can be incorporated into your project

Rev.	Date	Revision Descriptions	By
-	3/18/2021	Created a Preliminary Drawing per Quote #: 1-2CFKS8O Rev. 1.	NF
A	10/28/2022	Created Final Site Preparation Support Document as per Order # 6600554032.020000, 6600554032.030000.	VL

Table of Contents

PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

Project Details
Drawing Number
N-WES210120 A
Date Drawn: 10/28/2022
Quote: 1-2CFKS8O Rev. 7
Order: 6600554032.020000
6600554032.030000

C1

PRCTI20221788

05.27.2022

General Conditions

1. **Planning, Design, and Implementation Process**
   The multidisciplinary project team should be assembled as early as possible in the design process. The multidisciplinary team should include administrators, clinicians, infection preventionists, architects and other design professionals, facility managers, safety officers, security managers, users of equipment, and support staff relevant to the areas affected by the project as well as those with knowledge of the organization's functional goal for the project. Inclusion of patient advocates/consumers, A/E consultants, and construction specialists should be considered. FGI 2018 APPENDIX A1.2-1.2

2. **Responsibility**
   The customer shall be solely responsible, at their expense for preparation of site. Philips required specifications and any required MEP, construction and structural alterations shall be incorporated into customer's design and construction documents. Compliance with all safety, electrical, and building design codes relevant to the build out of the clinical area for Philips equipment and its installation is the customer's responsibility. Sufficiency of such plans and specifications, specifically including, but not limited to the accuracy of the dimensions described therein, shall be the sole responsibility of the customer. The customer shall advise Philips of conditions at or near the site, which could adversely affect the function of the equipment and/or carrying out of the delivery and installation work. This shall ensure that such conditions are corrected and that the site is fully prepared and available to Philips before the installation work is due to begin.

3. **Permits**
   Customer shall obtain all permits and licenses required by federal, state/provincial or local authorities in connection with the construction, installation and operation of the products and shall bear any expense in obtaining same or in complying with any related rules, regulations, ordinances and statutes.

4. **Radiation Protection**
   The customer or their contractor, at their own expense, shall obtain the service of a licensed radiation physicist to specify radiation protection and testing.

5. **Asbestos and Other Toxic Substances**
   Philips assumes that there is no hazardous material contained in project site. The customer is responsible for the removal of any materials, including but not limited to asbestos, deemed hazardous by local authorities, the EPA, OSHA, or any other authority having jurisdiction over the work. If such materials are discovered at any time that the work is proceeding, the work will immediately cease, the owner will be notified, and the work will again proceed after the owner has removed all of the hazardous material from the job site.

6. **Labor**
   In the event local labor conditions make it impossible or undesirable to use Philips' regular employees for such installation and connection, such work shall be performed by laborers supplied by the customer, or by an independent contractor chosen by the customer at the customer's expense, and in such case, Philips agrees to furnish adequate engineering supervision for proper completion of the installation.

7. **Schedule**
   The customer or general contractor shall provide Philips with a project/construction schedule with milestones to assist in the coordination of delivery of Philips supplied products and primary equipment.

8. **Extended Installation or Turnkey Work by Philips**
   Any room preparation requirements for Philips equipment indicated on these drawings is the responsibility of the customer. If an extended installation or turnkey contract exists between Philips and the customer for room preparation, then additional work required for the equipment will not be represented on these drawings. Some of the responsibilities of the customer as depicted in these drawings may be assumed by Philips. In the event of a conflict between the work described in the turnkey contract work scope and these drawings, the turnkey contract work scope shall govern.

9. **Infection Control and Interim Life Safety Measure**
   Compliance with all Infection Control and Interim Life Safety Measures shall be the sole responsibility of the customer. The customer shall provide all means and methods necessary for compliance with Infection Control (IC) and Interim Life Safety Measures (ILSM) in connection with the construction and installation/operation of the products shown herein and shall bear any expenses related to same.

(21.0)

Minimum Site Preparation Requirements

A smooth efficient installation is vital to Philips and their customers. Understanding what the minimum site preparation requirements are will help achieve this goal. The following list clearly defines the requirements which must be fulfilled by the customer before the delivery and installation of equipment can begin.

1. Walls to be painted or covered, baseboards installed, floors to be tiled and/or covered, ceiling shall have grid tiles and luminaires installed and operational.

2. Doors and windows, especially radiation protection barriers, installed and finished with locksets operational.

3. All electrical convenience outlets, raceways, wireways, auxiliary fittings, knockouts, cable connectors, terminal and power distribution blocks, cable openings, chase nipples, junction boxes and pull boxes installed and operational.

4. A private supply mains branch circuit with overcurrent protective circuit breaker and manual operable circuit disconnect means shall be present and operational. Definition of "Private supply" means an end-leave of the hospital distribution system after the last overcurrent protective disconnect means from which all equipment included in the Azurion ground domain is powered. Note that only equipment included in the Azurion certification and equipment with which the Azurion has a compatibility statement are allowed to be inside the Azurion ground domain. All other electrical equipment is not allowed to have a functional connection to the Azurion system and shall have no direct galvanic connection to prevent ground loops. 3rd party equipment that does not have a function connection with the Azurion system, but that is intended to be used inside the same patient area as the Azurion System shall be grounded to the PCB inside the ERB with a ground bonding of <= 200 mOhm for plugable equipment.

5. Philips does not allow 3rd party equipment inside our cabinets.

6. 120V convenience outlets operational.

7. All support structure correctly installed. All channels, pipes, beams and/or other supporting devices should be level, parallel, and free of lateral or longitudinal movements.

8. All contractor supplied cables pulled and terminated.

9. A dust-free environment in and around the procedure room.

10. All HVAC (heating, ventilating and air conditioning) installed and operational as per specifications.

11. Architectural features such as computer floor, wood floor, casework, bulkheads, installed and finished. When technical cabinets are installed in a closet with doors, it is suggested that the customer install a temperature alarm in the event of an air conditional failure.

12. All plumbing installed and finished.

13. Philips does not install or connect developing tanks, automatic processors or associated equipment, built in illuminators, cassette pass boxes, loading benches and cabinets, lead protective screens, panels or lead glass window and frame. This is to be done by the customer/contractor.

14. Clear door openings for moving equipment into the building must be 42" (1067mm) W x 82" (2083mm) H min. 48" (1219mm) W x 82" (2083mm) H rec., Or larger contingent on an 8'-0" (2438mm) corridor width.

15. Countertop is 30" (765mm) for seated height and 36" (915mm) for standing height.

Note
Once Philips has moved equipment into the suite and started the installation, the contractor shall schedule his work around the Philips installation team on site. It is suggested that a telephone be provided in the room to receive telephone calls. This would alleviate facility staff from answering calls for Philips personnel.

Remote Service Diagnostics
Medical imaging equipment to be installed by Philips Medical is equipped with a service diagnostic feature which allows for remote and on site service diagnostics. To establish this feature, a RJ45 type ethernet 10/100/1000 Mbit network connector must be installed as shown on plan. Access to customer's network via their remote access server is needed for Remote Service Network (RSN) connectivity. All cost with this feature are the responsibility of the customer.

(22.0)

HVAC Requirement for General Equipment Locations

Operation	
Temperature	59°F (15°C) to 86°F (30°C)
Temperature gradient	Max. 1°F / Minute (0.5°C / Minute)
Humidity (non-condensing) Humidity shall be stable within 10%	20% to 80%
Exam Room	*6142 BTU/hr
Equipment Room	*22179 BTU/hr
Control Room	*1945 BTU/hr

***Average heat emission during clinical use**
Data applicable for basic system:
Large monitor + 4 x small monitor in Monitor Ceiling Suspension
1 workstation + 2 x small monitor in Control Room

Add 1194 BTU/hr for additional large monitor
Add 273 BTU/hr for additional small monitor
Add 1024 BTU/hr for additional workstation
See AL sheet for additional heat load in case of UPS

Equipment's designed airflow is from front/side to back. Please design the air handling in the rack cabinet equipment area accordingly.

Heating, ventilation, and air conditioning requirements must maintain temperature at 59°F (15°C) to 86°F (30°C) as well as a non-condensing relative humidity at 20-80% with 10% maximum variation. These temperature and humidity levels must be maintained in all (3) rooms (equipment, examination and control rooms).

(22.0)

Electrical Requirements
Mains 40E Cabinet

Maximum Rated Power:	100kW
Supply Configuration:	3 phase, equally sized insulated power conductors and an insulated equipment grounding conductor. Insulated grounding conductor shall have the same or larger size than line conductors. Line wires shall be no smaller than 6 AWG, 90°C or higher temperature rating. The conductor size is dependant on the upstream circuit breaker rating: Minimum 4 AWG for 80A circuit breaker rating.
Nominal Line Voltage:	480 VAC, 60 Hz
Branch Power Requirement:	100 kVA (System only; verify UPS power requirements)
Circuit Breaker:	3 phase, Type D 80A with long-time delay

(20.1)

Remote Control of Room Lighting

The control of customer lighting must incorporate an electrical isolation system such as demonstrated on Sheet ED3. Lighting scheme is the responsibility of the customer.

(12.0)

Authorized to Begin Construction
WA ST Department of Health - Construction Review Services has authorized this project to begin construction.
- See accompanying project comment form for review status and corrections.
- This is not a building permit, check with your local building department.

03/08/2023 8:29:44 PM

PRCTI20221788

PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

Project Details
Drawing Number
N-WES210120 A
Date Drawn: 10/28/2022
Quote: 1-2CFKS8O Rev. 7
Order: 6600554032.020000
6600554032.030000

AN

Equipment Legend

A Furnished and installed by Philips
B Furnished by customer/contractor and installed by customer/contractor
C Installed by customer/contractor
D Furnished by Philips and installed by contractor
E Existing
F Future
G Optional
H Furnished by Philips and installed by Third Party

	Equipment Designation	Description	Weight (lbs)	Heat Load (BTU/hr)	Detail Sheet
A	SP	Floor Clea	2513	1706	AD3
A	PB1	Larc N Neuro	1877	854	AD3
A	MSA	Angio Diagnost 7 w/ Swivel, Tilt & Cradle	999	205	AD3
A	ME	Certeray iX Generator Cabinet	320	2971	AD4
A	2ME	Certeray iX Generator Cabinet	320	2971	AD4
A	MR	Peripheral 40E Cabinet	441	2049	AD4
A	MA	Mains 40E Cabinet	826	5464	AD4
A	CY	Control Room Connection Box	115	567	AD7
A	DB	Documentation Box - Mounted on Wheels (Final location to be coordinated with customer and/or local Philips Service)	176	0	AD5
A	ATY	Exam Room Auxiliary Box	7	1.7	AD5
A	FW	Firewall	4	205	AD6
A	MB	Image 40E Cabinet	441	1877	AD4
A	TV	58" LCD Monitor Suspension	563	1020	AD5
A	VB1 ~	Video Connection Box	11	34	AD5
A	VB8	Video Connection Box	11	34	AD5
A	MAV	Mavig 2.5m Ceiling Track w/ Rad Shield and Y LED 1F Surgical Light	167	350	AD6
A	IH	Interventional Hardware (Integrated with FlexSpot - Not shown)	73	1024	-
A	AFS	Additional FlexSpot	-	-	-
A	IC	Injector Room Console	11	160	AD6
A	RIC	Injector Remote Panel	7	160	AD6
A	INJ	Medrad Universal T-Rail Bracket for Injector Head (Not shown on plan)	-	-	-
D	UPS	Full Load UPS	1356	8750	AD8
D	BC	Full Load Battery Cabinet	850*	17750*	AD8
D	SBO	Signaling Box Option (for LLF UPS)	13	-	AD8
B	TV2	Live/Reference Slave Monitor (To be mounted on third party boom - Not Shown)	-	-	-
A	INT	IntraSight- Workstation	83	-	AD8
A	SYNC	SyncVision	71	-	AD8
A	CL	Collaboration Live PC	11	171	AD7

*Final Weight and BTU to be verified

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PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

Project Details
Drawing Number
N-WES210120 A
Date Drawn: 10/28/2022
Quote: 1-2CFKS8O Rev. 7
Order: 6600554032.020000
6600554032.030000

AL

PRCTI20221788

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

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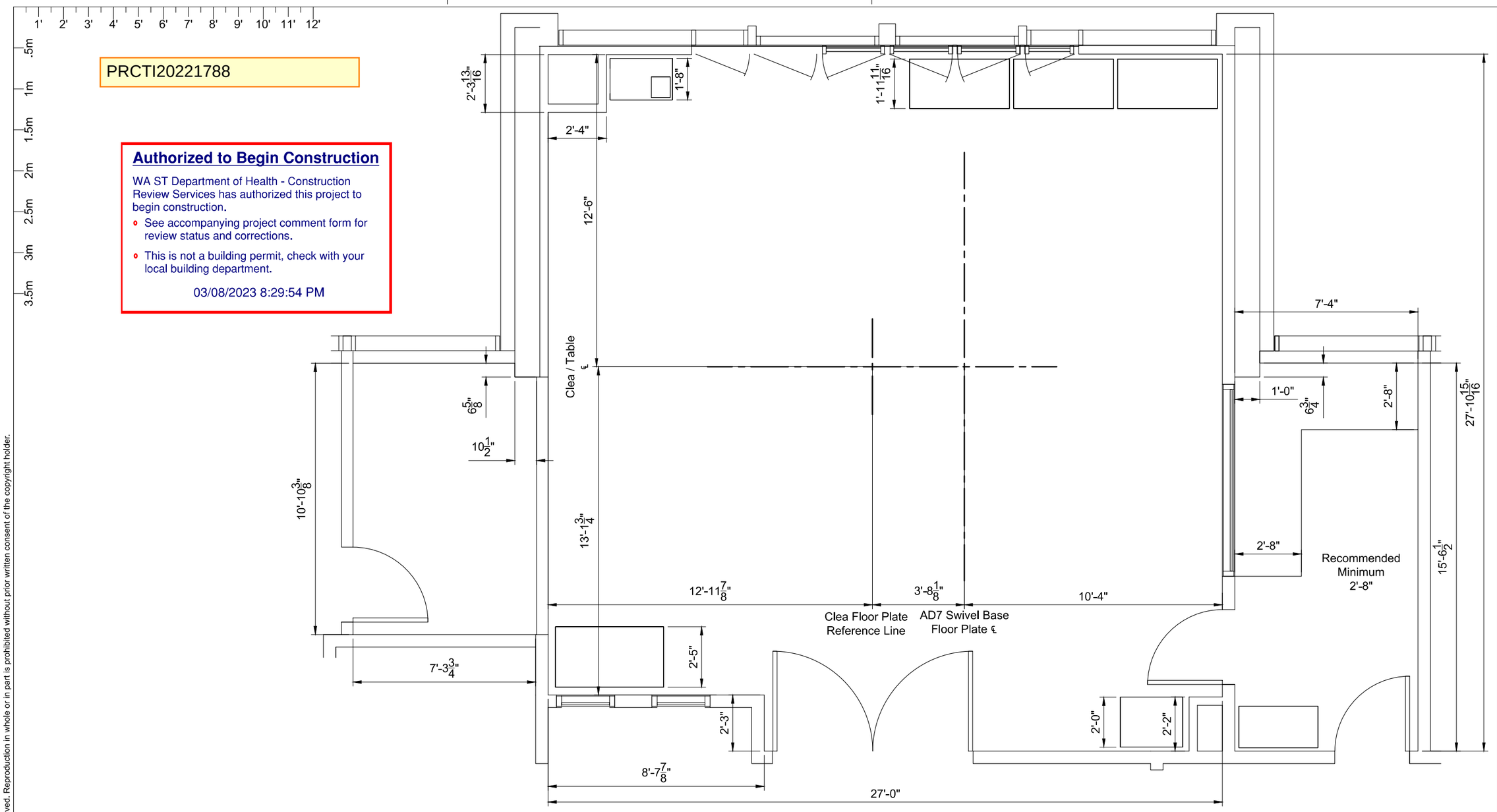

Legend

- Walls
- Soffit
- Existing (to be removed)
- Beams or other building construction elements

Site Layout

1/4" = 1'-0"

Required Unistrut Height: 9' - 9 5/16", +3/16" / -0 (2980mm, +4mm / -0)
Unistrut Height measured from top of Clea floor plate to bottom of Unistrut.

General Notes

* Counters and cabinetry shown to be supplied and installed by contractor.
* Field to verify all room dimensions.
* Refer to A.D.A. Guidelines for doors and clearances. Verify all other applicable code(s) with the architect of record.

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

Project Details
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N-WES210120 A
Date Drawn: 10/28/2022
Quote: 1-2CFKS8O Rev. 7
Order: 6600554032.020000
6600554032.030000

A1

05.27.2022

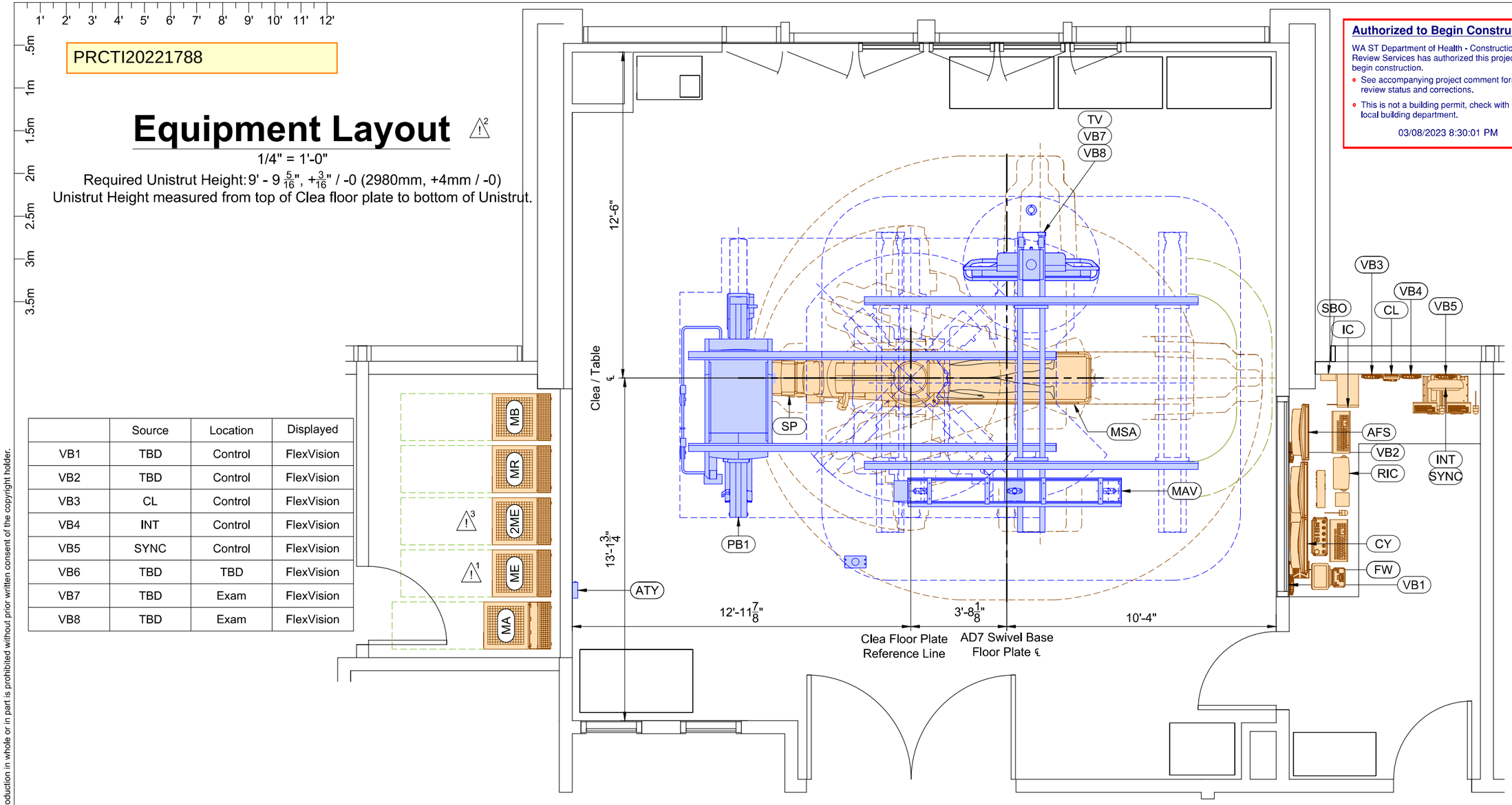
PRCTI20221788

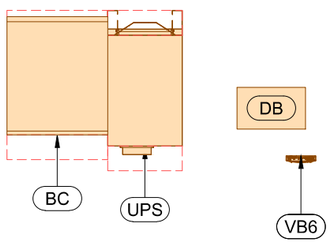
Equipment Layout ⚠2

1/4" = 1'-0"

Required Unistrut Height: 9' - 9 5/16", +3/16" / -0 (2980mm, +4mm / -0)
Unistrut Height measured from top of Clea floor plate to bottom of Unistrut.

	Source	Location	Displayed
VB1	TBD	Control	FlexVision
VB2	TBD	Control	FlexVision
VB3	CL	Control	FlexVision
VB4	INT	Control	FlexVision
VB5	SYNC	Control	FlexVision
VB6	TBD	TBD	FlexVision
VB7	TBD	Exam	FlexVision
VB8	TBD	Exam	FlexVision





Exact location to be coordinated by Customer and local Philips service.

Planning Issues and Considerations

⚠1 Due to door location and swing, servicing will create a safety hazard due to position of rack MA/ME.

⚠2 Verify quantity and designation of Live/Reference slaving monitors with local Philips Service.

⚠3 Structural Engineer to verify adequate space on sides of equipment cabinets for seismic anchoring.

General Notes

* Architect to coordinate with end users/technicians to determine final placement of control desk components prior to installation in order to avoid rework. Architect to coordinate with Philips Project Manager to reflect final placement on Philips drawings.
* Field to verify all existing Philips and/or third party equipment will not affect the functionality of the system and its components.

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

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03/08/2023 8:30:01 PM

PHILIPS

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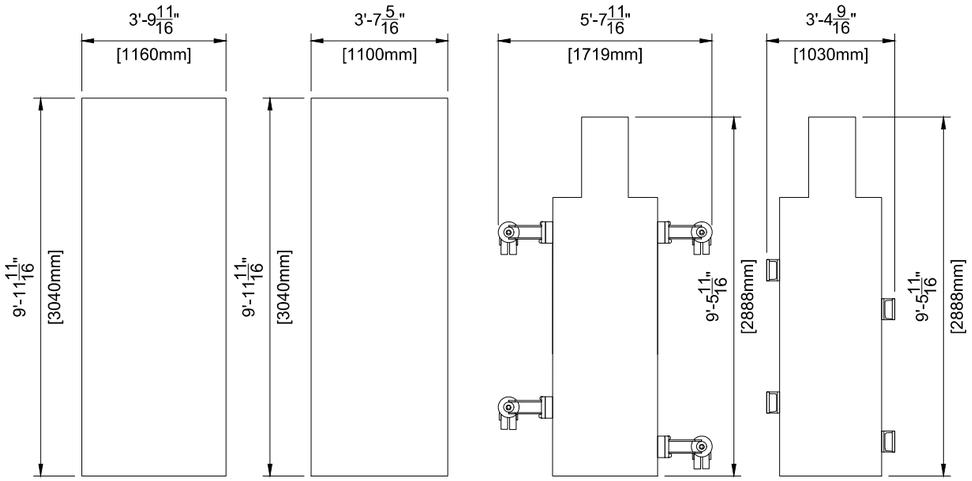
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

Project Details
Drawing Number
N-WES210120 A
Date Drawn: 10/28/2022
Quote: 1-2CFKS8O Rev. 7
Order: 660055403 2.020000
660055403 2.030000

A2

Detail - Clea Floor Transport Details



Transport Possibilities				
	Crate	**Pallet**	**Klick Wheel Wide**	**Castors**
Height	79.53" (2020mm)	78.54" (1995mm)	69.65" (1769mm)	72.40" (1839mm)
Weight	3285 lbs (1490 kg)	3064 lbs (1390 kg)	3241 lbs (1470 kg)	2954 lbs (1340 kg)

Minimum Elevator Size	
Length	90.55" (2300mm)
Width	51.18" (1300mm)
Height	85.03" (2160mm)
Note: This size can be reached by means of C-arc and junction rotation.	

Authorized to Begin Construction

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- This is not a building permit, check with your local building department.

03/08/2023 8:30:07 PM

PRCTI20221788 (22.0)

PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

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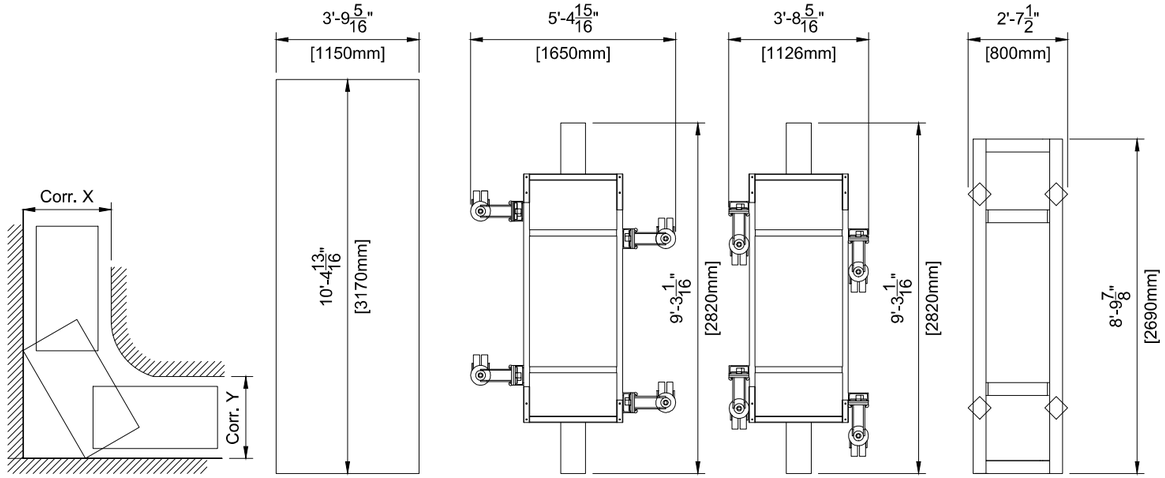
Date Drawn: 10/28/2022
Quote: 1-2CFKS8O Rev. 7
Order: 6600554032.020000
6600554032.030000

AD1

05.27.2022

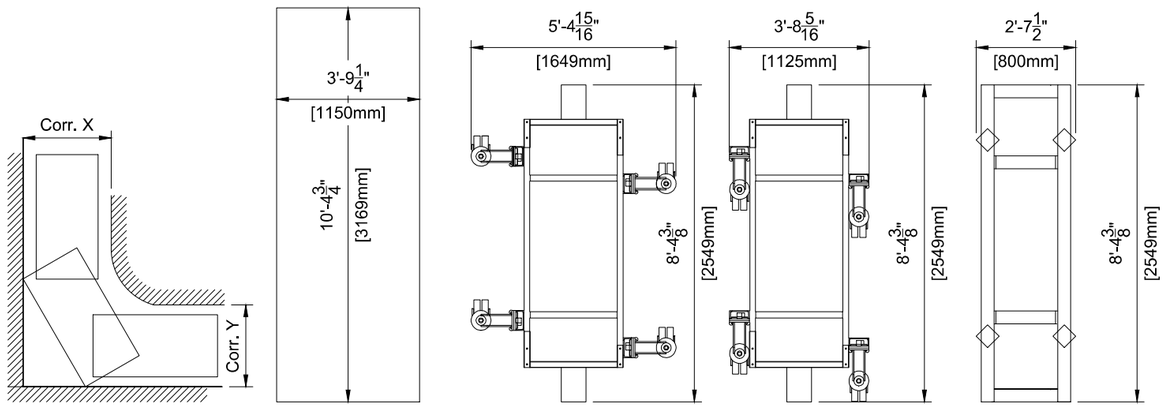
Detail - Lateral Arc N (C-ARC) Transport Details



Transport Possibilities				
	Crate Wide	**Klick Wheels Wide**	**Klick Wheels Small**	**Castors**
Height	85.45" (2145mm)	74.80" (1900mm)	74.80" (1900mm)	74.80" (1900mm)
Weight	1565 lbs (710 kg)	1587 lbs (720 kg)	1587 lbs (720 kg)	1312 lbs (595 kg)
Corridor X Measured	66.73" (1695mm)	66.73" (1695mm)	66.73" (1695mm)	66.73" (1695mm)
Corridor Y Must Be	86.02" (2185mm)	111.57" (2834mm)	73.80" (1874mm)	52.83" (1342mm)

* Corridor values, a tolerance of 3.93" (100mm) is added for wall obstructions.
* Minimum length of C-Arc is 2480mm. This can be reached by means of C-Arc and junction rotation by connecting delivered power cable between SLB-x31 in control unit and wall socket.

Detail - Lateral Arc N (U-ARC) Transport Details



Transport Possibilities				
	Crate Wide	**Klick Wheels Wide**	**Klick Wheels Small**	**Castors**
Height	84.45" (2145mm)	77.56" (1970mm)	77.56" (1970mm)	77.56" (1970mm)
Weight	1761 lbs (799 kg)	1748 lbs (793 kg)	1748 lbs (793 kg)	1510 lbs (685 kg)
Corridor X Measured	64.96" (1650mm)	64.96" (1650mm)	64.96" (1650mm)	64.96" (1650mm)
Corridor Y Must Be	86.02" (2185mm)	101.85" (2587mm)	66.14" (1680mm)	49.33" (1253mm)

* Corridor values, a tolerance of 3.93" (100mm) is added for wall obstructions.

Detail - Lateral Arc FD (Assembled) Transport Details

Transport Possibilities		
	Including Crate	**Without Crate**
Length	114.17" (2900mm)	107.48" (2730mm)
Width	45.28" (1150mm)	31.50" (800mm)
Height	81.69" (2075mm)	74.80" (1900mm)
Weight	2094 lbs (950 kg)	2094 lbs (950 kg)

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- This is not a building permit, check with your local building department.

03/08/2023 8:30:11 PM

PRCTI20221788 (22.0)

PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

Project Details
Drawing Number
N-WES210120 A
Date Drawn: 10/28/2022
Quote: 1-2CFKS8O Rev. 7
Order: 6600554032.020000
6600554032.030000

AD2

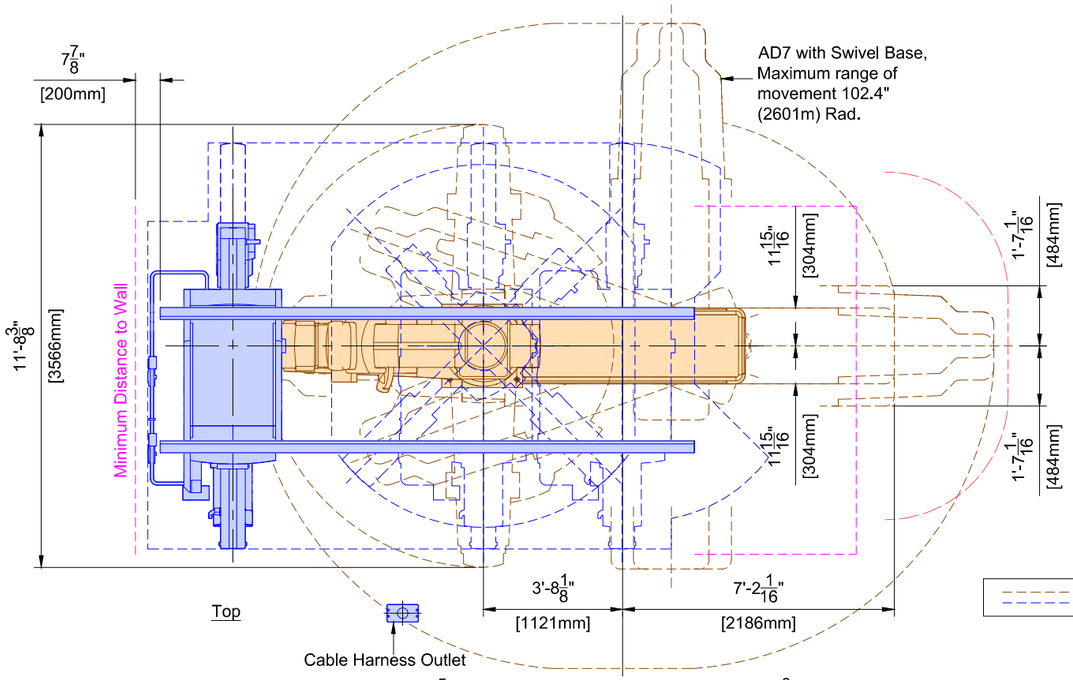
05.27.2022

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

- See accompanying project comment form for review status and corrections.
- This is not a building permit, check with your local building department.

03/08/2023 8:30:16 PM



Max permissible difference between isocenters of Clea and Larc N is 3/8" (10mm).

Tilt table (not shown) is option. This allows the tabletop to tilt ±17°.

(19.0)

SP	Floor Clea	
	Weight	Heat Dissipation
	2513 lbs	1706 BTU/hr

(19.0)

PB1	Larc N Neuro	
	Weight	Heat Dissipation
	1877 lbs	854 BTU/hr

(19.0)

MSA	Angio Diagnost 7 with Swivel	
	Weight	Heat Dissipation
	1249 lbs	205 BTU/hr

PRCTI20221788

PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

Project Details
Drawing Number
N-WES210120 A
Date Drawn: 10/28/2022
Quote: 1-2CFKS8O Rev. 7
Order: 6600554032.020000
6600554032.030000

AD3

05.27.2022

PRCTI20221788

Authorized to Begin Construction

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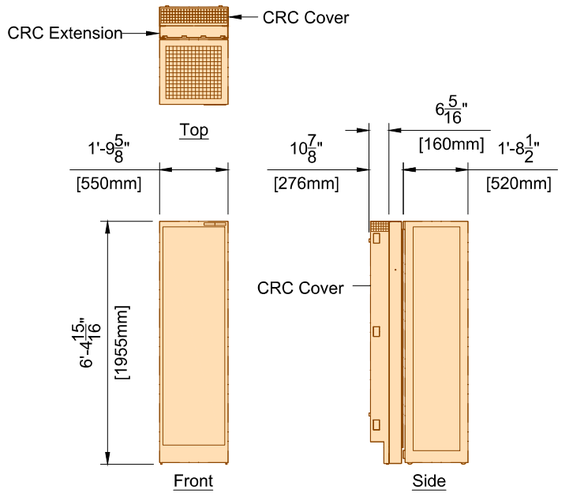
- This is not a building permit, check with your local building department.

03/08/2023 8:30:20 PM

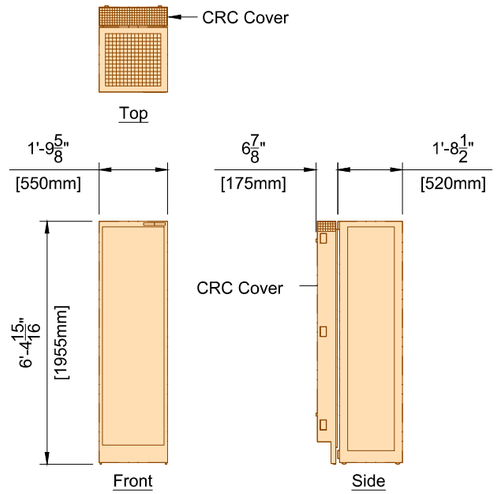


The CRC Cover must be attached to the back box.

Acoustic noise level: <= 55 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")

(19.0)

	Mains 40E Cabinet	
MA	Weight	Heat Dissipation
	826 lbs	5464 BTU/hr

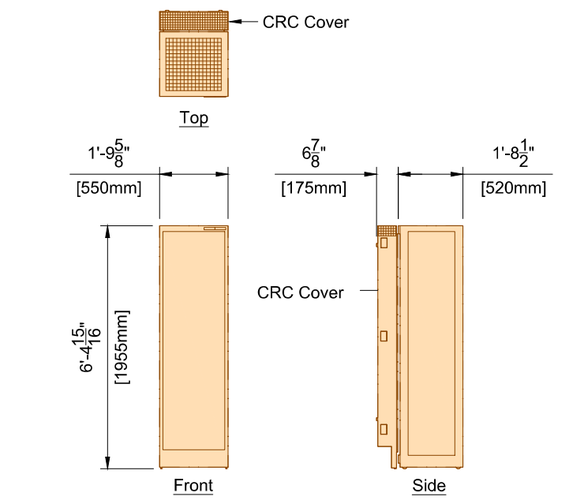


The CRC Cover must be attached to the back box.

Acoustic noise level: <= 48 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")

(19.0)

	Image 40E Cabinet	
MB	Weight	Heat Dissipation
	441 lbs	1877 BTU/hr

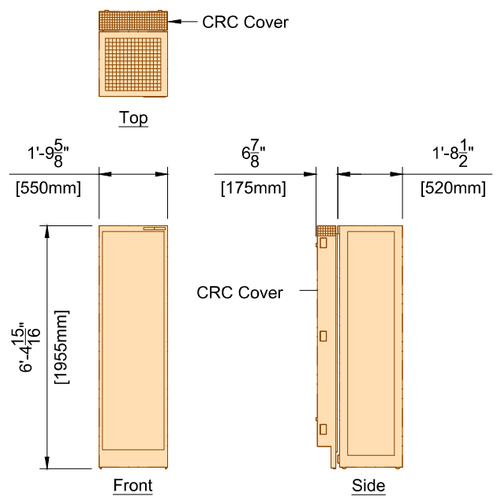


The CRC Cover must be attached to the back box.

Acoustic noise level: <= 65 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")

(19.0)

	Peripheral 40E Cabinet	
MR	Weight	Heat Dissipation
	441 lbs	2049 BTU/hr



The CRC Cover must be attached to the back box.

Acoustic noise level: <= 55 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")

(19.0)

	Certeray iX Generator 40E Cabinet	
ME 2ME	Weight	Heat Dissipation
	320 lbs	2971 BTU/hr

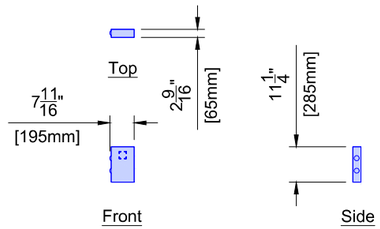
PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

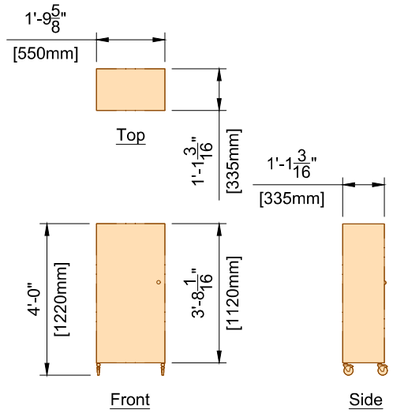
Project Details
Drawing Number
N-WES210120 A
Date Drawn: 10/28/2022
Quote: 1-2CFKS8O Rev. 7
Order: 6600554032.020000
6600554032.030000

AD4



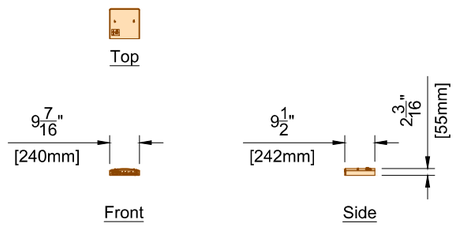
(19.0)

ATY	Auxiliary Box	
	Weight	Heat Dissipation
	7 lbs	1.7 BTU/hr



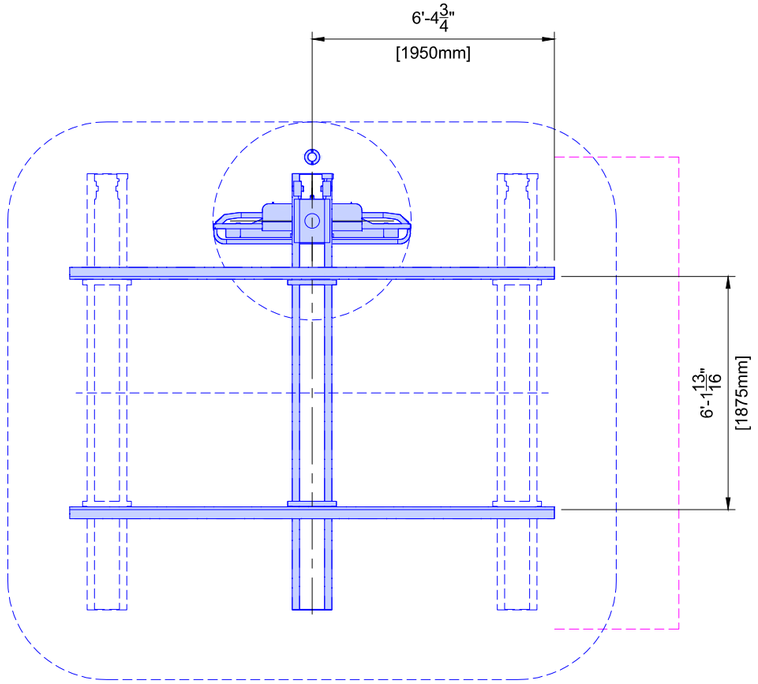
(19.0)

DB	Documentation Box	
	Weight	Heat Dissipation
	176 lbs	0 BTU/hr

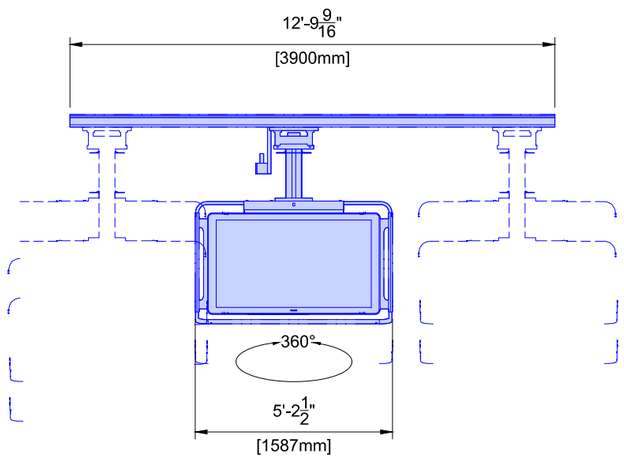


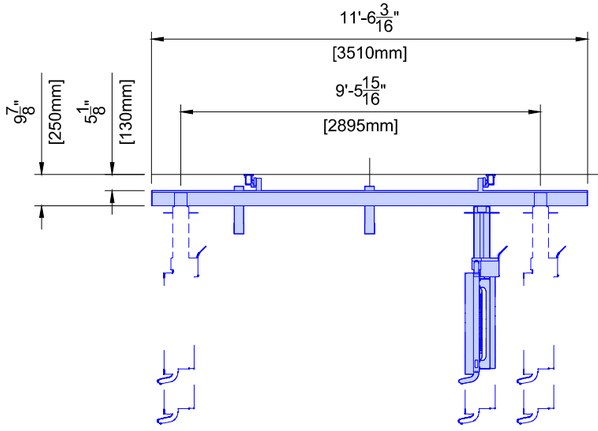
(21.0)

VB1 ~ VB8	Video Connection Box	
	Weight	Heat Dissipation
	2.2 lbs	- BTU/hr



Bearing Forces:
(Tension) Tmax = 661 lbs/support
(Shear) Vmax = 150 lbs/support





For swing labs, 2700mm long ceiling rails are delivered. Maximum longitudinal column travel = 2100mm.
Weight shown is total weight including monitors, suspension, cabling, and options.

(19.0)

TV	58" LCD Monitor Suspension	
	Weight	Heat Dissipation
	563 lbs	1020 BTU/hr

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

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- This is not a building permit, check with your local building department.

03/08/2023 8:30:24 PM

PRCTI20221788

PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

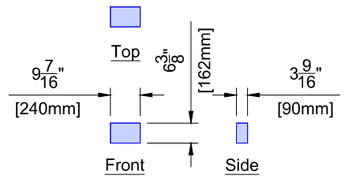
Project Details
Drawing Number
N-WES210120 A
Date Drawn: 10/28/2022
Quote: 1-2CFKS8O Rev. 7
Order: 660055403 2.020000
660055403 2.030000

AD5

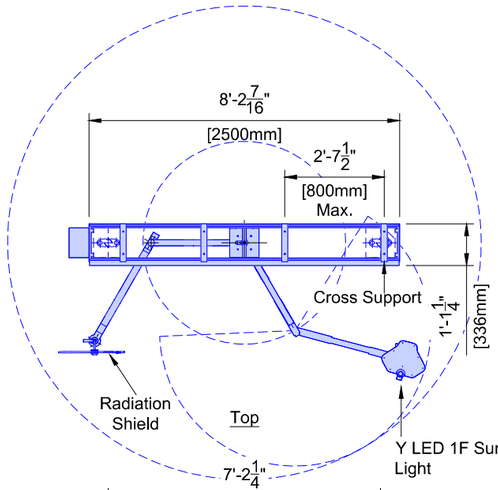
05.27.2022

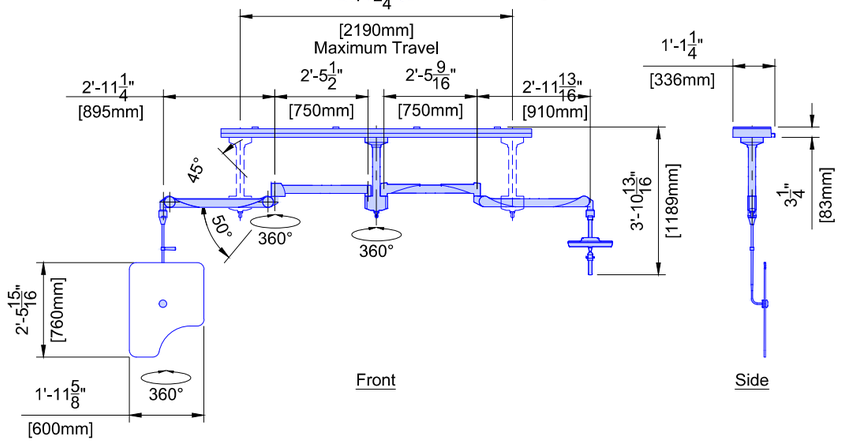
THIS SHEET IS PART OF THE DOCUMENT SET LISTED ON SHEET C1 AND SHOULD NOT BE SEPARATED.

PRCTI20221788

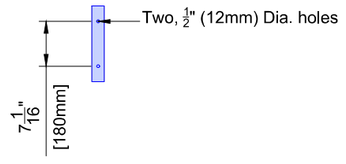


Cable Spooler





Detail - Cross Support
(Not to scale)



Bearing Forces:
(Tension) Tmax = 908 lbs/support
(Shear) Vmax = 38 lbs/support

(22.0)

MAV	Mavig 2.5m Ceiling Track w/ Radiation Shield and Y LED 1F light	
	Weight	Heat Dissipation
	167 lbs	350 BTU/hr

MAV

THIS SHEET IS PART OF THE DOCUMENT SET LISTED ON SHEET C1 AND SHOULD NOT BE SEPARATED.

Authorized to Begin Construction

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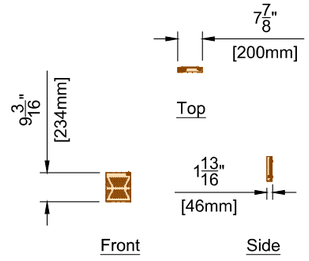
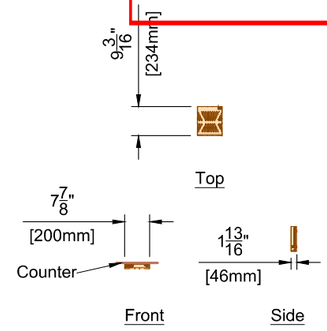
03/08/2023 8:30:29 PM



Mounted on the Wall



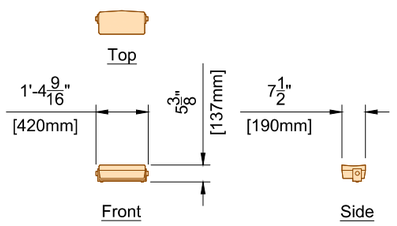
Mounted below the Control Room Desk

Weight shown is for all components.
Firewall must be installed maximum of 6'-6 3/4" from the CY.

(20.0)

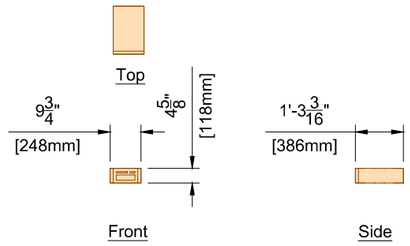
FW	Firewall	
	Weight	Heat Dissipation
	4 lbs	205 BTU/hr

FW



(12.0)

RIC	Injector Remote Panel	
	Weight	Heat Dissipation
	7 lbs	160 BTU/hr



(12.0)

IC	Injector Room Console	
	Weight	Heat Dissipation
	11 lbs	160 BTU/hr

PHILIPS

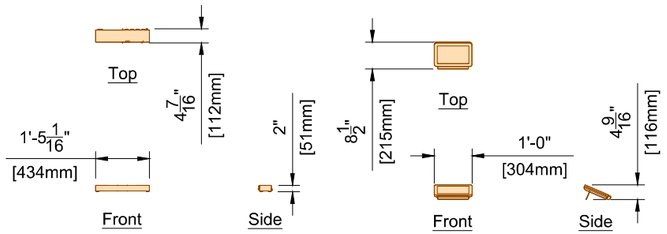
Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

Project Details
Drawing Number
N-WES210120 A
Date Drawn: 10/28/2022
Quote: 1-2CFKS8O Rev. 7
Order: 6600554032.020000
6600554032.030000

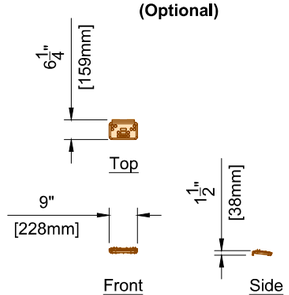
AD6

05.27.2022

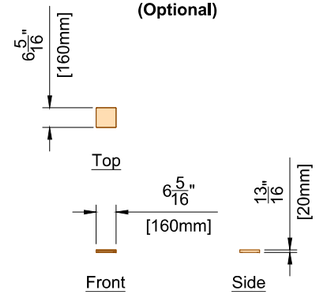


Multiswitch (Optional)

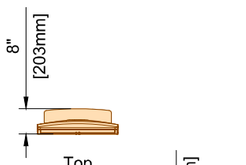
Touch Screen Module (Optional)



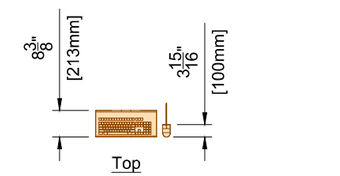
Review Module



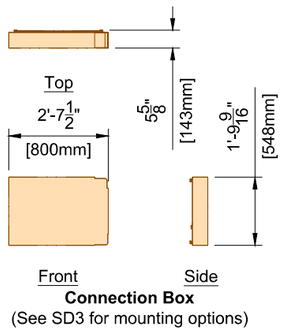
DVD Writer (Optional)



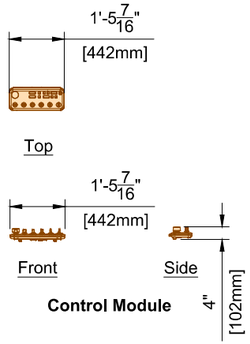
LCD Monitor



Keyboard / Mouse



Connection Box
(See SD3 for mounting options)



Control Module

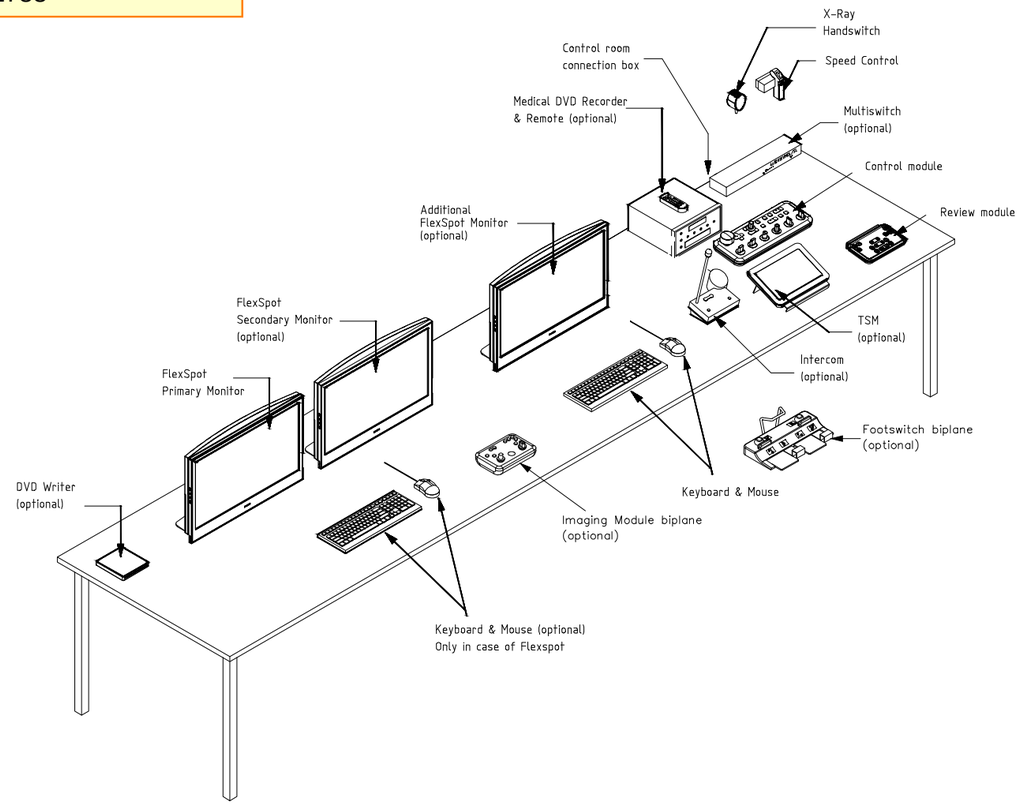
(19.1)

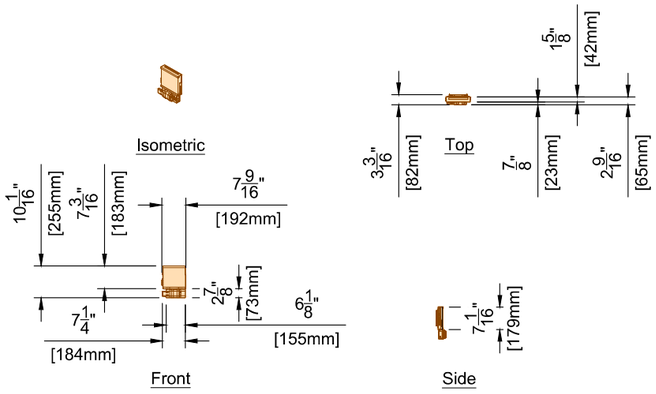
CY	Control Room Connection Box (All Components)	
	Weight	Heat Dissipation
	115 lbs	567 BTU/hr

Detail - Typical Control Room Layout with FlexSpot

(Not to scale - Not site specific)

PRCTI20221788





Weight shown is for all components.

(20.0)

CL	Collaboration Live Mini PC	
	Weight	Heat Dissipation
	11 lbs	171 BTU/hr

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

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03/08/2023 8:30:34 PM

PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

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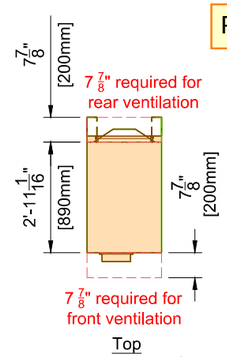
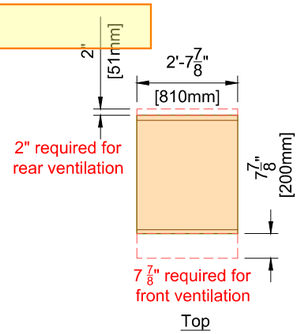
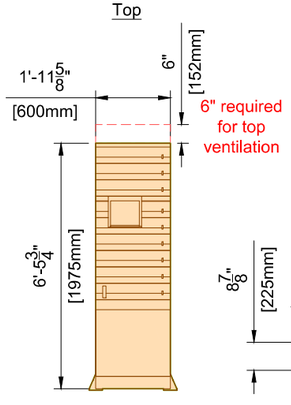
Order: 6600554032,020000
6600554032,030000

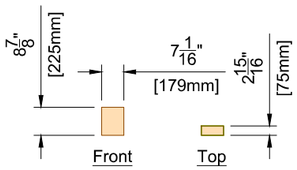
AD7

PRCTI20221788

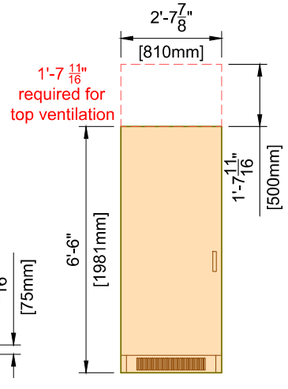


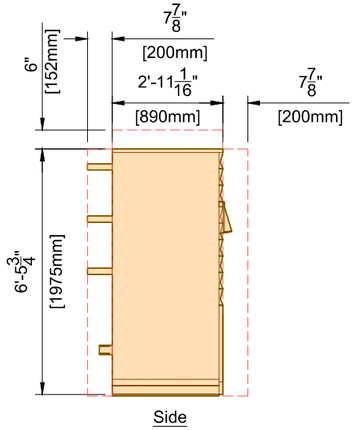


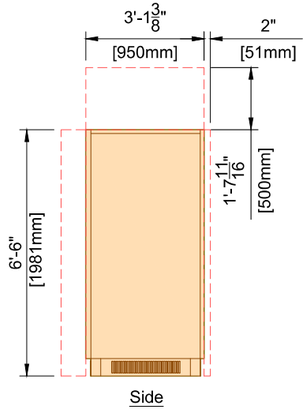




Signaling Box Option





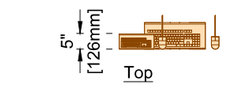


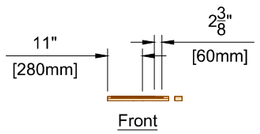
UPS Cabinet *Final Weight and BTU to be verified **Battery Cabinet**

Acoustic noise level: <= 58 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")

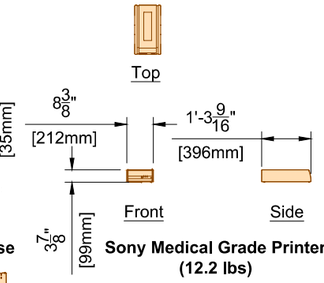
(20.0)

	Full Load UPS (Socomec)	
	Weight	Heat Dissipation
UPS	1356 lbs	8750 BTU/hr
BC	13 lbs	- BTU/hr
SBO	13 lbs	-BTU/hr

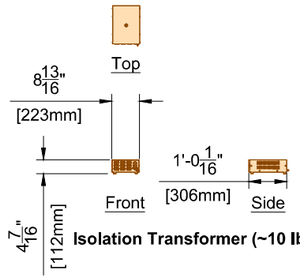




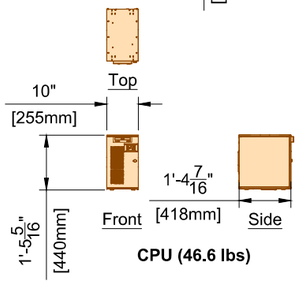
Control Console- Keyboard / Mouse



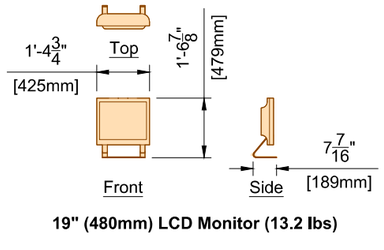
Sony Medical Grade Printer (12.2 lbs)



Isolation Transformer (~10 lbs)



CPU (46.6 lbs)

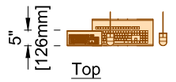


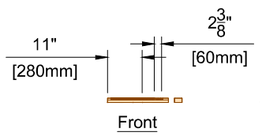
19" (480mm) LCD Monitor (13.2 lbs)

Weight shown is for all components.

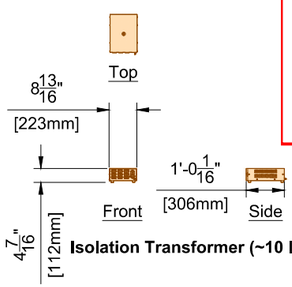
(20.0)

	IntraSight - Workstation	
	Weight	Heat Dissipation
INT	83 lbs	- BTU/hr

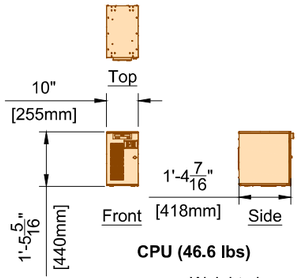




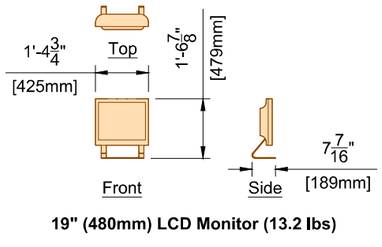
Control Console- Keyboard / Mouse



Isolation Transformer (~10 lbs)



CPU (46.6 lbs)



19" (480mm) LCD Monitor (13.2 lbs)

Weight shown is for all components.

(20.0)

	SyncVision	
	Weight	Heat Dissipation
SYNC	71 lbs	- BTU/hr

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

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- This is not a building permit, check with your local building department.

03/08/2023 8:30:38 PM

PHILIPS

Project Azurion 7 B20/12, B20/15 - Swivel

MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

Project Details
Drawing Number
N-WES210120 A
Date Drawn: 10/28/2022
Quote: 1-2CFKS8O Rev. 7
Order: 6600554032.020000
6600554032.030000

AD8

05.27.2022

THIS SHEET IS PART OF THE DOCUMENT SET LISTED ON SHEET C1 AND SHOULD NOT BE SEPARATED.

Equipment Support Information

1. General
The customer shall be solely responsible, at its expense, for preparation of the site, including any required structural alterations. The site preparation shall be in accordance with this plan and specifications, the architectural/construction drawings and in compliance with all safety and building codes. The customer shall be solely responsible for obtaining all construction permits from jurisdictional authority.

2. Equipment Anchorage
Philips provides, with this plan and specifications, information relative to equipment size, weight, shape, anchoring hole locations and forces which may be exerted on anchoring fasteners. The customer shall be solely responsible, through the engineer of record for the building, to provide on the architectural/construction drawings, information regarding the approved method of equipment anchoring to floors, wall and/or ceiling of the building. Any anchorage test required by local authority shall be the customer's responsibility. Stud type anchor bolts should not be specified as they hinder equipment removal for service. Consult with Philips service prior to specifying anchor methods. Philips equipment must be electrically isolated from anchorage.

3. Floor Loading and Surface
Philips provides, with this plan and specifications, information relative to size, weight and shape of floor mounted equipment. The customer shall be solely responsible, through the engineer of record for the building, to provide on the architectural/construction drawings confirmation of the structural adequacy of the floor upon which the equipment will be placed. Any load test required by local authority, shall be the customer's responsibility.
The floor surface upon which Philips equipment is to be placed/anchored shall be flat and level to within $\frac{1}{16}$" (2mm) over a length of 39" (1m).

4. Ceiling Support Apparatus
a. Philips provides, with this plan and specifications, information relative to size, weight and shape of ceiling supported equipment. The customer shall be solely responsible, through the engineer of record for the building, to provide on the architectural/construction drawings, information regarding the approved method of structural support apparatus, fasteners and anchorage to which Philips will attach equipment. Any anchorage and/or load test required by local authority shall be the customer's responsibility. Philips equipment must be electrically isolated from anchorage.

b. Contractor to clearly mark Philips equipment longitudinal centerline on bottom of each structural support.

c. The structural support apparatus surface to which Philips equipment is to be attached, shall have horizontal equipment attachment surfaces parallel, square and level to within .236" (6mm) per entire span.

d. Any drilling and/or tapping of holes required to attach Philips equipment to the structural support apparatus shall be the responsibility of the customer.

e. Fasteners/anchors (i.e., bolts, spring nuts, lock and flat washers) and strip closures shall be provided by the customer.

5. Lighting
Luminaires shall be placed in such a position that they are not obscured by equipment or its movement, nor shall they interfere with Philips ceiling rails and equipment movement or otherwise adversely affect the equipment. Such luminaire locations shall be the sole responsibility of the customer.

6. Ceiling Obstructions
There shall be no obstructions that project below the finished ceiling in the area covered by ceiling suspended equipment travel.

7. Seismic Anchorage (For Seismic Zones Only)
All seismic anchorage hardware, including brackets, backing plates, bolts, etc., shall be supplied and installed by the customer/contractor unless otherwise specified within the support legend on this sheet. Installation of electronic cabinets to meet seismic anchorage requirements must be accomplished using flush mounted expansion type anchor/bolt systems to facilitate the removal of a cabinet for maintenance. Do not use threaded rod/adhesive anchor systems. Consult with Philips regarding any anchor system issues. Philips equipment must be electrically isolated from anchorage.

8. Floor Obstructions/ Floor Coverings
There shall be no obstructions on the floor (sliding door tracks, etc.) within the serviceability area of the Philips technical cabinets. Floor must be clear to allow cabinets to be pulled away from the wall for service. Technical equipment room floor shall be commercial grade "VCT" Vinyl Composition Tile or a flooring material of equal hardness and compression resistance.

9. Safety Factors
Ceiling loads as mentioned in the PRD are worst case loads and excluding safety factors. Proper safety factors need to be applied by Design Professional/Engineer of Record.

10. Stiffness Requirements of Ceiling
Horizontal Stiffness: preferred 10,000,000 Newton/meter - 57.1 klb/in, minimal 6,000,000 Newton/meter - 34.2 klb/in
Vertical Stiffness: preferred 10,000,000 Newton/meter - 57.1 klb/in, minimal 6,000,000 Newton/meter - 34.2 klb/in
Rotation Stiffness: minimal 20,000,000 Newtonmeter/Rad - 177,014 (klb in)/Rad

For Clea Stand (1160 kg or 11600 N): the maximum allowed deflection of the ceiling and/or floor construction is 1.93 mm.
For Poly G Stand (1085 kg or 10850 N): the maximum allowed deflection of the ceiling construction is 1.80 mm.
For Poly G Stand (873 kg or 8730 N): the maximum allowed deflection of the floor construction is 1.46 mm.
For Larc Stand (835 kg or 8350 N): the maximum allowed deflection of the ceiling construction is 1.39 mm.
For FlexArm (FlexArm weight is 1250 kg and ceiling stiffness is 6,000,000 Newton/meter): Max allowed deflection of ceiling structure is 2.1mm.
For FlexMove Clea Stand (1860 kg or 18600 N): the maximum allowed deflection of the ceiling construction is 3.10 mm.

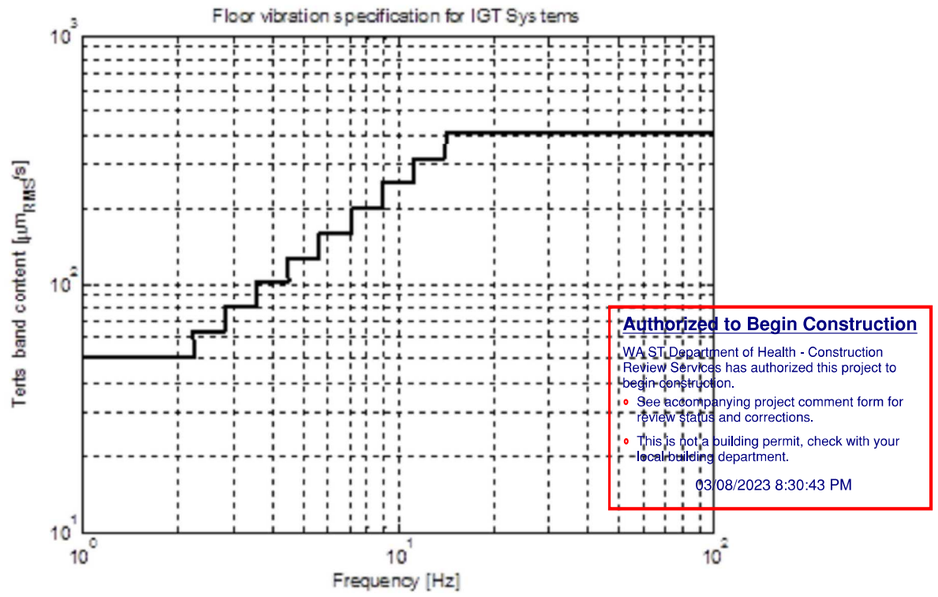
Equipment Support Information

11. Requirements for External Vibration
The maximum allowed external vibration level of floors and ceilings, to which the equipment is mounted that will not adversely affect the image quality, is specified in terms of RMS velocity levels in 1/3-octave or terts bands, as follows:

Center frequency [Hz]	1	1.25	1.6	2	2.5	3.15	4	5	6.3	8
Terts band value [µm/s] (RMS)	50.8	50.8	50.8	50.8	63.5	80.01	101.6	127	160	203.2
Center frequency [Hz]	10	12.5	16	20	25	31.5	40	50	63	80
Terts band value [µm/s] (RMS)	254	317.5	406.4	406.4	406.4	406.4	406.4	406.4	406.4	406.4
Center frequency [Hz]	100	125	160	200						
Terts band value [µm/s] (RMS)	406.4	406.4	406.4	406.4						

Terts Band Specification for External Vibrations

A graphical representation of this specification is given below:



Terts Band Specification for External Vibrations

Terts band spectra shall be calculated on the basis of time traces with a duration of 10 minutes (600 seconds), taken at representative locations and during representative times during working days.

PRCTI20221788

(21.1)

PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

Project Details
Drawing Number
N-WES210120 A
Date Drawn: 10/28/2022
Quote: 1-2CFKS8O Rev. 7
Order: 6600554032.020000
6600554032.030000

SN

See S1 for Floor & Wall Support Layout

Notes:

1. Anchors for items that are installed/anchored by customer/contractor shall be provided by customer/contractor.
2. Anchors for items that are installed/anchored by Philips shall be provided by Philips. If customer's engineering documents specify anchors other than those listed in this document, the anchors shall be provided by customer/contractor and installed by Philips.
3. In all instances, the wall and/or floor support are the sole responsibility of the customer/contractor. The customer's architect/engineer of record shall specify wall and/or floor support sufficient for the bolt forces shown on the details.

Contact Project Manager for seismic calculations on typical mounting method

See S2-S3 for Ceiling Support Layout

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

- See accompanying project comment form for review status and corrections.
- This is not a building permit, check with your local building department.

03/08/2023 8:30:49 PM

PRCTI20221788

Floor & Wall Support Legend

A Furnished and installed/anchored by Philips (exceptions may exist, see Note 2)
B Furnished and installed by customer/contractor and installed/anchored by customer/contractor
C Installed/anchored by customer/contractor
D Furnished by Philips and installed/anchored by contractor
E Existing
F Future
G Optional

	Item Number	Description	Detail Sheet
B	CY	Support in wall for Control Room Connection Box (CY)	SD3
A	CY	Anchors in wall for Control Room Connection Box (CY)	SD3
D	MSA	AD7 Swivel Floor Plate	SD1
D	SP	Floor Clea Floor Plate	SD1
B	FW	Firewall	AD6 SD4
B	40E	Seismic Anchorage for 40E Cabinet	

Ceiling Support Legend

A Furnished and installed by Philips
B Furnished by customer/contractor and installed by customer/contractor
C Installed by customer/contractor
D Furnished by Philips and installed by contractor
E Existing
F Future
G Optional
H Furnished by Philips and installed by Third Party

	Item Number	Description	Detail Sheet
A	PB1	2 - Philips Larc N Neuro Rails	SD2
A	TV	2 - Philips Monitor Equipment Rails	SD2
B	UNI	Unistrut (P1000/P1001 in meeting Philips ceiling requirements, geometry of channel and geometry of fixing block) - Bottom of Unistrut 1/4" (6mm) to 1/2" (13mm) Below Finished Ceiling	SD2
A	MAV	Mavig 2.5m Ceiling Track	AD6

PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

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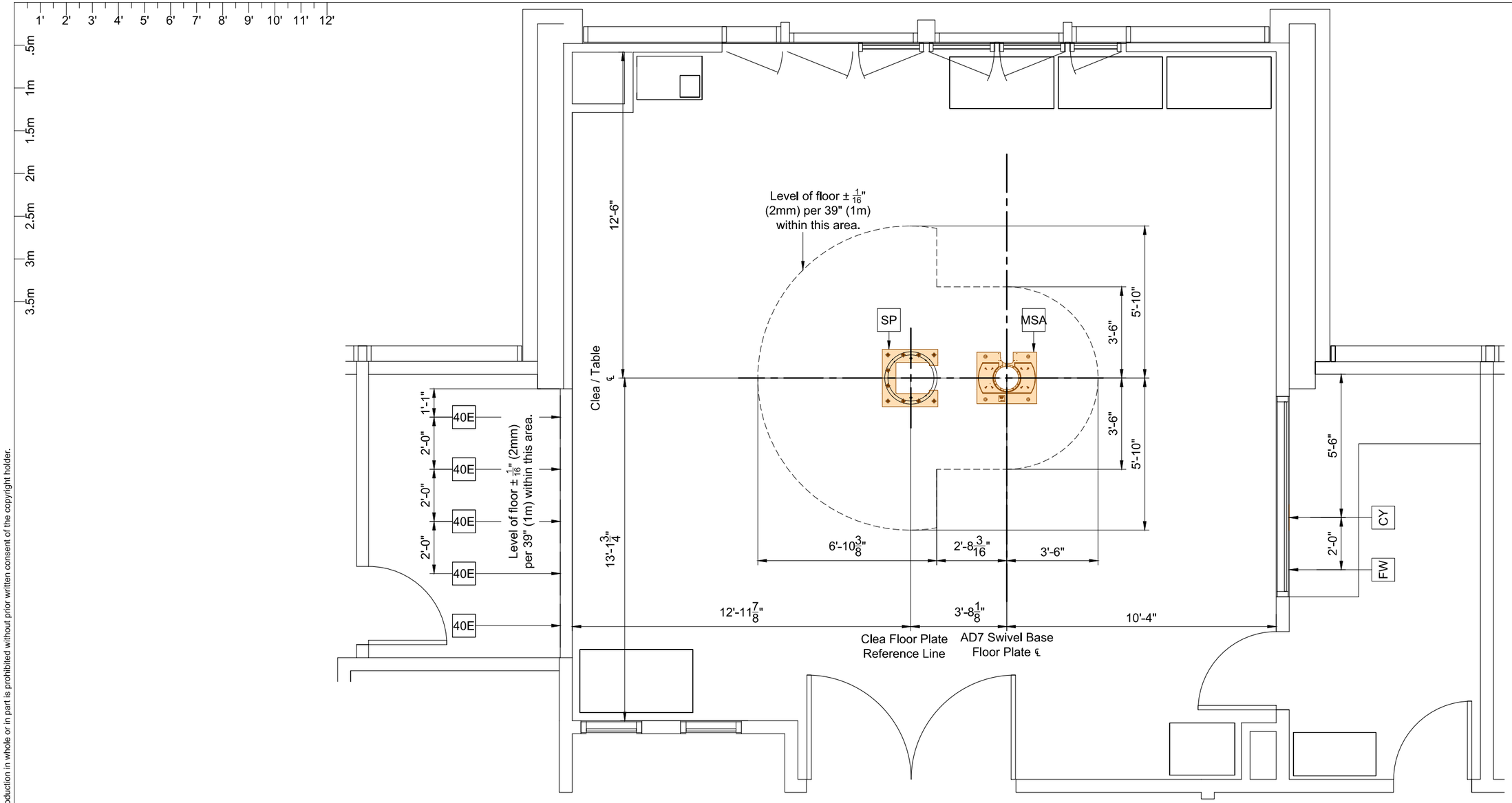
SL



Floor & Wall Support Layout

1/4" = 1'-0"

Required Unistrut Height: 9' - 9 5/16", +3/16" / -0 (2980mm, +4mm / -0)
Unistrut Height measured from top of Clea floor plate to bottom of Unistrut.

PRCTI20221788

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03/08/2023 8:30:52 PM

Refer to Floor/Wall Support Legend - Sheet SL

PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

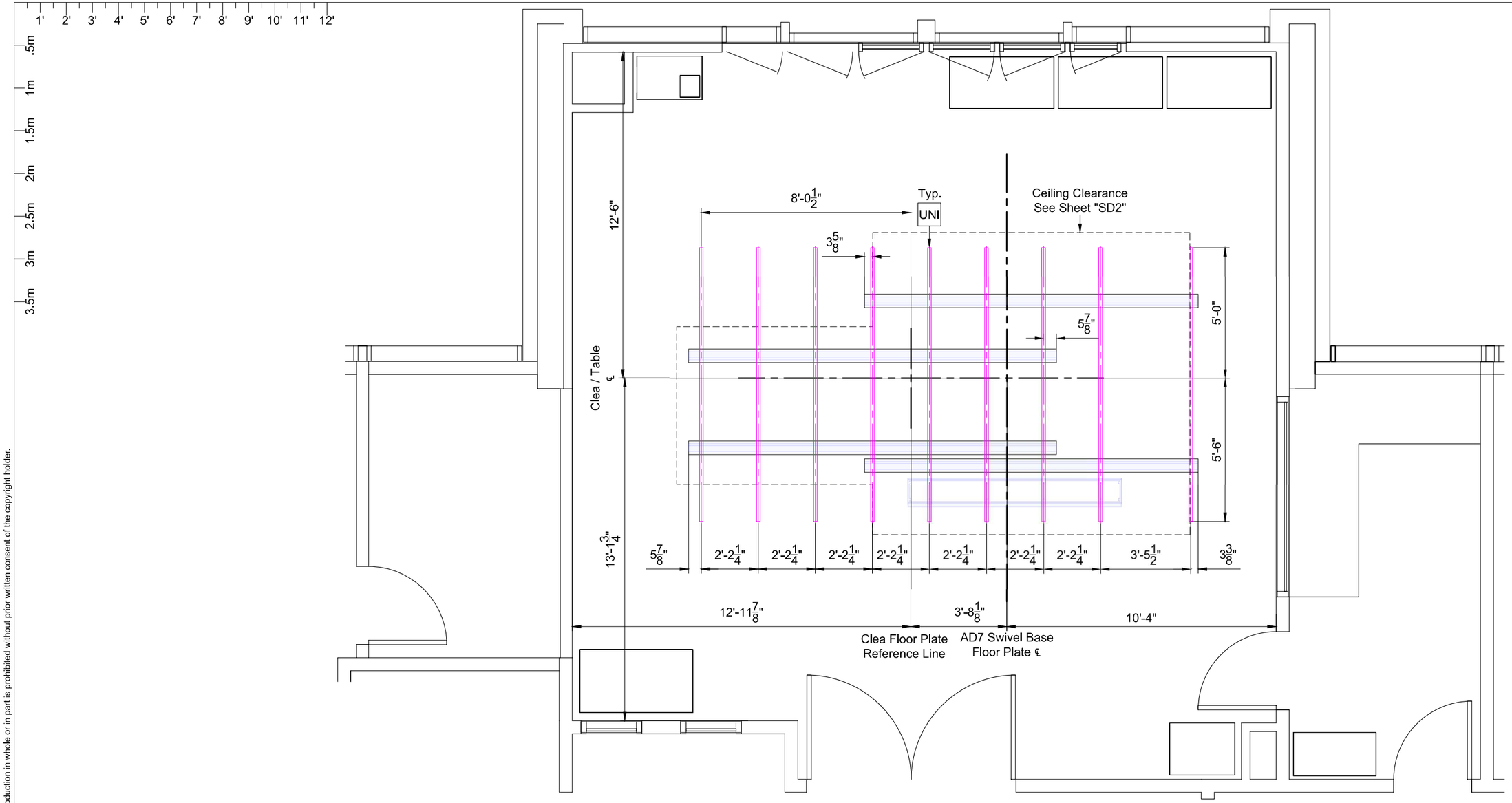
Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

Project Details
Drawing Number
N-WES210120 A
Date Drawn: 10/28/2022
Quote: 1-2CFKS8O Rev. 7
Order: 6600554032.020000
6600554032.030000

S1

05.27.2022

THIS SHEET IS PART OF THE DOCUMENT SET LISTED ON SHEET C1 AND SHOULD NOT BE SEPARATED.



Ceiling Support Layout - Unistrut

1/4" = 1'-0"

Required Unistrut Height: 9' - 9 5/16", +3/16" / -0 (2980mm, +4mm / -0)
Unistrut Height measured from top of Clea floor plate to bottom of Unistrut.

PRCTI20221788

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03/08/2023 8:30:56 PM

Refer to Ceiling Support Legend - Sheet SL

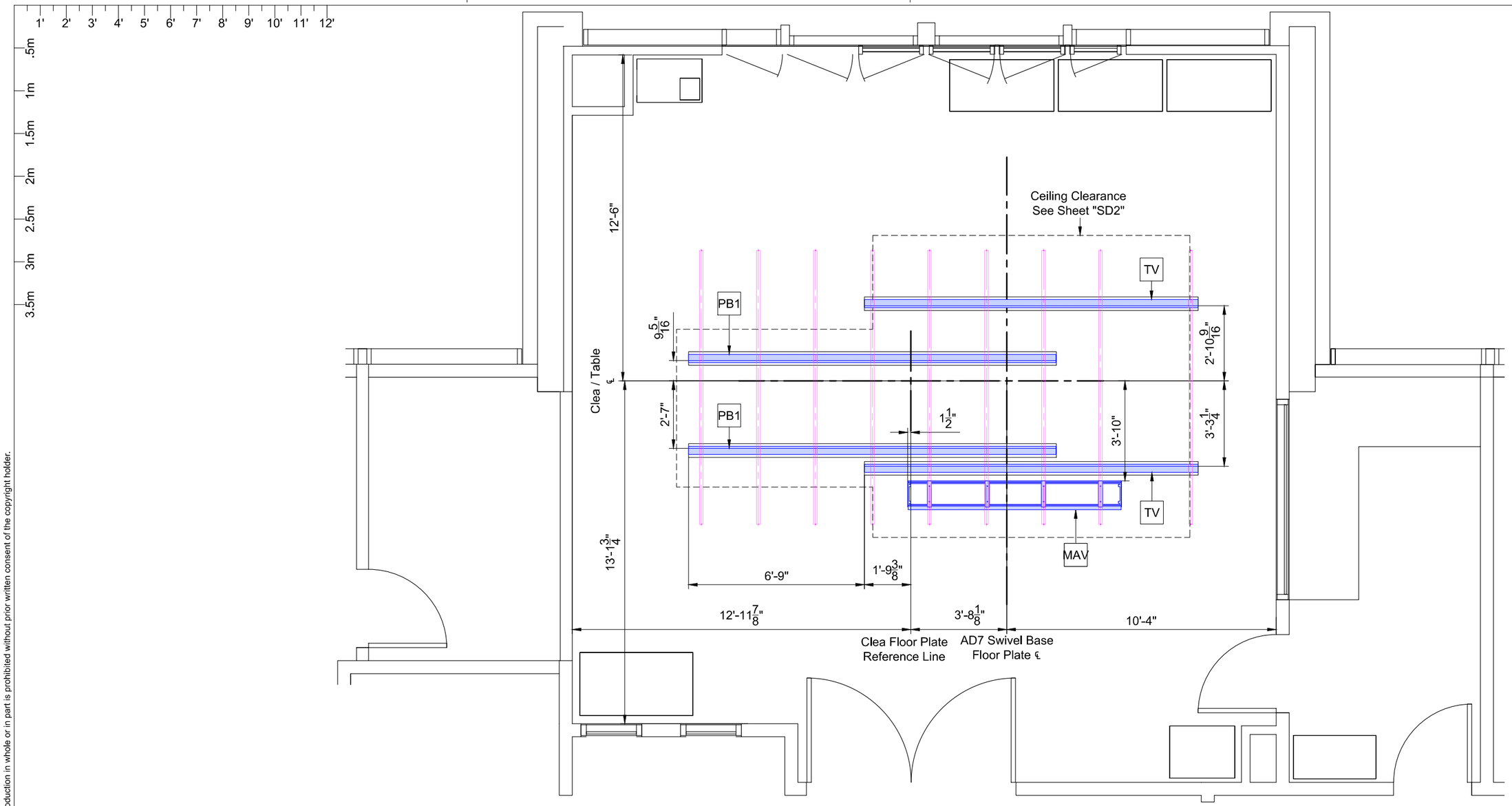
PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

Project Details
Drawing Number
N-WES210120 A
Date Drawn: 10/28/2022
Quote: 1-2CFKS8O Rev. 7
Order: 660055403 2.020000
660055403 2.030000

S2



Ceiling Support Layout - Equipment

1/4" = 1'-0"

Required Unistrut Height: 9' - 9 5/16", +3/16" / -0 (2980mm, +4mm / -0)
Unistrut Height measured from top of Clea floor plate to bottom of Unistrut.

PRCTI20221788

Authorized to Begin Construction

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03/08/2023 8:31:00 PM

Refer to Ceiling Support Legend - Sheet SL

PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

Project Details
Drawing Number
N-WES210120 A
Date Drawn: 10/28/2022
Quote: 1-2CFKS8O Rev. 7
Order: 6600554032.020000
6600554032.030000

S3

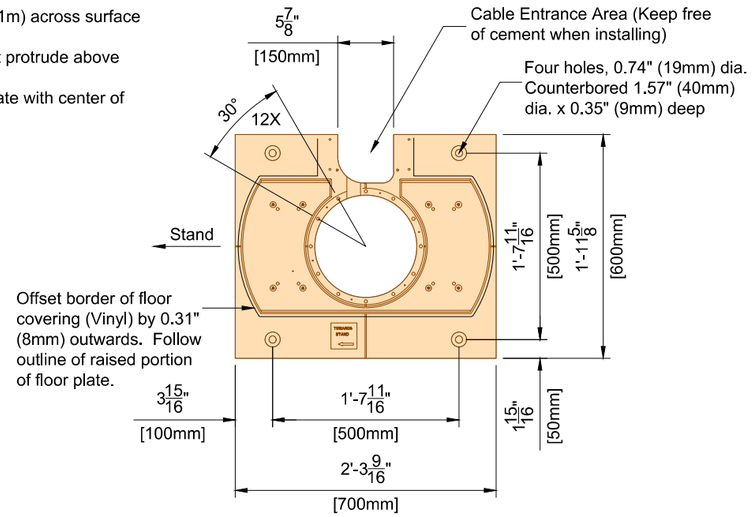
Detail - AD7 Swivel Floor Plate - Notes for Installation

(Not to scale)

1. 1.18" (30mm) thick floor plate, flush mounted with top of slab.
2. Level within 1/32" (1mm) per 39" (1m) across surface of plate.
3. Anchor bolts with washer must not protrude above surface of floor plate.
4. Align center of AD7 swivel floor plate with center of Clea floor plate.

Floor plate mounting to the building:
In case threaded rods are used and the nut protrudes above the floor plate surface, DO NOT GRIND DOWN THE NUT, but follow the procedure stated below to ensure the nut is flush with the floor plate surface.

1. Use Jam nuts M16 (h=8.0mm) or (h=9.5mm)
2. Use only 1 washer.
3. Use loctite 243 instead of a lock washer.
4. Torque value to be determined by structural engineer of record.

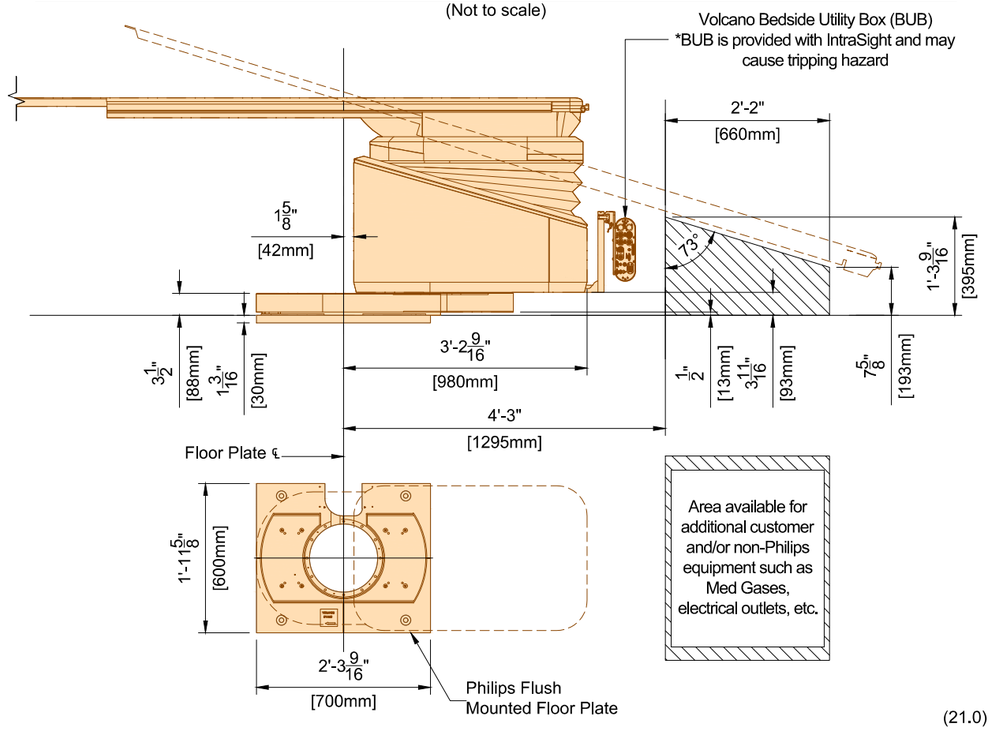


MSA

(19.0)

Detail - AD7 SyncraTilt/Tilt Table, Swivel Base - Clearance Area for Table in Normal Position

(Not to scale)



(21.0)

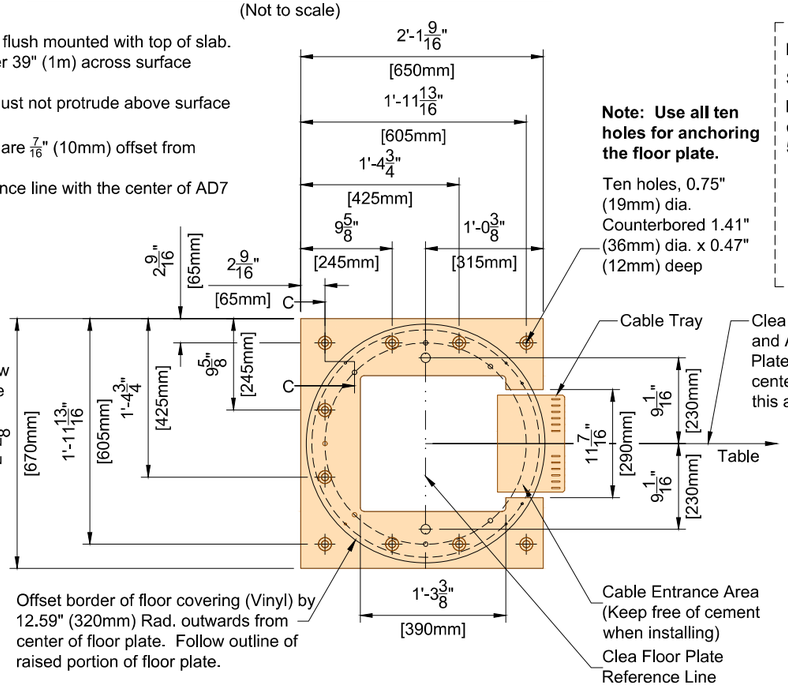
Detail - Floor Clea Floor Plate - Notes for Installation

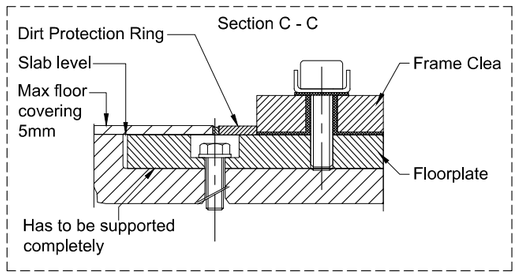
(Not to scale)

1. 13/16" (20mm) thick floor plate, flush mounted with top of slab.
2. Level within 1/32" (1mm) per 39" (1m) across surface of plate.
3. Anchor bolts with washer must not protrude above surface of floor plate.
4. Installation alignment holes are 7/16" (10mm) offset from center of plate.
5. Align Clea floor plate reference line with the center of AD7 floor plate.

Floor plate mounting to the building:
In case threaded rods are used and the nut protrudes above the floor plate surface, DO NOT GRIND DOWN THE NUT, but follow the procedure stated below to ensure the nut is flush with the floor plate surface.

1. Use Jam nuts M16 (h=8.0mm) or (h=9.5mm)
2. Use only 1 washer.
3. Use loctite 243 instead of a lock washer.
4. Torque value to be determined by structural engineer of record.





Authorized to Begin Construction

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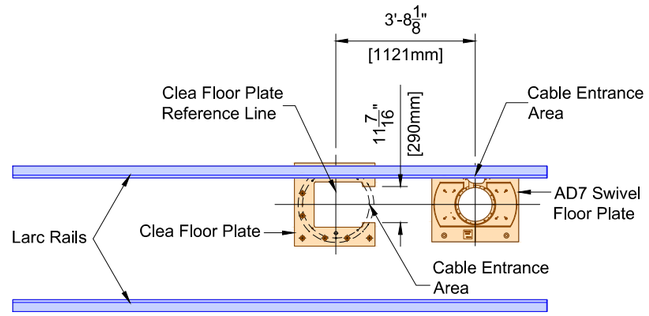
03/08/2023 8:31:09 PM

PRCTI20221788

(22.0)

SP

Detail - Floor Structural Azurion 7 B20/12, B20/15, - Swivel



Floor plates supplied by Philips / installed by contractor.

Floor Clea
Floor Plate to Floor Bolt Forces:
(Tension) Tmax = 2666 lbs/bolt
(Shear) Vmax = 892 lbs/bolt

AD7 Swivel Table
Floor Plate to Floor Bolt Forces:
(Tension) Tmax = 2332 lbs/bolt
(Shear) Vmax = 1164 lbs/bolt

SP MSA

(19.0)

PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

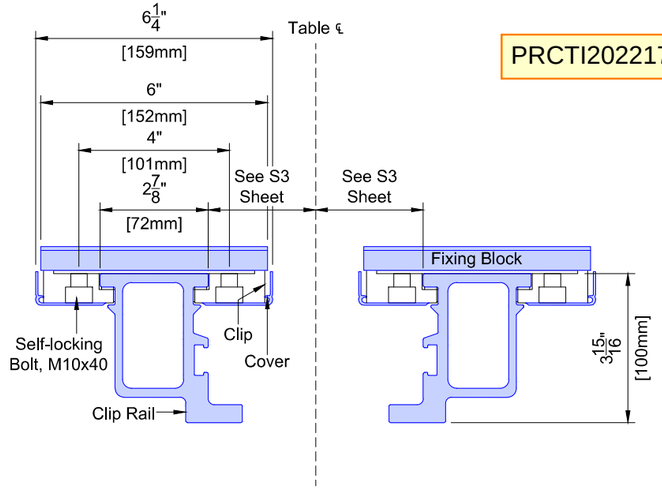
Project Details
Drawing Number
N-WES210120 A
Date Drawn: 10/28/2022
Quote: 1-2CFKS8O Rev. 7
Order: 6600554032.020000
6600554032.030000

SD1

05.27.2022

Detail - Clip Rail Cross-Section

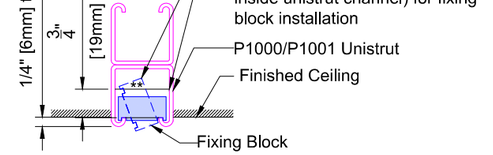
(Not to scale)

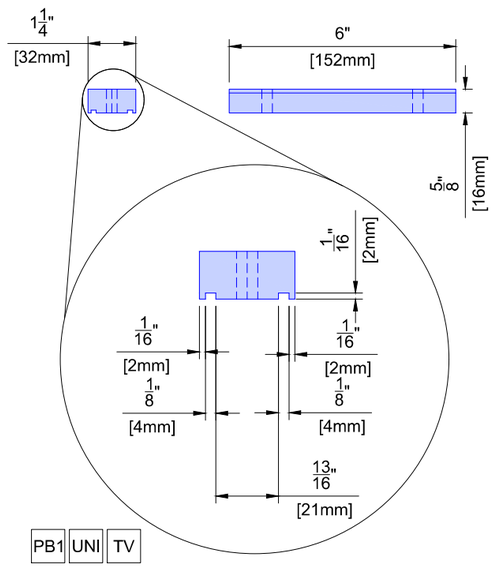


PRCTI20221788

Detail - Philips Fixing Block for Philips Ceiling Rails (Clip Rails)

(Not to scale)





PB1 UNI TV

General Requirements:

1. Philips does not specify the overhead equipment support structure. Unistrut may or may not be used. If Unistrut are used, it is up to Unistrut and the structural engineer for the project to determine which of its products are appropriate for each project.
2. P1000/P1001 Unistrut is specified.

Finished Ceiling Requirements:

1. Finished ceiling must **NOT** be lower than the bottom of the Unistrut in order to prevent damage to the finished ceiling during the installation of clip rails. Finished ceiling height to be mounted 1/4" (6mm) to 1/2" (13mm) above bottom of Unistrut.

Fixing Block Installation Requirements:

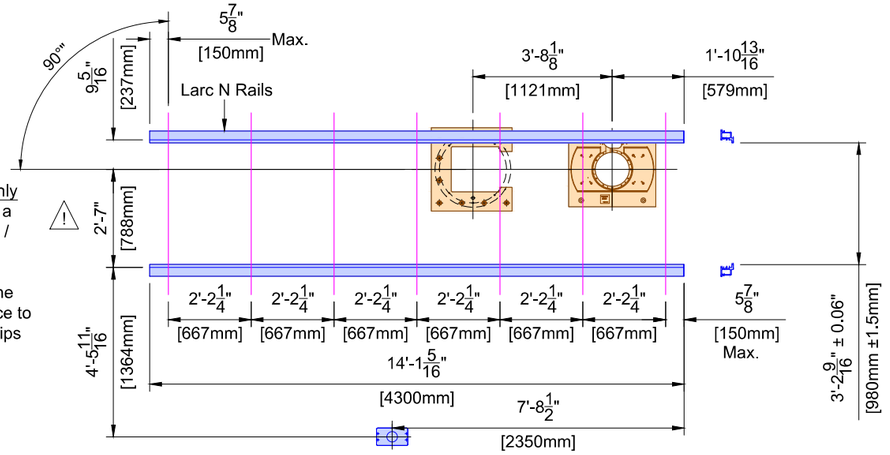
1. Nothing shall be attached to the Unistrut with any fastener that protrudes into the Unistrut which would interfere with positioning of the fixing block.
2. Fixing blocks for Philips ceiling rails (Clip rails) are designed to be installed in P1000/P1001Unistrut.
3. The inside of the Unistrut must be clear of obstructions (including paint).

Unistrut Requirements:

1. Unistrut elements must be rigid and comply with the ceiling structure requirements. See SN sheet, line #4 "Ceiling Support Apparatus".
2. Welding Unistrut may warp Unistrut and deteriorate the structural integrity of the Unistrut. Consult the Structural Engineer of Record prior to welding any Unistrut.
3. Third party structural laminar modular array venders the minimum rail fixing block Unistrut length shall be 7 inches.

(22.0)

Detail - Ceiling Structural Azurion 7 B20/12, B20/15 - Swivel



For Philips Installer Only
Dimensions shown as a reference for Architect / Contractor only.

For exact location of the Larc rails with reference to isocenter, see the Philips Engineer's Installation Manual.

27" (685mm) maximum allowed distance between unistrut (seven unistrut required)

Larc
Larc Bearing Forces:
(Tension) Tmax = 1939 lbs/fixing block
(Shear) Vmax = 845 lbs/fixing block

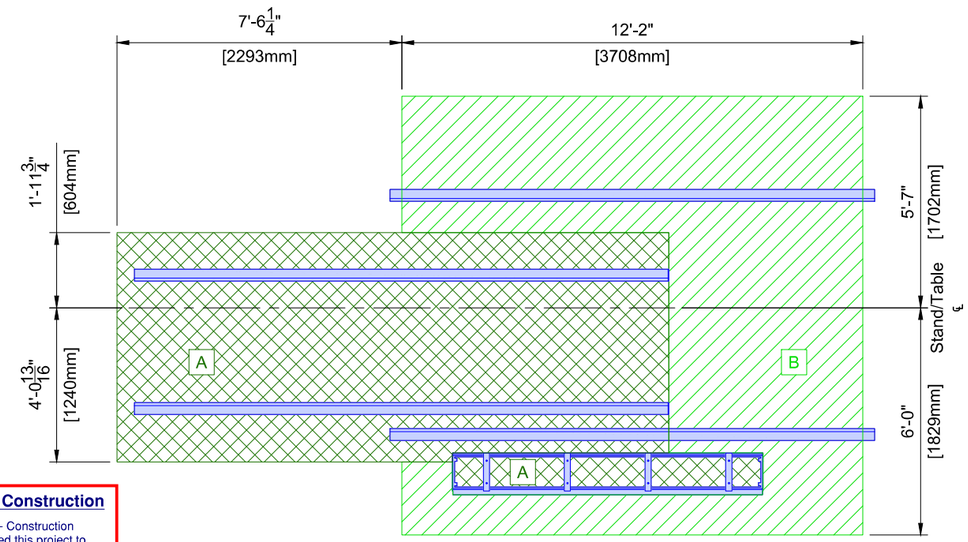
Note: The bearing force shown for the Larc is the maximum instantaneous equipment bearing load that can result from abusive use of the system. This force can occur at two locations (each fixing block) simultaneously on the same Unistrut (or equal) rail. If seismic forces must be considered, please refer to the seismic calculation sheets provided by Philips for the specific system components.

PB1

(19.0)

Detail - Restricted Ceiling Area for Objects that Project Below Finished Ceiling

(Not site specific)



A — No objects that project below finished ceiling are allowed in this area (lights, smoke detectors, sprinkler heads, etc).

B — No objects that project more than 4.5" (115mm) below finished ceiling are allowed in this area (lights, smoke detectors, sprinkler heads, soffit, etc).

(12.0)

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

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03/08/2023 8:31:13 PM

PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

Project Details
Drawing Number
N-WES210120 A
Date Drawn: 10/28/2022
Quote: 1-2CFKS8O Rev. 7
Order: 6600554032,020000
6600554032,030000

SD2

PRCTI20221788

Pre-Evaluated and -Approved Anchor Reference List for Philips Installers

Anchors for items that are installed/anchored by customer/contractor shall be provided by customer/contractor. Anchors for items that are installed/anchored by Philips shall be provided by Philips. If customer's engineering documents specify anchors other than those listed below, the anchors shall be provided by customer/contractor and installed by Philips. In all instances, the wall and/or floor support are the sole responsibility of the customer/contractor. The customer's architect/engineer of record shall specify wall and/or floor support sufficient for the bolt forces shown on the details.

Equipment	Option	Anchor Style (provided by Philips)	Anchor Size (provided by Philips)	Qty.	Support Size & Material (provided & installed by customer/contractor)
Mavig Ceiling Track	A	Bolts, flat washer, lock washer, spring nuts	A307 Grade or ASME Grade 5 Bolts: $\frac{3}{8}$" (10mm) x 2" (50mm) L Spring Nuts: $\frac{3}{8}$" (10mm)	8	Unistrut
Control Room Connection Box (CY)	A	Round Phillips Head Self Drilling Screws	#10-16 x 1 $\frac{1}{2}$" (38mm) L	3	Drywall with minimum 20 gauge Steel backing
	B	SPAX Multipurpose flat head screw	#10 x 1 $\frac{1}{2}$" (38mm) L	3	Drywall with minimum 20 gauge Steel backing
	C	Toggler Snaptoggle and (round head screws)	#BA and (#10-24 x 2 $\frac{1}{2}$" (63.5mm) L)	3	Minimum $\frac{5}{8}$" (16mm) Drywall

(16.0)

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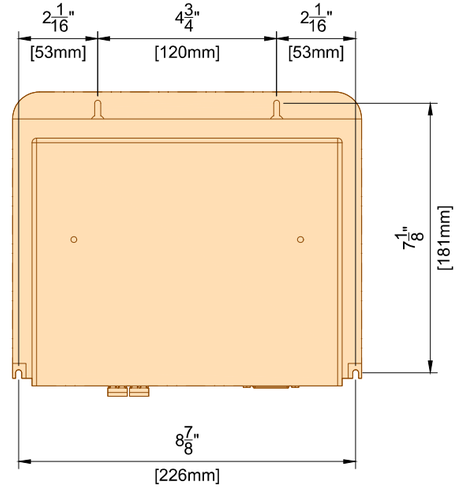
Detail - Video Connection Box - Hole Pattern for Mounting

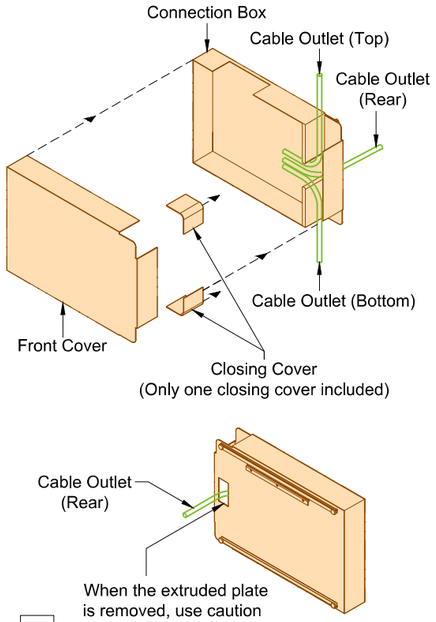
(Not to scale)



(19.0)

Detail - CY - Cable Outlets

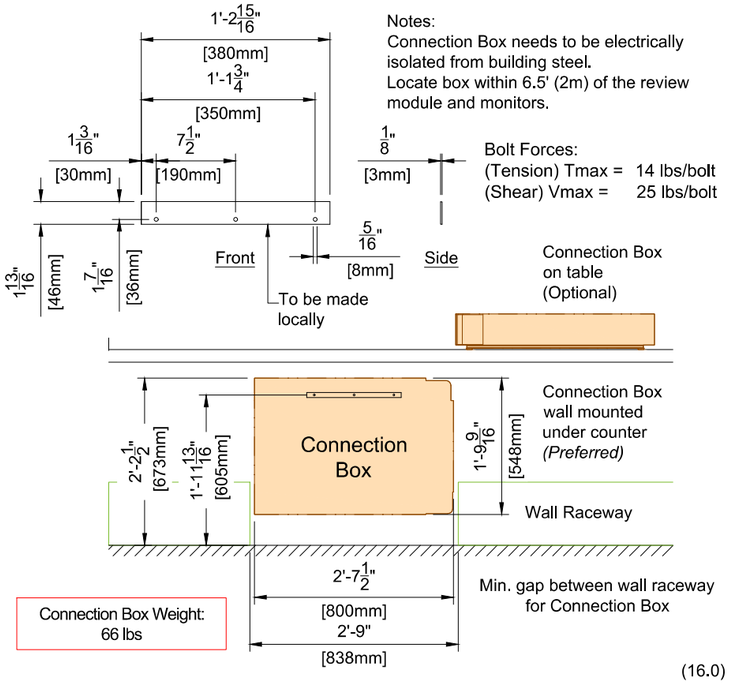
(Not to scale)



(19.0)

Detail - CY - Wall Mount Template

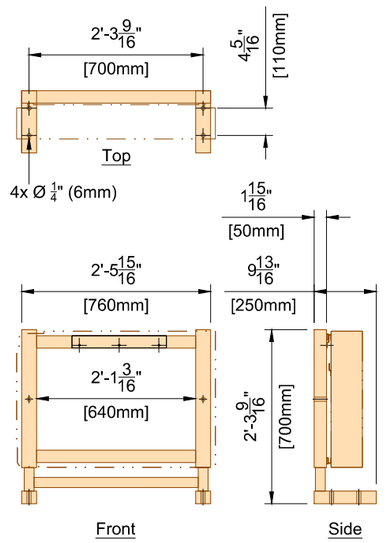
(Not to scale)



(16.0)

Detail - CY Support Frame Option

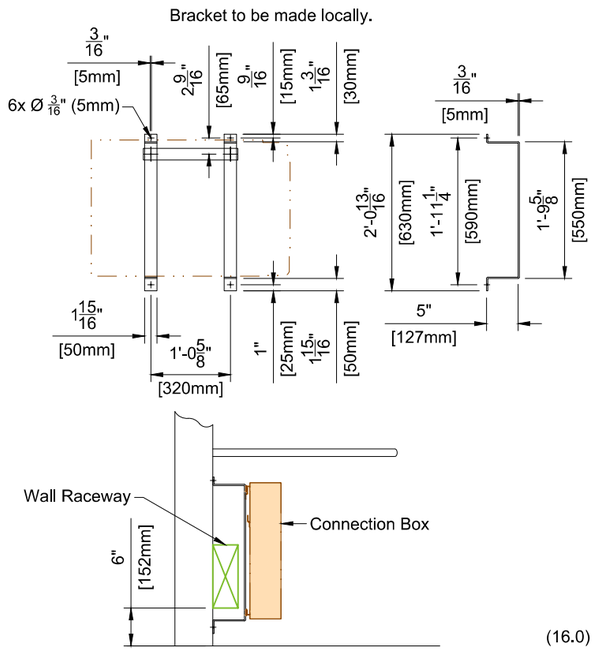
(Not to scale)



(16.0)

Detail - CY - Bracket Mount Option

(Not to scale)



(16.0)

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

Project Details
Drawing Number
N-WES210120 A
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6600554032.030000

SD3

05.27.2022

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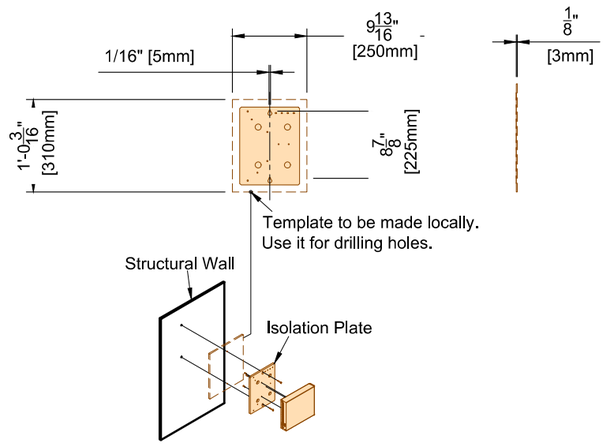
Detail - Firewall Cisco ASA-5506 - Hole Pattern for Mounting

(Not to scale)



FW

(20.0)

PRCTI20221788

PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

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6600554032.030000

SD4

05.27.2022

Emergency Power

Philips does not require equipment to be on emergency power. If the customer deems it necessary for the equipment to be supplied with emergency power, the following specifications must be applied:

The Mains 40E cabinet feeding an Azurion system will have an absolute peak current of <=300A @ 480V. Maximum momentary current <=80A per phase when averaged over a 5-second window. Note that during acquisition, the current harmonics (including sub- and inter-harmonics) up to 1 kHz can be substantial. Account for: 30% for the mains frequency +/- the frame speed, up to 20% for the 5th harmonics, up to 10% for the 7th harmonics.

Maximum differential mode induced disturbance voltage on these wires shall be a <3V peak at all frequencies. Maximum common mode current on these wires shall be less than 3 micro-amp at frequencies between 30-1000MHz to meet EMC regulations.

For systems delivered to site before Jan 2016 or with SIB (system interface box) 4522163320978. When this interface is used a Sub-D capacitive filter adapter with 5.6nF between pins and chassis shall be placed on X14 of the SIB input in the MA-cabinet (e.g. Amphenol FCE17B25AD290).

(22.0)

Electrical Requirement Notes for Systems with Mains 40E Cabinet

Electrical power distribution at the facility shall comply with:

Utilization voltages per ANSI C84.1 - 2006 range A.

Voltage to be supplied is 3 phase, Wye or symmetric Delta 3-line +PE.

Phase conductors to be sized for instantaneous voltage drop per NEC 517.73 and Philips recommendations.

All Philips equipment is grounded via the equipment insulated ground wire. Metal raceway bonding shall be used as a secondary ground fault return path only for the supply mains to the equipment. The raceway system ground and isolated equipment ground shall be bonded together via the ERB terminal jumpers.

The Philips system has a private ground domain per clause 250.96B of the NEC. The raceway from the X-ray breaker (CB) to the Mains 40E Cabinet shall be supplemented by an internal insulated equipment grounding conductor installed in accordance with clause 250.146(D) of the NEC. The Azurion equipment ground domain and the branch circuit ground domain are bonded together in the ERB via a ground bonding jumper.

ANSI / NFPA 70 - National Electrical Code
Article 250 - Grounding
Article 517 - Healthcare Facilities
ANSI / NFPA 99 - Healthcare Facilities

Power Quality Guidelines

1. Power supplied to medical imaging equipment must be separate from power feeds to air conditioning, elevators, outdoor lighting, and other frequently switched or motorized loads. Such loads can cause waveform distortion and voltage fluctuations that can hinder high quality imaging.
2. Equipment that utilizes the facility power system to transmit control signals (especially clock systems) may interfere with medical imaging equipment, thus requiring special filtering.
3. The following devices provide a high impedance, nonlinear voltage source, which may affect image quality: Static UPS systems, Series filters, Power conditioners, and Voltage regulators.
Do not install such devices in the supply mains branch circuit of the Azurion system without consulting Philips installation or service personnel.
4. Line impedance is the combined resistance and inductive reactance of the electrical system and includes the impedance of the power source, the facility distribution system, and all phase conductors between the source and the imaging equipment. The minimum conductor size is based on the total line impedance and NEC requirements. Impedance calculations are to be performed by an electrical engineer.

(22.0)

General Electrical Information

1. General
The customer shall be solely responsible, at its expense, for preparation of the site, including any required electrical alterations. The site preparation shall be in accordance with this plan and specifications, the architectural/construction drawings and in compliance with all safety and electrical codes, the customer shall be solely responsible for obtaining all electrical permits from jurisdictional authority.

2. Materials and Labor
The customer shall be solely responsible, at its expense, to provide and install all electrical ducts, boxes, raceways (conduits, wireways, auxiliary gutters etc.), fittings, bushing, etc., As separately specified herein.

3. Electrical Ducts and Boxes
Electrical ducts and boxes shall be accessible and have removable covers. Floor ducts and boxes shall have watertight covers. Ducts shall be divided into as many as four separate channels by metal dividers, separately specified herein, to separate wiring and/or cables into groups as follows: Group A: Branch circuit equipment supply mains power wires together with the branch circuit isolated equipment bonding wire. Group B: Equipment Secondary Circuit AC supply and associated isolated ground cable/wire harnesses. Group C: Equipment signal wires and cable harnesses plus equipment low-voltage DC supply cable/wire harnesses. Group D: X-Ray high-voltage cables, the use of 90 deg. ells is not acceptable. On ceiling duct and wall duct use 45 deg. bends at all corners. All intersecting points in duct to have cross over tunnels supplied and installed by contractor to maintain separation of cables based on 725.136 for low voltage signaling cables and conductors and 517.80 for communications and signaling cables in health care applications. Secondary circuits of transformer powered communications and signaling systems are not required to be enclosed in raceways unless otherwise specified by Chapter 7 or Chapter 8. All wire harnesses of the Azurion system are required to be run in a raceway (wireway) dedicated to Azurion wire harnesses. No foreign wiring shall be run in the same wireway together with the Azurion wire harnesses. Separation between Group A and other groups is mandatory along the full run of group A wires. Separation between groups B, C, and D is recommended for the first 3 meters behind the equipment cabinets and for the locations where wire-harness over-length is suspended.

4. Raceways (Conduit)
Raceway (Conduit) point - to - point runs shall be as direct as possible. Empty conduit runs used for cables may require pull boxes located along the run. Consult with Philips. A pull wire or cord shall be installed in each conduit run. Best practice to name the physical conduit. All conduits which enter duct prior to their termination point must maintain separation from other cables via use of dividers, cross over tunnels, or conduit supplied and installed by contractor from entrance into duct to exit from duct. Do not use flex conduit unless approved by Philips Service.

5. Conductors
All conductors, separately specified, shall be 90°C stranded copper, rung out and marked.

6. Disconnecting Means
A disconnecting means shall be provided as separately specified.

7. Warning Lights and Door Switches
"X-ray on" warning lights and x-ray termination door switches should be provided at all entrances to x-ray rooms as required by code.

8. Dimmer Switches
X-ray room lights should be provided with dimmer switches.

(19.0)

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Electrical Notes

1. The contractor will supply & install all breakers, shunt trip and incoming power to the breakers. The exact location of the breakers and shunt trips will be determined by the architect or contractor.

2. The contractor shall supply & install all pull boxes, raceway runs, stainless steel covers, etc. Conduit/raceways must be free from burrs and sharp edges over its entire length. A Greenlee pull string/measuring tape (part no. 435, or equivalent) must be provided with raceway runs to validate runs are within length restrictions.

3. All pre - terminated, cut to length cables, will be supplied and installed by Philips. All cables and conductors to the equipment supply mains branch circuit breaker shall be supplied and installed by the contractor, subject to local arrangements.

4. Provide and install 50mm diameter chase nipples between adjacent wall boxes.

5. Electrical raceway ducts shall be installed with removable covers. The raceway should be accessible for the entire length. In case of non - accessible floors, walls and ceilings, an adequate number of access hatches should be supplied to enable installation of cabling. Approved raceways may be substituted. All raceways will be designed in a manner that will not allow cables to fall out of the raceway when the covers are removed. In most cases, this will require above - ceiling raceway to be installed with the covers removable from the top. Raceway systems as illustrated on this drawing are based upon length of furnished cables. Any changes in routing of raceway systems could exceed maximum allowable length of furnished cables. Conduits or raceways installed above ceilings must be kept as near as practicable to finished ceilings and still permit accessibility.

6. Raceway sizes shall be verified by the architect, electrical engineer or contractor, in accordance with local or National Electrical Code, whichever govern.

7. Convenience outlets are not shown on the plans. Their number and location are to be specified by the customer/architect.

8. Electrical contractor shall install grounding and bonding conductors at raceway openings within wall boxes as required by national and local electrical codes. Ground bond wires and lugs shall be installed in such a way to prevent the inadvertent contact with the installed Philips equipment to maintain Philips isolated ground scheme and maintain patient safety.

9. Install an insulated stranded ground wire per feeder/conductor size from the Main Disconnect (CB) to the ERB (minimum size 4 AWG) and from the ERB to the Mains 40E Cabinet (minimum size 4 AWG).

10. Philips equipment must be electrically isolated from conduits, raceways, ducts, seismic anchoring, floor anchoring, etc.

(18.0)

PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
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Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

Project Details
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N-WES210120 A
Date Drawn: 10/28/2022
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Order: 6600554032.020000
6600554032.030000

EN

Electrical Legend

A Furnished and installed by Philips
B Furnished by customer/contractor and installed by customer/contractor
C Installed by customer/contractor
D Furnished by Philips and installed by contractor
E Existing
F Future
G Optional

	Item Number	Description	Detail Sheet
		Wall	
B	GE	Local building steel (i.e. structural steel, ground rod). (Not shown on plan)	
B	ERB	Equi-Potential Reference Bar mounted in a 12" (305mm) W x 12" (305mm) H x 4" (105mm) D pull box with hinged cover, surface mounted to the bottom of "WR2" when possible.	ED2
B	ME, MR, MA, MB, 2ME	**Customer/Contractor provided** 19 $\frac{1}{4}$" (490mm) W x 67" (1705mm) H x 4" (105mm including rubber isolation strips) D flanged-edge terminal back box, surface mounted 82" (2085mm) A.F.F. to top of box. Weight is approximately 125 lbs (56.7 kg) per box. Please see ED3 for ordering instructions for back boxes.	ED3
B	CY, WM, VB1, VB2, RIC, IC, VB3, VB4, INT, SYNC, VB5, CL, AFS	Grommet opening on "WR3". Approximate location shown is recommended and may be changed - verify relocation with local Philips Service.	
B	VB6	4" (105mm) W x 4" (105mm) H x 4" (105mm) D pull box with removable screw-type cover plate, flush mounted. Exact height to be determined. Verify location with local Philips Service.	
B	WR1, WR2	10" (255mm) W x 4" (105mm) D wall raceway, surface mounted with removable screw-type cover plate. "WR1" is at 5" (130mm) A.F.F. to bottom of raceway. "WR2" is at 82" (2085mm) A.F.F. to bottom of raceway.	ED3
B	WR3	10" (255mm) W x 4" (105mm) D wall raceway, surface mounted with removable screw-type cover plate. "WR3" is at finished floor. "WR3" may need to be cut at the location of the "CY" connection box.	ED3
B	ATY	Auxiliary Box - 6" (155mm) W x 6" (155mm) H x 4" (105mm) D wall box, flush mounted with removable screw-type cover plate. Location shown is recommended and may be changed - verify height and relocation with local Philips Service.	
B	WL	Warning Light - Provide a surface or flush mounted light fixture above door to indicate when X-ray is on, if required by local code or physicist of record. (Not shown on plan)	ED4
B	DS	Door Switch - 120V/5A switch limited to open when door is open. Mount in upper corner on strike side of main entry door(s) (Cooper no. 1665 or equivalent), if required by local code or physicist of record. See Sheet "ED5" diagram for connection details. (Not shown on plan)	ED4
B	FW	Approximate location shown for Firewall is recommended and may be changed - verify relocation with local Philips Service. Firewall must be installed maximum of 6'-6 3/4" from the CY.	

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G Optional

	Item Number	Description	Detail Sheet
B	CB	480V, 3 phase, Type D 80 A circuit breaker with long-time delay (e.g. Square D HDL36080 or equivalent). Run power from breaker to "MA", leaving an 8' (2440mm) tail at "MA". See Sheet "ED1" for power quality requirements. Location per local code or owner requirements. (Not shown on plan)	ED1
B	ST	Shunt Trip (emergency off) - Large mushroom-head button on remote control station with contacts to operate feature of "CB" (if required by local code or owner, and mandatory for VA and D.O.D installations). If UPS is utilized, EPO switch will run 2 sets of communication wires to input breaker to UPS and to UPS itself (Not shown on plan)	ED5
B	CB2	UPS input breaker. 125A, 3-pole circuit breaker with shunt trip. (Not shown on plan).	ED5
D	UPS	UPS - 75 kVA.	ED5
D	BC	Battery Cabinet.	ED5
D	SBO	Signaling Box Option (wall mounted in the control area). Exact height to be determined. Location shown is recommended and may be changed - verify relocation with customer/contractor.	ED5
		Floor	
B	MSA	10" (255mm) W x 10" (255mm) L x 6" (155mm) D floor box, under the floor with a 5" (130mm) core drill up to the underside of AD7 swivel floor plate cable opening. Contractor to provide protection around core drill hole so that there are no sharp edges for protection of cables. Consult with local Philips Service.	
B	SP	12" (305mm) W x 12" (305mm) L x 4" (105mm) D floor box, under the floor with a 8" (205mm) core drill up to the underside of Clea floor plate. See "Detail - Clea Floor Plate Cable Entrance" on Sheet "ED3" for cable routing methods. Contractor to provide protection around core drill hole so that there are no sharp edges for protection of cables. Consult with local Philips Service.	ED3
		Ceiling	
B	PB1	18" (460mm) W x 18" (460mm) L x 6" (155mm) D ceiling box, flush mounted with removable screw-type cover plate. Provide one 3" (80mm) diameter knockout.	
B	VB7, TV, VB8	18" (460mm) W x 18" (460mm) L x 6" (155mm) D ceiling box, flush mounted with removable screw-type cover plate. Provide a 2 $\frac{1}{2}$" (65mm) round cutout (Two 2 $\frac{1}{2}$" (65mm) round cutouts are required for systems with two monitor carriages - verify with local Philips Service). "VB7" & "VB8" to be mounted on rear side of Flexvision monitor.	
B	M3	4" (105 mm)W x 4" (105 mm)L x 2 1/2" (65 mm)D ceiling box, flush mounted with removable screw-type cover plate. Hardwire 120 - 240 VAC, 50 - 60 Hz hospital power to "M3".	
B	TV2	6" (155mm) W x 6" (155mm) H x 4" (105mm) D ceiling box, above finished ceiling. Location to be determined, verify location with local Philips Service.	

See E1 - E4 sheets for conduit and raceway requirements.

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PHILIPS

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MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
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EL1

Electrical Legend

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C Installed by customer/contractor
D Furnished by Philips and installed by contractor
E Existing
F Future
G Optional

Item Number — Detail Sheet — Description

Duplexes

B	S	120V/20A dedicated duplex outlet for service in the equipment room. (Not shown on plan)
B		120V/20A dedicated duplex outlet.
B	3	120VAC with 1Amp power draw SBO (Signaling Box Option)

Network Connectors

B	N1	RJ45 type Ethernet 10/100/1000 Mbit network connector with access to customer's network. Locate within 10' (3050mm) of network card. Network fiber optic and Ethernet cabling, connectors, wall boxes, patch panels, etc. are the responsibility of the purchaser. Philips assumes no responsibility for procurement, installation, or maintenance of these components.	N1
B	N2	RJ45 type Ethernet 10/100/1000 Mbit network connector. Access to customer's network via their remote access server is needed for Remote Service Network (RSN) connectivity.	
B	N3	RJ45 type Ethernet 10/100/1000 Mbit network connector with access to customer's network. Required for Collaboration Live to access from the network of the healthcare facility to the internet for outbound connections.	

See E1 - E4 sheets for conduit and raceway requirements.

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EL2

General Notes for Testing and Service Purpose: (22.0)

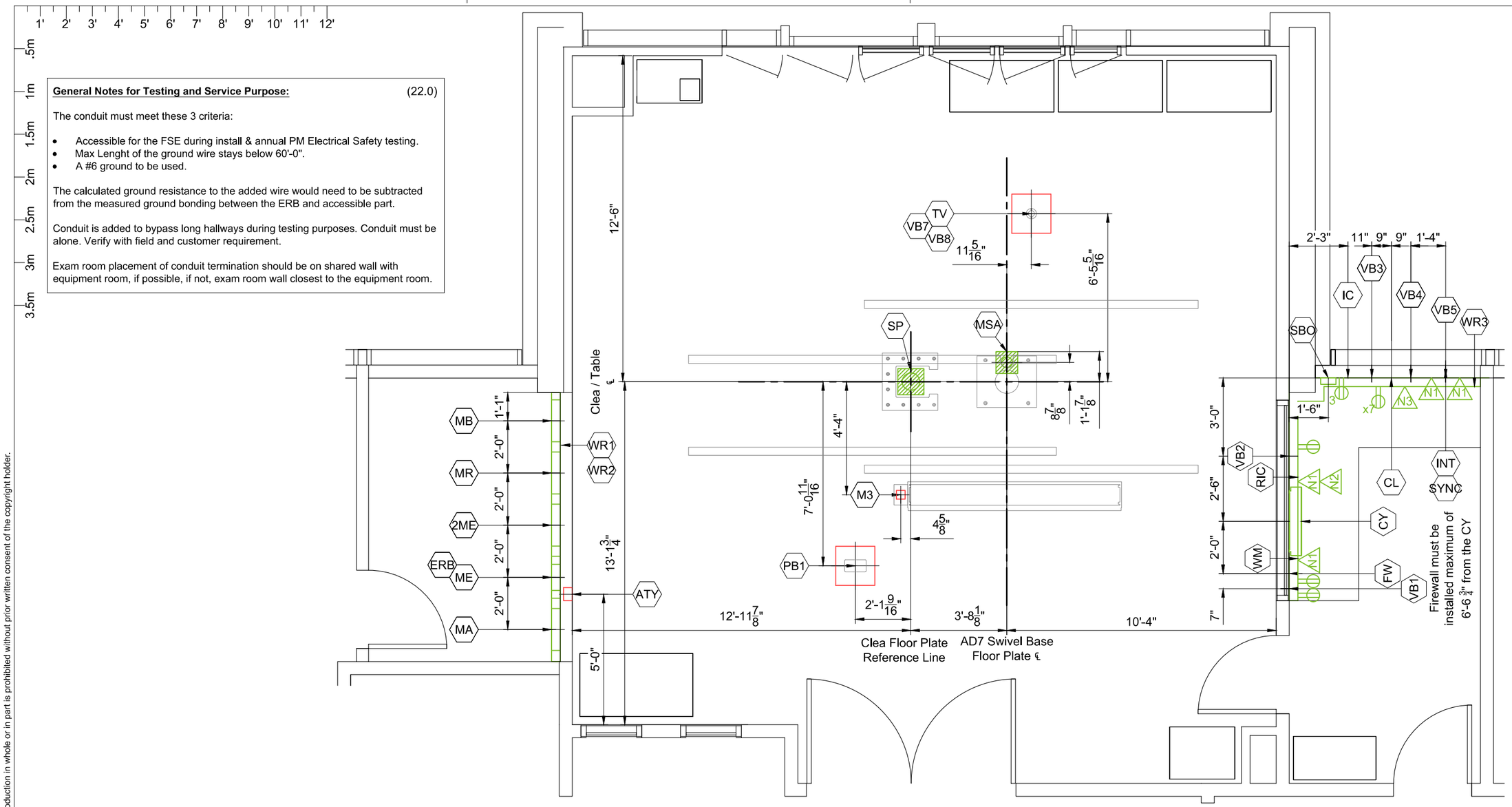
The conduit must meet these 3 criteria:

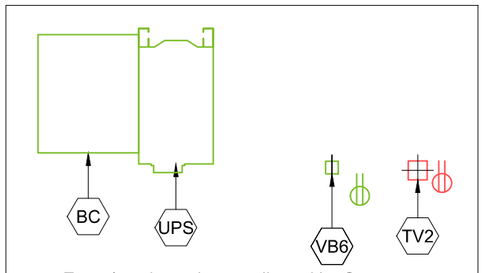
- Accessible for the FSE during install & annual PM Electrical Safety testing.
- Max Lenght of the ground wire stays below 60'-0".
- A #6 ground to be used.

The calculated ground resistance to the added wire would need to be subtracted from the measured ground bonding between the ERB and accessible part.

Conduit is added to bypass long hallways during testing purposes. Conduit must be alone. Verify with field and customer requirement.

Exam room placement of conduit termination should be on shared wall with equipment room, if possible, if not, exam room wall closest to the equipment room.





Exact location to be coordinated by Customer and local Philips service.

Electrical Layout

1/4" = 1'-0"

Required Unistrut Height: 9' - 9 5/16", +3/16" / -0 (2980mm, +4mm / -0)
Unistrut Height measured from top of Clea floor plate to bottom of Unistrut.

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Refer to Electrical Legend - Sheet EL1-EL2 and Raceway/Conduit - Sheet E2-E4

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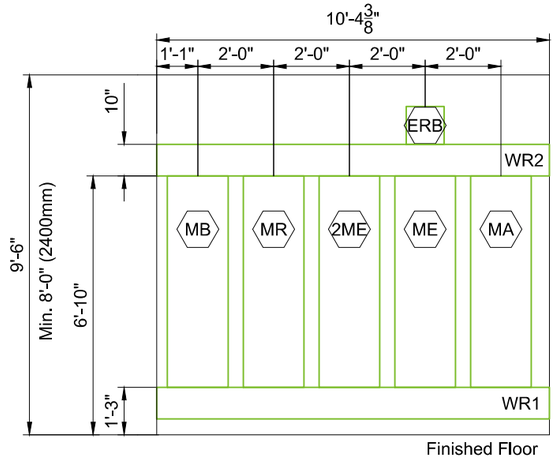
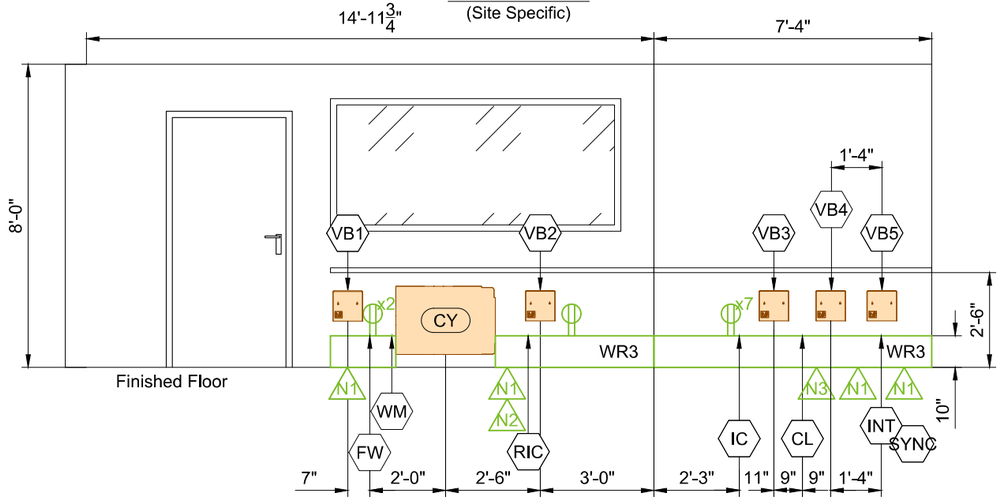
E1

Equipment Closet
(Site Specific)



Control Room
(Site Specific)



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Note: The use of 90 degree ells is not acceptable. Use 45 degree bends at all raceway corners. For raceway (conduit) runs, use the minimum bending radius specific to the raceway (conduit) diameter. The use of crossover tunnels at all applicable locations is required. The above mentioned recommendations will help to ensure the integrity of the cables and fiber optic runs.

*** Countertop Height Guide:**
30" (765mm) for standard seated height.
36" (915mm) for standard standing height.
*** Ensure that the wall junction boxes are mounted perpendicular to the floor.**
*** Verify exact ceiling height of Equipment and Control Room Area.**
*** Architect to coordinate with end users/technicians to determine final placement of control desk components prior to installation in order to avoid rework. Architect to coordinate with Philips Project Manager to reflect final placement on Philips drawings.**

PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

Project Details
Drawing Number
N-WES210120 A
Date Drawn: 10/28/2022
Quote: 1-2CFKS8O Rev. 7
Order: 6600554032.020000
6600554032.030000

E2

Raceway (Conduit) Required

General Notes

1. All raceway (conduit) runs must take most direct route point to point.
2. A Greenlee pull string/measuring tape (part no. 435, or equivalent) must be provided with raceway (conduit) runs

A Raceway (Conduit) supplied/installed by contractor - Philips cables installed by Philips
B Raceway (Conduit) supplied/installed by contractor - Philips cables installed by contractor
C Raceway (Conduits) and cables supplied and installed by contractor
D Raceway (Conduit) existing - cables supplied and installed by Philips
E Raceway (Conduit) existing - cables supplied by Philips and installed by contractor
F Raceway (Conduit) existing - cables supplied and installed by contractor
G Optional equipment, verify with local Philips Service

* **P** Power (AC), **D** Power (DC), **G** Ground, **S** Signal, **H** High Tension, **C** Cooling Hose, **A** Air Supply Hose

	Raceway (Conduit) Run No.	From	To	Raceway (Conduit) Quantity	Cable Type (*)	Minimum Raceway (Conduit) Size	Maximum (Raceway) Conduit Length	Special Requirements
C	1	ERB	GE	1	G	3/4"	6'	-
C	2	ERB	Room Outlets	1	G	3/4"	-	See Sheet "ED2" for details.
C	3	MA	WL	1	P	3/4"	55'	-
C	4	ATY	DS	1	S	3/4"	55'	-
A	5	ATY	MA	1	S	2 1/2"	41'	-
A	6	ATY	TV	1	S	3/4"	65'	-
A	7	SP	ME	2	C	1 1/2"	44'	Tube Cooling Hoses.
A	8	SP	ME	1	P/G	1 1/2"	52'	-
A	9	SP	ME	1	S	1"	52'	-
A	10	SP	ME	1	H	2 1/2"	50'	High Tension Cables.
A	11	SP	MR	1	P/G	2"	47'	-
A	12	SP	MR	1	S	2 1/2"	47'	-
A	13	SP	MA	1	S	2"	50'	-
A	14	MSA	MA	1	S	3"	39'	-
A	15	MSA	MA	1	P	1 1/2"	39'	-
A	16	MSA	MR	1	P/G	2"	39'	-
A	17	MSA	MR	1	S	2"	39'	-
A	18	TV	MA	1	P	1 1/2"	55'	-
A	19	TV	MA	1	S	2 1/2"	55'	-
A	20	TV	MR	1	P	2"	55'	-
A	21	TV	MB	1	S	1 1/2"	55'	For FlexVision XL.
A	22	TV	MB	1	P/G	1 1/2"	55'	-
A	23	TV	WM	1	S	3/4"	65'	For Intercom.
A	24	CY	MR	1	S	2"	55'	Conduits to land on wall raceway adjacent to CY.
A	25	CY	MA	1	P/G	1 1/2"	55'	Conduits to land on wall raceway adjacent to CY.
A	26	CY	MA	1	S	2 1/2"	55'	Conduits to land on wall raceway adjacent to CY.
A	27	MR	WM	1	S	1 1/2"	82'	Conduits to land on wall raceway adjacent to CY.
A	28	PB1	2ME	1	H	2 1/2"	47'	High Tension Cables.
A	29	PB1	2ME	1	S	1"	49'	-
A	30	PB1	2ME	1	P/G	1"	49'	-

Raceway (Conduit) Required

General Notes

1. All raceway (conduit) runs must take most direct route point to point.
2. All raceway (conduit) runs must have a pull string.

A Raceway (Conduit) supplied/installed by contractor - Philips cables installed by Philips
B Raceway (Conduit) supplied/installed by contractor - Philips cables installed by contractor
C Raceway (Conduits) and cables supplied and installed by contractor
D Raceway (Conduit) existing - cables supplied and installed by Philips
E Raceway (Conduit) existing - cables supplied by Philips and installed by contractor
F Raceway (Conduit) existing - cables supplied and installed by contractor
G Optional equipment, verify with local Philips Service

* **P** Power (AC), **D** Power (DC), **G** Ground, **S** Signal, **H** High Tension, **C** Cooling Hose, **A** Air Supply Hose

	Raceway (Conduit) Run No.	From	To	Raceway (Conduit) Quantity	Cable Type (*)	Minimum Raceway (Conduit) Size	Maximum (Raceway) Conduit Length	Special Requirements
A	31	PB1	2ME	2	C	1 1/2"	54'	Tube Cooling Hoses.
A	32	PB1	MR	2	C	2 1/2"	47'	Flat Detector Cooling Hoses.
A	33	PB1	MR	1	S	2 1/2"	45'	-
A	34	PB1	MR	1	P/G	1 1/2"	45'	-
A	35	PB1	MA	1	S	2"	45'	-
A/C	36	TV	WR3	2	S	1 1/2"	-	For equipment (IE. Physio Monitor/ Slave Monitor/ VBs on back of FlexVision)
C	37	MSA	WR3	2	S	1 1/2"	-	For future options (Patient Monitoring). Verify with local Philips Service if auxiliary box should be used.
G	38	Third Party	Third Party	-	-	-	-	For Injector, Auxiliary Box, Patient Monitoring, Video Networking, etc.
G	39	Third Party	ERB	-	G	-	-	For Injector, Auxiliary Box, Patient Monitoring, Video Networking, etc.
A	40	VB1	MB	1	S	1"	82'	-
A	41	VB2	MB	1	S	1"	82'	-
A	42	VB3	MB	1	S	1"	82'	Collaboration Live
A	43	VB4	MB	1	S	1"	82'	-
A	44	VB5	MB	1	S	1"	82'	-
A	45	VB6	MB	1	S	1"	82'	-
A	46	VB6	CY	1	S	1"	91'	-
G	47	WR2	WR3	1	G	1"	60'	For Testing & Service Purposes. Required to run a #6 ground. #6 ground to be ran in conduit non-terminated. Refer to E1 for further explanation.
C	48	Power Supply	M3	1	P	3/4"	-	Project electrician to land 120 - 240 VAC, 50 - 60 Hz in M3 terminal block. Light requires: Plus 24, Minus 24, and Ground.
A	49	IC	MSA	1	S	3"	65'	For Table Mounted Injector.
A	50	IC	MA	1	S	3"	80'	
A	51	MB	WM	1	S	1 1/2"	82'	For FlexSpot.
A	52	MR	CY	1	S	1"	91'	For Interventional Hardware in "MR" cabinet.
C	53	TV2	MB	1	S	2 1/2"	82'	Live/reference monitors.
C	54	Power Panel	CB2	1	P	Per N.E.C.	Per N.E.C.	
C	55	Power Panel	CB2	1	G	Per N.E.C.	Per N.E.C.	
C	56	CB2	UPS	1	G	Per N.E.C.	Per N.E.C.	
C	57	UPS	CB	1	G	Per N.E.C.	Per N.E.C.	
C	58	CB	ERB	1	G	Per N.E.C.	Per N.E.C.	Conduit must hit WR2 raceway.
C	59	MA	ERB	1	G	Per N.E.C.	Per N.E.C.	
C	60	WR2	ERB	1	G	Per N.E.C.	Per N.E.C.	

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

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PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

Project Details
Drawing Number
N-WES210120 A
Date Drawn: 10/28/2022
Quote: 1-2CFKS8O Rev. 7
Order: 6600554032.030000

E3

Raceway (Conduit) Required

General Notes

1. All raceway (conduit) runs must take most direct route point to point.
2. A Greenlee pull string/measuring tape (part no. 435, or equivalent) must be provided with raceway (conduit) runs

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F Raceway (Conduit) existing - cables supplied and installed by contractor
G Optional equipment, verify with local Philips Service

* **P** Power (AC)
D Power (DC)
G Ground
S Signal
H High Tension
C Cooling Hose
A Air Supply Hose

	Raceway (Conduit) Run No.	From	To	Raceway (Conduit) Quantity	Cable Type (*)	Minimum Raceway (Conduit) Size	Maximum (Raceway) Conduit Length	Special Requirements
C	61	CB2	UPS	1	P	Per N.E.C.	Per N.E.C.	
C	62	CB2	ST	1	P	Per N.E.C.	Per N.E.C.	
C	63	UPS	ST	1	S	Per N.E.C.	Per N.E.C.	
C	64	UPS	CB	1	P	Per N.E.C.	Per N.E.C.	
C	65	CB	MA	1	P	Per N.E.C.	Per N.E.C.	Conduit must hit WR2 raceway.
C	66	UPS	MA	1	S	Per N.E.C.	Per N.E.C.	
C	67	SBO	UPS	1	S	Per N.E.C.	Per N.E.C.	For Signaling Box Option.
C	68	BC	UPS	1	P	Per N.E.C.	Per N.E.C.	
C	69	BC	UPS	1	S	Per N.E.C.	Per N.E.C.	
A	70	INT	MSA	1	S	3"	75'	Conduit opening must be covered if the IntraSight system is planned for future installation.

Raceway (Conduit) Required

General Notes

1. All raceway (conduit) runs must take most direct route point to point.
2. All raceway (conduit) runs must have a pull string.

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F Raceway (Conduit) existing - cables supplied and installed by contractor
G Optional equipment, verify with local Philips Service

* **P** Power (AC)
D Power (DC)
G Ground
S Signal
H High Tension
C Cooling Hose
A Air Supply Hose

	Raceway (Conduit) Run No.	From	To	Raceway (Conduit) Quantity	Cable Type (*)	Minimum Raceway (Conduit) Size	Maximum (Raceway) Conduit Length	Special Requirements

Authorized to Begin Construction

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PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

Project Details
Drawing Number
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6600554032.030000

E4

Power Quality Requirements (Mains 40E Cabinet)

Maximum Rated Power	100kW
Supply Configuration	3 phase, equally sized insulated power conductors and an insulated equipment grounding conductor. Insulated grounding conductor shall have the same or larger size than line conductors. Line wires shall be no smaller than 6 AWG, 90°C temperature or higher temperature rating. The conductor size is dependant on the upstream circuit breaker rating: Minimum 4 AWG for 80A circuit breaker rating.
Nominal Line Voltage	480 VAC, 60 Hz
Line Voltage Variation	Voltage variations are never to exceed ±10% when measured using 10 minute mean RMS values with a measurement window of 1 week. At least 95% of all measured 10 minute mean RMS values shall be within ±5% of the configured nominal voltage.
Line Voltage Balance	2% maximum of nominal voltage between phases
Frequency Variation	± 1.0 Hz
Voltage Surges	To 110% of steady-state voltage 100 msecs. Maximum duration, 6 per hour max.
Voltage Sags	To 90% of steady-state voltage 100 msecs. Maximum duration, 6 per hour max.
Line Impulses	1000 VPK above phase-neutral RMS absolute maximum. No more than 1 impulse per hour to exceed 500 VPK.
Neutral-Ground Voltage	2.0V maximum RMS value
Neutral-Ground Impulses	No more than 1 per hour that exceeds 25V and 1 milli-Joule
High Frequency Noise	3.0V steady-state maximum. Over 3.0V permitted for 100 msec. maximum, 1 per hour max.
Grounded Conductor Impedance	0.1 Ohms @ 60 Hz maximum

Branch Circuit and Wire Gauge Requirements (Mains 40E Cabinet)

Branch Power	100 kVA (System only; verify UPS power requirements)
Max. Standby Current	8A per phase
Circuit Breaker (CB)	3 Phase, Type D 80A with long-time delay
For information only. Terminal block accommodates AWG 00 to AWG 4 in mains cabinet. Engineer of record responsible for calculating phase conductor and equipment ground conductor sizes. Recommended phase conductor and equipment ground conductor sizes for 1% impedance of supply conductors to circuit breaker (CB).	
Max. Instantaneous Power (at X-ray tube power 100 kV 1000mA current)	100 kW
Max. Inst. Current @ CB (RMS value over half-cycle)	300A @ 480V
Max. Phase-phase impedance @ CRC	0.455 Ω
Long Term Rating	63A at 480V
Momentary Rating (using a window of 5 seconds)	125A at 480V

Authorized to Begin Construction

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03/08/2023 8:31:57 PM

CB

(19.1)

PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

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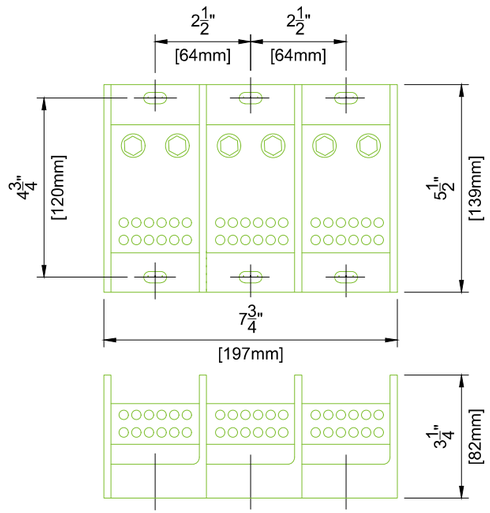
6600554032.030000

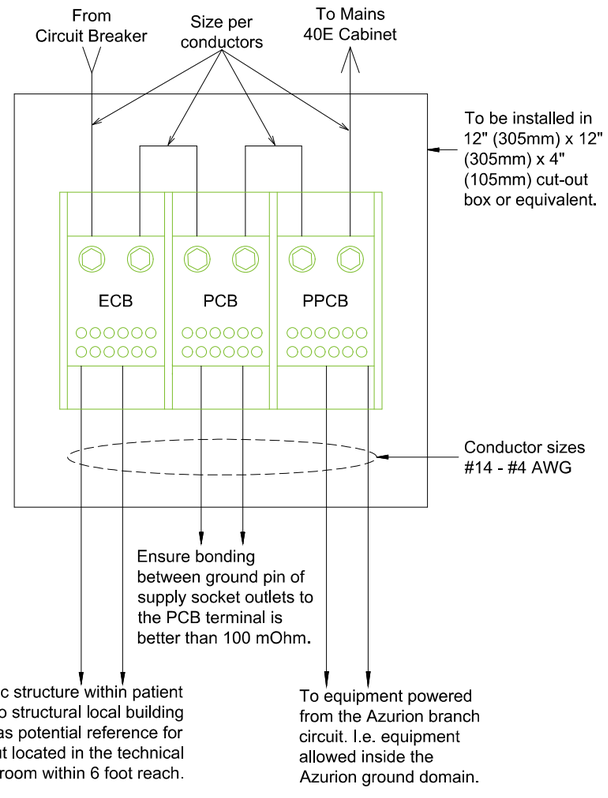
ED1

Detail - Equi-Potential Reference Bar Application

(Not to scale)



1. Furnished and installed by Contractor
2. Purchase from local Mersen distributor, https://ep-us.mersen.com/ Catalog #MPDB69143
3. MPDB Series UL 1953 Open-Style Power Distribution Blocks https://ep-us.mersen.com/products/product/mpdb69143



ERB

(19.0)

Invasive Procedures

This equipment may be used for invasive procedures; therefore, the area to be installed is classified as critical care area per NFPA-99 and NFPA-70 (NEC). These documents specify maximum touch voltages and ground impedance in these areas.

Test performed by GSSNA service require that these specifications are met by the GSSNA equipment. It is the facility's responsibility to ensure that these specifications are met by the wall outlet, facility structure, and other equipment not installed by GSSNA.

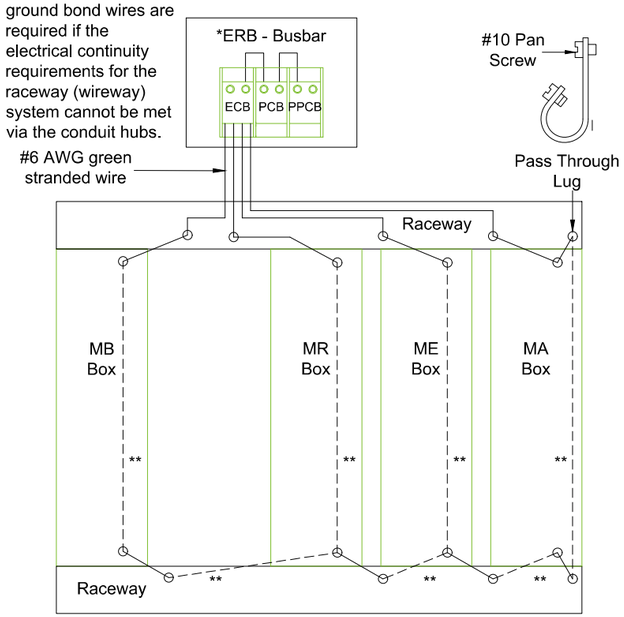
The GSSNA specified "Equi-Potential Reference Bar (ERB)" serves as a ground reference for GSSNA equipment. It may also serve as the "Reference Grounding Point" of the room as defined in NFPA 99-3.3.140 for non-Philips Healthcare equipment.

Equi-Potential Reference Bar (ERB)
A) Equip-Potential Conductor Bar (ECB)
B) Protective Conductor Bar (PCB)
C) Philips Protective Conductor Bar (PPCB)

Detail - Grounding

(Not to scale / Not site specific)

* ERB to be placed at a reachable height.
**Verify with Engineer of Record and local codes if additional ground bond wires are required if the electrical continuity requirements for the raceway (wireway) system cannot be met via the conduit hubs.



(16.0)

Authorized to Begin Construction

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03/08/2023 8:32:00 PM

PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

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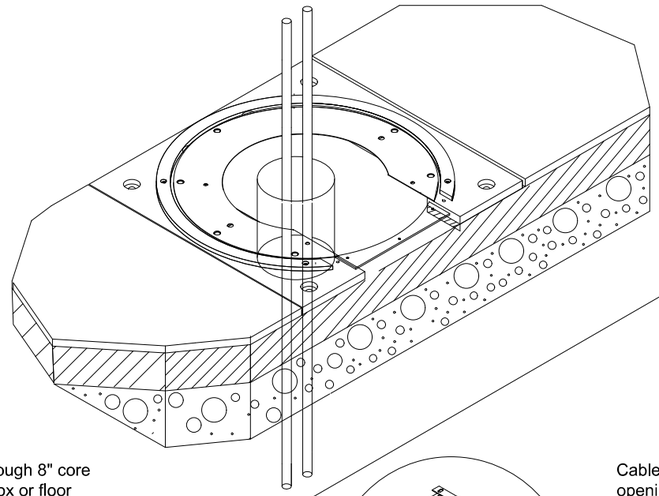
ED2

Detail - Clea Floor Plate Cable Entrance

Floor plate delivered from BEST

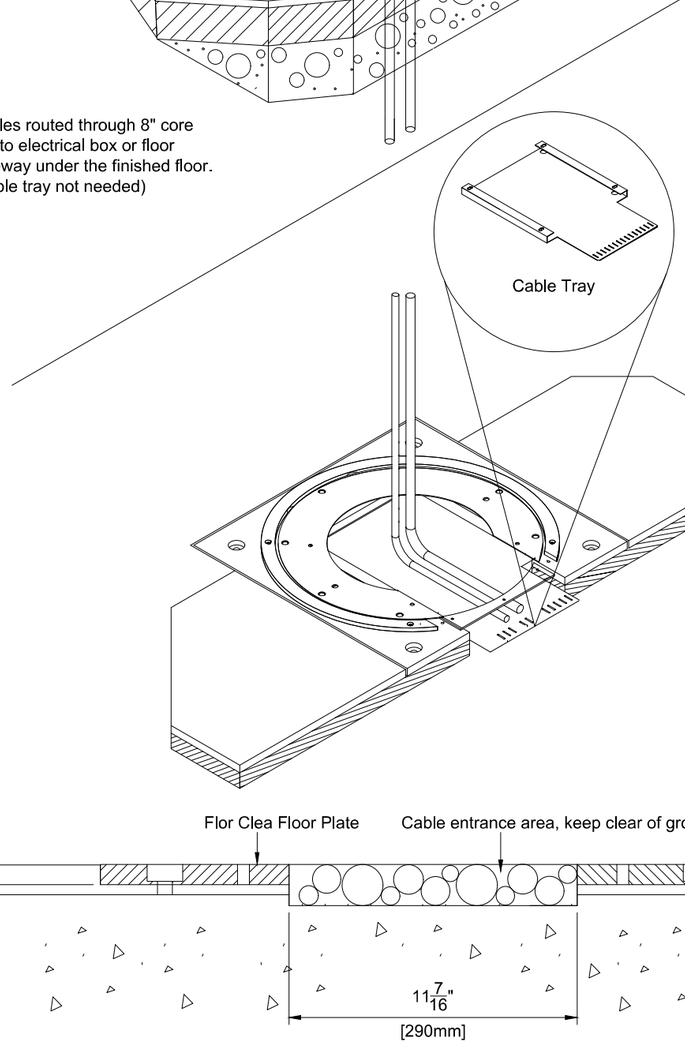
(Not to scale)



Cables routed through 8" core drill to electrical box or floor raceway under the finished floor. (Cable tray not needed)

Cables routed through Clea cable opening to flush mounted electrical box or floor raceway.

Cable Tray



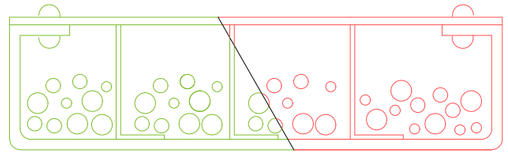
(12.0)

Detail - Cable Trough Divisions

(Not to scale)

Contractors to discuss raceway plan with Philips Project Manager. Raceways (troughs or ducts) may be separated by metal barriers into four sections. Only required separation if for Group A wires that must be separated from other groups. See sheet EN for more information:

1. Supply Mains conductors and associated PE.
2. Secondary Circuit (Azurion equipment internal single phase 230Vac) conductors and associated PE.
3. High-Voltage wire harness to X-Ray stands.
4. Signal, data and video cables.



5. It is important that all cables are placed in the appropriate raceway (trough), and at no given point do any cables from one division cross cables from another. Trough separation must be continuous from the beginning.
6. Raceway (trough or ducts): steel with steel dividers grounded to building ground.
7. Contractor to provide cable restraints in all troughs.

WR1 WR2 WR3

(16.0)

Authorized to Begin Construction

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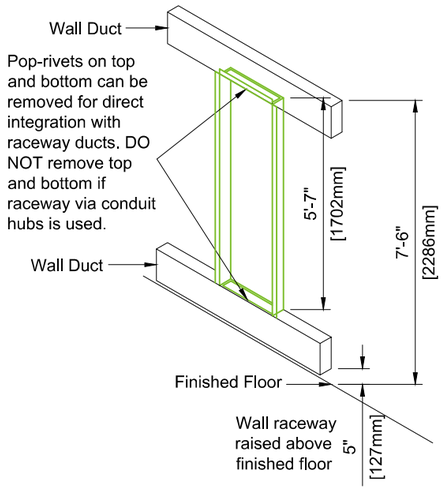
- This is not a building permit, check with your local building department.

03/08/2023 8:32:05 PM

Detail - Back Box Mounting

(Not to scale)



ME 2ME MR MA MB

(22.0)

Back Box Ordering Details

Koester Metals Method of Business Transactions for Philips Customers

Part# 989801220367 Philips Xray Back Box

1) Three ordering methods:
-Email: backbox@kmienclosures.com
-Phone: 260-495-1818x234
-Fax: 260-495-1822

2) Payment Terms - Credit Card Only
-MasterCard
-Visa
-Discover
-American Express

3) Lead Time
-2 Week Lead time

4) Freight
-All shipments will be shipped on skid
-Freight will be Pre-paid and added (PP+) to the invoice at time of shipment

PHILIPS

Project
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Puyallup, WA
Room: Hybrid BiPlane

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ED3

Authorized to Begin Construction

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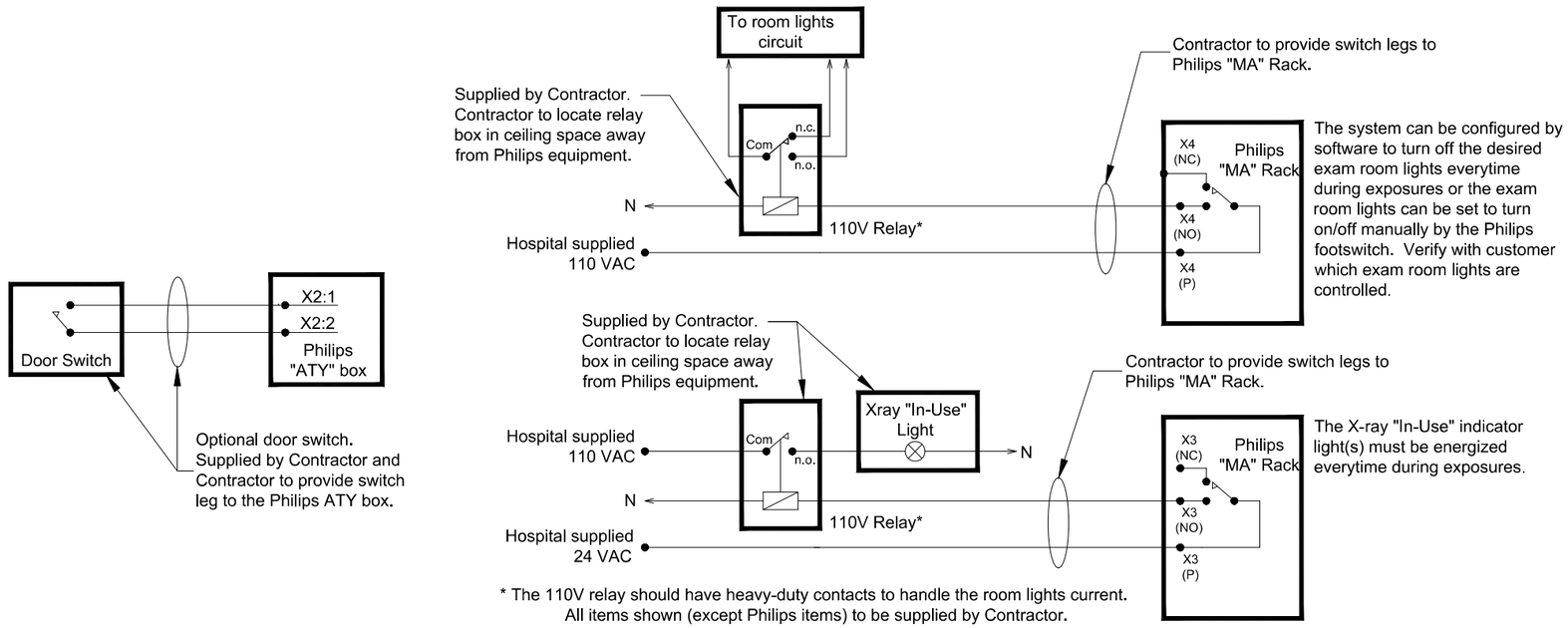
03/08/2023 8:32:09 PM

PHILIPS

Diagram - Typical Connection of X-Ray In-Use Light, Exam Room Lights, & Door Switch



* The 110V relay should have heavy-duty contacts to handle the room lights current.
All items shown (except Philips items) to be supplied by Contractor.

Note: Nominal voltage may not exceed 230 Vac and the current to stays below 1 A nominal.

(22.0)

WL DS

THIS SHEET IS PART OF THE DOCUMENT SET LISTED ON SHEET C1 AND SHOULD NOT BE SEPARATED.

Project
Azurion 7 B20/12, B20/15 - Swivel
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Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
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Date Drawn: 10/28/2022
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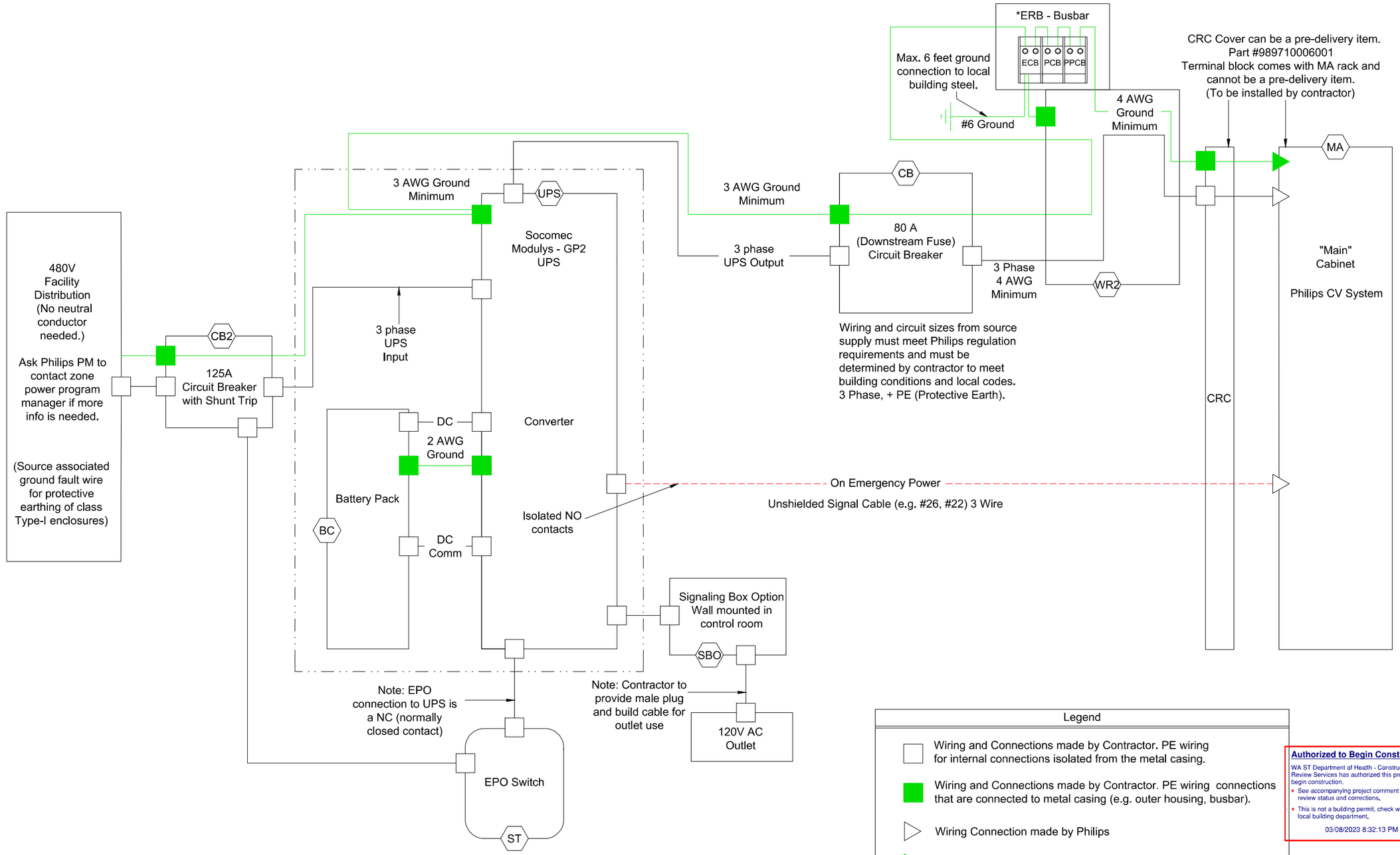
Order: 6600554032.020000
6600554032.030000

ED4

05.27.2022



Note: Wire sizes will be dependent on:
1. Lug size of UPS and MA terminal block
2. 1% impedance of supply conductors to circuit breaker (CB).
3. Maintain voltage (no voltage drop)

Diagram - Connection Diagram Modulys - GP2 UPS 480V

(21.0)

Legend

- Wiring and Connections made by Contractor. PE wiring for internal connections isolated from the metal casing.
- Wiring and Connections made by Contractor. PE wiring connections that are connected to metal casing (e.g. outer housing, busbar).
- Wiring Connection made by Philips
- Wiring Connection made by Philips

Note:
All Power Cables shall be in separate conduits from control and communication cables.

Authorized to Begin Construction

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- This is not a building permit, check with your local building department.

03/08/2023 8:32:13 PM

PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

Project Details
Drawing Number
N-WES210120 A
Date Drawn: 10/28/2022
Quote: 1-2CFKS8O Rev. 7
Order: 6600554032.020000
6600554032.030000

ED5

Philips Collaboration Live

1. Collaboration Live Server - powered by Reacts

The Collaboration Live server is a cloud-hosted enterprise solution that provides contact management, secure connectivity and streaming services for Collaboration Live text, audio and video features. This server is accessed from a separate PC installed in the Azurion control room and remote client end-points over the internet using an industry standard TLS method of connectivity. The server is hosted by IIT (Innovative Imaging Technologies, Montreal, Canada).

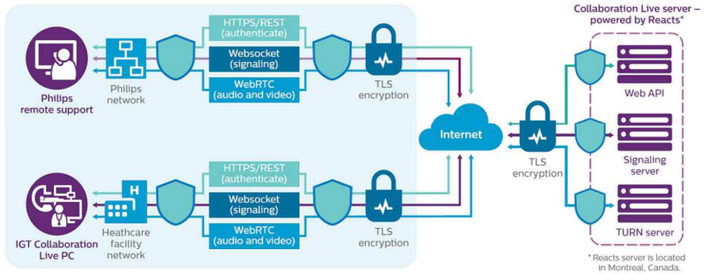
2. Connectivity

In order to connect to the Collaboration Live server, the system will need access from within the healthcare facility network to the internet for outbound connections over port 443, and UDP and TCP protocol must be allowed. We recommend whitelisting the following domains:

*.iitreacts.com
*.reacts.com

The minimum bandwidth of 0.5 Mbit/s upload and 0.5 Mbit/s download is required for connectivity. The recommended bandwidth for optimal performance is 1.5 Mbit/s upload and 1.5 Mbit/s download.

Collaboration Live network diagram



The privacy policy of IIT Reacts are available online:
https://reacts.com/en/legal/privacy

The security overview of IIT Reacts is available online from the Security and Privacy Page:
https://reacts.com/security-overview/

Authorized to Begin Construction

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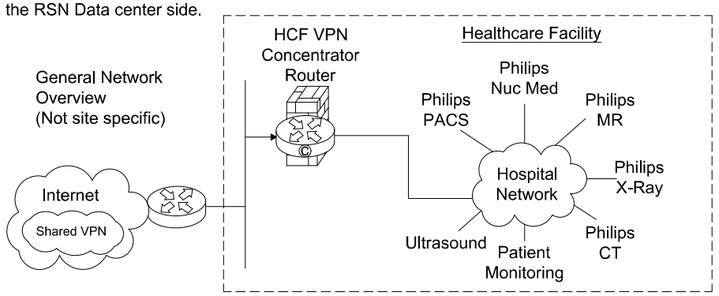
03/08/2023 8:32:17 PM

Philips Healthcare Remote Services Network (RSN)

Secure broadband connection required for Philips remote technical support, diagnostics, and applications assistance

Broadband Site-to-Site Connectivity (Preferred)
This connectivity method is designed for customers who prefer a connection from the RSN Data Center to the Health Care Facility (HCF) utilizing their existing VPN equipment.

Connectivity Details:
- A Site-to-Site connection from the RSN data center's Cisco router will be established to the HCF's VPN concentrator.
- The VPN Tunnel will be an IPSEC, 3DES encrypted Tunnel using IKE as standard, but alternative standards are also available, such as AES, MD5, SHA, Security Association lifetime and Encryption Mode.
- Every system that we will be servicing remotely will have a static NAT IP that we configure on the RSN Data center side.

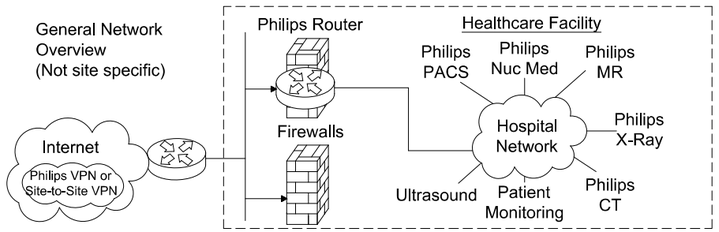


Action Required by Hospital:
- Review and approve connection details.
- Complete appropriate Site Checklist.
- Configure and allow Site-to-Site access prior to setting up connectivity depending on the access criteria that the HCF decides to implement (ex: Source IP filtering, destination IP filtering, NAT assignment, etc.).
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to the designed IP provided by Philips.

Broadband Router Installed at Health Care Facility
This connectivity method is designed for customers who have a dedicated high speed connection for Philips equipment.

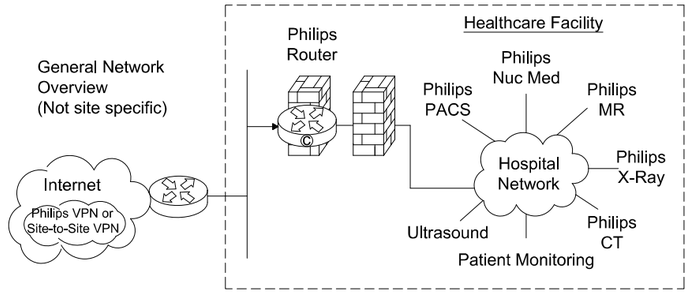
Connectivity Details:
- An RSN Cisco 1711 or 1712 router will be preconfigured and installed at the HCF by Philips in conjunction with the HCF IT representative.
- The VPN Tunnel will be an IPSEC, 3DES encrypted Tunnel using IKE and will be established from the RSN-DC and terminated at the RSN Router on-site.
- One to One NAT is used to limit access to Philips equipment only.
- Router Config and IP auditing is enabled for Customer IT to view via website 24/7.
- Dedicated DSL connections are also supported.

Option 1: Parallel to HCF Firewall Connectivity Method
This connectivity method is designed for customers who prefer a Philips RSN Router installed on site utilizing all the security features provided and managed by Philips.



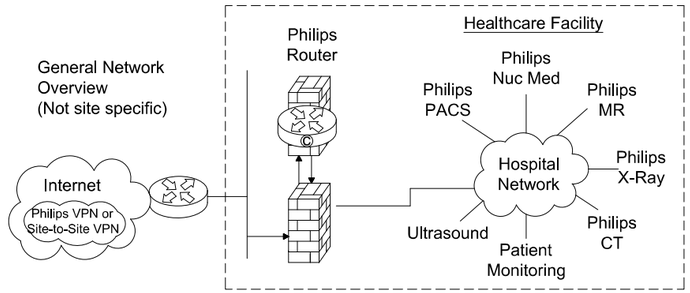
Action Required by Hospital:
- Assign a fixed public IP Address from the ISP to be configured on the Philips router. This is the DOTTED link on the picture connected to the firewall.
- Assign a Back end IP for the Philips router on the Hospital Network.
- Complete appropriate Site Checklist.
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to internal Philips router Ethernet interface. This is the DASHED line connected to the firewall.

Option 2: Back End Connected to the HCF Firewall Connectivity Method
This connectivity method is designed for customers who prefer a Philips RSN Router installed on site by setting up an IP-Based policy allowing access thru existing HCF Firewall to Philips equipment.



Action Required by Hospital:
- Assign a fixed public IP Address from the ISP to be configured on the Philips router. This is the DOTTED link on the picture connected to the firewall.
- Assign a Back end IP for the Philips router on the Hospital Network.
- Complete appropriate Site Checklist.
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to internal Philips router Ethernet interface. This is the DASHED line connected to the firewall.
- Configure and allow on the firewall on the DASHED line interface access between the IP address allocated by the hospital to the Philips internal Ethernet router interface and the target modality IP address.

Option 3: Router Installed Inside the HCF's DZM
This connectivity method is designed for customers who prefer the RSN Router installed inside and existing, or new DMZ, allowing access to Philips equipment.



Action Required by Hospital:
- Assign a fixed public IP Address from the ISP to be configured on the Philips router. This is the DOTTED link on the picture connected to the firewall.
- Assign a Back end IP for the Philips router on the Hospital Network.
- Complete appropriate Site Checklist.
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to internal Philips router Ethernet interface. This is the DASHED line connected to the firewall.
- Configure and allow on the firewall on the DASHED line interface IPSec protocol communication by opening protocol 500, 50, 51, 47 and port 23 + TACACS. Traffic should be between external IP Address located on the Philips router and the RSN Data center IP address 192.68.48/24 and IP address AOSN TACAS.
- Configure and allow on the firewall on the DASHED line interface access between the IP address allocated by the hospital to the Philips internal Ethernet router interface and the target modality IP address.

PRCTI20221788

(20.0)

PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
Email: jason.young@philips.com
Drawn By: Van Longevitch

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6600554032.030000

N1

System Network Information

IMPORTANT NOTE: *It is the customer's responsibility to coordinate with the local Philips Engineer to provide ALL required network information and install ALL required network cabling & drops according to Philips specifications PRIOR to the scheduled installation start date. Failure to do so may delay system installation and jeopardize the customer hand over date.*

Azurion	IP Sec [ ]yes [ ]no
Physical Location:	
Hostname:	
MAC Address:	
IP Address	
Netmask:	
Gateway:	
AE Title:	
Port Number (5101):	

XtraVision	IP Sec [ ]yes [ ]no
Physical Location:	
Hostname:	
MAC Address:	
IP Address	
Netmask:	
Gateway:	
AE Title XtraVision:	
Port Number (3110):	
AE Title for X-Ray Mod:	
IP for X-Ray Modality:	

EP Navigator	IP Sec [ ]yes [ ]no
Physical Location:	
Hostname:	
MAC Address:	
IP Address	
Netmask:	
Gateway:	
AE Title:	
Port Number:	

View Forum	IP Sec [ ]yes [ ]no
Physical Location:	
Hostname:	
MAC Address:	
IP Address	
Netmask:	
Gateway:	
AE Title:	
Port Number:	

XperIM	IP Sec [ ]yes [ ]no		
	Location 1	Location 2	Location3
Physical Location:			
Hostname:			
MAC Address:			
IP Address			
Netmask:			
Gateway:			
AE Title:			
Port Number (3010):			

Remote Software Installation (RPS)	
Enable Distribution:	[ ] yes [ ] no
Enable Installation:	[ ] yes [ ] no

Dicom Printer	Location 1	Location 2	Location3	Location 4
Physical Location:				
Hostname:				
IP Address				
AE Title:				
Port Number :				

PACS	Physical Location:				
	Store/ Import 1	Store/ Import 2	Store/ Export	Query/ Retrieve	Storage/ Commit
Hostname:					
IP Address					
AE Title:					
Port Number :					

PACS	Physical Location:				
	Store/ Import 1	Store/ Import 2	Store/ Export	Query/ Retrieve	Storage/ Commit
Hostname:					
IP Address					
AE Title:					
Port Number :					

Audit Trail	
Physical Location:	
Hostname:	
IP Address	
AE Title:	
Port Number :	

Time Synchronization	
Physical Location:	
Server Name:	

RIS	**Physical Location:**		
	Basic Local RIS	WLM	MPPS
Hostname:			
IP Address:			
AE Title:			
Max PDU Size:	16384		
Port Number:		[ ] yes [ ] no	[ ] yes [ ] no
Secure Node:		[ ] yes [ ] no	[ ] yes [ ] no
Encryption:			
Certificate Name:			
PPSM IHE Compatible:			[ ] yes [ ] no

Time Synchronization	
Azurion:	20/21(ftp), 80(http), 443(https), 5900(vnc), 9903(fsf.net)
Allura Xper:	20/21(ftp), 80(http), 443(https), 5900(vnc), 9903(fsf.net)
Allura CV20:	20/21(ftp), 80(http), 4440(fsf)
XtraVision:	20/21(ftp), 80(http), 443(https), 5660(ist/ice), 5900(vnc), 9905(lots)
EP Navigator (R3):	20/21(ftp), 443(https), 5660(ist/ice), 9055(lots)
EP Cockpit (R1.2):	20/21(ftp), 80(http), 443(https), 5900(vnc), 9903(fsf.net)
CX50:	
Xper IM:	
View Forum	

Hospital Network	M2M Server (PRS)	Proxy	ePO Server (PRS)	Collaboration Live (OS updates)	Collaboration Live (Appl. Updates)
Scheme (https):					
IP Address (192.68.49.50):				DMR379502	*.iitreacts.com *.reacts.com
Portnumber:	443			443, 80	443
Use Proxy Server:	[ ] yes [ ] no				
- IP Address:					
- Port Number:					
- User Name:					
- Password:					

Authorized to Begin Construction

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03/08/2023 8:32:21 PM (20.0)

PRCTI20221788

PHILIPS

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Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
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Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
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6600554032.030000

N2

05.27.2022

Instructions

This form is to be used by Project Manager, Contractor, and Service Engineer. Information is used to develop and determine site ready date.

Be sure to contact the Zone Installation Specialist (ZIS), Field Service Engineer (FSE), or National Support Specialist (NSS) if you have questions concerning any of these checklist items.

Site Readiness Checklist

Required Prior to Delivery

- ☐ **Cable Trough/Raceway/Conduit:** Installed, cleaned and locations checked per Philips Final Drawings. Duct covers in place. Cable openings are clear, without sharp edges. ***Greenlee*** pull strings/measuring tape, (Part # 435, or equivalent), are in place.
- ☐ **Ceiling (Hard):** Installed and painted.
- ☐ **Ceiling (Drop-In):** Installed.
- ☐ **Customer Site Preparation:** Verified per Philips Final Drawings.
- ☐ **Delivery Path and Truck Parking:** Has been checked with the customer and lead FSE including verifying floor loading, delivery route, elevator capacity, height, width and depth clearances, and a plan for bad weather.
- ☐ **Doors:** Installed.
- ☐ **Drawings (Final):** Shows all room obstacles to include millwork, lighting overlay, structure overlay, med gases and plumbing.
- ☐ **Flooring:** Installed and covered with protective covering (i.e. scratch protection).
- ☐ **Glass:** Installed.
- ☐ **Installation Team:** Has received the room drawings and necessary contact phone numbers.
- ☐ **Millwork:** Completely installed in all rooms.
- ☐ **Parking:** Parking area identified for installers.
- ☐ **Performance Testing Requirements Identified:** Determine if Certificate of Compliance is required, (i.e. NEMA, OSHPD, AHCA).
- ☐ **Permits and Inspections:** Completed by applicable governing authorities. Method statement available and safety meetings attended (OSHPD, AHCA).
- ☐ **Philips Project Space:** Is clean, free of dust, all construction-related debris and tools have been removed.
- ☐ **Restroom Facilities**: Toilet facilities, including area to wash up, are available.
- ☐ **Room Lighting:** Installed and operational.
- ☐ **Room Security:** Room is secure, with keys and alarm codes provided.
- ☐ **Site Access:** Is available for after hours. Storage for tools, parts, covers and packing material has been arranged.
- ☐ **Site Is Safe To Work:** PPE requirements identified (Construction and Hospital). No open Mains, slippery floors, sharp edges, or hazardous goods on site.
- ☐ **Sprinklers:** Installed.
- ☐ **Transport & Handling Tools:** Crane, forklift, wheels and trolleys have been specified with the LMP/rigging company.
- ☐ **Walls:** Installed and final finished, (i.e. final coat painted and/or tiled).
- ☐ **Existing Equipment:** Is dismantled and removed from the site.
- ☐ **Floor Levelness:** Checked with Laser Level and is level per Philips Final Drawings.
- ☐ **System Orientation:** Verified per Philips Final Drawings.
- ☐ **Table Isocenter:** Verified per Philips Final Drawings.
- ☐ **ERB Conductor Bar:** Installed per Philips Final Drawings. All Philips-provided electrical boxes and contractor-provided raceway are grounded to the ERB.
- ☐ **Mains Power Supply:** Installed per Philips Final Drawings. (Including impedance, isolated grounds, wire size verified, and distribution unit has been installed).
- ☐ **UPS:** Fully installed per Philips Final Drawings, and startup has been scheduled with vendor.
- ☐ **Video Connection Boxes:** Locations, video sources, and display destinations are verified with customer, and the Philips Final Drawings are updated with the information.
- ☐ **3rd Party Booms (if applicable):** Compatibility, locations, and isolation kits have been verified with boom vendor and the Philips Final Drawings are updated with the information. If required, a '*Request for Modification*' has been submitted.
- ☐ **3rd Party Booms (if applicable):** Installed prior to Philips equipment delivery.
- ☐ **Ceiling Height:** Verified per Philips Final Drawings. Single plane measure from finished floor to bottom of Unistrut. For Bi-Plane, from Clea plate to bottom of Unistrut.
- ☐ **Ceiling Obstructions:** Verify there are no obstructions where Philips rails will be installed.
- ☐ **Ceiling Plate for Equipment Rack (EP Boom) (if applicable):** Installed and leveled per Philips Final Drawings.
- ☐ **Ceiling Unistruts (P1001 or equal):** Installed and leveled per Philips Final Drawings.
- ☐ **Clearances:** Verified to the closest obstacles (i.e. walls, cabinets), in order to lift up the C-arm, monitor support, etc.
- ☐ **Fixing Blocks:** Provided by Philips, verify the block properly sits in the Unistrut channel with no obstructions, as designed.
- ☐ **FlexArm Clearance (if applicable):** Verified per Philips Final Drawings.
- ☐ **FlexMove (if applicable):** Must order Ceiling/Floor levelness kit, complete form and submit.
- ☐ **Floor Plates:** Patient Support and Stand (if applicable), are installed, isolated, and leveled, at the correct locations per Philips Final Drawings.
- ☐ **Med Gas Box (if applicable):** Location does not interfere with the installation and movement of the Philips equipment. The Philips Final Drawings are updated with the location.
- ☐ **Back Boxes:** Installed with required covers and grommet material per Philips Final Drawings. Specifically, the spacing between the boxes and height off of finished floor.
- ☐ **ERB Grounding Block:** Installed within 6 feet of building steel, and non-Philips-provided electrical equipment ground conductors, to include wall outlets installed per Philips Final Drawings.
- ☐ **Hospital Mains Supply Wiring:** For Allura R8.2 and Azurion systems, installed per Philips Final Drawings, for connection in Cabinet Rear Cover (CRC) of MA-Cabinet.
- ☐ **Hospital Mains Supply:** For system versions prior to Allura R8.2 (in the USA), the Hospital Mains must be available for connection at the PDU or gssPDU, and then to MA & ME-Cabinets (by the electrician).

Required Prior to Philips System Power Up

- ☐ **Wall Outlets:** Installed and functional.
- ☐ **Door Interlock Switch:** If required, is installed per Philips Final Drawings.
- ☐ **X-Ray in Use or Warning Light:** If required, is installed per Philips Final Drawings.

Required Prior to Install Complete

- ☐ **Physicist:** If required, verify the Physicist has been scheduled.
- ☐ **Network Connections:** Hardware is installed and active per Philips Final Drawings. All network information provided by facility IT, i.e. IP addresses (static IPs only), AE Titles, SNM, GTWY and DNS server are available.
- ☐ **UPS:** Commissioned and certified by UPS vendor.

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03/08/2023 8:32:27 PM

Approved for Delivery

Project Manager — Date

Service Engineer — Date

PRCTI20221788

PHILIPS

Project
Azurion 7 B20/12, B20/15 - Swivel
MultiCare Good Samaritan
Puyallup, WA
Room: Hybrid BiPlane

Philips Contacts
Project Manager: Jason Young
Contact Number: (425) 877-6081
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CHK

ULTRASUITE®

OPERATING ROOM DIFFUSER SYSTEM WITH INTEGRATED LED LIGHTING

HYBRID OR

Authorized to Begin Construction

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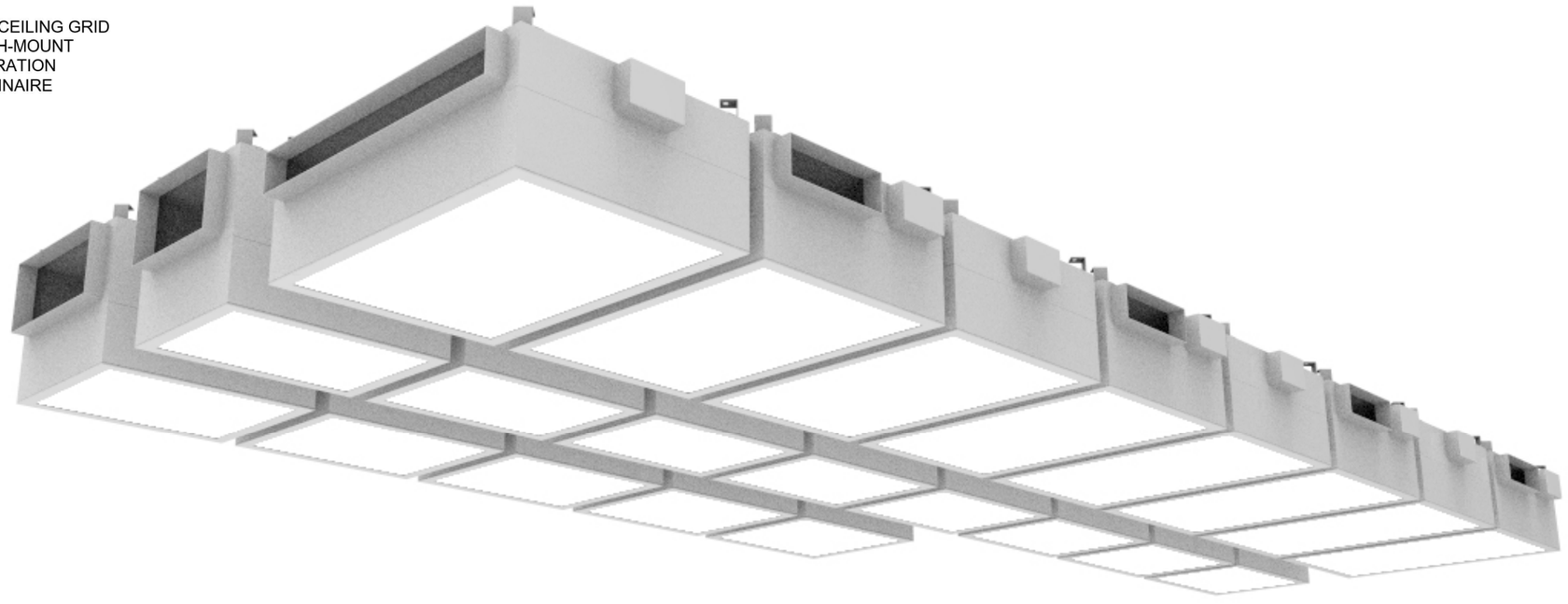
03/08/2023 8:32:31 PM

FEATURES:

- LAMINAR FLOW DIFFUSER ARRAY WITH INTEGRATED HIGH-PERFORMANCE LED LIGHTS INSIDE EACH INDIVIDUAL MODULE
- FULLY CUSTOMIZABLE TO MATCH THE DEMANDING AND OFTEN CROWDED MODERN HOSPITAL AND CLEANROOM CEILING LAYOUTS
- OPTIONAL PERIMETER HGWC WELDED CEILING GRID SUPPORTS ACCESS PANELS AND FLUSH-MOUNT PANELS FOR EQUIPMENT BOOM INTEGRATION
- UL 1598 CERTIFIED, AIR-HANDLING LUMINAIRE



PRCTI20221788

C ETL US LISTED Intertek

price | CRITICAL ENVIRONMENTS

Project:
GSH Hybrid OR

PXY87500	Revision: D	03-11-2022

ULTRASUITE® 360°

OPERATING ROOM DIFFUSER SYSTEM WITH INTEGRATED LED LIGHTING

3D INTERACTIVE MODEL - HYBRID OR

Authorized to Begin Construction

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03/08/2023 8:32:39 PM

ORDER OF INSTALLATION
(CLICK BUTTONS TO TOGGLE VIEWS)

CEILING LEVEL SUPPORT STRUT

CLOSURE STRIP

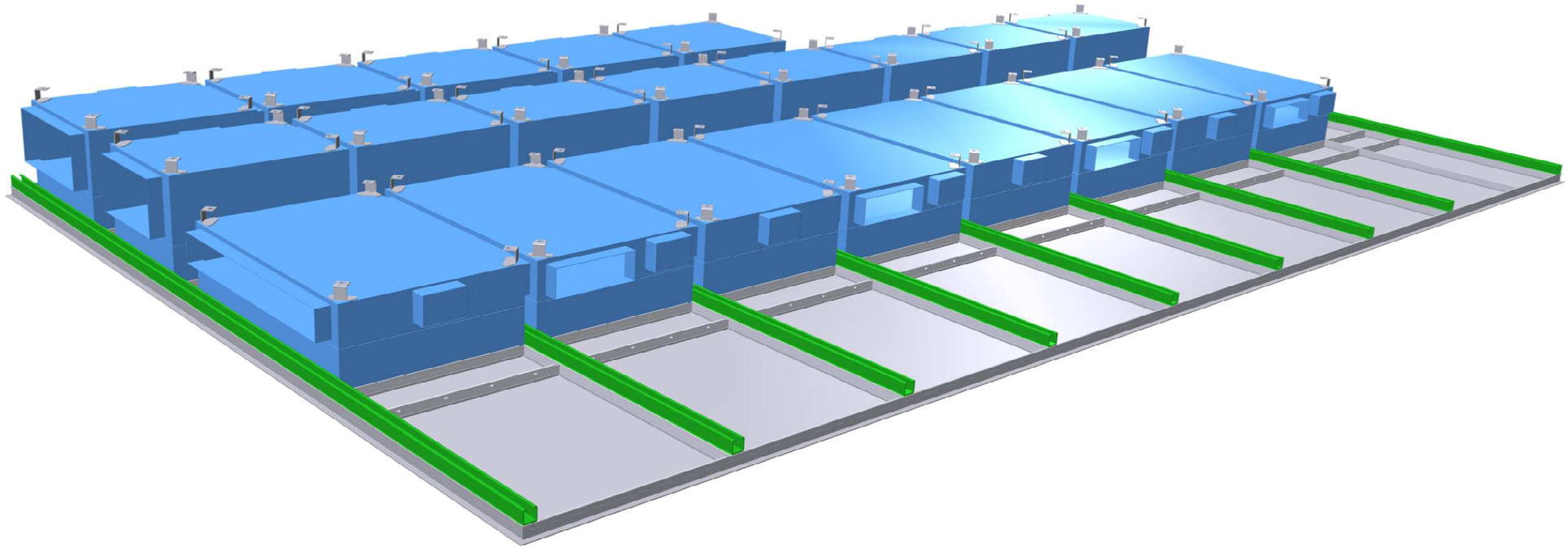
HGWC CEILING GRID
(View A)

ULTRASUITE
(View A)

ULTRASUITE
(View B)

CP-SC CEILING PANELS

FINAL INSTALLATION



PRCTI20221788

CLICK IMAGE TO ACTIVATE 3D PDF

- USE THE SCROLL WHEEL TO ZOOM
- HOLD DOWN THE LEFT MOUSE BUTTON TO ROTATE
- HOLD DOWN CTRL AND LEFT MOUSE BUTTON TO MOVE

CEILING LEVEL SUPPORT STRUT, SUPPORT TO STRUCTURE, AND MEDICAL EQUIPMENT SUPPORT RAILS ARE DESIGNED, PROVIDED, AND INSTALLED BY OTHERS

price | CRITICAL ENVIRONMENTS

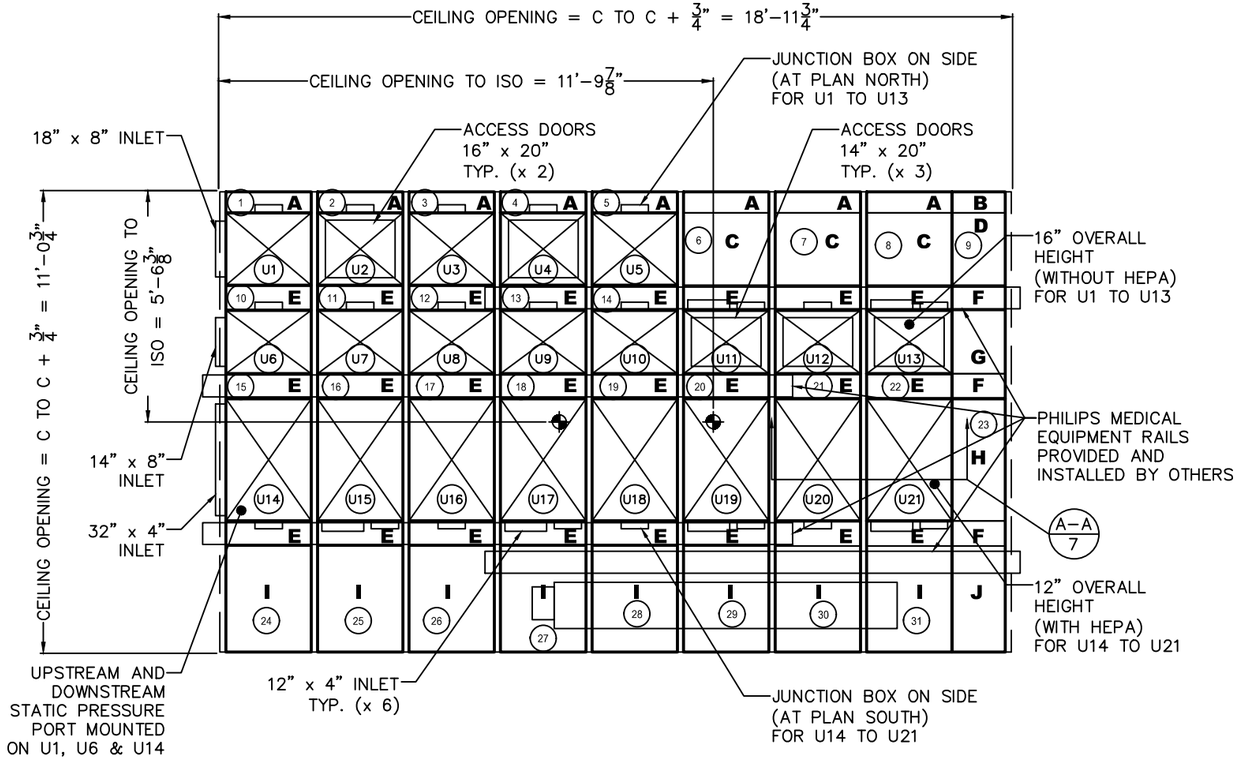
Project:
GSH Hybrid OR

PXY87500	Revision: D	03-11-2022

ULTRASUITE®

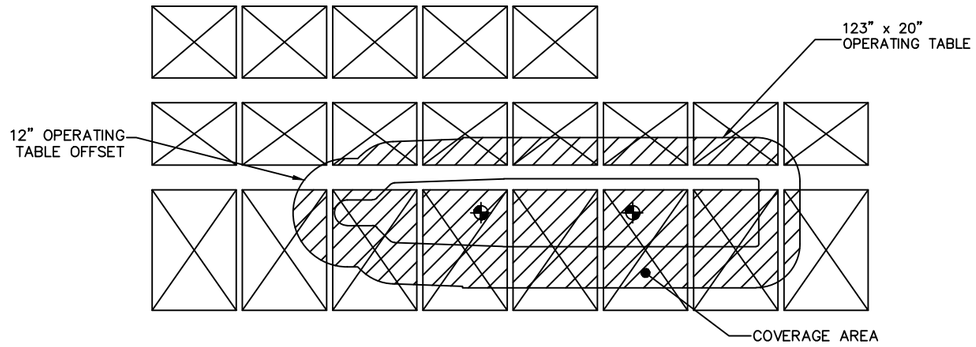
OPERATING ROOM DIFFUSER SYSTEM WITH INTEGRATED LED LIGHTING

REFLECTED CEILING PLAN - HYBRID OR



TOTAL AREA = 208 sq. ft.		
USA = 88 sq. ft.	**HGWC = 120 sq. ft.**	
USA - ULTRASUITE MODULE 18 x 24.2 (x 8) 20.6 x 24.2 (x 5) 24.2 x 34.6 (x 8)	**SC - SOLID CORE ACCESS PANELS** A: 5.9 x 24.2 (x 8) B: 5.9 x 15.1 (x 1) C: 20.6 x 24.2 (x 3) D: 15.1 x 20.6 (x 1) E: 7.1 x 24.2 (x 24) F: 7.1 x 15.1 (x 3) G: 15.1 x 18.0 (x 1) H: 15.1 x 34.6 (x 1) I: 24.2 x 30.1 (x 8) J: 15.1 x 30.1 (x 1)	**HGWC PERIMETER HALF TEE** 120" (x 8)

ASHRAE 170-2021 TABLE COVERAGE VERIFICATION - HYBRID OR



THIS LAYOUT COMPLIES WITH ASHRAE 170-2021 7.4.1.b.	
ASHRAE 170-2021 7.4.1.a. COMPLIANCE AIRFLOW RANGE	**ASHRAE 170-2021 7.4.1.b. COMPLIANCE**
2200 - 3080 CFM BASED ON 88 SQFT	24% OF THE 12" OPERATING TABLE EXTENSION USED FOR NON DIFFUSER USES

ASHRAE 170-2021

7.4.1.a. - THE AIRFLOW SHALL BE UNIDIRECTIONAL, DOWNWARDS, AND THE **AVERAGE VELOCITY OF THE DIFFUSERS SHALL BE 25 TO 35 CFM/SQFT** (127 TO 178 L/S/SQM). THE DIFFUSERS SHALL BE CONCENTRATED TO PROVIDE AN AIRFLOW PATTERN OVER THE PATIENT AND SURGICAL TEAM.

7.4.1.b. - THE COVERAGE AREA OF THE PRIMARY SUPPLY DIFFUSER ARRAY SHALL EXTEND A MINIMUM OF 12 IN. (305 mm) BEYOND THE FOOTPRINT OF THE SURGICAL TABLE ON EACH SIDE. WITHIN THE PORTION OF THE PRIMARY SUPPLY DIFFUSER ARRAY THAT CONSISTS **OF AN AREA ENCOMPASSING 12 IN. (305mm) ON EACH SIDE OF THE FOOTPRINT OF THE SURGICAL TABLE, NO MORE THAN 30% OF THIS PORTION OF THE PRIMARY SUPPLY DIFFUSER ARRAY AREA SHALL BE USED FOR NON DIFFUSER USES** SUCH AS LIGHTS, GAS COLUMNS, EQUIPMENT BOOMS, ACCESS PANELS, SPRINKLERS, ETC.

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03/08/2023 8:32:45 PM

PRCTI20221788

- B12 STANDARD WHITE FINISH
- PANEL CUTOUTS FOR BOOMS DONE IN FIELD BY OTHERS
- THE CEILING IS FACTORY PREMANUFACTURED TO SIZES AND TOLERANCE +/- 1/16"
- SITE ADJUSTMENTS TO PERIMETER SOFFITS AND/OR DRYWALL MAY BE REQUIRED AND ARE THE RESPONSIBILITY OF THE INSTALLER
- ASHRAE 170 VERIFICATION IS SHOWN TO ASSIST IN PROJECT COORDINATION. FINAL ASHRAE 170 COMPLIANCE, AS WELL AS COMPLIANCE WITH ALL APPLICABLE LOCAL CODES AND REQUIREMENTS REMAINS THE RESPONSIBILITY OF THE EOR ON THE PROJECT

price | CRITICAL ENVIRONMENTS

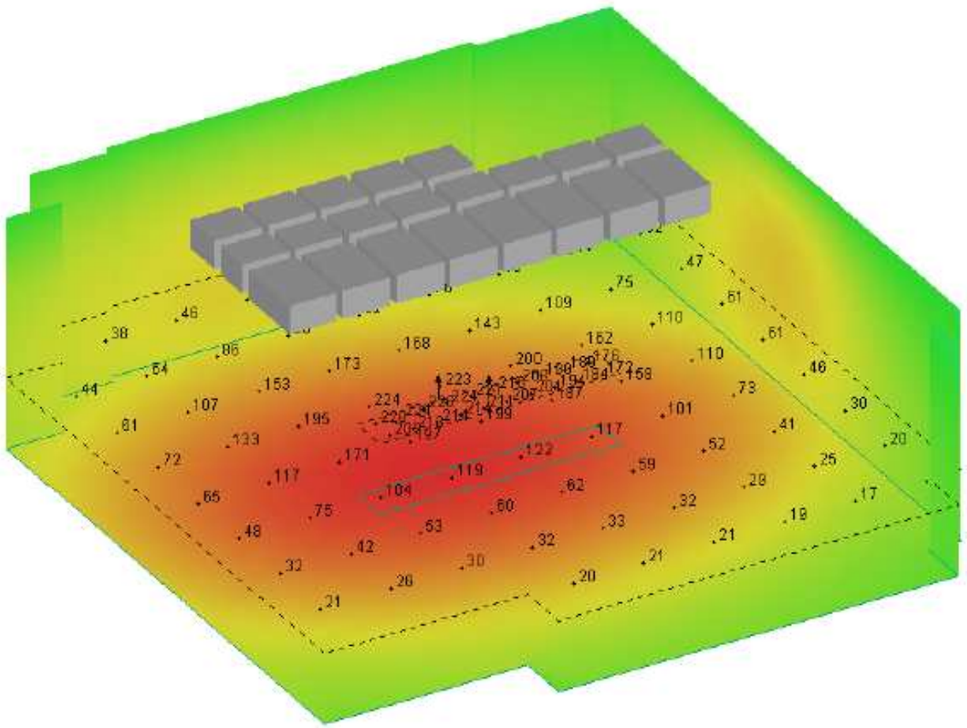
Project:
GSH Hybrid OR

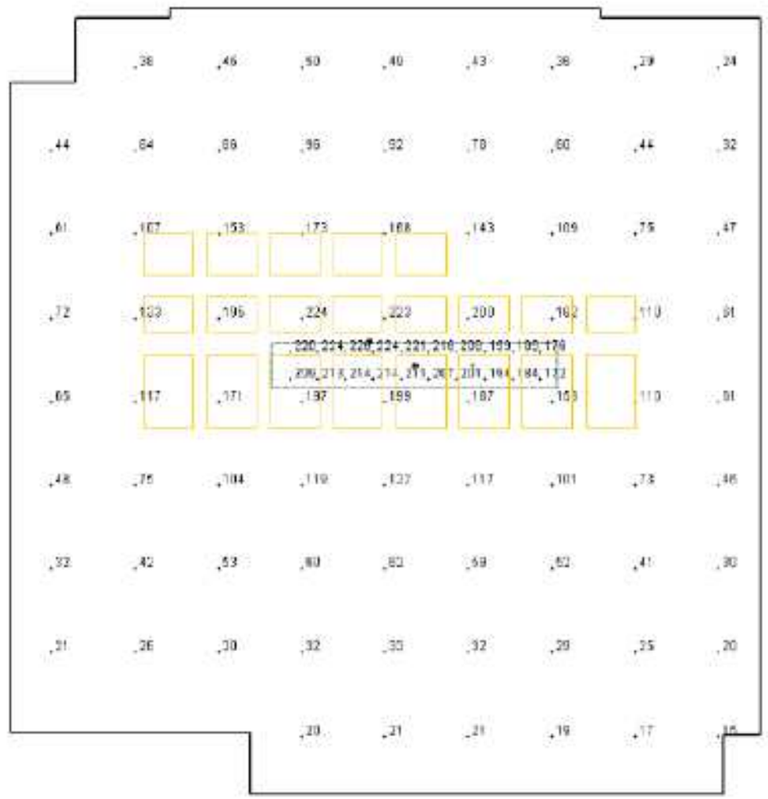
PXY87500	Revision: D	03-11-2022

ULTRASUITE®

OPERATING ROOM DIFFUSER SYSTEM WITH INTEGRATED LED LIGHTING

PHOTOMETRIC ANALYSIS - HYBRID OR





OPERATING TABLE		OPERATING AREA	
MAXIMUM	226 fc	MAXIMUM	224 fc
AVERAGE	206 fc	AVERAGE	80 fc

PRCTI20221788

- PHOTOMETRIC ANALYSIS BASED ON A 3' CALCULATION ZONE, 731 ROOM SQFT & 9' 9 5/16" CEILING HEIGHT.
- ANSI/IES RP-29-16 RECOMMENDS 3000 LUX (279 FC) AT THE OPERATING TABLE
- LIGHTING ANALYSIS HAS BEEN PERFORMED USING LAB TESTED .IES FILES AND CALCULATED DATA.
- THIS LAYOUT REFLECTS TWO ROWS OF 5000K, 90+ CRI LEDS PER MODULE. A THIRD ROW, HIGH OUTPUT OPTION IS AVAILABLE.
- LIGHTING CALCULATIONS ARE ESTIMATED USING BEST PRACTICE AND MAY DIFFER SLIGHTLY FROM ACTUAL FIELD CONDITIONS.

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

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03/08/2023 8:32:49 PM

LUMINAIRE HEIGHT: 9" 9 5/16 "
CALCULATION ZONE: 3 FT

price | CRITICAL ENVIRONMENTS

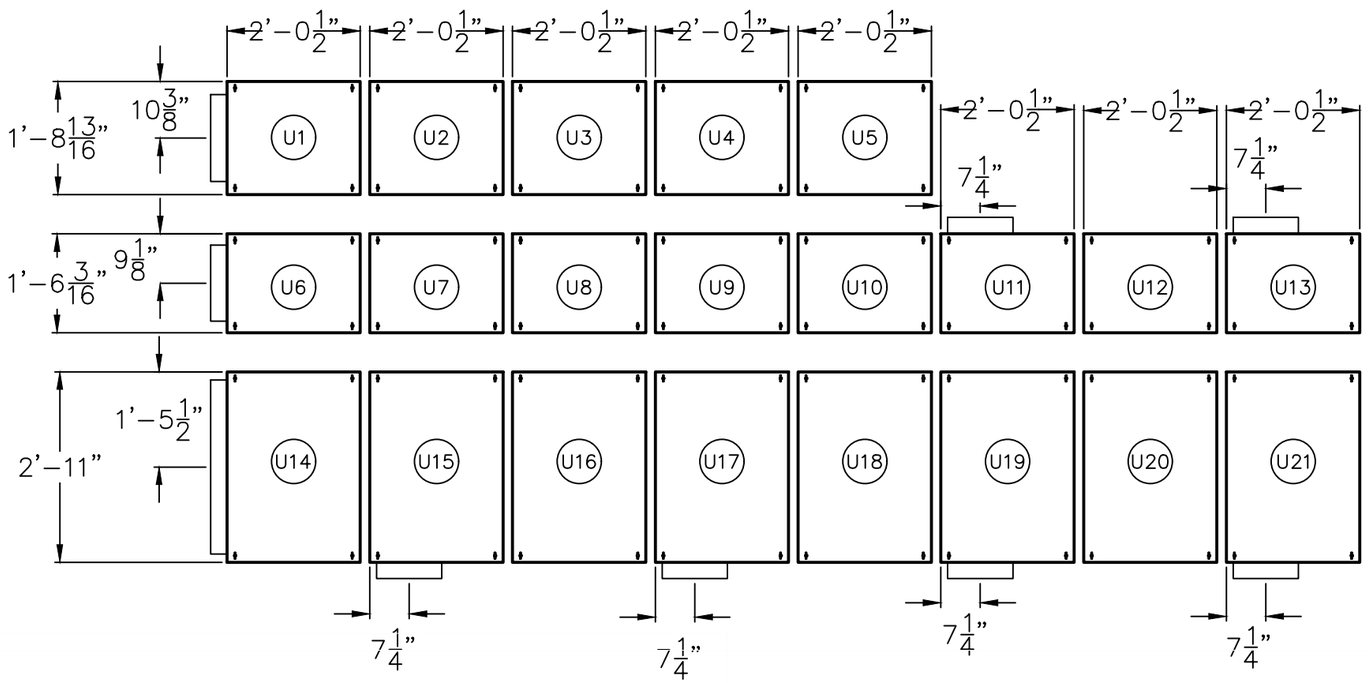
Project:
GSH Hybrid OR

PXY87500	Revision: D	03-11-2022

ULTRASUITE®

OPERATING ROOM DIFFUSER SYSTEM WITH INTEGRATED LED LIGHTING

ULTRASUITE SHIP SECTION BREAKDOWN - HYBRID OR



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PRCTI20221788

- MOUNTING LOCATIONS ARE SHOWN FOR REFERENCE ONLY. EXACT MOUTING LOCATIONS TO BE DETERMINED BY THE EOR ON THE PROJECT AND MUST COMPLY WITH ALL APPLICABLE CODES AND STANDARDS.

price | CRITICAL ENVIRONMENTS

Project:
GSH Hybrid OR

PXY87500	Revision: D	03-11-2022

ULTRASUITE®

OPERATING ROOM DIFFUSER SYSTEM WITH INTEGRATED LED LIGHTING

○ URDC ULTRA REMOTE DRIVER CABINETS - STANDARD WIRING WITH MULTIPLE DIMMING ZONES - HYBRID OR

Authorized to Begin Construction

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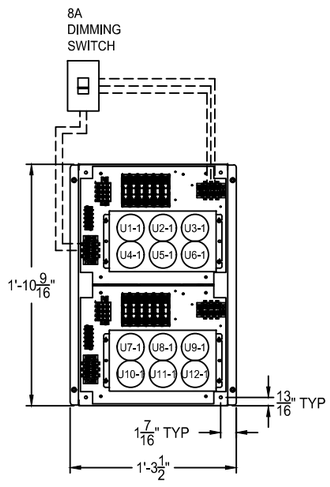
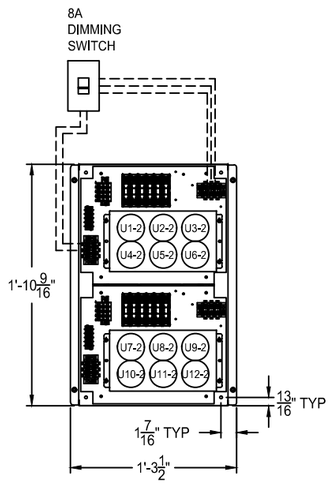
CABINET 1 OF 4 CONTROLS FIRST ROW OF U1-U12 MODULES WITH 2 DRIVERS					
DRIVER TAG	LED WATTAGE	LED Driver Loading (%)	DRIVER TAG	LED WATTAGE	LED Driver Loading (%)
U1-1	49	49%	U7-1	46	46%
U2-1	49		U8-1	46	
U3-1	49		U9-1	46	
U4-1	49		U10-1	46	
U5-1	49		U11-1	46	
U6-1	46		U12-1	46	
Total Wattage:		567 WATTS	AC Current:		5.8A/277VAC

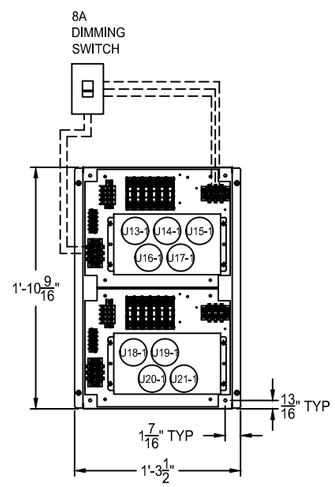
CABINET 2 OF 4 CONTROLS SECOND ROW OF U1-U12 MODULES WITH 2 DRIVERS					
DRIVER TAG	LED WATTAGE	LED Driver Loading (%)	DRIVER TAG	LED WATTAGE	LED Driver Loading (%)
U1-2	49	49%	U7-2	46	46%
U2-2	49		U8-2	46	
U3-2	49		U9-2	46	
U4-2	49		U10-2	46	
U5-2	49		U11-2	46	
U6-2	46		U12-2	46	
Total Wattage:		567 WATTS	AC Current:		5.8A/277VAC

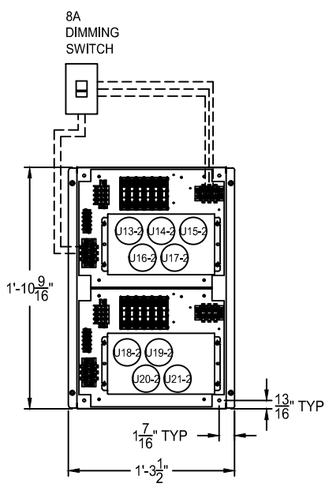
CABINET 3 OF 4 CONTROLS FIRST ROW OF U13-U21 MODULES WITH 2 DRIVERS					
DRIVER TAG	LED WATTAGE	LED Driver Loading (%)	DRIVER TAG	LED WATTAGE	LED Driver Loading (%)
U13-1	46	53%	U18-1	68	45%
U14-1	68		U19-1	68	
U15-1	68		U20-1	68	
U16-1	68		U21-1	68	
U17-1	68				
Total Wattage:		590 WATTS	AC Current:		5.8A/277VAC

CABINET 4 OF 4 CONTROLS SECOND ROW OF U13-U21 MODULES WITH 2 DRIVERS					
DRIVER TAG	LED WATTAGE	LED Driver Loading (%)	DRIVER TAG	LED WATTAGE	LED Driver Loading (%)
U13-2	46	53%	U18-2	68	45%
U14-2	68		U19-2	68	
U15-2	68		U20-2	68	
U16-2	68		U21-2	68	
U17-2	68				
Total Wattage:		590 WATTS	AC Current:		5.8A/277VAC





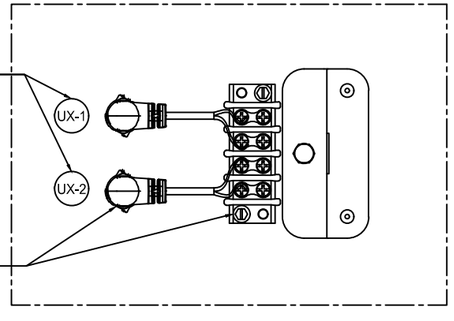




EACH STANDARD MODULE COMES WITH TWO ROWS OF LEDS THAT EACH REQUIRE ONE (+ & -) LOW VOLTAGE FIELD CONNECTION AND ARE NOTED BY A "UX-X" LABEL.
A THIRD ROW, HIGH OUTPUT OPTION IS AVAILABLE IF REQUIRED.

EACH STANDARD MODULE COMES WITH 2 ROWS OF LED LIGHTS AND EACH ROW OF LIGHTS IS NOTED BY A "UX-X" LABEL. THE "UX" CORRESPONDS TO AN INDIVIDUAL MODULE REFERENCED IN THE RCP AND THE "-1" AND "-2" CORRESPONDS TO THE ROW OF LEDS FOR THAT MODULE.
EACH "UX-X" LABEL CORRESPONDS TO ONE (+ & -) LOW VOLTAGE WIRE TO BE FIELD CONNECTED TO URDC DRIVER CABINET AS PER THE MATCHING LABELS.
EACH 100W DRIVER CAN POWER 1 ROW OF LEDS (ONE HALF OF A MODULE) AND EACH 600W DRIVER CAN CONTROL 6 ROWS OF LEDS (3 MODULES)

EACH MODULE COMES WITH A TOP MOUNTED TERMINAL BLOCK ENCLOSURE (COVER NOT SHOWN) FOR LOW VOLTAGE FIELD CONNECTIONS.
QUICK CONNECT FITTING IS SEALED THROUGH PLENUM AND ALL INTERNAL WIRING IS COMPLETED IN THE FACTORY. EACH ROW OF LEDS REQUIRES ONE (+&-) LOW VOLTAGE FIELD CONNECTIONS (TWO PER MODULE)



- INSTALLATION WORK AND ELECTRICAL WIRING MUST BE COMPLETED BY A CERTIFIED ELECTRICIAN AND/OR QUALIFIED PERSON(S) IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES AND STANDARDS

PRCTI20221788

price | CRITICAL ENVIRONMENTS

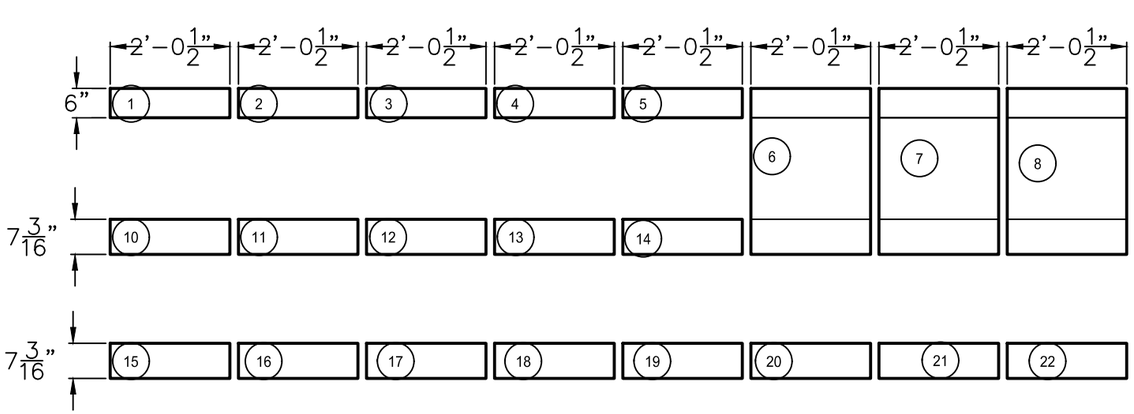
Project:
GSH Hybrid OR

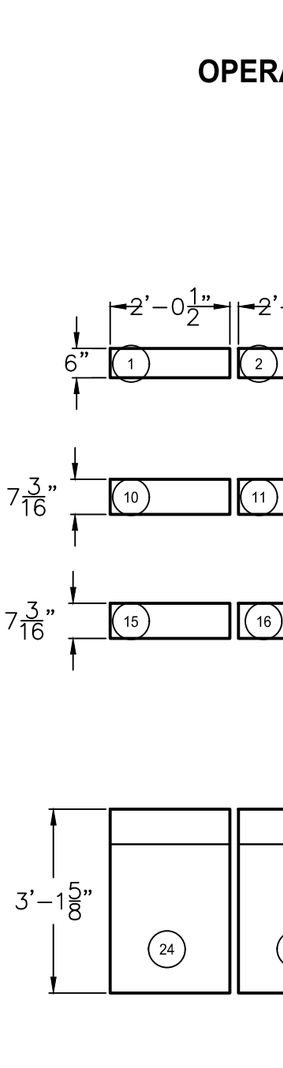
PXY87500	Revision: D	03-11-2022

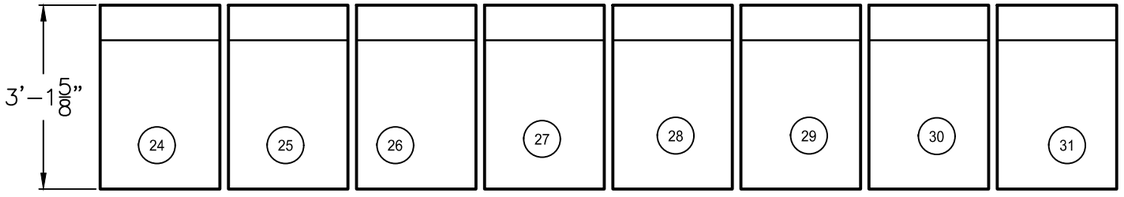
ULTRASUITE®

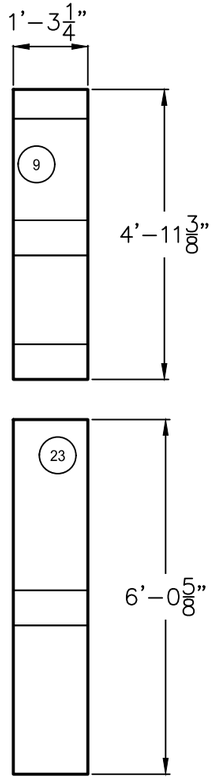
OPERATING ROOM DIFFUSER SYSTEM WITH INTEGRATED LED LIGHTING

HGWC SHIP SECTION BREAKDOWN - HYBRID OR









Authorized to Begin Construction

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- This is not a building permit, check with your local building department.

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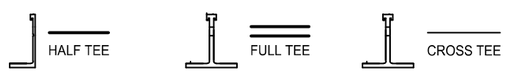
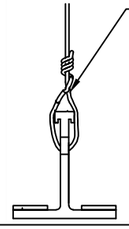
PRCTI20221788



- THE HGWC GRID IS SUPPLIED IN MULTIPLE FACTORY ASSEMBLED SECTIONS NO LARGER THAN 10'x4'
- THE CEILING IS FACTORY PRE-MANUFACTURED TO SIZES AND TOLERANCE +/- 1/16"

TOTAL CEILING SYSTEM WEIGHT =	748 lbs
USA =	616 lbs
HGWC =	60 lbs
PANELS =	72 lbs



HGWC SECTIONS TO BE HUNG WITH PRE-STRESSED 12 GA. HANGER WIRE TO SLAB OR STRUCTURAL STEEL ABOVE THE CEILING ACCORDING TO ASTM C636, OR LOCAL BUILDING CODES (AS APPLICABLE)
PRICE RECOMMENDS MAXIMUM DISTANCE BETWEEN HANGER WIRE TO BE ~48"
ALL FULL TEES AND CROSS TEES FACTORY PUNCHED EVERY ~6"

price | CRITICAL ENVIRONMENTS

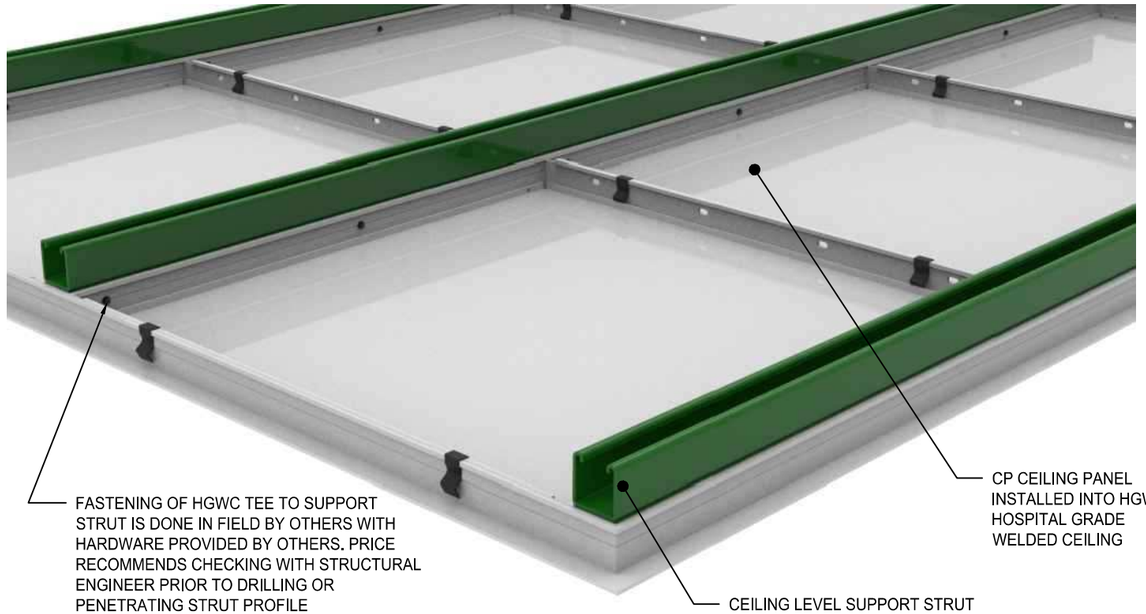
Project:
GSH Hybrid OR

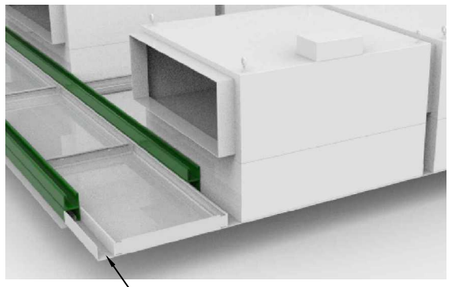
PXY87500	Revision: D	03-11-2022

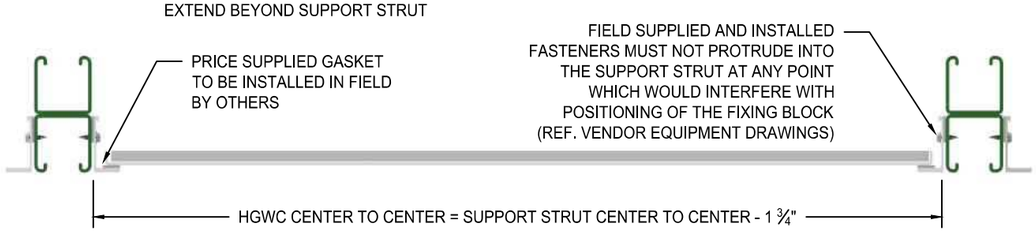
ULTRASUITE®

OPERATING ROOM DIFFUSER SYSTEM WITH INTEGRATED LED LIGHTING

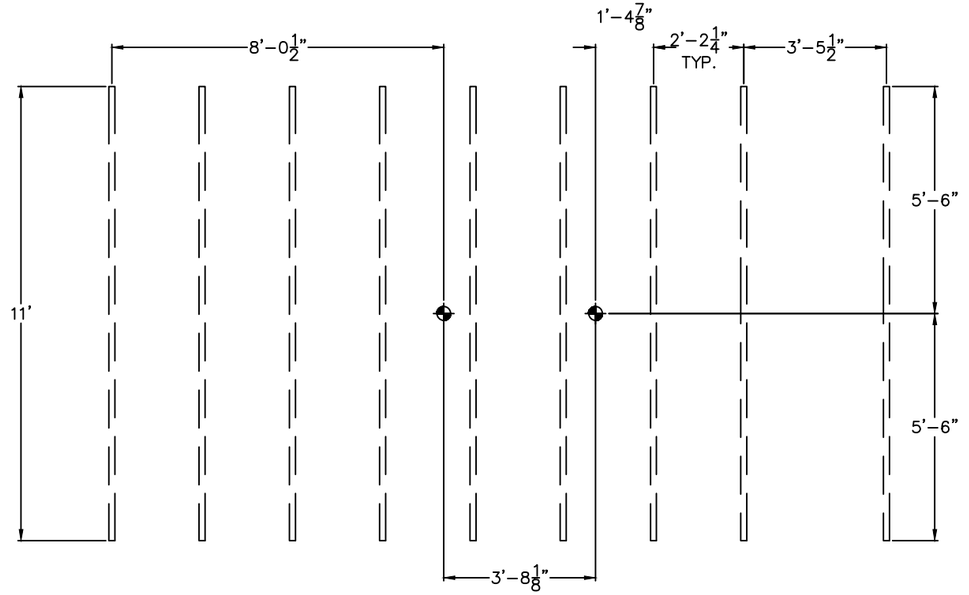
CEILING LEVEL SUPPORT STRUT INTEGRATION DETAIL







CEILING LEVEL SUPPORT STRUT LAYOUT - HYBRID OR



CEILING LEVEL SUPPORT STRUT = 99 ft.

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- This is not a building permit, check with your local building department.

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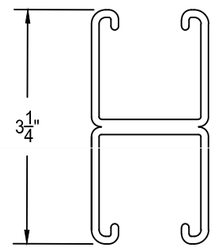


CEILING LEVEL SUPPORT STRUT HEIGHT, GC/AHJ TO COORDINATE, AND ADVISE PRICE OF ANY DISCREPANCIES OR DEVIATIONS

PRCTI20221788

- CEILING SYSTEM SUPPORT STRUT GRID AND ALL SECONDARY SUPPORT TO STRUCTURE TO BE DESIGN, COORDINATED, PROVIDED, AND INSTALLED BY OTHERS
- CEILING LEVEL SUPPORT STRUT INTEGRATION DETAILS REPRESENT PRICE RECOMMENDATIONS AND BEST PRACTICE.
- PRICE CEILING SYSTEM HAS BEEN DESIGNED TO INTEGRATE WITH CEILING LEVEL SUPPORT STRUT LAYOUT AS SHOWN. GC/AHJ TO COORDINATE, AND ADVISE PRICE OF ANY DISCREPANCIES OR DEVIATIONS

price | CRITICAL ENVIRONMENTS

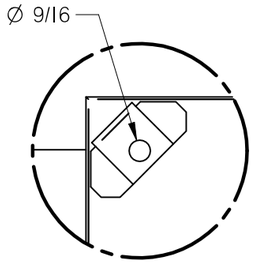
Project:
GSH Hybrid OR

PXY87500	Revision: D	03-11-2022

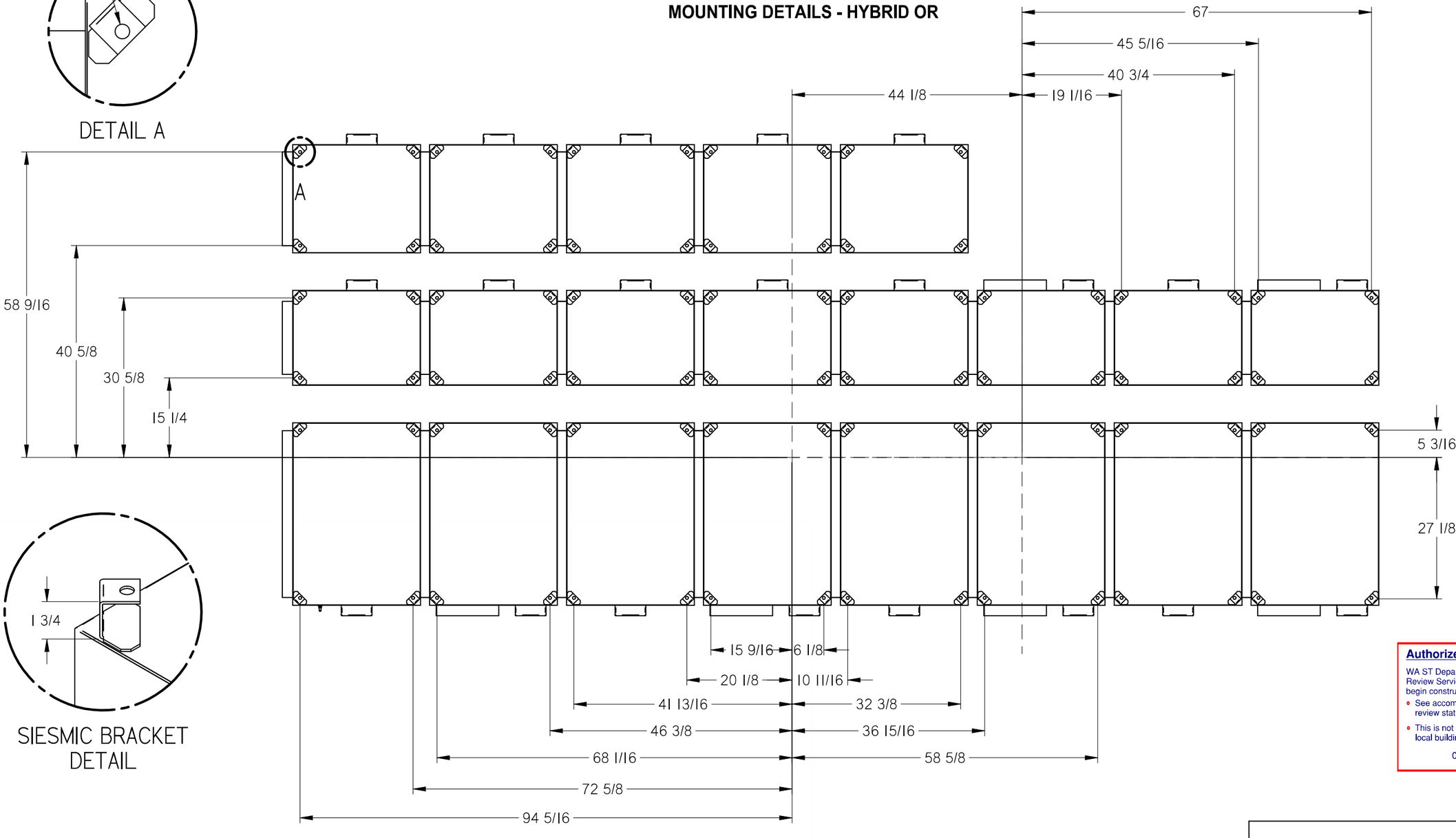
ULTRASUITE®

OPERATING ROOM DIFFUSER SYSTEM WITH INTEGRATED LED LIGHTING

MOUNTING DETAILS - HYBRID OR



DETAIL A



SIESMIC BRACKET DETAIL

Authorized to Begin Construction

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03/08/2023 8:33:15 PM

-OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL AS PER OSP-0627-10
-12 GA GALVANIZED STEEL HANGER BRACKETS
-MASON SCB2/SCBH2 CABLE BRACES REQUIRED AS PER OSP-0627-10 REPORT
-LATERAL BRACING REQUIRED AS PER OSP-0627-10 REPORT
-MOUNTING HARDWARE & SUPPORTS PROVIDED BY OTHERS.
-BOOM DIMENSIONS ARE SHOWN TO CENTER OF CEILING PANEL.
-HANGING POINTS DETERMINED BY OTHERS. RECOMMENDED MAX SPACING BETWEEN HANGING POINTS IS 50".
-INSTALLATION WORK MUST BE DONE BY QUALIFIED PERSON(S) IN ACCORDANCE WITH ALL APPLICABLE CODES & STANDARDS.

PRCTI20221788

price | CRITICAL ENVIRONMENTS

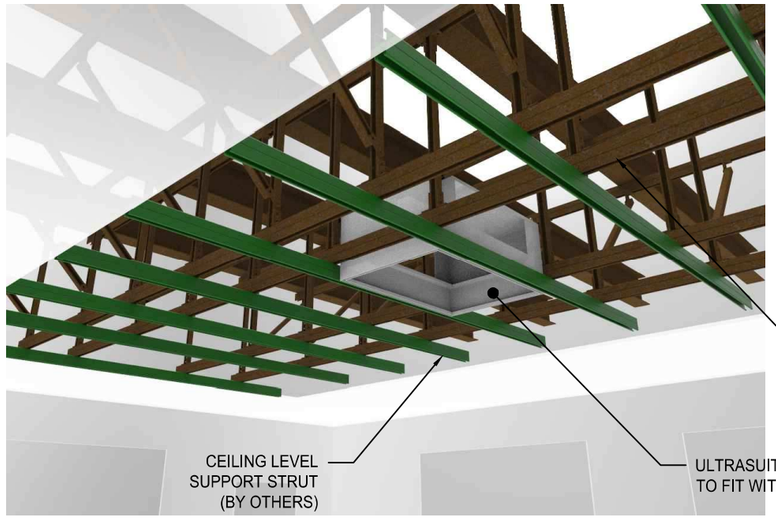
Project:
GSH Hybrid OR

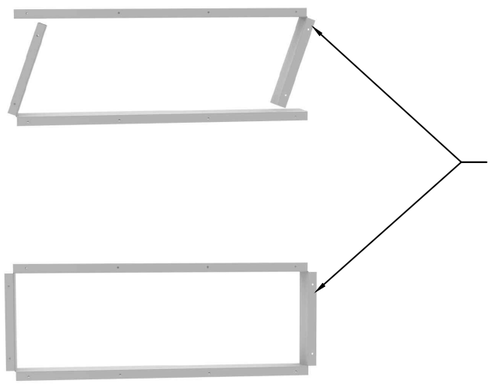
PXY87500	Revision: D	03-11-2022

ULTRASUITE®

OPERATING ROOM DIFFUSER SYSTEM WITH INTEGRATED LED LIGHTING

INLET MANIFOLD INSTALLATION DETAILS





PRCTI20221788

- CEILING SYSTEM SUPPORT STRUT GRID AND ALL SECONDARY SUPPORT TO STRUCTURE TO BE DESIGN, COORDINATED, PROVIDED, AND INSTALLED BY OTHERS
- CEILING LEVEL SUPPORT STRUT INTEGRATION DETAILS REPRESENT PRICE RECOMMENDATIONS AND BEST PRACTICE.
- PRICE CEILING SYSTEM HAS BEEN DESIGNED TO INTEGRATE WITH CEILING LEVEL SUPPORT STRUT LAYOUT AS SHOWN. GC/AHJ TO COORDINATE, AND ADVISE PRICE OF ANY DISCREPANCIES OR DEVIATIONS

Authorized to Begin Construction

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price | CRITICAL ENVIRONMENTS

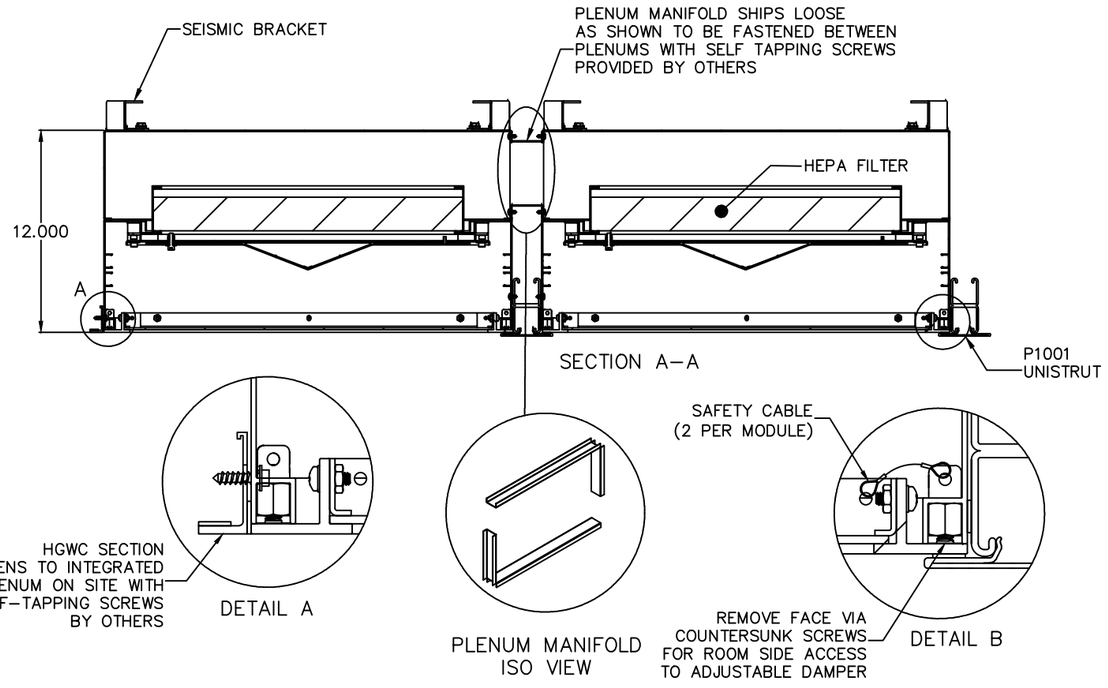
Project:
GSH Hybrid OR

PXY87500	Revision: D	03-11-2022

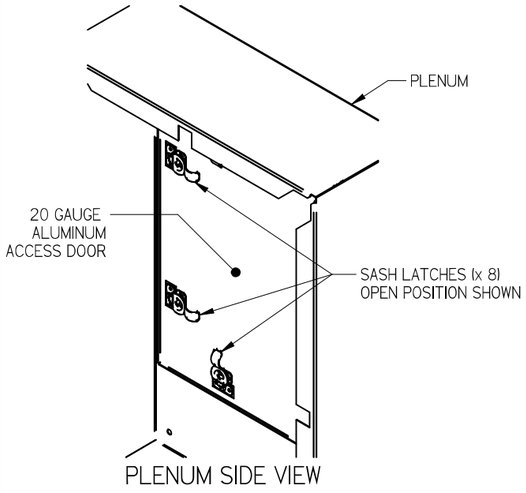
ULTRASUITE®

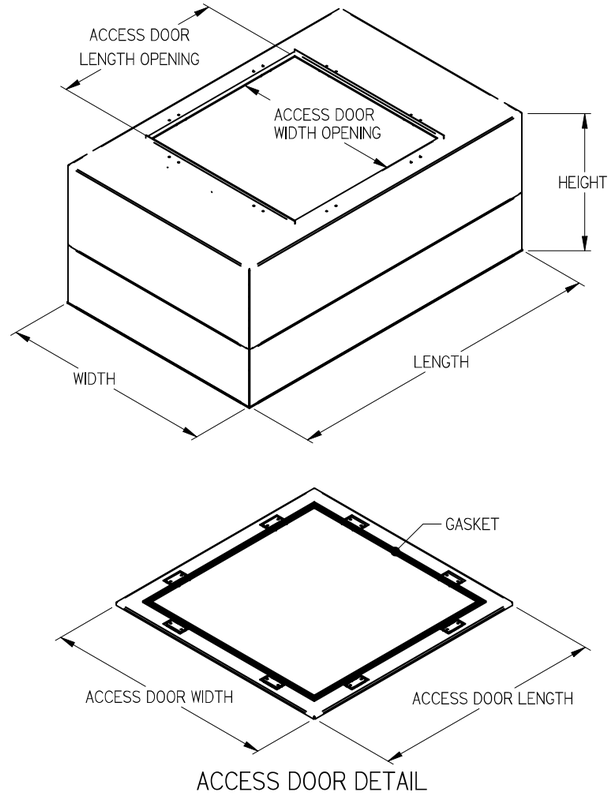
OPERATING ROOM DIFFUSER SYSTEM WITH INTEGRATED LED LIGHTING

INLET MANIFOLD DETAILS - HYBRID OR



ACCESS DOOR DETAILS- HYBRID OR





MODULE WIDTH	MODULE LENGTH	ACCESS DOOR WIDTH	ACCESS DOOR LENGTH	ACCESS DOOR WIDTH OPENING	ACCESS DOOR LENGTH OPENING
24.500	20.785	20.000	16.000	17.000	13.000
24.500	18.188	20.000	14.000	17.000	11.000

STANDARD CONSTRUCTION

14 GA (.064 THICK) ALUMINUM PLENUM
EXTRUDED ALUMINUM OUTER FRAME AND DIFFUSER FACE FRAME
TIG WELDED PLENUM, DIFFUSER FACE AND OUTER FRAME
ZINC PLATED EYE BOLTS FOR HANGING
ROOM SIDE ADJUSTABLE APERTURE PLATE DAMPER
2 STAINLESS STEEL RETAINER CABLES PER DIFFUSER FACE
DIFFUSER FACE SECURED WITH COUNTERSUNK FLAT HEAD MACHINE SCREWS
20 GAUGE ACCESS DOOR c/w SASH LATCHES FOR ACCESS

PRCTI20221788

Authorized to Begin Construction

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03/08/2023 8:33:23 PM

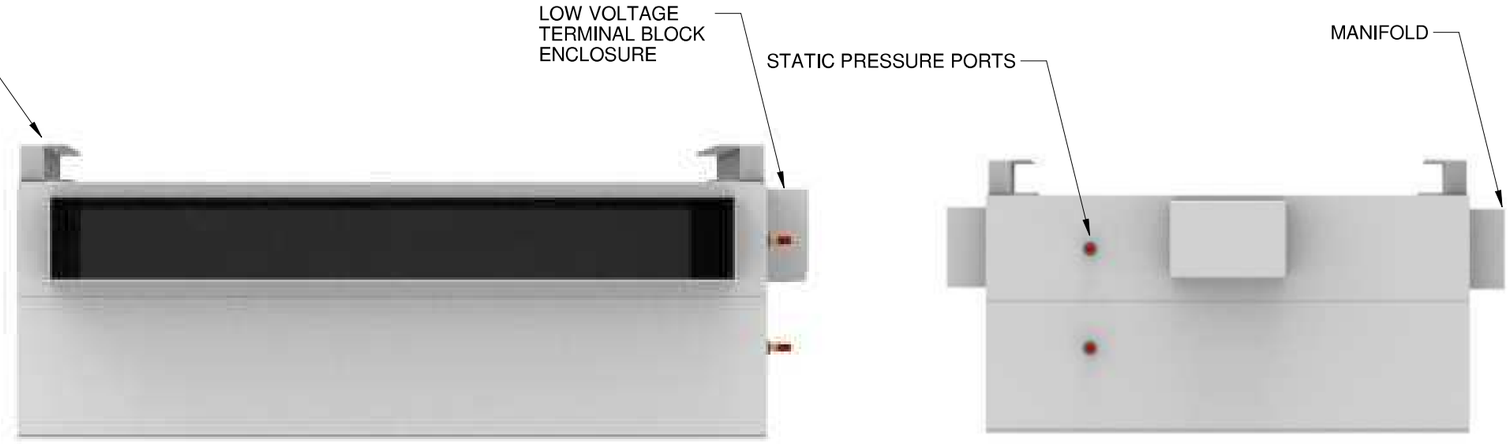
price | CRITICAL ENVIRONMENTS

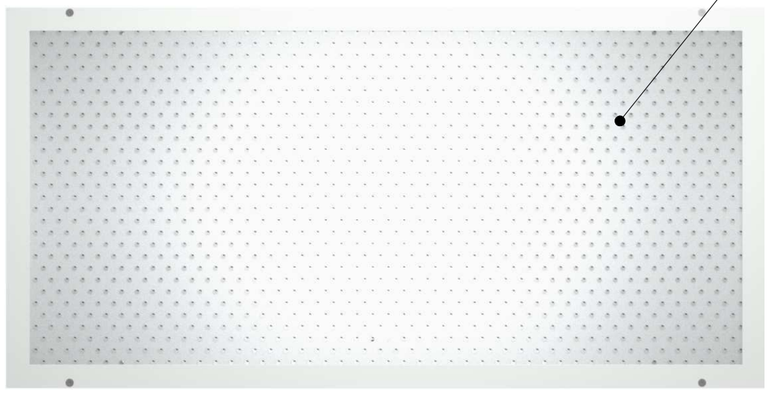
Project:
GSH Hybrid OR

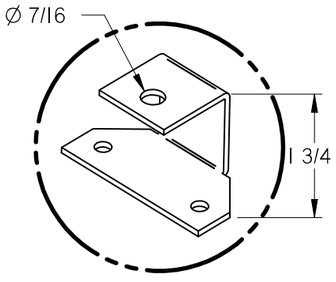
PXY87500	Revision: D	03-11-2022

ULTRASUITE®

OPERATING ROOM DIFFUSER SYSTEM WITH INTEGRATED LED LIGHTING







HANGING TABS FOR 3/8" THREADED ROD PROVIDED BY OTHERS

STANDARD CONSTRUCTION
- 14 GA (.064" THICK) ALUMINUM PLENUM
- EXTRUDED ALUMINUM OUTER FRAME AND DIFFUSER FACE FRAME
- TIG WELDED PLENUM, DIFFUSER FACE AND OUTER FRAME
- SEISMIC BRACKETS AVAILABLE FOR SEISMIC CERTIFICATION PRE-APPROVAL AS PER OSP-0627-10
- ROOM-SIDE ADJUSTABLE APERTURE PLATE DAMPER
- 2 STAINLESS STEEL RETAINER CABLES PER DIFFUSER FACE
- DIFFUSER FACE SECURED WITH COUNTERSUNK FLAT HEAD MACHINE SCREWS

LED LIGHTING SPECIFICATIONS
- LED LIGHTING INTEGRATED INTO EACH DIFFUSER MODULE
- IP67 RATED LED STRIP WITH QUICK CONNECTORS
- COLOR RENDERING INDEX (CRI) 90
- L80>60,000 HRS
- FOR IES PHOTOMETRIC FILES VISIT: www.priceindustries.com/criticalenvironments/products/ultrasuite

FINISH
- B12 STANDARD WHITE

LED COLOR TEMPERATURE
- STANDARD 5000K (W935)

LISTINGS
- **UL 1598/CSA C22.2 #250.0** - AIR-HANDLING LUMINAIRES
- **UL 2043** - FIRE TEST FOR HEAT AND VISIBLE SMOKE RELEASE FOR DISCRETE PRODUCTS AND THEIR ACCESSORIES INSTALLED IN AIR-HANDLING SPACES
- **UL 2108/CSA 22.2#250.0** - LOW VOLTAGE LIGHTING SYSTEM
- **UL 8750/CSA-C22.2 #250.13** - LIGHT EMITTING DIODE (LED) EQUIPMENT FOR USE IN LIGHTING PRODUCTS
- **UL 1310/CSA C22.2 #223-M91** - CLASS 2 POWER UNITS
- **UL 94** - FLAMMABILITY OF PLASTIC MATERIALS FOR PARTS IN DEVICES AND APPLIANCES
- **IP 67** - RATED INGRESS PROTECTION AGAINST DUST AND LIQUIDS
- **MIL-STD-461** - ELECTROMAGNETIC COMPATIBILITY
- **OSP-0627-10** - SEISMIC PRE-APPROVAL

NOMINAL UNIT SIZE	WIDTH (W)	LENGTH (L)	HEIGHT (H)
18x24.2	18.188	24.500	16.000
20.6x24.2	20.785	24.500	16.000
24.2x34.6	24.500	35.000	12.000

PRCTI20221788

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

- See accompanying project comment form for review status and corrections.
- This is not a building permit, check with your local building department.

03/08/2023 8:33:29 PM

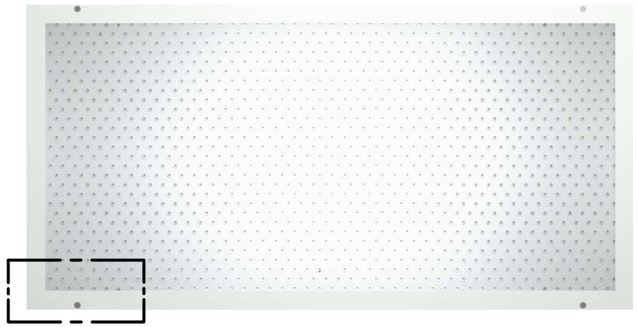
price | CRITICAL ENVIRONMENTS

Project:
GSH Hybrid OR

PXY87500	Revision: D	03-11-2022

ULTRASUITE®

OPERATING ROOM DIFFUSER SYSTEM WITH INTEGRATED LED LIGHTING



A

DETAIL A

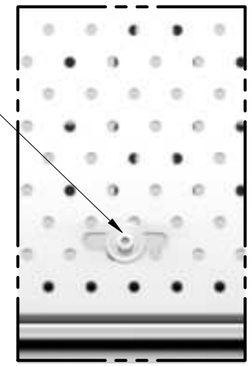
USE A 5/32" ALLEN KEY TO THE COUNTERSUNK FLAT HEAD SCREWS TO REMOVE THE PLASTIC DIFFUSER FACE
(x 4)

PLASTIC DIFFUSER FACE

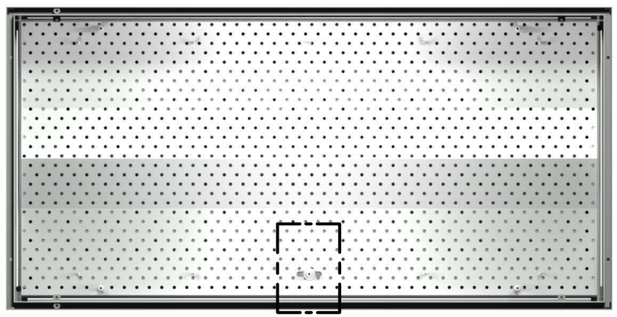
ADJUSTABLE APERTURE PLATE DAMPER

SLIDE DAMPER APERTURE PLATE FOR AIRFLOW ADJUSTMENT BY LOOSENING AND SLIDING THE SCREW WITH A 3/16" ALLEN KEY.

FULL LEFT OR FULL RIGHT TO CLOSED POSITION
CENTER TO OPEN POSITION



DETAIL B



B

Authorized to Begin Construction

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03/08/2023 8:33:33 PM

PRCTI20221788

price | CRITICAL ENVIRONMENTS

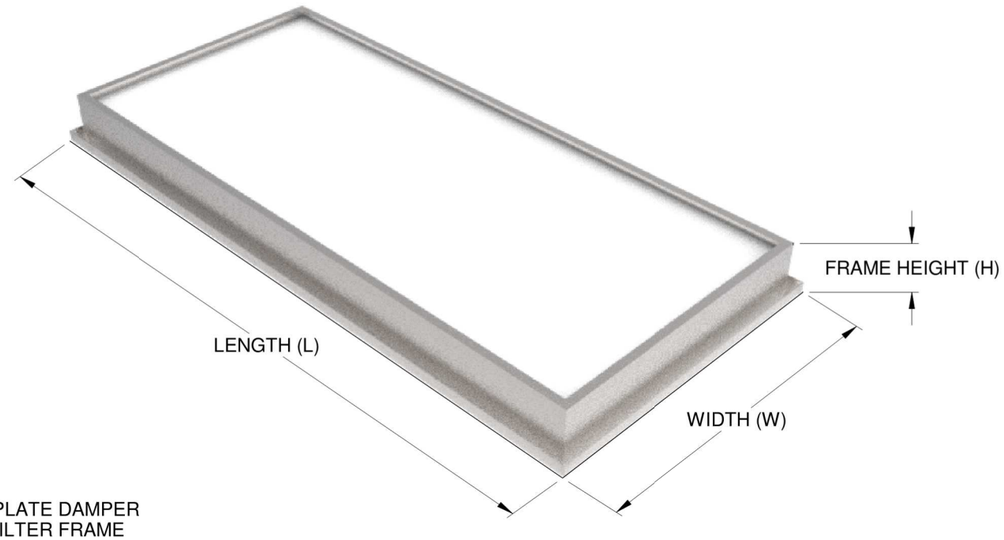
Project:
GSH Hybrid OR

PXY87500	Revision: D	03-11-2022

ULTRASUITE®

OPERATING ROOM DIFFUSER SYSTEM WITH INTEGRATED LED LIGHTING

ROOMSIDE HEPA FILTERATION



NOTES

- FILTER PLEATS RUN PARALLEL TO THE WIDTH (W) DIMENSION
- DIMENSIONS A & B TOLERANCES +/- $\frac{1}{16}$"
- FILTERS COME WITH GEL SEAL FILLED CHANNEL
- FRAME DETAILS:
  - MATERIAL: ANODIZED EXTRUDED ALUMINUM
  - THICKNESS: $\frac{1}{16}$" (MINIMUM)
- FILTERS ARE UL 900 CLASS 1 CERTIFIED
- EFFICIENCY AND LEAK SCAN TESTED
  - HEPA EFFICIENCY: 99.99% (.3 MICRON)
- MINIMUM MODULE WIDTH FOR ROOMSIDE HEPA FILTRATION IS 12"

TO BE SHIPPED AT A LATER DATE

ACTUAL FILTER SIZE		
WIDTH (W)	LENGTH (L)	HEIGHT (H)
13.818	20.13	2.88
16.415	20.13	2.88
20.13	30.63	2.88

PRCTI20221788

VISIT PRICE INDUSTRIES WEBSITE FOR FILTER QUICK START GUIDE
https://www.priceindustries.com/content/uploads/assets/literature/manuals/section%20e/ftr-room-side-replaceable-filter-rsr-quick-start-guide.pdf

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03/08/2023 8:33:38 PM

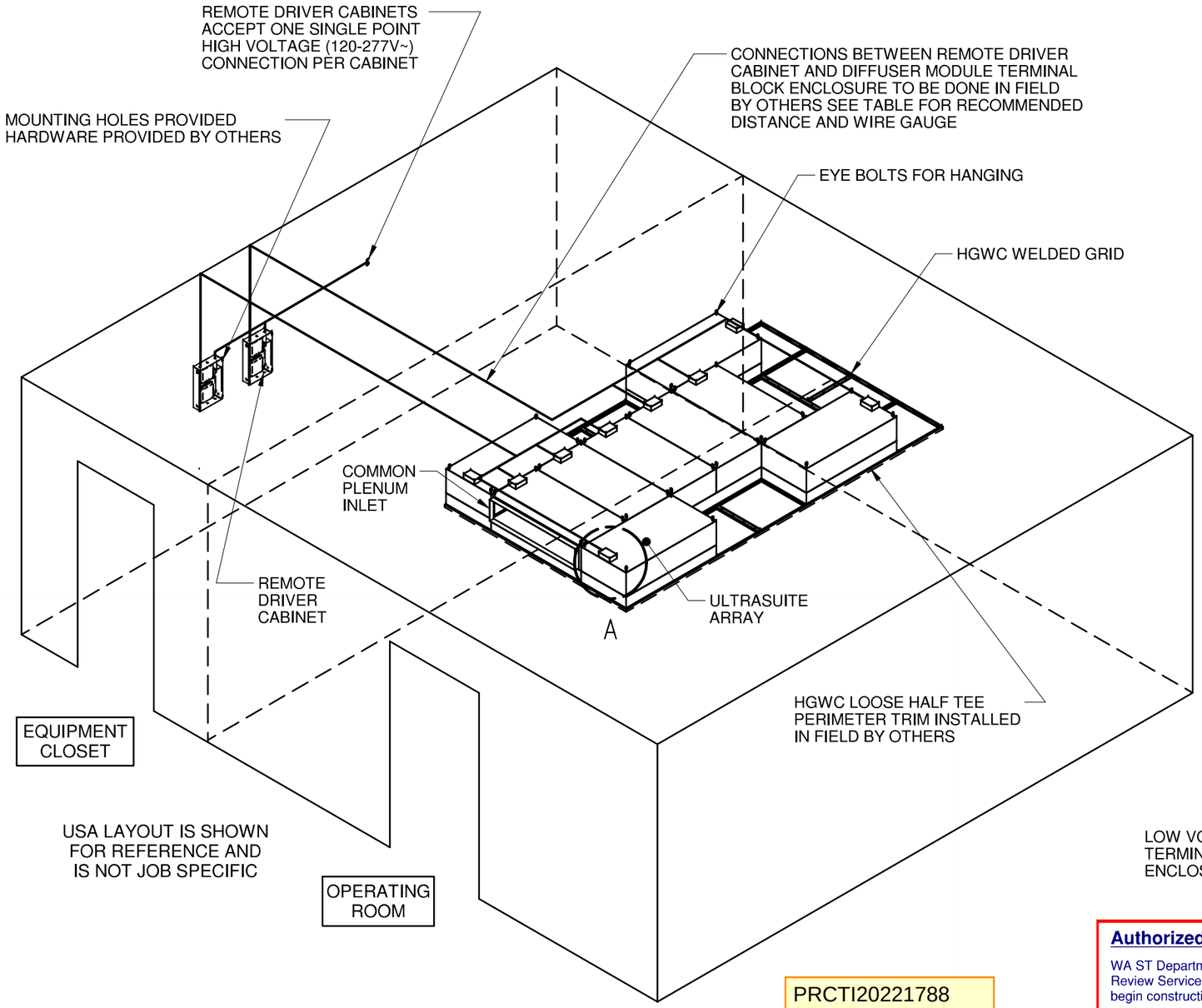
price | CRITICAL ENVIRONMENTS

Project:
GSH Hybrid OR

PXY87500	Revision: D	03-11-2022

ULTRASUITE®

OPERATING ROOM DIFFUSER SYSTEM WITH INTEGRATED LED LIGHTING



- REMOTE DRIVER CABINETS REQUIRE SINGLE POINT HIGH VOLTAGE (120-277V~) CONNECTION

- 0-10V DIMMER SHIPS LOOSE. THE TOTAL 0-10V CONTROL SIGNAL WIRING FOR THIS CONTROL SHOULD NOT EXCEED 500 ft. DO NOT USE WIRE SMALLER THAN 20 AWG.

- 0-10V DIMMER CONTROLS 1 DRIVER AT 120V~ AND UP TO 2 DRIVERS AT 277V~.

- LED DRIVERS SHIP FACTORY WIRED AND INSTALLED IN REMOTE DRIVER CABINET

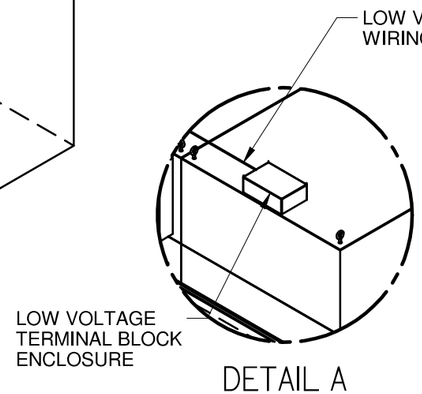
- LED DRIVERS OFFER CONTINUOUS, FLICKER-FREE DIMMING FROM 100% TO 10% WITH RELAY SHUTOFF

- ULTRASUITE MODULES COME WITH FACTORY WIRED AND INSTALLED TOP MOUNTED LOW VOLTAGE TERMINAL BLOCK ENCLOSURE

- INCOMMING HIGH VOLTAGE POWER AND LOW VOLTAGE CONNECTION BETWEEN ULTRASUITE MODULES AND REMOTE DRIVER CABINET ARE THE RESPONSIBILITY OF THE INSTALLER

- MAX DISTANCE BETWEEN ULTRASUITE MODULE AND REMOTE DRIVER CABINET IS DEPENDANT ON WIRE GAUGE TO MINIMIZE VOLTAGE DROP, SEE TABLE BELOW

- SEE ULTRASUITE INSTALLATION MANUAL AVAILABLE AT www.priceindustries.com FOR RECOMMENDED REMOTE DRIVER CABINET AND ULTRASUITE SYSTEM INSTALLATION



DETAIL A

LOW VOLTAGE WIRE LENGTHS	
WIRE GAUGE (awg)	LENGTH OF WIRE (feet)
18	15
16	25
14	45
12	70
10	115

PRCTI20221788

WIRING SCHEMATIC IS NOT TO SCALE AND IS SHOWN FOR REFERENCE ONLY
INSTALLATION WORK AND ELECTRICAL WIRING MUST BE COMPLETED BY A CERTIFIED ELECTRICIAN AND/OR QUALIFIED PERSON(S) IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES AND STANDARDS

Authorized to Begin Construction

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03/08/2023 8:33:41 PM

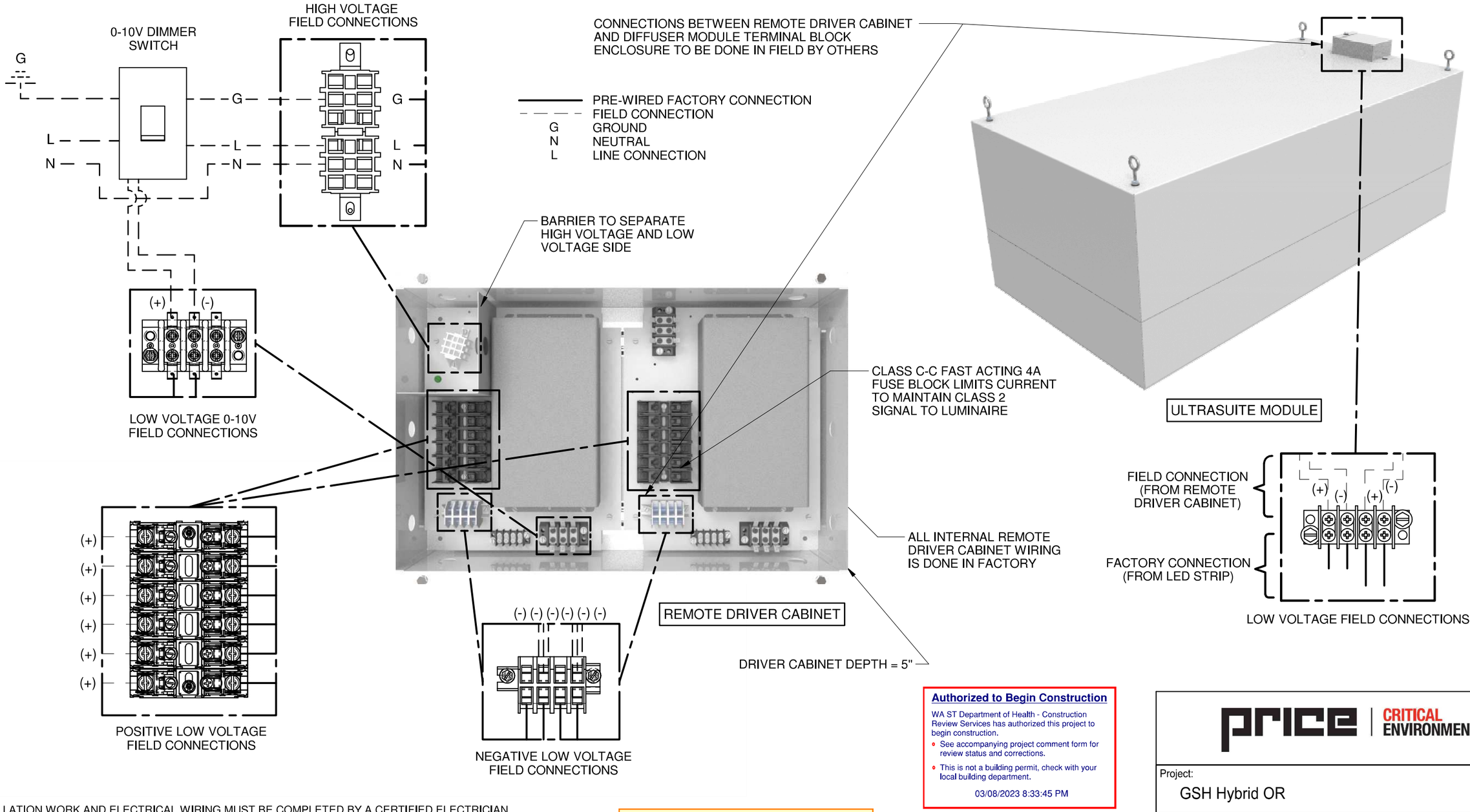
price | CRITICAL ENVIRONMENTS

Project:
GSH Hybrid OR

PXY87500	Revision: D	03-11-2022

ULTRASUITE®

OPERATING ROOM DIFFUSER SYSTEM WITH INTEGRATED LED LIGHTING
TYPICAL WIRING DETAILS



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03/08/2023 8:33:45 PM

INSTALLATION WORK AND ELECTRICAL WIRING MUST BE COMPLETED BY A CERTIFIED ELECTRICIAN AND/OR QUALIFIED PERSON(S) IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES AND STANDARDS

PRCTI20221788

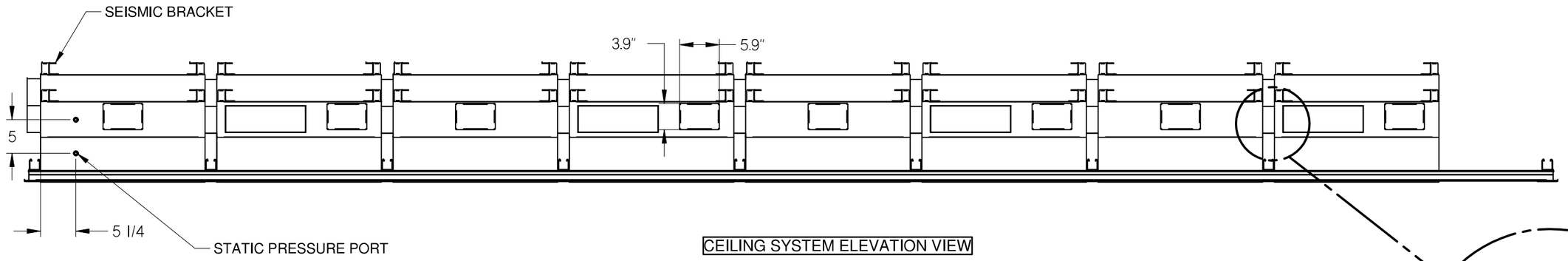
price | CRITICAL ENVIRONMENTS

Project:
GSH Hybrid OR

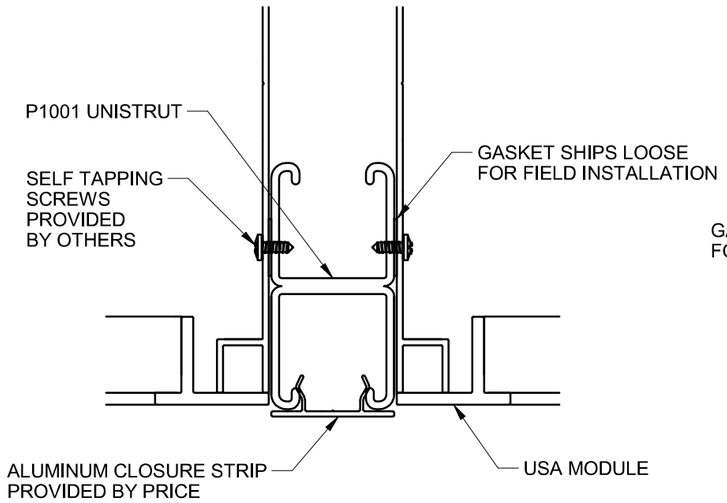
PXY87500	Revision: D	03-11-2022

ULTRASUITE®

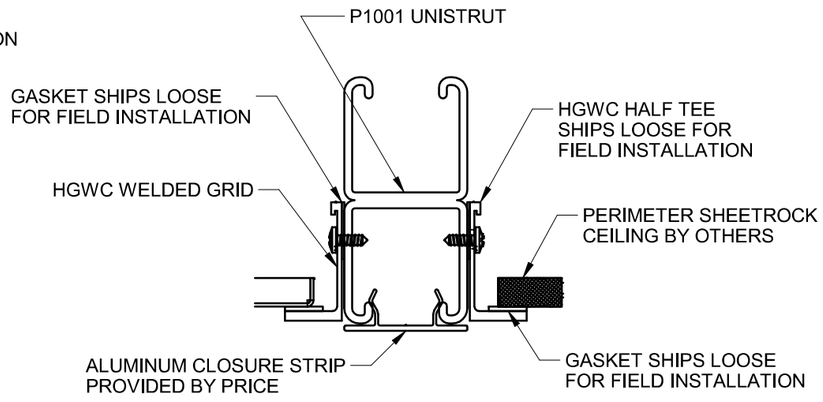
OPERATING ROOM DIFFUSER SYSTEM WITH INTEGRATED LED LIGHTING
UNISTRUT INTEGRATION DETAILS



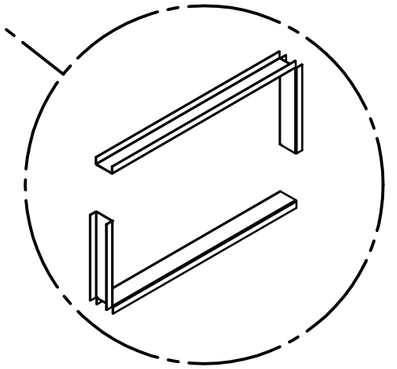
CEILING SYSTEM ELEVATION VIEW



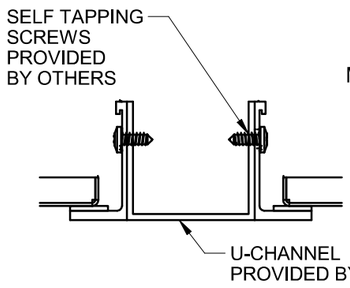
F – USA UNISTRUT INTEGRATION



G – HGWC UNISTRUT INTEGRATION



TYPICAL INLET MANIFOLD DETAIL



H – U CHANNEL DETAIL

PRCTI20221788

Authorized to Begin Construction

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03/08/2023 8:33:51 PM

price | CRITICAL ENVIRONMENTS

Project:
GSH Hybrid OR

PXY87500	Revision: D	03-11-2022

ULTRASUITE®

HOSPITAL GRADE WELDED CEILING INTEGRATION DETAILS

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

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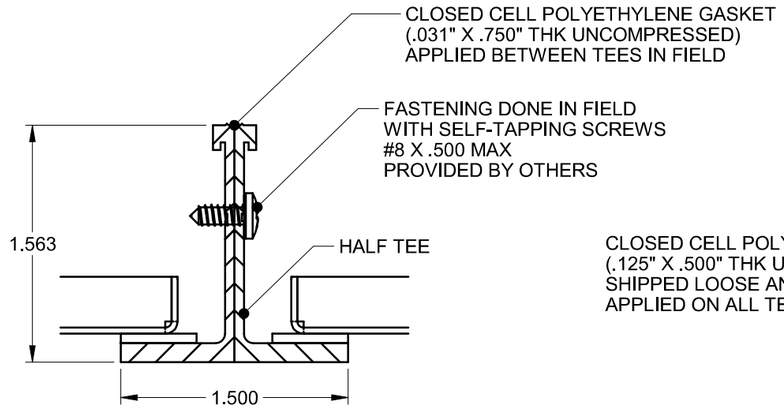
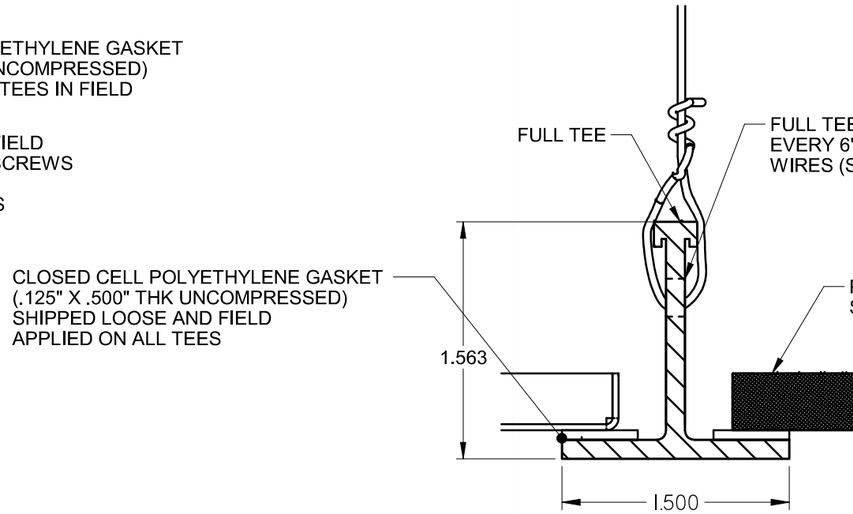
- This is not a building permit, check with your local building department.

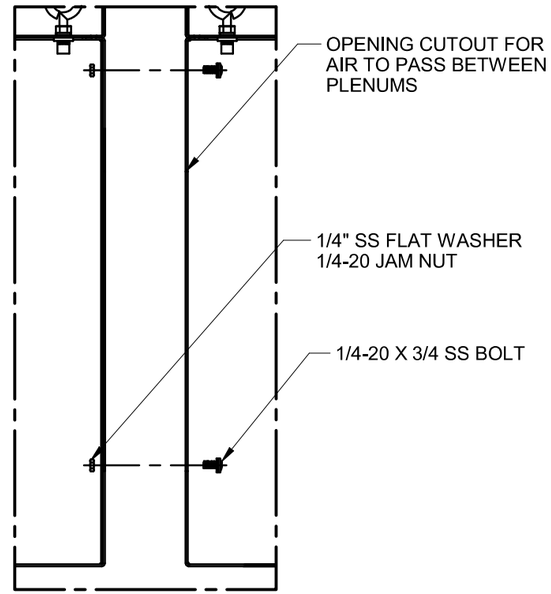
03/08/2023 8:33:56 PM



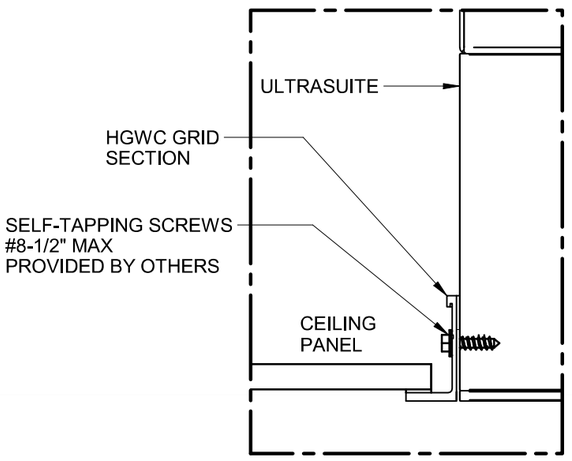
A - HALF TEE FIELD JOINT



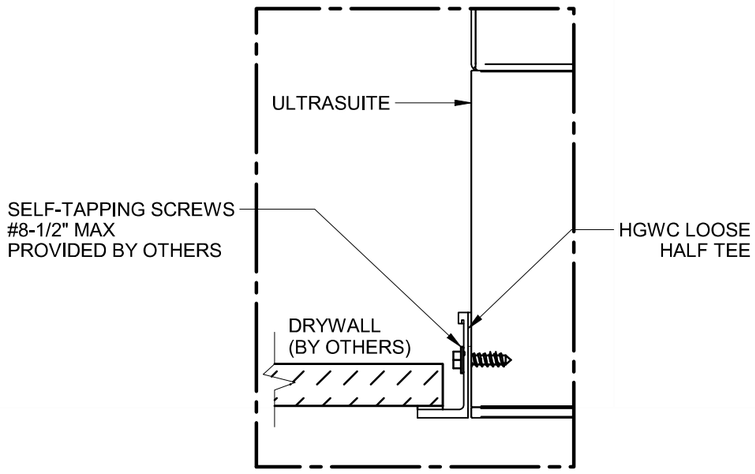
B - FULL TEE PERIMETER SHEET ROCK SOFFIT



E - BOLTED JOINT ASSEMBLY



C - HGWC GRID INTEGRATION



D - PERIMETER HALF TEE INTEGRATION

PRCTI20221788

price | CRITICAL ENVIRONMENTS

Project:
GSH Hybrid OR

PXY87500	Revision: D	03-11-2022

ULTRASUITE®

HOSPITAL GRADE WELDED CEILING SYSTEM CEILING PANELS
SC - SOLID CORE

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

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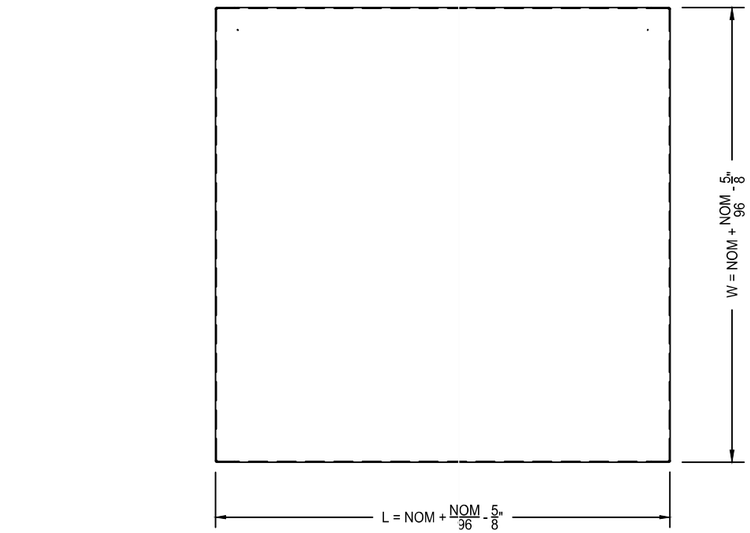
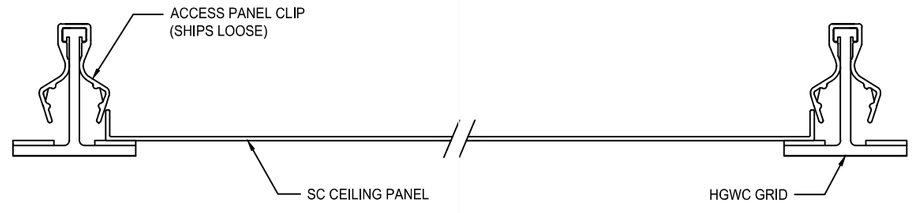
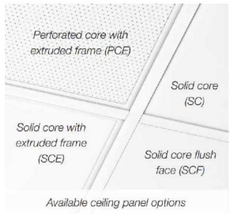
03/08/2023 8:34:01 PM







Available ceiling panel options

PANEL MATERIAL / FINISH:
- SC PANEL - .080" ALUMINUM / B12 STANDARD WHITE

CEILING TYPE:
- HGWC - 1 1/2" HOSPITAL GRADE WELDED CEILING SYSTEM

PRCTI20221788

price | CRITICAL ENVIRONMENTS

Project:
GSH Hybrid OR

PXY87500	Revision: D	03-11-2022

ULTRASUITE®

OPERATING ROOM DIFFUSER SYSTEM WITH INTEGRATED LED LIGHTING

SUPPORTING CONTENT

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03/08/2023 8:34:06 PM

MANUALS

USA ULTRASUITE MANUAL
FTR ROOM-SIDE REPLACEABLE FILTER (RSR) QUICK START GUIDE
URDC ULTRA DRIVER CABINET MANUAL
UCA ULTRA COMPONENTS AND ACCESSORIES MANUAL

BROCHURES

ULTRASUITE BROCHURE
ULTRASUITE OPERATING ROOM HVAC DESIGN GUIDE
ULTRASUITE PROJECT LIST
ULTRASUITE CASE STUDY LIBRARY

CATALOG / PERFORMANCE

USA ULTRASUITE CATALOG
USA ULTRASUITE PERFORMANCE
USA ULTRASUITE PERFORMANCE (METRIC)

SUBMITTALS

UCA ULTRA COMPONENTS AND ACCESSORIES SUBMITTAL
FTR REPLACEMENT FILTER SUBMITTAL
HGWC HOSPITAL GRADE WELDED CEILING SYSTEM SUBMITTAL

SPECIFICATIONS

USA ULTRASUITE SPECIFICATION

VIDEOS

USA ULTRASUITE IN BAYLOR SCOTT & WHITE MEDICAL CENTER TESTIMONIAL
HEPA FILTER REPLACEMENT (USA AND UFFU) VIDEO
USA ULTRASUITE INSTALLATION TIME LAPSE VIDEO
USA ULTRASUITE LAUNCH VIDEO
USA ULTRASUITE SEISMIC TESTING
USA ULTRASUITE SMOKE TEST VIDEO

FOR MORE INFORMATION ON PRICE ULTRASUITE SYSTEMS, VISIT PRICEINDUSTRIES.COM

PRCTI20221788

price | CRITICAL ENVIRONMENTS

Project:
GSH Hybrid OR

PXY87500	Revision: D	03-11-2022

GOOD SAMARITAN HOSPITAL

NEURO HYBRID

PRCTI20221788

1421 3RD ST SE
PUYALLUP, WASHINGTON 98372

DATE: 20 FEB 23

DIRECTORY

SALES REP: TOM REYNOLDS 717.609.6084

TOM.REYNOLDS1@STRYKER.COM

PROJECT MANAGER: BRIAN CRABTREE 360.356.6539

BRIAN.CRABTREE@STRYKER.COM

ENGINEER: DALE HARDEE 843-727-5389

DALE.HARDEE@STRYKER.COM

TABLE OF CONTENTS

ENGINEERING APPROVAL

AUTHORIZED SIGNATURE:

DRAWING#: WA-1769545_4

APPROVED REVISION: 4

Authorized to Begin Construction

WA ST Department of Health - Construction Review Services has authorized this project to begin construction.

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PRELIMINARY

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571 SILVERON BLVD.
FLOWER MOUND, TX 75028
PHONE: (877) 789-8106
WWW.STRYKER.COM

stryker

REP: TOM REYNOLDS
PM: BRIAN CRABTREE

SHEET:
TITLE

SUMMARY LIST OF CHANGES

KEY #	DESCRIPTION OF CHANGE	ROOM #
1	CHANGED REP, PM	TITLE PAGE
2	ADDED NEW BACKGROUND	HYBRID ROOM
3	CHANGED ARM LENGTHS FOR MOUNTS D2,D3	HYBRID ROOM
4	ADDED MOUNT D4	HYBRID ROOM

PRCTI20221788

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03/08/2023 8:34:14 PM

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AUTOCAD DRAWING TEMPLATE | TEM100XX | REV. A

stryker
571 SILVERON BLVD.
FLOWER MOUND, TX 75028
PHONE: (877) 789-8106
WWW.STRYKER.COM

REV:	DATE:	DRAWING #: WA-1769545_4	DRAFTER	IR
4	20FEB23	REFERENCE #: DRC# 220256	EMONTGOMERY	----

REVISION SUMMARY

GOOD SAMARITAN HOSPITAL
NEURO HYBRID
PUYALLUP, WASHINGTON 98372

REP: TOM REYNOLDS
PM: BRIAN CRABTREE

SHEET:
C-1

PLOT STAMP:MONTGOMERY, ERIC | DATE: 2/20/2023 4:45 PM

NOTES: (UNLESS OTHERWISE SPECIFIED)

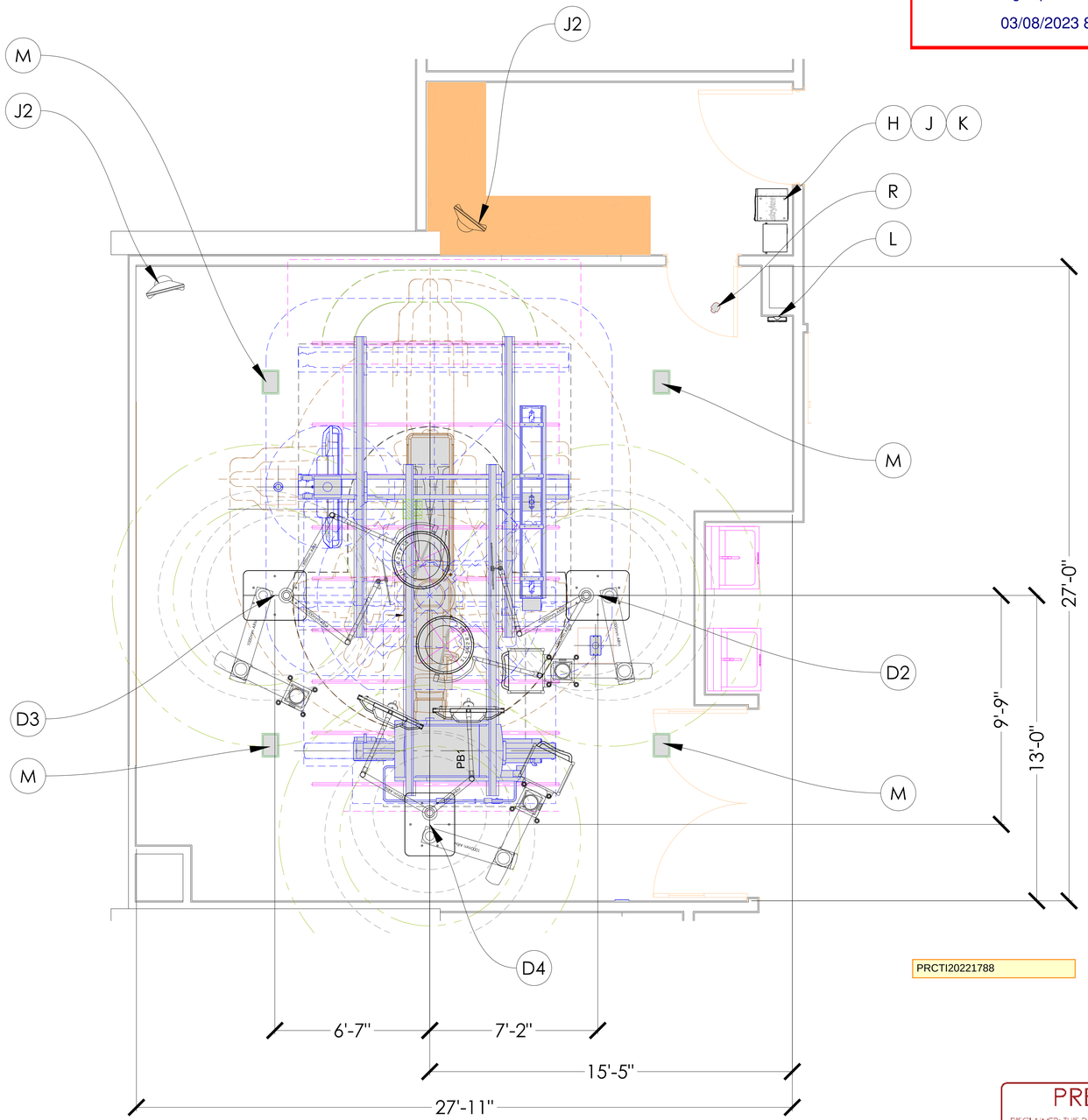
EQUIPMENT SCHEDULE

KEY ITEM	NAME	QTY
D2	TANDEM: - S-SERIES EQUIPMENT BOOM (1000) - CHROMOPHARE SLX SURGICAL LIGHT (1200) / LEAD SHIELD (1000)	1
D3	TANDEM: - S-SERIES PERFUSION BOOM (1000) / - CHROMOPHARE SLX SURGICAL LIGHT (1200) / LEAD SHIELD (1000)	1
D4	TANDEM: - S-SERIES EQUIPMENT BOOM (1000) / - UDM (1000) / UDM (700)	1
H	CUSTOMER SUPPLIED DOC STATION - SDC3 | PRINTER	1
J	SWITCHPOINT INFINITY 3	1
J2	TOUCH PANEL	2
K	CHROMOPHARE SK ENCLOSURE	1
L	CHROMOPHARE WALL CONTROL PANEL	1
M	FLUSH RECTANGULAR CEILING SPEAKER	4
R	HD PTZ CAMERA (CEILING)	1

CONDUIT SCHEDULE

CONDUIT RUN ITEM - ITEM	CONDUIT QTY	CONDUIT SIZE
D2 - J	1	1 1/4"
D2 - J	2	2"
D2 - K	2	1"
D2 - D3	1	1"
D3 - J	1	1 1/4"
D3 - J	2	2"
D3 - K	2	1"
D4 - J	1	1 1/4"
D4 - J	2	2"
J2 - J	1	1 1/4"
L - K	1	1"
K - *	1	1"
M - J	1	3/4"
R - J	1	1 1/4"

* - NEAREST ELECTRICAL PANEL



PRCTI20221788

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03/08/2023 8:34:17 PM

stryker
571 SILVERON BLVD.
FLOWER MOUND, TX 75028
PHONE: (877) 789-8106
WWW.STRYKER.COM

REV:	DATE:	DRAWING #: WA-1769545_4	DRAFTER	IR
4	20FEB23	REFERENCE #: DRC# 220256	EMONTGOMERY	----

EQUIPMENT LAYOUT

NEURO HYBRID
OPTION (2)
GOOD SAMARITAN HOSPITAL
NEURO HYBRID
PUYALLUP, WASHINGTON 98372

REP: TOM REYNOLDS
PM: BRIAN CRABTREE

SHEET:
R-HY 2-1

PRELIMINARY

DISCLAIMER: THIS DRAWING IS IN A PRELIMINARY STATUS AND PENDING FINAL APPROVAL. ALL DRAWINGS IN A PRELIMINARY STATUS SHALL NOT BE USED FOR CONSTRUCTION.

SCALE: 3/8" = 1'

AUTOCAD DRAWING TEMPLATE | TEM100XX | REV. A

PLOT STAMP:MONTGOMERY, ERIC | DATE: 2/20/2023 4:45 PM

NOTES: (UNLESS OTHERWISE SPECIFIED)

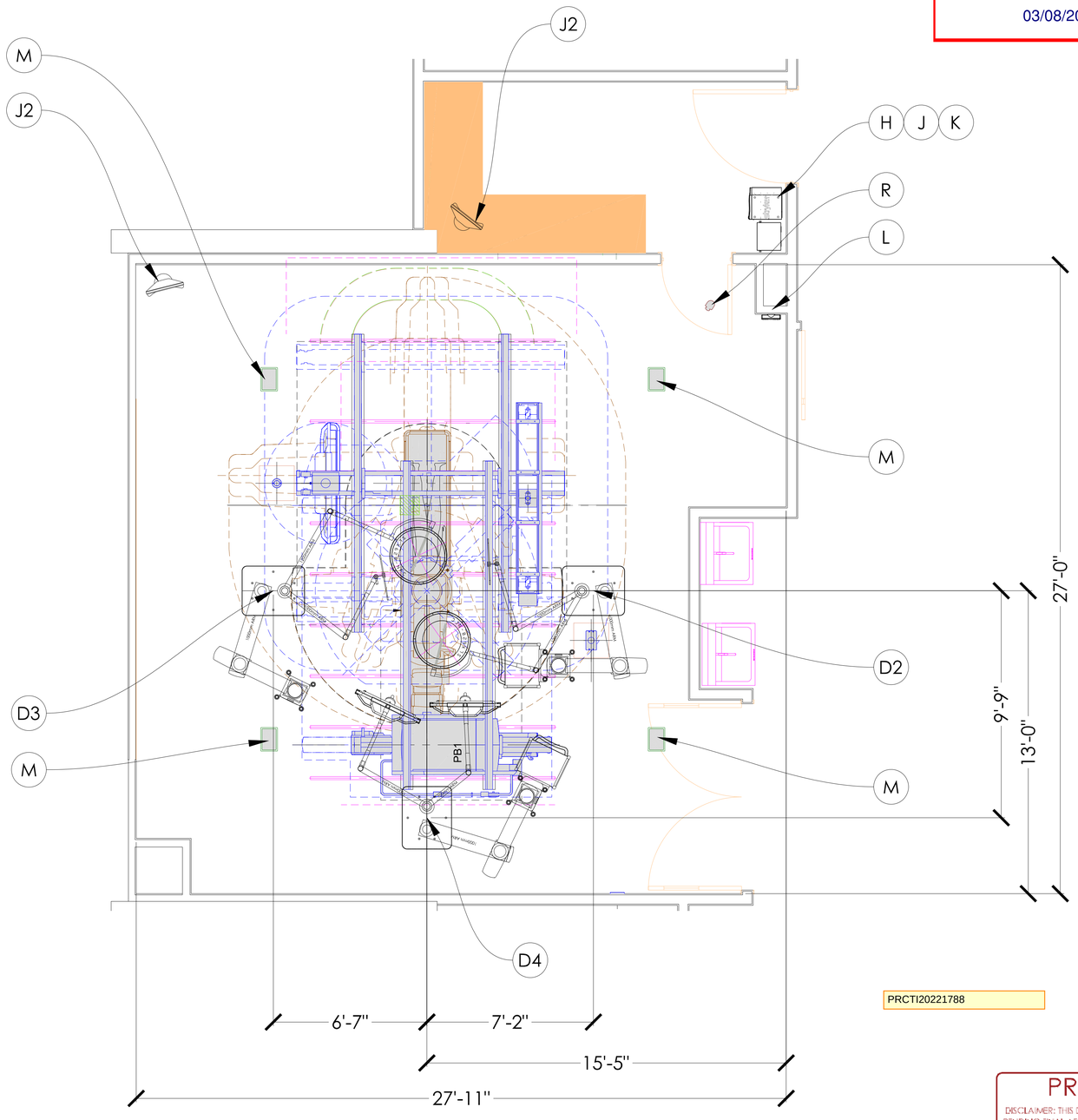
EQUIPMENT SCHEDULE

KEY ITEM	NAME	QTY
D2	TANDEM: - S-SERIES EQUIPMENT BOOM (1000) - CHROMOPHARE SLX SURGICAL LIGHT (1200) / LEAD SHIELD (1000)	1
D3	TANDEM: - S-SERIES PERFUSION BOOM (1000) / - CHROMOPHARE SLX SURGICAL LIGHT (1200) / LEAD SHIELD (1000)	1
D4	TANDEM: - S-SERIES EQUIPMENT BOOM (1000) / - UDM (1000) / UDM (700)	1
H	CUSTOMER SUPPLIED DOC STATION - SDC3 | PRINTER	1
J	SWITCHPOINT INFINITY 3	1
J2	TOUCH PANEL	2
K	CHROMOPHARE SK ENCLOSURE	1
L	CHROMOPHARE WALL CONTROL PANEL	1
M	FLUSH RECTANGULAR CEILING SPEAKER	4
R	HD PTZ CAMERA (CEILING)	1

CONDUIT SCHEDULE

CONDUIT RUN ITEM - ITEM	CONDUIT QTY	CONDUIT SIZE
D2 - J	1	1 1/4"
D2 - J	2	2"
D2 - K	2	1"
D2 - D3	1	1"
D3 - J	1	1 1/4"
D3 - J	2	2"
D3 - K	2	1"
D4 - J	1	1 1/4"
D4 - J	2	2"
J2 - J	1	1 1/4"
L - K	1	1"
K - *	1	1"
M - J	1	3/4"
R - J	1	1 1/4"

* - NEAREST ELECTRICAL PANEL



PRCTI20221788

Authorized to Begin Construction

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03/08/2023 8:34:20 PM

stryker
571 SILVERON BLVD.
FLOWER MOUND, TX 75028
PHONE: (877) 789-8106
WWW.STRYKER.COM

REV:	DATE:	DRAWING #: WA-1769545_4	DRAFTER	IR
4	20FEB23	REFERENCE #: DRC# 220256	EMONTGOMERY	----

EQUIPMENT LAYOUT

NEURO HYBRID
OPTION (2)
GOOD SAMARITAN HOSPITAL
NEURO HYBRID
PUYALLUP, WASHINGTON 98372

REP: TOM REYNOLDS
PM: BRIAN CRABTREE

SHEET:
R-HY 2-2

PRELIMINARY

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SCALE: 3/8" = 1'

AUTOCAD DRAWING TEMPLATE | TEM100XX | REV. A

PLOT STAMP:MONTGOMERY, ERIC | DATE: 2/20/2023 4:45 PM

NOTES: (UNLESS OTHERWISE SPECIFIED)

1. ALL CONDUIT RUNS INCLUDE INSULATED BUSHINGS AND PULL STRINGS.
2. CONDUIT RUNS CANNOT EXCEED 45' FROM END-TO-END. DO NOT EXCEED FOUR (4) 90 DEGREE BENDS.
3. CABLES BETWEEN ITEMS OVER 45 FEET IN LENGTH ARE PROVIDED BY THE CUSTOMER / CONTRACTOR. PLEASE REFER TO EQUIPMENT LIST FOR CABLE SPECIFICATIONS.
4. THE PRE-INSTALL MANUAL REQUIREMENTS SUPERSEDE ALL PRE-INSTALL NOTES IN THIS DRAWING PACKAGE.
5. EQUIPMENT LIST:

PRE-INSTALL NOTES SCHEDULE

KEY ITEM	NAME
A	**CHROMOPHARE VIDEO POWER ARM (VPA)** CONDUIT: - REFER TO ROOM LAYOUT FOR CONDUIT QUANTITY AND SIZE - WIRING FOR THE VPA CIRCUITS SHOULD RUN THROUGH CODE COMPLIANT CONDUIT TERMINATING IN THE OUTLET BOX FOR FIELD CONNECTION POWER: - AC WIRING SHOULD BE 3 WIRE, 12 AWG, 600V - VPA REQUIRES 120 VAC, 50/60 HZ SUPPLY - TWO (2) - 20 AMP CIRCUITS TERMINATED TO VPA™ OUTLET BOX - OUTLET BOX MUST BE MOUNTED ON OR NEAR THE MOUNTING PLATE - THE CONTRACTOR / ELECTRICIAN TO HARDWIRE STRYKER ELECTRICAL WHIP DURING STRYKER INSTALLATION ACCESS PANEL: - ONE (1) 24" X 24" ACCESS PANEL ADJACENT TO SUSPENSION NEAR OUTLET BOX STRUCTURAL: - STRYKER PRE-INSTALL PLATE SHALL BE INSTALLED BY CUSTOMER/CONTRACTOR AT 3-INCH, ± .25-INCH ABOVE FINISHED CEILING PER CUSTOMER PROVIDED STRUCTURAL ENGINEER SPECS. - COMMON MOUNTING PLATE, A 21.25-INCH CIRCULAR HOLE CENTERED ON STRYKER PRE-INSTALL PLATE IN THE FINISHED CEILING IS REQUIRED FOR INSTALLATION. A 23.25-INCH CIRCULAR CEILING COVER CONCEALS HOLE AFTER SUSPENSION IS INSTALLED .
C	**CHROMOPHARE VIDEO POWER ARM (VPA) / F628 SURGICAL LIGHT / SINGLE FLAT PANEL** CONDUIT: - REFER TO ROOM LAYOUT FOR CONDUIT QUANTITY AND SIZE. TERMINATE ALL CONDUITS WITHIN 18" OF THE CENTER OF THE CEILING MOUNT VPA POWER: - TWO (2) - 20 AMP CIRCUITS TERMINATED TO VPA™ OUTLET BOX - OUTLET BOX MUST BE MOUNTED ON OR NEAR THE MOUNTING PLATE ACCESS PANEL: - ONE (1) 24" X 24" ACCESS PANEL ADJACENT TO SUSPENSION NEAR OUTLET BOX STRUCTURAL: - STRYKER PRE-INSTALL PLATE SHALL BE INSTALLED BY CUSTOMER/CONTRACTOR AT 3-INCH, ± .25-INCH ABOVE FINISHED CEILING PER CUSTOMER PROVIDED STRUCTURAL ENGINEER SPECS. - COMMON MOUNTING PLATE, A 21.25-INCH CIRCULAR HOLE CENTERED ON STRYKER PRE-INSTALL PLATE IN THE FINISHED CEILING IS REQUIRED FOR INSTALLATION. A 23.25-INCH CIRCULAR CEILING COVER CONCEALS HOLE AFTER SUSPENSION IS INSTALLED.

PRE-INSTALL NOTES SCHEDULE

KEY ITEM	NAME
D2 D3 D4	**TANDEM: - EQUIPMENT BOOM / LIGHT / LEAD SHIELD** **TANDEM: - PERFUSION BOOM / LIGHT / LEAD SHIELD** **TANDEM: - EQUIPMENT BOOM / UDM / UDM** STRUCTURAL: - STRYKER TANDEM COMMON PRE-INSTALL PLATE SHALL BE INSTALLED BY CUSTOMER/CONTRACTOR AT 3-INCH, ± .25-INCH ABOVE FINISHED CEILING PER CUSTOMER PROVIDED STRUCTURAL ENGINEER SPECS. CONTRACTOR IS RESPONSIBLE FOR PROTECTING THREADED HOLES DURING THE PLATE WELDING/INSTALLATION PROCESS, TO PREVENT SLAG FROM OBSTRUCTING THREADED HOLES. - TO ENSURE ADEQUATE ROOM FOR INSTALLATION OF THE S-SERIES BOOM THE OWNER AND/OR CONTRACTOR MUST ENSURE THAT STRUCTURAL/UTILITY COMPONENTS DO NOT INTERFERE WITH ANY PART OF THE S-SERIES BOOM. THIS "NO-FLY" ZONE EXTENDS 12-INCHES FROM THE MOUNTING PLATE ON ALL SIDES, AND 16-INCHES UP FROM THE FINISHED CEILING. - REQUIRED: A 23-INCH X 27-INCH RECTANGLER HOLE CENTERED ON THE STRYKER PRE-INSTALL PLATE IN THE FINISHED CEILING IS REQUIRED FOR INSTALLATION. A 25-INCH X 32-INCH RECTANGLE CEILING COVER CONCEALS HOLE AFTER BOOM IS INSTALLED POWER: - REFER TO S-SERIES MANUFACTURING SERVICE MODULE DRAWING FOR ELECTRICAL CIRCUIT COUNT. - THE CONTRACTOR / ELECTRICIAN TO HARDWIRE STRYKER ELECTRICAL WHIP DURING STRYKER INSTALLATION. - ALL ELECTRICAL CIRCUITS SHALL BE CONNECTED TO S-SERIES JUNCTION BOX OR BOXES. - A SEPARATE UDM JUNCTION BOX (SUPPLIED BY STRYKER AND MEASURES 10-INCH HEIGHT X 8-INCH WIDTH X 4-INCH DEPTH) MUST BE MOUNTED WITHIN 18-INCHES OF BOOM MOUNT.AND ACCESSIBLE FROM THE ACCESS PANEL. THIS IS MOUNTED BY AN ELECTRICIAN AND IS REQURIED FOR MONITOR POWER. - IF UDM MONITOR IS POWERED VIA AC POWER, CONTRACTOR TO PROVIDE AN AC CIRCUIT TO THE AC TERMINAL BLOCK ON THE FLANGE TUBE. - THE S-SERIES JUNCTION BOX (7.4" X 3.5" X 3.74") ARRIVES ATTACHED TO THE S-SERIES BOOM FLANGE BY A GROUND WIRE. THE JUNCTION BOX MUST BE MOUNTED ADJACENT TO THE MED GAS LINES BY THE CUSTOMER/CONTRACTOR ACCORDING TO NATIONAL AND LOCAL BUILDING CODES. REQUIRED ACCESS PANEL: - ONE (1) 24-INCH X 24-INCH ACCESS PANEL ADJACENT TO BOOM, SO JUNCTION BOXES, TC JUNCTION BOX, UDM JB AND MED GAS LINES CAN BE EASILY ACCESSED. CONDUIT: - REFER TO ROOM LAYOUT FOR CONDUIT SIZE. TERMINATE ALL CONDUITS WITHIN 18-INCHES OF THE CENTER OF THE CEILING MOUNT. PLUMBING: - INSTALL VALVE BRIDGE TO TOP OF PRE-INSTALL PLATE. ALL GAS LINES MUST BE TERMINATED WITH STRYKER SUPPLIED GAS RISERS BY CUSTOMER/MEDGAS INSTALLER. - ALL FINAL DISS CONNECTIONS TO BE MADE BY CUSTOMER/MEDGAS INSTALLER AFTER STRYKER INSTALLATION.

Authorized to Begin Construction

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03/08/2023 8:34:23 PM

PRCTI20221788

PRELIMINARY

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AUTOCAD DRAWING TEMPLATE | TEM100XX | REV. A

stryker
571 SILVERON BLVD.
FLOWER MOUND, TX 75028
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WWW.STRYKER.COM

REV: 4 | DATE: 20FEB23 | DRAFTER: EMONTGOMERY | IR: ----
DRAWING #: WA-1769545_4
REFERENCE #: DRC# 220256

PRE-INSTALL NOTES

GOOD SAMARITAN HOSPITAL
NEURO HYBRID
PUYALLUP, WASHINGTON 98372

REP: TOM REYNOLDS
PM: BRIAN CRABTREE

SHEET: P-1

NOTES: (UNLESS OTHERWISE SPECIFIED)

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5. EQUIPMENT LIST:

PRE-INSTALL NOTES SCHEDULE

KEY ITEM	NAME
E	**TANDEM:** **- S-SERIES SPS-3-T ANESTHESIA BOOM** **- MAVIG LEAD SHIELD / CHROMOPHARE F628 SURGICAL LIGHT / SINGLE FLAT PANEL** STRUCTURAL: STRYKER TANDEM COMMON PRE-INSTALL PLATE SHALL BE INSTALLED BY CUSTOMER/CONTRACTOR AT 3-INCH, ± .25-INCH ABOVE FINISHED CEILING PER CUSTOMER PROVIDED STRUCTURAL ENGINEER SPECS. - TO ENSURE ADEQUATE ROOM FOR INSTALLATION OF THE S-SERIES BOOM THE OWNER AND/OR CONTRACTOR MUST ENSURE THAT STRUCTURAL/UTILITY COMPONENTS DO NOT INTERFERE WITH ANY PART OF THE S-SERIES BOOM. THIS "NO-FLY" ZONE EXTENDS 12-INCHES FROM THE MOUNTING PLATE ON ALL SIDES, AND 16-INCHES UP FROM THE FINISHED CEILING. - REQUIRED: A 23-INCH X 27-INCH RECTANGLER HOLE CENTERED ON THE STRYKER PRE-INSTALL PLATE IN THE FINISHED CEILING IS REQUIRED FOR INSTALLATION. A 25-INCH X 32-INCH RECTANGLE CEILING COVER CONCEALS HOLE AFTER BOOM IS INSTALLED POWER: REFER TO S-SERIES MANUFACTURING SERVICE MODULE DRAWING FOR ELECTRICAL CIRCUIT COUNT. - THE CONTRACTOR / ELECTRICIAN TO HARDWIRE STRYKER ELECTRICAL WHIP DURING STRYKER INSTALLATION. - ALL ELECTRICAL CIRCUITS SHALL BE CONNECTED TO S-SERIES JUNCTION BOX OR BOXES. - THE S-SERIES JUNCTION BOX (7.4" X 3.5" X 3.74") ARRIVES ATTACHED TO THE S-SERIES BOOM FLANGE BY A GROUND WIRE. THE JUNCTION BOX MUST BE MOUNTED ADJACENT TO THE MED GAS LINES BY THE CUSTOMER/CONTRACTOR ACCORDING TO NATIONAL AND LOCAL BUILDING CODES. REQUIRED ACCESS PANEL: ONE (1) 24-INCH X 24-INCH ACCESS PANEL ADJACENT TO BOOM, SO JUNCTION BOXES, TC JUNCTION BOX AND MED GAS LINES CAN BE EASILY ACCESSED. CONDUIT: REFER TO ROOM LAYOUT FOR CONDUIT SIZE. TERMINATE ALL CONDUITS WITHIN 18-INCHES OF THE CENTER OF THE CEILING MOUNT. PLUMBING: INSTALL VALVE BRIDGE TO TOP OF PRE-INSTALL PLATE. ALL GAS LINES MUST BE TERMINATED WITH STRYKER SUPPLIED GAS RISERS BY CUSTOMER/MEDGAS INSTALLER. - ALL FINAL DISS CONNECTIONS TO BE MADE BY CUSTOMER/MEDGAS INSTALLER AFTER STRYKER INSTALLATION.
H	**CUSTOMER SUPPLIED DOC STATION** SPACE REQUIREMENTS: CASEWORK/DOC STATION MUST ALLOW FOR A MINIMUM 2" CABLE PASSAGE BETWEEN ALL COMPONENTS HOUSED INSIDE. - SECTION HOUSING VIDEO ROUTER MUST HAVE AN INTERIOR DIMENSION OF AT LEAST 27.5"W X 31"H X 29"D. - SECTION HOUSING VIDEO ROUTER MUST BE VENTED. - CASEWORK/DOC STATION MUST ALLOW FOR DIRECT ACCESS TO BACKBOXES PER REQUIREMENTS LISTED BELOW. DATA: PER LISTED EQUIPMENT. BACKBOX: PER LISTED EQUIPMENT. NOTE: CUSTOMER / CONTRACTOR RESPONSIBLE FOR RECEIVING AND INSTALLATION OF DOCUMENTATION STATION PRIOR TO STRYKER INSTALLATION. **SDC3** DIMENSIONS: 12.5"W X 7.25"H X 16.5"D DATA: ONE (1) ETHERNET CONNECTION BACKBOX: NONE **PRINTER** DIMENSIONS: 12.5"W X 8.2"H X 16.7"D DATA: NONE BACKBOX: NONE

PRE-INSTALL NOTES SCHEDULE

KEY ITEM	NAME
J	**SWITCHPOINT INFINITY 3** DIMENSIONS: - MEDIA ROUTER: 20.6"W X 24"H X 17"D - CONTROL SECTION: 12.5"W X 2.6"H X 17"D - TOTAL SPACE REQUIRED: 27.5"W X 31"H X 29"D POWER: SIXTEEN (16) ELECTRICAL RECEPTACLES AT THE MEDIA ROUTER LOCATION ALL RECEPTACLES REQUIRE CRITICAL POWER ALL ELECTRICAL CIRCUITS SHALL BE INSTALLED IN ACCORDANCE WITH THE LOCAL BUILDING CODE OR WHAT IS SPECIFIED IN THE IBC. DATA: ONE (1) ETHERNET CONNECTION BACKBOX: ONE (1) 18"W X 18"H X 4"D (OR LARGER) JUNCTION BOX FLUSH MOUNTED. - SET BOTTOM OF BOX 9" ABOVE FINISHED FLOOR. NOTE: TERMINATE ALL INTEGRATION CONDUITS TO THIS JUNCTION BOX.
J2	**SPI3 TOUCH PANEL** CONDUIT: REFER TO ROOM LAYOUT FOR CONDUIT SIZE. BACK BOX: ONE (1) 4"W X 4"H JUNCTION BOX WITH SINGLE-GANG MUD RING - MOUNT J-BOX WITHIN 18" OF TOUCH PANEL LOCATION POWER: ONE (1) STANDARD OUTLET WITHIN 18" OF TOUCH PANEL LOCATION.
K	**CHROMOPHARE SK ENCLOSURE** CONDUIT: ROUTE TO EACH LIGHT MOUNTING LOCATION, BETWEEN LIGHT MOUNTING LOCATIONS, AND NEAREST ELECTRICAL PANEL (120VAC). MAXIMUM LENGTH OF 45 FEET (15M) OF CONDUIT RUN TO BOTH THE MOUNTING PLATE AND THE TO WALL CONTROL BOX. MUST BE EASILY ACCESSIBLE, EITHER BY INSTALLATION INTO A WALL, OR IN THE INTERSTITIAL SPACE WITH ACCESS PANEL. POWER: - AC WIRING: WIRING SHOULD BE 3 WIRE, 12AWG MIN., AND 600V, TERMINATED TO THE FUSED TERMINAL BLOCK INSIDE THE SK ENCLOSURE. (UP TO 3 LIGHTS PER SK ENCLOSURE) - DC WIRING: WIRES SHOULD CONSIST OF 1 PAIR PER LIGHT HEAD AND 1 GROUND WIRE PER MOUNTING RING. WIRES TERMINATE AT THE NON-FUSED TERMINAL BLOCK INSIDE THE SK ENCLOSURE. WIRING SHOULD RUN FROM OUTPUT OF THE SK ENCLOSURE AND FALL A MINIMUM OF 18-INCHES BELOW THE CEILING AT THE MOUNTING RING.
L	**CHROMOPHARE WALL CONTROL PANEL** CONDUIT: ROUTE TO SK ENCLOSURE (ELECTRONICS). BACK BOX: ONE (1) STANDARD 4X4 JUNCTION BOX. POWER: NONE
M	**FLUSH MOUNTED RECTANGULAR CEILING SPEAKER** CONDUIT: - REFER TO ROOM LAYOUT FOR CONDUIT QUANTITY AND SIZE STRUCTURAL: CUSTOMER/CONTRACTOR TO CUT ONE 7 ¼"W X 10 ¾"L (TEMPLATE SUPPLIED W/ SPEAKER) IN THE WALL AT EACH SPEAKER MOUNTING LOCATION. MINIMUM 4" CEILING CLEARANCE.
R	**HD PAN/TILT/ZOOM CAMERA (CEILING)** CONDUIT: REFER TO ROOM LAYOUT FOR CONDUIT SIZE. BACK BOX: ONE (1) 4"W X 4"H JUNCTION BOX WITH SINGLE-GANG MUD RING FLUSH MOUNTED IN CEILING - ONE (1) ADDITIONAL SINGLE-GANG JUNCTION BOX MOUNTED 6" CLOSER TO VIEWING AREA THAN THE PREVIOUS 4" X 4" J-BOX. POWER: NONE

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stryker
571 SILVERON BLVD.
FLOWER MOUND, TX 75028
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WWW.STRYKER.COM

REV:	DATE:	DRAWING #: WA-1769545_4	DRAFTER	IR
4	20FEB23	REFERENCE #: DRC# 220256	EMONTGOMERY	----

PRE-INSTALL NOTES

GOOD SAMARITAN HOSPITAL
NEURO HYBRID
PUYALLUP, WASHINGTON 98372

REP: TOM REYNOLDS
PM: BRIAN CRABTREE

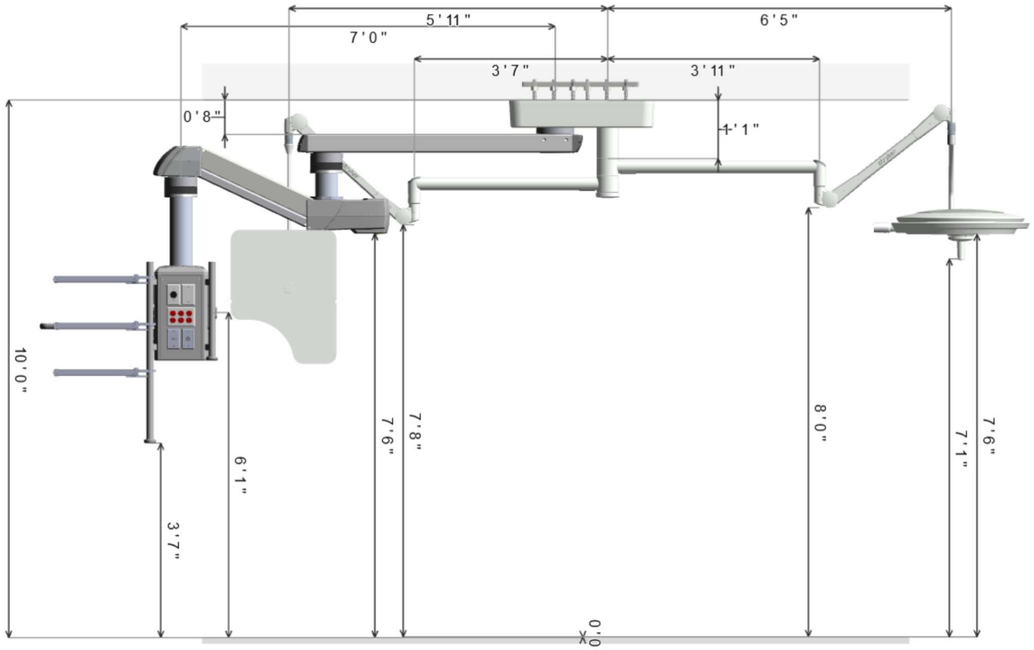
SHEET:
P-2

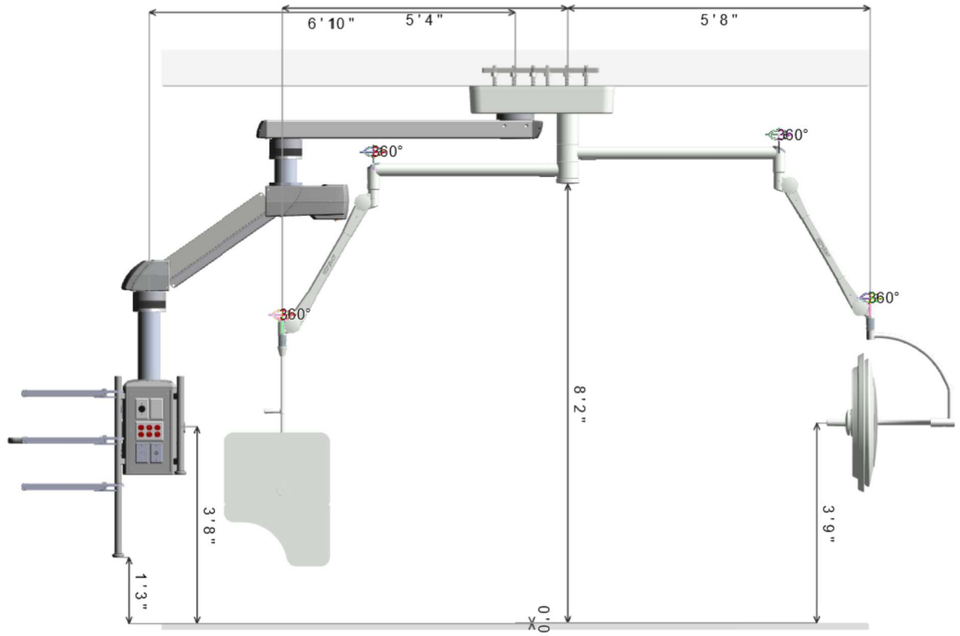
Converted Booms Illustration - EQ Boom Conversion / SLX Lights

Quote:10194003 Rev:1 Block#:3 / 4

10' 0"

BOOM D2





Top S-Series Equipment Boom	
Brake System	Electric
Medical Rail Type	Fairfield
Top Arm Length	1300mm
Bottom Arm Length	900mm
Mid Tube Length	150mm
Column Tube Length	450mm
Weight Capacity (see note 4)	266 lbs.
Total Throat Used (%)	60
Gas Hose Length (ft)	15.46
Packaging Type	Stand Up
Manufacturing Notes	Do Not Assemble Front MFR

Top S-Series Equipment Boom Shelves	
Rail Type	Fairfield
Shelf 1	750mm
Shelf 2	750mm w/Controls
Shelf 3	750mm
Shelf 4	None

Bottom SLX Lights	
Arm No.1 (MP1)	
Equipment	SLX628
Horizontal Arm	1200
HCT Length	None
Tube Length	330
Cardanic	Classic
Dual Control	No
Mains Voltage	120VAC

Arm No.2 (MP2)	
Equipment	MAVIG (CAR) E-OT25B05
Horizontal Arm	1100
Dual Control	No

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I confirm the ceiling height and agree with the dimensions as drawn. I confirm the equipment configuration as shown including arm lengths, platforms, gas key styles, brand, and locations; electronic, and low voltage selections and locations. I understand that any changes made after an order is in production will result in a change order fee and a delay in shipment.

CUSTOMER APPROVALS	SIGNATURE	PRINT NAME & TITLE	DATE
CLINICAL REPRESENTATIVE			
FACILITY ENGINEERING			

NOTES:

1. For weights, moments, and installation details, please refer to the Stryker Pre-installation manuals.
2. It is the owners responsibility to provide the support structure to meet requirements listed in the Pre-install Manual.
3. Customer is responsible for reviewing and approving Gas Key Style and Manufacturer.
4. Total weight capacity available for all Stryker and customer supplied accessories, based on weights moments listed in S-SERIES Pre-Install Manual.
5. Bottom of Stryker mounting plate must be installed at " above finished ceiling plane. All vertical boom dimensions shown in drawing are dependent on this requirement.

Stryker Communications
571 Silveron Blvd.
Flower Mound, TX 75028
PHONE: (877) 789-8106
E-FAX: (408) 754-2969
www.stryker.com

Sales Representative-DFW SPLIT :
Todd Blackburn
todd.blackburn@stryker.com
(817) 692-1970

Project: GSH Hybrid conversion	
Customer: AAA ENGINEER TEST ACCOUNT	
City: LEWISVILLE	State: Texas
Equip ID: SPS-3-T/F 628/OPT	
Group Name: Converted Booms Illustration	
Quote No.: 10194003	Quote Rev No.: 1
Quote Date:	QTY: 1
Oracle Line #: /	
DWG Rev No.: 1	Block #: 3 / 4
DWG No.: 10194003ST001	

Converted Booms Illustration - EQ Boom Conversion

Quote:10194003 Rev:1 Block#:3

10' 0"

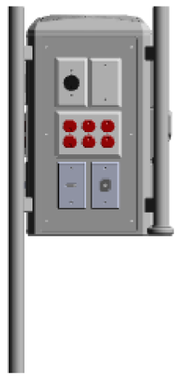
BOOM D2

FRONT

F1	CO2
F2	Data Pass Thru
F3	20A/125V Duplex (6 Outlets)
F4	Endo Cam DVI Pass Thru
F5	Distribution Bd

RIGHT

R1	30A/250V-L6-30R Sng Twistlock
R2	Blank
R3	20A/125V Duplex (6 Outlets)
R4	Single DVI
R5	Single BNC

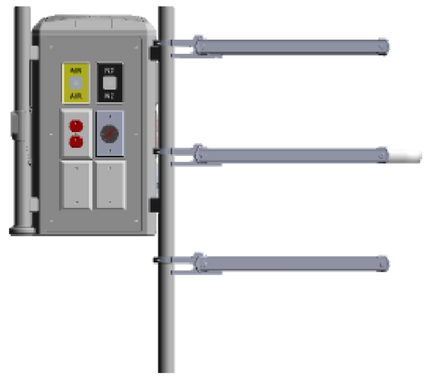


BACK

B1	20A/125V-5-20R Duplex
B2	Blank
B3	Blank
B4	Blank
B5	VAC
B6	VAC

LEFT

L1	Med Air
L2	N2
L3	20A/125V-5-20R Duplex
L4	Data Pass Thru
L5	Blank
L6	Blank



Data Communications

Qty	Description
2	Data Pass Thru
6	1G Blank Plate
1	Single BNC
1	Single DVI
1	Endo Cam DVI Pass Thru
1	Distribution Board

Gas Outlets

Qty	Gas Type	Key Style	Manufacturer
1	Nitrogen (N2)	D.I.S.S.	Beacon Medaes
1	Carbon Dioxide (CO2)	D.I.S.S.	Beacon Medaes
1	Medical Air	Chemtron	Beacon Medaes
2	Vacuum	Chemtron	Beacon Medaes

High Voltage

Main Power Type	Isolated
Main Power Source	Emergency
Manufacturer	Leviton

Loc.	Circuit Ref #	# of Circuits	Color	Outlet Box	Description
F3	1,2	2	Red	B	20A/125V Duplex (6 Outlets)
R1	3	1	Black	A	30A/250V-L6-30R Sng Twistlock
R3	4,5	2	Red	B	20A/125V Duplex (6 Outlets)
B1	6	1	Red	B	20A/125V-5-20R Duplex
L3	7	1	Red	B	20A/125V-5-20R Duplex

Circuits

Qty	Description
6	Total 15A/20A Circuits
1	Total 30A Circuits
1	Circuit for Motor and Brake

Multi-Functional Rail (MFR)

Front	1000mm
Back	531mm
Control	Rear Only

PRCTI20221788

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03/08/2023 8:34:43 PM

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CUSTOMER APPROVALS	SIGNATURE	PRINT NAME & TITLE	DATE
CLINICAL REPRESENTATIVE			
FACILITY ENGINEERING			

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Sales Representative-DFW SPLIT :
Todd Blackburn
todd.blackburn@stryker.com
(817) 692-1970

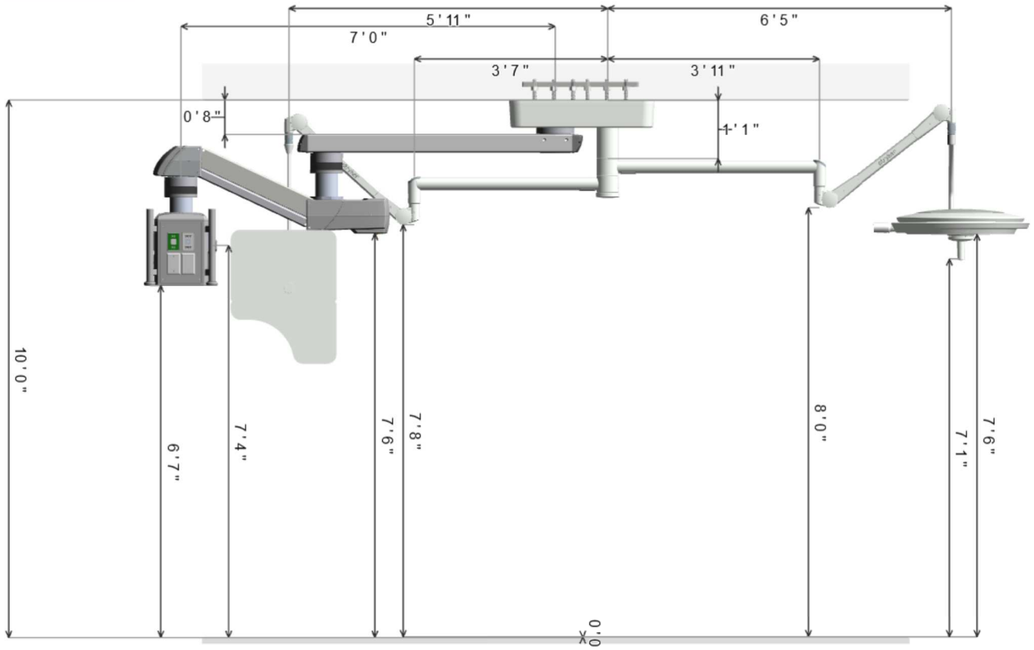
Project: GSH Hybrid conversion	
Customer: AAA ENGINEER TEST ACCOUNT	
City: LEWISVILLE	State: Texas
Equip ID: SPS-3-T	
Group Name: Converted Booms Illustration	
Quote No.: 10194003	Quote Rev No.: 1
Quote Date:	QTY: 1
Oracle Line #:	
DWG Rev No.: 1	Block #: 3
DWG No.: 10194003ST001	

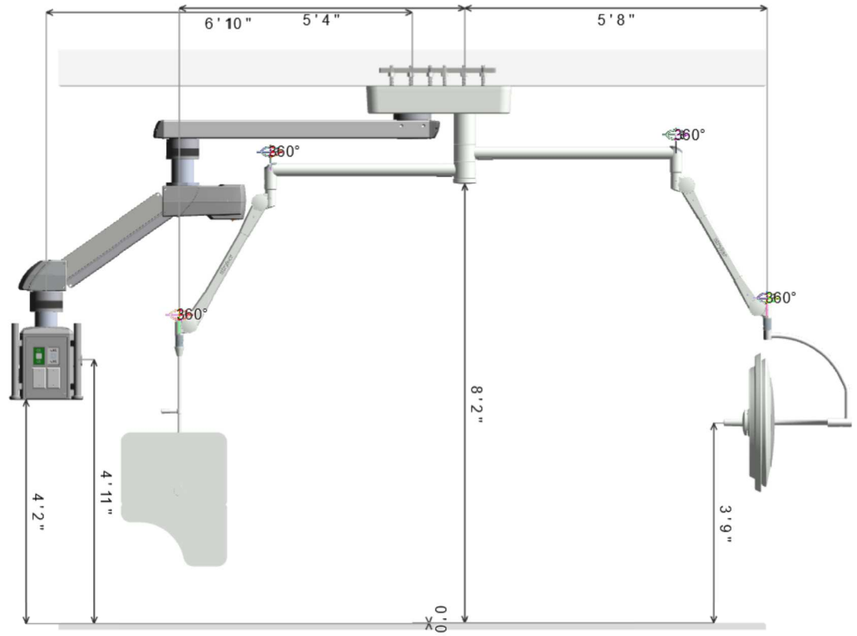
Converted Booms Illustration - Anes Boom Conversion / SLX Lights

Quote:10194003 Rev:1 Block#:5 / 6

10' 0"

BOOM D3





Top S-Series Anesthesia Boom	
Brake System	Electric
Medical Rail Type	Fairfield
Top Arm Length	1300mm
Bottom Arm Length	900mm
Mid Tube Length	150mm
Column Tube Length	150mm
Weight Capacity (see note 4)	285 lbs.
Total Throat Used (%)	57
Gas Hose Length (ft)	13.93
Packaging Type	Stand Up
Manufacturing Notes	Assemble All MFR's

Bottom SLX Lights	
Arm No.1 (MP1)	
Equipment	SLX628
Horizontal Arm	1200
HCT Length	None
Tube Length	330
Cardanic	Classic
Dual Control	No
Mains Voltage	120VAC

Arm No.2 (MP2)	
Equipment	MAVIG (CAR) E-OT25B05
Horizontal Arm	1100
Dual Control	No

PRCTI20221788

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03/08/2023 8:34:49 PM

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CUSTOMER APPROVALS	SIGNATURE	PRINT NAME & TITLE	DATE
CLINICAL REPRESENTATIVE			
FACILITY ENGINEERING			

NOTES:

1. For weights, moments, and installation details, please refer to the Stryker Pre-installation manuals.
2. It is the owners responsibility to provide the support structure to meet requirements listed in the Pre-install Manual.
3. Customer is responsible for reviewing and approving Gas Key Style and Manufacturer.
4. Total weight capacity available for all Stryker and customer supplied accessories, based on weights moments listed in S-SERIES Pre-Install Manual.
5. Bottom of Stryker mounting plate must be installed at " above finished ceiling plane. All vertical boom dimensions shown in drawing are dependent on this requirement.

Stryker Communications
571 Silveron Blvd.
Flower Mound, TX 75028
PHONE: (877) 789-8106
E-FAX: (408) 754-2969
www.stryker.com

Sales Representative-DFW SPLIT :
Todd Blackburn
todd.blackburn@stryker.com
(817) 692-1970

Project: GSH Hybrid conversion	
Customer: AAA ENGINEER TEST ACCOUNT	
City: LEWISVILLE	State: Texas
Equip ID: SPS-2-T/F 628/OPT	
Group Name: Converted Booms Illustration	
Quote No.: 10194003	Quote Rev No.: 1
Quote Date:	QTY: 1
Oracle Line #: /	
DWG Rev No.: 2	Block #: 5 / 6
DWG No.: 10194003ST002	

Converted Booms Illustration - Anes Boom Conversion

Quote:10194003 Rev:1 Block#:5

10' 0"

BOOM D3

FRONT

F1	N2O
F2	Med Air
F3	WAGD
F4	Distribution Bd

RIGHT

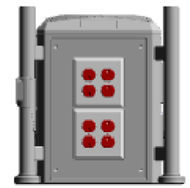
R1	O2
R2	VAC
R3	3rd Party Data Plate 1G
R4	3rd Party Data Plate 1G

BACK

B1	Single DVI
B2	Six RJ-45 CAT 6
B3	20A/125V-5-20R Duplex
B4	S-Video/BNC/VGA

LEFT

L1	20A/125V Duplex (4 Outlets)
L2	20A/125V Duplex (4 Outlets)



Data Communications

Qty	Description
2	1G Blank W/String
1	Single DVI
1	S-Video/BNC/VGA
1	Distribution Board

Gas Outlets

Qty	Gas Type	Key Style	Manufacturer
1	Oxygen (O2)	Chemtron	Beacon Medaes
1	Nitrous Oxide (N2O)	Chemtron	Beacon Medaes
1	Medical Air	Chemtron	Beacon Medaes
1	Vacuum	Chemtron	Beacon Medaes
1	WAGD	Chemtron	Beacon Medaes

High Voltage

Main Power Type	Isolated
Main Power Source	Emergency
Manufacturer	Leviton

Loc.	Circuit Ref #	# of Circuits	Color	Outlet Box	Description
B3	1	1	Red	A	20A/125V-5-20R Duplex
L1	2	1	Red	A	20A/125V Duplex (4 Outlets)
L2	3	1	Red	A	20A/125V Duplex (4 Outlets)

Circuits

Qty	Description
3	Total 15A/20A Circuits
1	Circuit for Motor and Brake

Multi-Functional Rail (MFR)

Front	406mm
Back	406mm
Control	Rear Only

PRCTI20221788

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CUSTOMER APPROVALS	SIGNATURE	PRINT NAME & TITLE	DATE
CLINICAL REPRESENTATIVE			
FACILITY ENGINEERING			

NOTES:

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Project: GSH Hybrid conversion	
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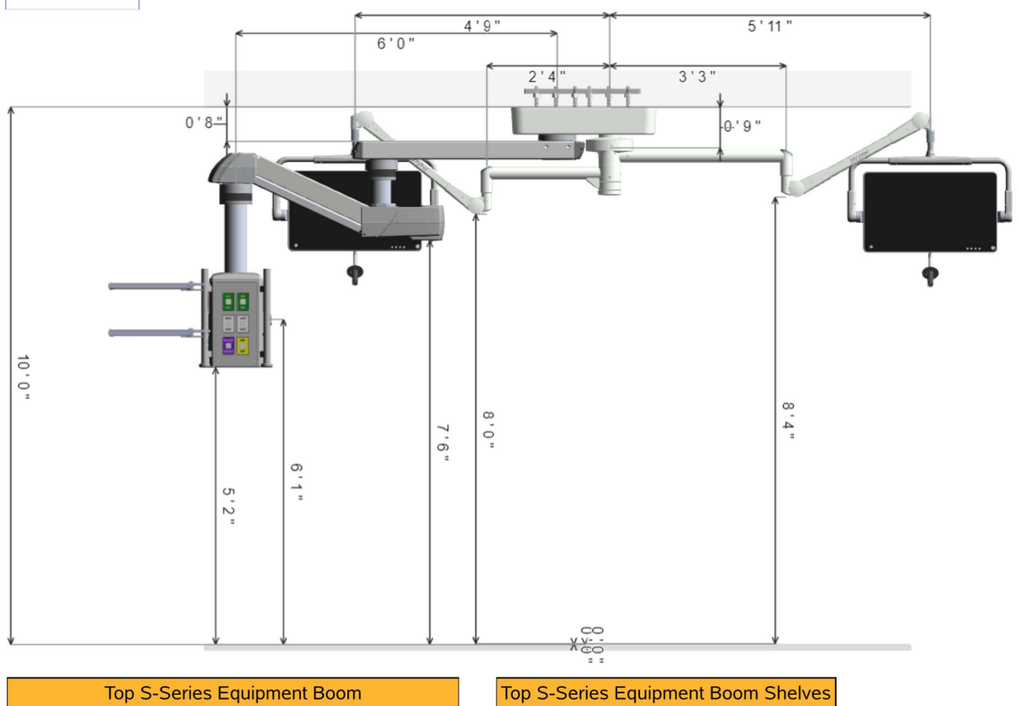
City: LEWISVILLE	State: Texas
Equip ID: SPS-2-T	
Group Name: Converted Booms Illustration	
Quote No.: 10194003	Quote Rev No.: 1
Quote Date:	QTY: 1
Oracle Line #:	
DWG Rev No.: 2	Block #: 5
DWG No.: 10194003ST002	

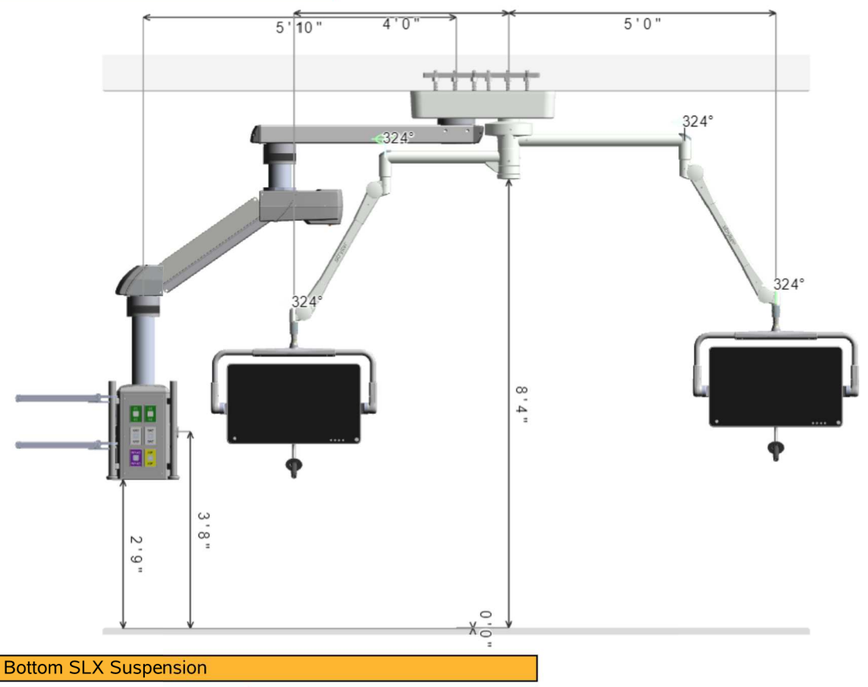
Neuro Hybrid: S-Series, Standard Powered, 3 row, 2 a / SFP / SFP1

SPS-3-T / SFP/SFP

BOOM D4

Patient Head





Top S-Series Equipment Boom	
Brake System	Electric
Medical Rail Type	Fairfield
Top Arm Length	1000mm
Bottom Arm Length	900mm
Mid Tube Length	150mm
Column Tube Length	450mm
Weight Capacity (see note 4)	266 lbs.
Total Throat Used (%)	79
Gas Hose Length (ft)	14.38
Packaging Type	Stand Up
Manufacturing Notes	Assemble All MFR's

Top S-Series Equipment Boom Shelves	
Rail Type	Fairfield
Shelf 1	515mm
Shelf 2	515mm
Shelf 3	None
Shelf 4	None

Bottom SLX Suspension			
Arm No.1 (MP1)		Arm No.2 (MP2)	
Equipment	UDM (19" - 32")	Equipment	UDM (19" - 32")
Horizontal Arm	1000	Horizontal Arm	700
HCT Length	None	HCT Length	None
Tube Length	230	Dual Control	No
Dual Control	No	First Monitor	UDM (19" - 32")
First Monitor	UDM (19" - 32")	Video Bundle	StrykerUDM
Video Bundle	Stryker Provided Cables-UDM		

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CLINICAL REPRESENTATIVE			
FACILITY ENGINEERING			

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www.stryker.com

Sales Rep :
Tom Reynolds
tom.reynolds1@stryker.com

Project: Neuro Hybrid Room v2	
Customer: GOOD SAMARITAN HOSP	
City: PUYALLUP	State: Washington
Equip ID: SPS-3-T/SFP/SFP	
Group Name: Neuro Hybrid	
Quote No.: 10137061	Quote Rev No.: 13
Quote Date: 2-Dec-2022	QTY: 1
Oracle Line #: /	
DWG Rev No.: 3	Block #: 31 / 32
DWG No.: 10137061ST001	

Neuro Hybrid - S-Series, Standard Powered, 3 row, 2 a

10' 0"

BOOM D4

FRONT

F1	Double RJ-45 CAT 6
F2	Shape Arm/ Touch PNL Pass Thru
F3	Blank
F4	Distribution Bd
F5	20A/ 125V-5-20R Duplex
F6	20A/ 125V-5-20R Duplex

RIGHT

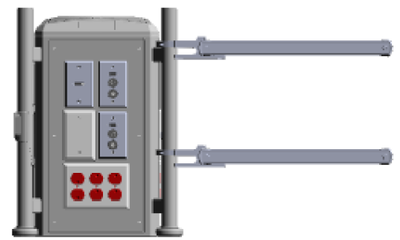
R1	O2
R2	O2
R3	VAC
R4	VAC
R5	WAGD
R6	Med Air

BACK

B1	N2O
B2	VAC
B3	Single DVI
B4	S-Video/BNC/VGA
B5	20A/125V Duplex (6 Outlets)

LEFT

L1	Single DVI
L2	S-Video/BNC/VGA
L3	3rd Party Data Plate 1G
L4	S-Video/BNC/VGA
L5	20A/125V Duplex (6 Outlets)



Data Communications

Qty	Description
1	1G Blank Plate
1	1G Blank W/String
2	Single DVI
3	S-Video/BNC/VGA
1	Shape Arm/Touch PNL Pass Thru
1	Distribution Board

Gas Outlets

Qty	Gas Type	Key Style	Manufacturer
2	Oxygen (O2)	Chemtron	Beacon Medaes
1	Nitrous Oxide (N2O)	Chemtron	Beacon Medaes
1	Medical Air	Chemtron	Beacon Medaes
3	Vacuum	Chemtron	Beacon Medaes
1	WAGD	Chemtron	Beacon Medaes

High Voltage

Main Power Type	Isolated
Main Power Source	Emergency
Manufacturer	Leviton

Loc.	Circuit Ref #	# of Circuits	Color	Outlet Box	Description
F5	1	1	Red	A	20A/125V-5-20R Duplex
F6	2	1	Red	A	20A/125V-5-20R Duplex
B5	3,4	2	Red	A	20A/125V Duplex (6 Outlets)
L5	5,6	2	Red	A	20A/125V Duplex (6 Outlets)

Circuits

Qty	Description
6	Total 15A/20A Circuits
1	Circuit for Motor and Brake

Multi-Functional Rail (MFR)

Front	531mm
Back	531mm
Control	Rear Only

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