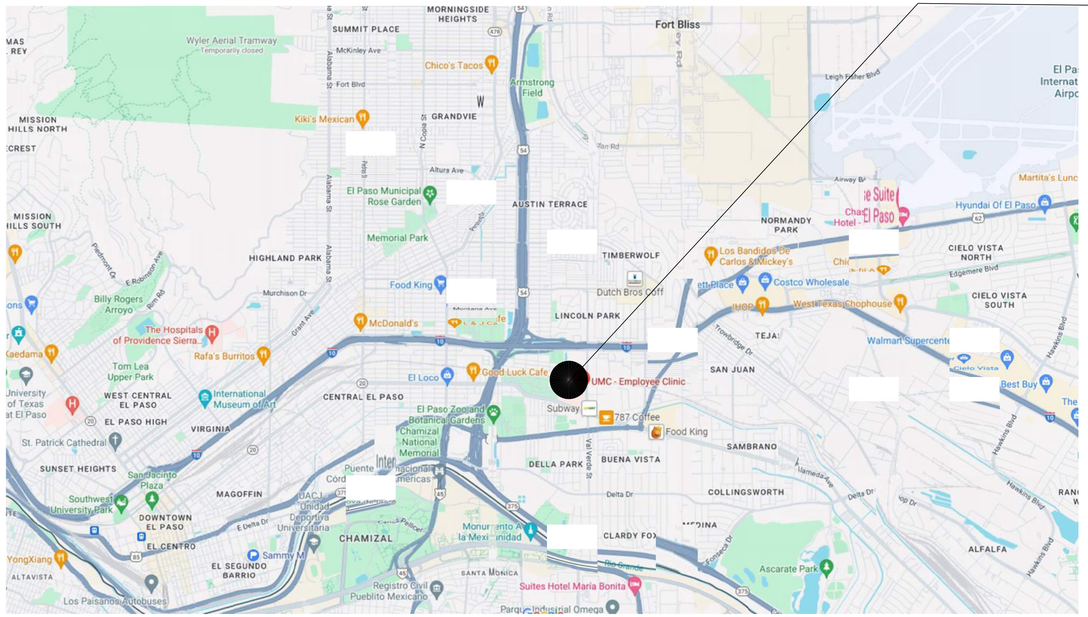
UNIVERSITY MEDICAL CENTER
FIRST FLOOR HUMIDITY CONTROL IMPROVEMENTS

4815 ALAMEDA AVE., EL PASO, TX 79905

ALEGRO ENGINEERING PROJECT NUMBER: 24-514



4815 ALAMEDA AVE.
EL PASO, TX 79905

CODE DATA

DESCRIPTION OF WORK

DEMOLITION:
REMOVE STEAM LINES IN CORRIDOR; REMOVE SECTIONS OF DUCT TO INSTALL NEW DUCT AND HUMIDIFIERS; INSTALL CONTROLS TO MAINTAIN DESIRED HUMIDITY IN SPECIFIC SPACES.

NEW WORK:
INSTALL DUCT STEAM HUMIDIFIERS IN 5 ROOMS, DUCT AND SPACE HUMIDITY SENSORS, INSTALL TWO STEAM PRESSURE REGULATORS, INSTALL NEW LOW PRESSURE STEAM LINE, AND NEW CONDENSATE DRAIN LINES FROM DUCT STEAM HUMIDIFIERS.
ARCHITECTURAL: RE-INSTALL CEILINGS AND LIGHTS WITH NEW AIR DEVICES.

CLASSIFICATION OF WORK:
LEVEL 2 – 2021 INTERNATIONAL EXISTING BUILDING CONSTRUCTION CODE:
REQUIREMENTS RELATED TO WORK AREA ARE NOT APPLICABLE FOR LEVEL 2 ALTERATIONS.
SCOPE OF WORK IS LIMITED SOLELY TO PORTIONS OF THE EXISTING MECHANICAL SYSTEMS.

EL PASO ADMINISTRATIVE CODE FOR CONSTRUCTION

IBC	INTERNATIONAL BUILDING CODE, 2021 EDITION
IEBC	INTERNATIONAL EXISTING BUILDING CODE, 2021 EDITION
IECC	INTERNATIONAL ENERGY CONSERVATION CODE, 2021 EDITION
NEC	NATIONAL ELECTRICAL CODE, 2019 EDITION
IPC	INTERNATIONAL PLUMBING CODE, 2021 EDITION
IMC	INTERNATIONAL MECHANICAL CODE, 2021 EDITION
IFGC	INTERNATIONAL FUEL AND GAS CODE, 2021 EDITION
IFC	INTERNATIONAL FIRE CODE, 2021 EDITION

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UNIVERSITY MEDICAL CENTER
FIRST FLOOR HUMIDITY CONTROL IMPROVEMENTS
4815 ALAMEDA AVE. EL PASO, TEXAS 79905

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UNIVERSITY MEDICAL CENTER OF EL PASO

MECHANICAL SYMBOLS AND ABBREVIATIONS

[SOME SYMBOLS MAY NOT BE USED ON THIS PROJECT]

PIPING SYMBOLS

GENERAL

SYMBOL	DESCRIPTION
	AUTOMATIC AIR VENT
	CAP
	FLEXIBLE CONNECTION (PIPE)
	FLOW DIRECTION
PS	PRESSURE SWITCH
FS	FLOW SWITCH
	PIPE ANCHOR
	PIPE DROP
	PIPE RISER
	STRAINER (Y TYPE) W/ BLOWDOWN & CAP
	UNION
	SPRING ISOLATOR – PIPE OR EQUIPMENT
	VIBRATION ISOLATOR
	NEW EQUIPMENT
	EXISTING EQUIPMENT TO REMAIN
	EXISTING EQUIPMENT TO BE REMOVED
	NEW PIPING
T 3	THERMOSTAT SERVING ZONE 3

AIR CONDITIONING

SYMBOL	DESCRIPTION
	MAKE-UP WATER
CD	CONDENSATE DRAIN
PCD	PUMPED CONDENSATE DRAIN
EHWS	EXISTING HOT WATER SUPPLY
EHWR	EXISTING HOT WATER RETURN
EHPS	EXISTING HIGH PRESSURE STEAM
ELPC	EXISTING LOW PRESSURE STEAM CONDENSATE
HPS	HIGH PRESSURE STEAM
LPS	LOW PRESSURE STEAM
CD	STEAM CONDENSATE DRAIN

VALVES

SYMBOL	DESCRIPTION
PR	PRESSURE REGULATOR
	BALL VALVE
	CIRCUIT BALANCING VALVE

DRAWING SYMBOLS

SYMBOL	DESCRIPTION
CHP-1	EQUIPMENT MARK NUMBER – CHP
2	KEYED NOTE 2
	NEW CONNECTION TO EXISTING

DUCTWORK SYMBOLS

GENERAL

SYMBOL	DESCRIPTION
	ROUND DUCT SECTION
12"ø	12" DIA. ROUND DUCT
12"X24"⇔	12" BY 24" FLAT OVAL DUCT
	SUPPLY DUCT SECTION, POSITIVE PRESS.
	EXH., RET., O.A. DUCT SECTION NEGATIVE PRESS.
12/8	DUCTWORK, FIRST NO. IS VISIBLE DIM.
12/8	EXISTING DUCTWORK (LIGHT LINES)
	EXISTING DUCTWORK TO BE REMOVED
	BRANCH DUCT
	"Y" BRANCH
	MEDIUM PRESSURE DUCT BRANCH
	FLEXIBLE CONNECTION (DUCT)
R	CHANGE OF ELEVATION IN DIRECTION SHOWN R–RISE D–DROP
F.D.A	FIRE DAMPER TYPE "A"
F.S.D.	FIRE & SMOKE DAMPER
	BRANCH DUCT WITH VOLUME DAMPER
	SIDEWALL REGISTER
	DUCT WITH TURNING VANES
S.D.	SPLITTER DAMPER
	VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS W/ VANES EVEN IF SYMBOL IS MISSING)
	VANED ELBOW (SHORT RADIUS)
	STANDARD RADIUS ELBOW
	LOUVER
	SUPPLY AIR DIFFUSER – ARROWS INDICATE DIRECTION OF THROW
	RETURN AIR GRILLE
	EXHAUST AIR GRILLE
	LINEAR SUPPLY AIR DEVICE
	LINEAR RETURN AIR DEVICE
	FLEXIBLE DUCT (SINGLE LINE DUCT)
	FLEXIBLE DUCT

ABBREV.	DESCRIPTION
ABV	ABOVE
AC	ABOVE CEILING
A/C	AIR CONDITIONED
ACCH	AIR COOLED CHILLER
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AFMS	AIR FLOW MEASURING STATION
AHU	AIR HANDLING UNIT
AMCA	AIR MOVING AND CONDITIONING ASSOCIATION, INC.
AP	ACCESS PANEL
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ARI	AIR CONDITIONING REFRIGERATION INSTITUTE
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE
AS	AIR SEPARATOR
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
AV	AUTOMATIC AIR VENT ASSEMBLY
BDD	BACK DRAFT DAMPER
BHP	BRAKE HORSEPOWER
BI	BACKWARD INCLINED
BLDG	BUILDING
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BSMT	BASEMENT
BTU	BRITISH THERMAL UNIT
CC	COOLING COIL
CFM	CUBIC FEET PER MINUTE
CWP	CONDENSER WATER PUMP
CLG	CEILING
CWR	COOL/HEAT WATER RETURN
CWS	COOL/HEAT WATER SUPPLY
CO	CLEANOUT
COND	CONDENSATE
CONN	CONNECTION
CONT	CONTINUATION
CP	CONTROLLABLE PITCH
CU	CONDENSING UNIT
CWP	CONDENSER WATER PUMP
CW	COLD WATER
℄	CENTER LINE
D	DRAIN
DB	DRY BULB
DG	DOOR GRILLE
DIA	DIAMETER
DIFF	DIFFUSER
DN	DOWN
DWG	DRAWING
DX	DIRECT EXPANSION
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EDH	ELECTRIC DUCT HEATER
EEG	EXISTING EXHAUST GRILLE
EF	EXHAUST FAN
ELEC	ELECTRICAL
ELEV	ELEVATION
EG	EXHAUST GRILLE
ENT	ENTERING
EQUIP	EQUIPMENT
ER	EXHAUST REGISTER
ERG	EXISTING RETURN GRILLE
ESD	EXISTING SUPPLY DIFFUSER
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
EXIST	EXISTING
F	DEGREES FAHRENHEIT
FC	FAN COIL
FD	FIRE DAMPER
FLEX	FLEXIBLE
FLG	FLANGE
FLR	FLOOR
FPM	FEET PER MINUTE
FT	FEET, FOOT
FS	FLOW SWITCH
FSD	FIRE SMOKE DAMPER
GAL	GALLON
GALV	GALVANIZED

ABBREV.	DESCRIPTION
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
HR	HOUR
H	HIGH, HEIGHT
HVAC	HEATING/VENTILATING/ AIR CONDITIONING
HZ	HERTZ
ID	INSIDE DIAMETER
IH	INTAKE HOOD
IN	INCHES
INSUL	INSULATION
IN WG	INCHES OF WATER GAUGE
KW	KILOWATT(S)
L	LONG, LENGTH
L	LOUVER
LAT	LEAVING AIR TEMPERATURE
LB	POUND
MAX	MAXIMUM
MD	MANUAL DAMPER
MECH	MECHANICAL
MIN	MINIMUM
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OAH	OUTSIDE AIR INTAKE HOOD
OC	ON CENTER
PBD	PARALLEL BLADE DAMPER
PCHWP	PRIMARY CHILLED HOT WATER PUMP
PRESS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PSIG	POUNDS PER SQUARE INCH (GAUGE)
PHL	PRESSURE HIGH LIMIT
RA	RETURN AIR
RE: 4M-07	REFER TO DETAIL 4, SHEET M-07
RET	RETURN
RG	RETURN GRILLE
RH	RELATIVE HUMIDITY
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SAT	SOUND ATTENUATOR
SCH	SCHEDULE
SD	SMOKE DAMPER
SEC	SECOND
SF	SUPPLY FAN
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SP	STATIC PRESSURE
SPEC	SPECIFICATION
SF	SQUARE FOOT
STD	STANDARD
STL	STEEL
SW	SWITCH
T.D.	TRANSFER DUCT
TEMP	TEMPERATURE
T'STAT	THERMOSTAT
TU	TERMINAL UNIT
TXV	THERMOSTATIC EXPANSION VALVE
TYP	TYPICAL
VAV	VARIABLE AIR VOLUME
VB	VALVE BOX
VEL	VELOCITY
VENT	VENTILATE
VF	VENTILATION FAN
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
VOLT	VOLTAGE
W	WIDE, WIDTH
W/	WITH
WB	WET BULB
W/O	WITHOUT
WL	WALL LOUVER

GENERAL NOTES:

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL CODES AND STANDARDS. CRAFTSMANSHIP AND MATERIAL SHALL BE OF THE FINEST QUALITY.
2. ALL DUCTWORK SHALL BE INSTALLED AND SUPPORTED IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA STANDARD HVAC DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE".
3. UNLESS NOTED OTHERWISE, ALL CAPACITIES INDICATED ARE AT SITE CONDITIONS. ALL EQUIPMENT SHALL BE ADJUSTED, MODIFIED, AND ORDERED TO ACCOMMODATE SITE CONDITIONS (4000 FT).
4. THE CONTRACTOR SHALL REVIEW THE CONTRACT DOCUMENTS FULLY PRIOR TO THE SUBMITTAL PHASE OF THE PROJECT. CONFLICTS WITHIN AND BETWEEN THE CONTRACT DOCUMENTS SHALL BE NOTED IN WRITING TO THE ENGINEER PRIOR TO SUBMITTING DATA SHEETS FOR REVIEW.
5. IT IS THE INTENT OF THE DRAWINGS TO SHOW A COMPLETE DESIGN IN EVERY RESPECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR A COMPLETE AND FULLY FUNCTIONAL INSTALLATION. THE PRIME CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK BETWEEN SUBCONTRACTORS TO ASSURE THAT THE INSTALLATION WILL BE COMPLETE WITHOUT ADDITIONAL COST TO THE CONTRACT.
6. BRANCH DUCTS SERVING DIFFUSERS SHALL BE THE SAME SIZE AS THE DIFFUSER NECK UNLESS NOTED OTHERWISE.
7. ALL PIPING & DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN FURRED CHASES OR INSTALLED ABOVE SUSPENDED CEILING UNLESS NOTED DIFFERENT. AVOID EXCESSIVE OFFSETS IN DUCTWORK AND PIPING UNLESS SPECIFICALLY INDICATED
8. FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED, ALL DUCT DIMENSIONS ARE CLEAR INSIDE DIMENSION.
9. MAINTAIN MINIMUM CLEARANCES IN FRONT OF ALL CONTROL AND ELECTRIC PANELS ON EQUIPMENT SUCH AS FANS, AIR TERMINAL UNITS, ETC. IN ACCORDANCE WITH THE FOLLOWING: 120 V = 36", 208 V = 42", 460 V = 48". CLEARANCE MAY BE MEASURED THROUGH REMOVABLE CEILING GRID OR ACCESS PANEL. WHERE FACTORY MOUNTED PANELS DO NOT ALLOW ADEQUATE CLEARANCE, RELOCATE AND REMOUNT AS REQUIRED. ALL FACTORY WARRANTIES SHALL BE MAINTAINED.
10. AIR DEVICES SIZES SHOWN ON SCHEDULES ARE NECK SIZES, UNLESS NOTED OTHERWISE.
11. BOTH THE SUBCONTRACTOR FOREMAN AND PRIME CONTRACTOR FOREMAN SHALL VISUALLY INSPECT THE QUALITY AND COMPLETENESS OF INSTALLATION PRIOR TO REQUESTING A FIELD OBSERVATION BY THE ENGINEER. PROVIDE A MINIMUM OF FORTY EIGHT HOUR WRITTEN NOTICE TO THE ENGINEER PRIOR TO ANY FIELD OBSERVATION REQUIREMENTS.
12. DO NOT COVER ANY MECHANICAL OR PLUMBING WORK IN WALLS, ABOVE CEILINGS, ETC. PRIOR TO REQUESTING OBSERVATION BY THE ENGINEER. ALL WORK COVERED WITHOUT OBSERVATION BY THE ENGINEER SHALL BE UNCOVERED FOR OBSERVATION, AT NO ADDITIONAL COST.
13. COORDINATE THE INSTALLATION OF DUCTWORK AND CEILING DIFFUSERS WITH THE STRUCTURE, LIGHTS, FIRE SPRINKLER HEADS, AND CEILING GRID. WHERE THE ALTERATION OF DUCT SIZES ARE NECESSARY, MAINTAIN CROSS-SECTIONAL AREAS.
14. INSTALL EQUIPMENT TO AVOID SOUND OR NOISE TRANSMISSION TO OCCUPIED SPACES.
15. ALL EQUIPMENT, FIXTURES, PIPING, AND DUCTWORK SHALL BE INSTALLED PARALLEL TO BUILDING LINES.
16. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES. CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE PRIME CONTRACTOR, ENGINEER AND, AS NECESSARY, THE OWNER.
17. TEST, ADJUST, AND BALANCE ALL AIR AND WATER SYSTEMS AFTER INSTALLATION IS COMPLETE. SUBMIT REPORTS TO ENGINEER FOR REVIEW AND APPROVAL.
18. TURNOVER ALL EQUIPMENT AND MATERIAL OWNING, OPERATING AND MAINTENANCE (OM) MANUALS TO ENGINEER FOR REVIEW & APPROVAL AFTER INSTALLATION IS COMPLETE.
19. KEEP DUCTWORK AND PIPING INTERIOR CLEAN AND FREE OF DEBRIS THROUGHOUT THE PROJECT. CAP ALL PIPING AND DUCTWORK EXPOSED TO THE ELEMENTS.
20. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF AIR DEVICES.
21. INSULATED PIPEWORK SHALL BE INSTALLED SO THAT FULL THICKNESS INSULATION CAN BE APPLIED TO EACH PIPE.
22. ALL FLOOR BRANCHES OFF PIPE RISERS SHALL BE PROVIDED W/ SHUT OFF VALVES & VALVED AND CAPPED DRAIN CONNECTION.
23. LOW PRESSURE DUCTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS TABLE 1-5. EXCEPT THAT THE MINIMUM SHEET METAL THICKNESS SHALL BE 24 GAGE.
24. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS LISTED ON THE DRAWINGS AND SPECIFICATIONS INCLUDING THOSE LISTED UNDER ENERGY COMPLIANCE REPORT.
25. PROVIDE AND INSTALL MANUAL BALANCING DAMPERS AT ALL DUCT BRANCHES.

CODE COMPLIANCE

1. PERFORM ALL WORK IN ACCORDANCE WITH ALL CODES, RULES, REGULATIONS, AND ORDINANCES AS ADOPTED BY THE AUTHORITY HAVING JURISDICTION (AHJ). PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND ACCESSORIES NECESSARY TO COMPLY WITH AHJ REQUIREMENTS WITHOUT ADDITIONAL COST TO THE CONTRACT.
2. DRAWINGS SHOW GENERAL AND DIAGRAMMATIC ARRANGEMENT OF SYSTEMS. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ACCESSORIES REQUIRED BY CODE WETHER SHOWN OR NOT. WHERE THE SPECIFICATIONS AND/OR DRAWINGS INDICATE MATERIALS OR CONSTRUCTION IN EXCESS OF CODE REQUIREMENTS, THE DRAWINGS AND/OR SPECIFICATIONS SHALL GOVERN.
3. FAILURE OF CONTRACTOR TO INSTALL IN ACCORDANCE W/ GOVERNING CODES WILL RESULT IN ADDITIONAL COSTS FOR WHICH NEITHER THE OWNER NOR ITS CONSULTANTS SHALL BE RESPONSIBLE. CONTRACTOR SHALL HOLD AND SAVE THE OWNER AND ITS CONSULTANTS FREE AND HARMLESS FROM LIABILITY OF ANY NATURE OR KIND ARISING FROM THE CONTRACTORS FAILURE TO INSTALL IN COMPLIANCE WITH CODES AND ORDINANCES.

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STATE OF TEXAS
ROLANDO LEGARRETA
84714
LICENSED PROFESSIONAL ENGINEER

JUNE 27, 2024

ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

UNIVERSITY MEDICAL CENTER
HUMIDITY CONTROL IMPROVEMENTS
FIRST FLOOR

4815 ALAMEDA AVE. EL PASO, TEXAS 79905

No.	REVISION/ISSUE	DATE

SHEET TITLE:
MECHANICAL SYMBOLS & ABBREVIATIONS

PROJECT NUMBER: 24-514
PHASE: 100% CD
DATE: 06/10/2024
SHEET NUMBER: M-0

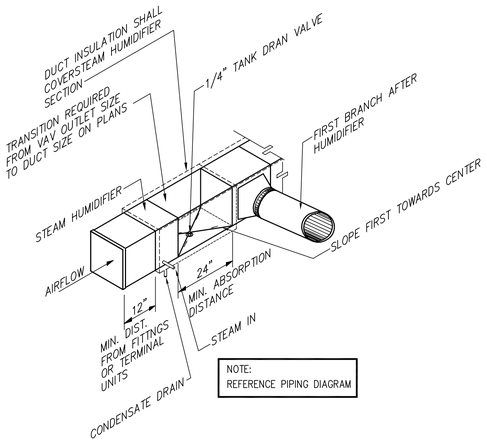
HUMIDIFIER SCHEDULE

TAG	TYPE	SERVICE	AIR FLOW (CFM)	DUCT SIZE (IN) (WXH)	NO.OF DISPERSION TUBES	NUMBER OF NOZZLES	ABSORPTION DISTANCE (INCHES)	ENTERING DRY BULB TEMP.(deg.F)	ENTERING WET BULB TEMP.(deg.F)	LEAVING DRY BULB TEMP.(deg.F)	LEAVING WET BULB TEMP.(deg.F)	INLET PIPE SIZE (IN)	STEAM FLOW RATE (LBS/HR)	STEAM PRESSURE (PSIG)	CONTROL VALVE				MANUFACTURER	STEAM DISPERSION MODEL	NOTES
															SIZE	MODEL	VALVE CV	ACTUATOR MODEL			
SH-A	DUCT MOUNTED	CENTRAL STORAGE 147	315	12X12	2	8	9.1	70.0	41.9	70.0	57.8	1.0	11.0	15.0	1/2"	7263	0.23	7103	CAREL USA	SABSRMC3UO	1,2,3,4,5,6,8,9
SH-B	DUCT MOUNTED	OR SUPPLY - R1701	2,415	32X12	6	8	9.1	70.0	41.9	70.0	57.8	1.0	83.0	15.0	1/2"	7263	1.80	7103	CAREL USA	SABWRMC3UO	1,2,3,4,5,6,8,9
SH-C	DUCT MOUNTED	ANESTH STOR./WORK W1112	215	12X12	1		22.8	70.0	41.9	70.0	57.8	1.0	7.0	5.0	1/2"	7263	0.40	7103	CAREL USA	SAOZALIOUO	1,2,3,4,5,6,7,8,9
SH-D	DUCT MOUNTED	EQUIP/PERFUSION W1153	435	12X12	2	8	9.1	70.0	41.9	70.0	57.8	1.0	15.0	15.0	1/2"	7263	0.40	7103	CAREL USA	SABSRMC3UO	1,2,3,4,5,6,8,9
SH-E	DUCT MOUNTED	FROZEN SECT	250	12X12	1		22.8	70.0	41.9	70.0	57.8	1.0	8.8	5.0	1/2"	7263	0.40	7103	CAREL USA	SAOZALIOUO	1,2,3,4,5,6,7,8,9

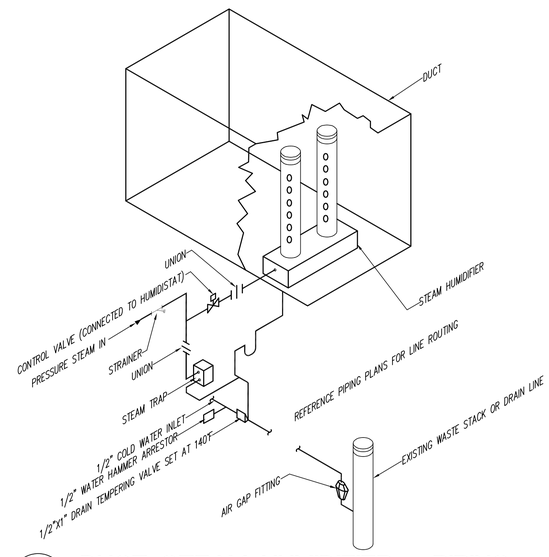
NOTES:
1. PROVIDE PIPE FITTINGS FOR VALVE, BLACK IRON, 1/2"
2. PROVIDE WITH STEAM TRAP (CAREL MODEL SAKTFT44) AND CAST IRON STRAINER (20 MESH 304 SS) WITH 1" CAST IRON PIPE FITTINGS
3. PROVIDE DRAIN TEMP VALVE, 1/2" NPT INLET; 1" NPT OUTLET, 140 °F
4. PROVIDE WITH SPACE HUMIDITY SENSOR RH 10-90% (4-20MA)
5. CONTROL VALVE SHALL HAVE S.S. TRIM
6. VALVE ACTUATOR WITH LINKAGE FAIL/SAFE
7. PROVIDE STEAM PRESSURE REGULATOR
8. CONNECT SPACE HUMIDITY SENSOR TO CONTROL VALVE FOLLOWING MANUFACTURER'S RECOMMENDATIONS. SURFACE MOUNT SPACE HUMIDITY SENSOR, AND RUN EXPOSED CONDUIT IN WALL.
9. INSTALL PER MANUFACTUER RECOMMENDATIONS

COPPER AND STEEL PIPE HANGER SPACING

PIPE SIZE Inches	COPPER TUBING MAXIMUM HANGER SPACING Feet	STEEL PIPE MAXIMUM HANGER SPACING Feet	COPPER TUBING HANGER ROD DIAMETER Inches	STEEL PIPE HANGER ROD DIAMETER Inches
1/2	5	7	3/8	3/8
3/4	5	7	3/8	3/8
1	6	7	3/8	3/8
1-1/4	7	7	3/8	3/8
1-1/2	8	9	3/8	3/8
2	8	10	3/8	3/8
2-1/2	9	11	1/2	1/2
3	10	12	1/2	1/2
4	12	14	1/2	5/8
5	13	16	1/2	5/8
6	14	17	5/8	3/4
8	16	19	3/4	3/4



1 DUCT STEAM HUMIDIFIER
NOT TO SCALE



2 DUCT STEAM HUMIDIFIER - PIPING
NOT TO SCALE

PROJECT DESCRIPTION

A. WORK OF THE PROJECT INCLUDES BUT IS NOT LIMITED TO:
1. REMOVE CEILING TILES IN AREAS AFFECTED.
2. REMOVE EXISTING HP STEAM LINES FROM VALVE FORWARD AS SHOWN ON DRAWINGS.
3. REMOVE EXISTING DUCTWORK IN DESIGNATED ROOMS AS SHOWN ON DRAWINGS.
4. EXTEND NEW HPS AND PROVIDE PRESSURE REGULATOR.
5. INSTALL NEW LPS AND EXTEND TO IN DUCT STEAM HUMIDIFIERS.
6. INSTALL STEAM HUMIDIFIERS (REFERENCE DETAILS).
7. INSTALL CONDENSATE DRAIN LINES AND EXTEND TO NEAREST WASTE STACK.
8. INSULATE LINES.
9. REINSTALL CEILING TILES.
10. INSTALL ROOM HUMIDISTAT AND EXTEND CONTROL WIRING (IN CONDUIT) TO STEAM CONTROL VALVE.
11. TEST AND ADJUST AS NEEDED.

B. LIMIT USE OF SITE AND PREMISES TO ALLOW:
1. OWNER OCCUPANCY.
2. USE OF SITE AND PREMISES BY THE PUBLIC.

C. CONSTRUCTION OPERATIONS:
1. NOISY AND DISRUPTIVE OPERATIONS: NOT ALLOWED INSIDE THE BUILDING. COORDINATE AND SCHEDULE SUCH OPERATIONS WITH OWNER TO MINIMIZE DISRUPTIONS.

D. COORDINATE WITH OWNER TIME RESTRICTIONS AND ACCESS TO WORK SPACES.

E. UTILITY OUTAGES AND SHUTDOWN:
1. COORDINATE AND SCHEDULE WASTE AND WATER OUTAGES WITH OWNER.
2. OUTAGES: ALLOWED ONLY AT PREVIOUSLY AGREED UPON TIMES.
3. AT LEAST TWO WEEKS BEFORE SCHEDULED OUTAGE, SUBMIT OUTAGE REQUEST PLAN TO OWNER ITEMIZING THE DATES, TIMES, AND DURATION OF EACH REQUESTED OUTAGE.

F. CONSTRUCTION PLAN: BEFORE START OF CONSTRUCTION, SUBMIT THREE COPIES OF CONSTRUCTION PLAN REGARDING ACCESS TO WORK, USE OF SITE, AND UTILITY OUTAGES FOR ACCEPTANCE BY OWNER. AFTER ACCEPTANCE OF PLAN, CONSTRUCTION OPERATIONS SHALL COMPLY WITH ACCEPTED PLAN UNLESS DEVIATIONS ARE ACCEPTED BY OWNER IN WRITING.

WORK SEQUENCE

A. CONSTRUCT WORK IN PHASES TO ACCOMMODATE OWNER'S OCCUPANCY REQUIREMENTS DURING CONSTRUCTION PERIOD. COORDINATE CONSTRUCTION SCHEDULE AND OPERATIONS WITH OWNER. PHASING OF PROJECT MAY BE REQUIRED AND SHALL BE DETERMINED BY THE OWNER.

B. SEQUENCING OF CONSTRUCTION PLAN: BEFORE START OF CONSTRUCTION, SUBMIT THREE COPIES OF CONSTRUCTION PLAN REGARDING PHASING OF DEMOLITION, AND NEW WORK FOR ACCEPTANCE BY OWNER. AFTER ACCEPTANCE OF PLAN, CONSTRUCTION SEQUENCING SHALL COMPLY WITH ACCEPTED PLAN UNLESS DEVIATIONS ARE ACCEPTED BY OWNER IN WRITING.

OWNER OCCUPANCY

A. OWNER WILL OCCUPY PREMISES DURING ENTIRE PERIOD OF CONSTRUCTION.

B. COOPERATE WITH OWNER TO MINIMIZE CONFLICT AND TO FACILITATE OWNER'S OPERATIONS.

C. SCHEDULE THE WORK TO ACCOMMODATE OWNER OCCUPANCY.

D. PERFORM WORK SO AS NOT TO INTERFERE WITH OWNER'S OPERATIONS. MAINTAIN EXISTING EXITS, UNLESS OTHERWISE INDICATED.
1. MAINTAIN ACCESS TO EXISTING WALKWAYS, CORRIDORS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES. DO NOT CLOSE OR OBSTRUCT WALKWAYS, CORRIDORS, OR OTHER OCCUPIED OR USED FACILITIES WITHOUT WRITTEN PERMISSION FROM OWNER AND AUTHORITIES HAVING JURISDICTION.
2. PROVIDE NOT LESS THAN 7 DAYS' NOTICE TO OWNER OF ACTIVITIES THAT WILL AFFECT OWNER'S OPERATIONS.

PERMITS

A. FURNISH ALL NECESSARY PERMITS FOR CONSTRUCTION OF WORK INCLUDING THE FOLLOWING:
1. BUILDING PERMIT.
2. MECHANICAL AND PLUMBING.

(CONT. ON SHEET M-2)

TEXAS REGISTRATION: F-000014
Alegro Engineering
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5822 Cromo Dr, Suite 105
El Paso, Texas 79912
Tel. 915.533.0700

STATE OF TEXAS
ROLANDO LEGARRETA
84714
LICENSED
PROFESSIONAL ENGINEER
JUNE 27, 2024

ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

UNIVERSITY MEDICAL CENTER
HUMIDITY CONTROL IMPROVEMENTS
FIRST FLOOR
4815 ALAMEDA AVE. EL PASO, TEXAS 79905

No.	REVISION/ISSUE	DATE

SHEET TITLE: MECHANICAL SCHEDULES, DETAILS, AND SPECS
PROJECT NUMBER: 24-514
PHASE: 100% CD
DATE: 06/10/2024
SHEET NUMBER: M-1

SUBMITTAL PROCEDURES

A. SEQUENTIALLY NUMBER TRANSMITTAL FORMS. MARK REVISED SUBMITTALS WITH ORIGINAL NUMBER AND SEQUENTIAL ALPHABETIC SUFFIX.

B. IDENTIFY PROJECT, CONTRACTOR, SUBCONTRACTOR AND SUPPLIER; PERTINENT DRAWING AND DETAIL NUMBER, APPROPRIATE TO SUBMITTAL.

C. 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 REQUIREMENTS OF THE WORK AND CONTRACT DOCUMENTS.

D. SCHEDULE SUBMITTALS TO EXPEDITE PROJECT, AND DELIVER ELECTRONICALLY TO ENGINEER OF RECORD AT RHYSLOP@ALEGRO-ENGINEERING.COM AND RLEGARRETA@ALEGRO-ENGINEERING.COM. COORDINATE SUBMISSION OF RELATED ITEMS. SUBMITTALS SHALL BE DELIVERED VIA ELECTRONIC FORMAT.

E. ANY SUBMITTAL THAT IS NON-COMPLIANT WITH CONTRACT DOCUMENTS MUST BE RESUBMITTED WITHIN TWO (2) WEEKS FOLLOWING NOTIFICATION OF SUCH NON-COMPLIANCE. IF NO SATISFACTORY MATERIAL IS SUBMITTED WITHIN THE TWO-WEEK PERIOD, THE ENGINEER RESERVES THE RIGHT TO REQUIRE THE CONTRACTOR TO FURNISH ITEMS EXACTLY AS DESCRIBED IN THE CONTRACT DOCUMENTS.

F. NO ALLOWANCES WILL BE MADE FOR SUBMITTALS WHICH ARE NOT MADE IN A TIMELY FASHION OR WHICH ARE TURNED DOWN BECAUSE THEY DO NOT MEET THE SPECIFICATIONS. SHOULD DELIVERY PROBLEMS ARISE DUE TO THE ABOVE, AFFECTING THE COMPLETION TIME OF THE PROJECT, THE CONTRACTOR WILL FURNISH AND INSTALL ACCEPTABLE ALTERNATES UNTIL THE PROPER MATERIALS ARRIVE AND THEN REPLACE THE ALTERNATE MATERIALS WITH THE APPROVED MATERIALS, ALL AT NO COST TO THE OWNER. IF THE CONTRACTOR IS NOT ABLE TO FURNISH AN ACCEPTABLE ALTERNATE UNTIL THE PROPER MATERIALS ARRIVE, HE WILL ASSUME ALL COSTS FOR FURNISHING AND INSTALLING ALL ALTERNATES AS DIRECTED BY THE ENGINEER AND/OR WILL PAY A SUITABLE PENALTY FOR THE INCONVENIENCE EXPERIENCED BY THE OWNER. THIS PENALTY WILL BE SET BY THE OWNER BASED ON THE PARTICULAR CIRCUMSTANCES.

G. FOR EACH SUBMITTAL FOR REVIEW, ALLOW 7 WORKING DAYS EXCLUDING DELIVERY TIME TO AND FROM CONTRACTOR. ESPECIAL CIRCUMSTANCES WILL BE CONSIDERED FOR EXPEDITED REVIEW.

H. IDENTIFY VARIATIONS FROM CONTRACT DOCUMENTS AND PRODUCT OR SYSTEM LIMITATIONS WHICH MAY BE DETRIMENTAL TO SUCCESSFUL PERFORMANCE OF COMPLETED WORK.

I. ALLOW SPACE ON SUBMITTALS FOR CONTRACTOR AND ARCHITECT/ENGINEER REVIEW STAMPS.

J. WHEN REVISED FOR RESUBMISSION, IDENTIFY CHANGES MADE SINCE PREVIOUS SUBMISSION.

K. SUBMITTALS NOT REQUESTED WILL NOT BE RECOGNIZED OR PROCESSED.

CUTTING AND PATCHING

A. GENERAL: EMPLOY SKILLED WORKERS TO PERFORM CUTTING AND PATCHING. PROCEED WITH CUTTING AND PATCHING AT THE EARLIEST FEASIBLE TIME, AND COMPLETE WITHOUT DELAY.
   1. CUT EXISTING CONSTRUCTION TO PROVIDE FOR INSTALLATION OF OTHER COMPONENTS OR PERFORMANCE OF OTHER CONSTRUCTION, AND SUBSEQUENTLY PATCH AS REQUIRED TO RESTORE SURFACES TO THEIR ORIGINAL CONDITION.

B. CUTTING: CUT EXISTING CONSTRUCTION BY SAWING, DRILLING, BREAKING, CHIPPING, GRINDING, AND SIMILAR OPERATIONS, INCLUDING EXCAVATION, USING METHODS LEAST LIKELY TO DAMAGE ELEMENTS RETAINED OR ADJOINING CONSTRUCTION.
   1. IN GENERAL, USE HAND OR SMALL POWER TOOLS DESIGNED FOR SAWING AND GRINDING, NOT HAMMERING AND CHOPPING. CUT HOLES AND SLOTS AS SMALL AS POSSIBLE, NEATLY TO SIZE REQUIRED, AND WITH MINIMUM DISTURBANCE OF ADJACENT SURFACES. TEMPORARILY COVER OPENINGS WHEN NOT IN USE.
   2. EXISTING FINISHED SURFACES: CUT OR DRILL FROM THE EXPOSED OR FINISHED SIDE INTO CONCEALED SURFACES.
   3. MECHANICAL AND ELECTRICAL SERVICES: CUT OFF PIPE OR CONDUIT IN WALLS OR PARTITIONS TO BE REMOVED. CAP, VALVE, OR PLUG AND SEAL REMAINING PORTION OF PIPE OR CONDUIT TO PREVENT ENTRANCE OF MOISTURE OR OTHER FOREIGN MATTER AFTER CUTTING.
   4. PROCEED WITH PATCHING AFTER CONSTRUCTION OPERATIONS REQUIRING CUTTING ARE COMPLETE.

C. PATCHING: PATCH CONSTRUCTION BY FILLING, REPAIRING, REFINISHING, CLOSING UP, AND SIMILAR OPERATIONS FOLLOWING PERFORMANCE OF OTHER WORK. PATCH WITH DURABLE SEAMS THAT ARE AS INVISIBLE AS POSSIBLE. PROVIDE MATERIALS TO MATCH EXISTING.
   1. INSPECTION: WHERE FEASIBLE, TEST AND INSPECT PATCHED AREAS AFTER COMPLETION TO DEMONSTRATE INTEGRITY OF INSTALLATION.
   2. EXPOSED FINISHES: RESTORE EXPOSED FINISHES OF PATCHED AREAS AND EXTEND FINISH RESTORATION INTO RETAINED ADJOINING CONSTRUCTION IN A MANNER THAT WILL ELIMINATE EVIDENCE OF PATCHING AND REFINISHING.
   3. FLOORS AND WALLS: WHERE WALLS OR PARTITIONS THAT ARE REMOVED EXTEND ONE FINISHED AREA INTO ANOTHER, PATCH AND REPAIR FLOOR AND WALL SURFACES IN THE NEW SPACE. PROVIDE AN EVEN SURFACE OF UNIFORM FINISH, COLOR, TEXTURE, AND APPEARANCE. REMOVE EXISTING FLOOR AND WALL COVERINGS AND REPLACE WITH NEW MATERIALS, IF NECESSARY, TO ACHIEVE UNIFORM COLOR AND APPEARANCE.
   4. WHERE PATCHING OCCURS IN A PAINTED SURFACE, APPLY PRIMER AND INTERMEDIATE PAINT COATS OVER THE PATCH AND APPLY FINAL PAINT COAT OVER ENTIRE UNBROKEN SURFACE CONTAINING THE PATCH. PROVIDE ADDITIONAL COATS UNTIL PATCH BLENDS WITH ADJACENT SURFACES.
   5. CEILINGS: PATCH, REPAIR, OR RE-HANG EXISTING CEILINGS AS NECESSARY TO PROVIDE AN EVEN-PLANE SURFACE OF UNIFORM APPEARANCE.

D. EXISTING STRUCTURE PROTECTED WITH BLAZE SHIELD SPAYED-ON FIRE PROOFING. CONTRACTOR WILL BE RESPONSIBLE FOR PATCHING ANY DAMAGE TO EXISTING FIRE PROOFING WITHIN 5'-0 ANY WORK PERFORMED BY CONTRACTOR.
   1. VERIFY THAT CLIPS, HANGER, SUPPORTS, SLEEVES AND OTHER ITEMS ARE IN PLACE PRIOR TO APPLYING FIRE SENSITIVE COATING.
   2. PROVIDE PROTECTIVE COVERS TO PREVENT OVER SPAY ON SURFACES NOT DESIGNATE TO RECEIVE FIRE RESISTIVE COATING.

DOMESTIC WATER PIPING

A. COPPER TUBE AND FITTINGS
   1. HARD COPPER TUBE: ASTM B 88, TYPE L WATER TUBE, DRAWN TEMPER.
   2. CAST-COPPER, SOLDER-JOINT FITTINGS: ASME B16.18, PRESSURE FITTINGS.
   3. WROUGHT-COPPER, SOLDER-JOINT FITTINGS: ASME B16.22, WROUGHT-COPPER PRESSURE FITTINGS.
   4. BRONZE FLANGES: ASME B16.24, CLASS 150, WITH SOLDER-JOINT, PRESS-CONNECT OR THREADED ENDS.

B. COPPER UNIONS:
   1. MSS SP-123.
   2. CAST-COPPER-ALLOY, HEXAGONAL-STOCK BODY.
   3. BALL-AND-SOCKET, METAL-TO-METAL SEATING SURFACES.
   4. SOLDER-JOINT OR THREADED ENDS.

C. COPPER PRESS-CONNECT FITTINGS:
   1. FITTINGS FOR NPS 2 AND SMALLER: CAST-BRONZE OR WROUGHT-COPPER FITTING WITH EPDM-RUBBER, O-RING SEAL IN EACH END.
   2. FITTINGS FOR NPS 2-1/2 TO NPS 4 : WROUGHT-COPPER FITTING WITH EPDM-RUBBER, O-RING SEAL IN EACH END.
   3. PRESS ENDS: UNPRESSED FITTING IDENTIFICATION FEATURE TO THE FITTING WALL.
   4. SEALING ELEMENT: EPDM.

STEAM AND STEAM CONDENSATE PIPING

A. LOW PRESSURE STEAM PIPING (15 PSIG MAXIMUM)STEEL PIPE: ASTM A53/A53M, SCHEDULE 40, BLACK.
   1. FITTINGS: ASME B16.3 MALLEABLE IRON CLASS 125, OR ASTM A234/A234M FORGED STEEL CLASS 125.
   2. JOINTS: THREADED FOR PIPE 2 INCH AND SMALLER; WELDED FOR PIPE 2-1/2 INCHES AND LARGER.

B. LOW PRESSURE STEAM CONDENSATE PIPING, ABOVE GROUND
   1. STEEL PIPE: ASTM A53/A53M, SCHEDULE 40, BLACK.
   2. FITTINGS: ASME B16.3 MALLEABLE IRON CLASS 125, OR ASTM A234/A234M FORGED STEEL CLASS 125.
   3. JOINTS: THREADED FOR PIPE 2 INCH AND SMALLER; WELDED FOR PIPE 2-1/2 INCHES AND LARGER.

C. MEDIUM AND HIGH PRESSURE STEAM PIPING (150 PSIG MAXIMUM)
   1. STEEL PIPE: ASTM A53/A53M, SCHEDULE 80, BLACK.
   2. FITTINGS: ASME B16.3 MALLEABLE IRON CLASS 250, OR ASTM A234/A234M FORGED STEEL WELDING TYPE, CLASS 300.
   3. JOINTS: THREADED FOR PIPE 2 INCH AND SMALLER; WELDED FOR PIPE 2-1/2 INCHES AND LARGER.

D. EQUIPMENT DRAINS AND OVERFLOWS
   1. STEEL PIPE: ASTM A53/A53M SCHEDULE 40, GALVANIZED.
   2. FITTINGS: ASME B16.3, MALLEABLE IRON OR ASME B16.4, CAST IRON.
   3. JOINTS: THREADED FOR PIPE 2 INCH AND SMALLER; FLANGED FOR PIPE 2-1/2 INCHES AND LARGER.

E. PIPE INSTALLATION
   1. ROUTE PIPING IN ORDERLY MANNER AND MAINTAIN GRADIENT. ROUTE PARALLEL AND PERPENDICULAR TO WALLS.
   2. INSTALL PIPING TO MAINTAIN HEADROOM WITHOUT INTERFERING WITH USE OF SPACE OR TAKING MORE SPACE THAN NECESSARY.
   3. GROUP PIPING WHENEVER PRACTICAL AT COMMON ELEVATIONS.
   4. SLEEVE PIPE PASSING THROUGH PARTITIONS, WALLS AND FLOORS.
   5. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT.
   6. PROVIDE CLEARANCE IN HANGERS AND FROM STRUCTURE AND OTHER EQUIPMENT FOR INSTALLATION OF INSULATION AND ACCESS TO VALVES AND FITTINGS.
   7. INSTALL NON-CONDUCTING DIELECTRIC CONNECTIONS WHEREVER JOINTING DISSIMILAR METALS.
   8. SLOPE PIPING AND ARRANGE SYSTEMS TO DRAIN AT LOW POINTS.
   9. PROTECT PIPING SYSTEMS FROM ENTRY OF FOREIGN MATERIALS BY TEMPORARY COVERS, COMPLETING SECTIONS OF THE WORK, AND ISOLATING PARTS OF COMPLETED SYSTEM.

VALVES FOR HVAC PIPING

A. BALL VALVES: MSS SP 110, CLASS 150, BRONZE, THREE PIECE BODY, TYPE 316 STAINLESS STEEL BALL, FULL PORT, TEFLON SEATS, BLOW-OUT PROOF STEM, THREADED ENDS, EXTENDED LEVER HANDLE.
   1. INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL, NOT INVERTED.
   2. INSTALL BRASS MALE ADAPTERS EACH SIDE OF VALVES IN COPPER PIPED SYSTEM. SOLDER ADAPTERS TO PIPE.
   3. INSTALL 3/4 INCH BALL VALVES WITH CAP FOR DRAINS AT MAIN SHUT-OFF VALVES, LOW POINTS OF PIPING, BASES OF VERTICAL RISERS, AIR VENTS. AND AT EQUIPMENT.
   4. INSTALL VALVES WITH CLEARANCE FOR INSTALLATION OF INSULATION AND ALLOWING ACCESS.
   5. PROVIDE ACCESS WHERE VALVES AND FITTINGS ARE NOT ACCESSIBLE.

B. VALVE APPLICATIONS
   1. INSTALL SHUTOFF AND DRAIN VALVES AT LOCATIONS INDICATED ON DRAWINGS IN ACCORDANCE WITH THIS SECTION.
   2. INSTALL BALL VALVES FOR SHUT-OFF AND TO ISOLATE EQUIPMENT OR PART OF SYSTEMS.
   3. INSTALL BALL FOR THROTTLING, BYPASS, OR MANUAL FLOW CONTROL SERVICES.

PIPE HANGERS AND SUPPORTS

A. STEAM PIPING:
   1. CONFORM TO ASME B31.9. ASTM F708, MSS SP58, MSS SP69, AND MSS SP89.
   2. HANGERS FOR STEAM AND CONDENSATE DRAIN PIPE SIZES :CARBON STEEL, ADJUSTABLE, CLEVIS.
   3. COPPER PIPE SUPPORT: COPPER-PLATED, CARBON STEEL RING.

C. INSERTS : MALLEABLE IRON CASE OF GALVANIZED STEEL SHELL AND EXPANDER PLUG FOR THREADED CONNECTION WITH LATERAL ADJUSTMENT, TOP SLOT FOR REINFORCING RODS, LUGS FOR ATTACHING TO FORMS; SIZE INSERTS TO SUIT THREADED HANGER RODS.

D. FORMED STEEL CHANNEL: PRODUCT DESCRIPTION: GALVANIZED 12 GAGE THICK STEEL. WITH HOLES 1-1/2 INCHES ON CENTER.

E. INSTALLATION – PIPE HANGERS AND SUPPORTS
   1. INSTALL IN ACCORDANCE WITH ASME B31.1, ASME B31.5, ASME 31, ASTM F708, MSS SP 58, MSS SP 69, AND/OR MSS SP 89.
   2. INSTALL HANGERS WITH MINIMUM 1/2 INCH SPACE BETWEEN FINISHED COVERING AND ADJACENT WORK.
   3. PLACE HANGERS WITHIN 12 INCHES OF EACH HORIZONTAL ELBOW.
   4. USE HANGERS WITH 1-1/2 INCH MINIMUM VERTICAL ADJUSTMENT.
   5. WHERE PIPING IS INSTALLED IN PARALLEL AND AT SAME ELEVATION, PROVIDE MULTIPLE PIPE OR TRAPEZE HANGERS.
   6. PROVIDE COPPER PLATED HANGERS AND SUPPORTS FOR COPPER PIPING.
   7. DESIGN HANGERS FOR PIPE MOVEMENT WITHOUT DISENGAGEMENT OF SUPPORTED PIPE.
   8. PRIME COAT EXPOSED STEEL HANGERS AND SUPPORTS.
   9. PROVIDE CLEARANCE IN HANGERS AND FROM STRUCTURE AND OTHER EQUIPMENT FOR INSTALLATION OF INSULATION.

IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT

A. NAMEPLATES: LAMINATED THREE-LAYER PLASTIC WITH ENGRAVED BLACK LETTERS ON LIGHT CONTRASTING BACKGROUND COLOR.

B. TAGS: BRASS WITH STAMPED LETTERS; TAG SIZE MINIMUM 1-1/2 INCHES DIAMETER WITH FINISHED EDGES.
   1. INFORMATION TAGS: CLEAR PLASTIC WITH PRINTED "DANGER," "CAUTION," OR "WARNING" AND MESSAGE; SIZE 3-1/4 X 5-5/8 INCHES WITH GROMMET AND SELF-LOCKING NYLON TIES.
   2. TAG CHART: TYPEWRITTEN LETTER SIZE LIST OF APPLIED TAGS AND LOCATION IN ANODIZED ALUMINUM FRAME.

C. PIPE MARKERS: COLOR AND LETTERING: CONFORM TO ASME A13.1.

D. PLASTIC TAPE MARKERS: FLEXIBLE, VINYL FILM TAPE WITH PRESSURE SENSITIVE ADHESIVE BACKING AND PRINTED MARKINGS.

E. IDENTIFICATION INSTALLATION
   1. INSTALL IDENTIFYING DEVICES AFTER COMPLETION OF COVERINGS AND PAINTING.
   2. INSTALL PLASTIC NAMEPLATES WITH CORROSIVE-RESISTANT MECHANICAL FASTENERS, OR ADHESIVE.
   3. INSTALL LABELS WITH SUFFICIENT ADHESIVE FOR PERMANENT ADHESION AND SEAL WITH CLEAR LACQUER. FOR UNFINISHED CANVAS COVERING, APPLY PAINT PRIMER BEFORE APPLYING LABELS.
   4. INSTALL TAGS USING CORROSION RESISTANT CHAIN. NUMBER TAGS CONSECUTIVELY BY LOCATION.
   5. IDENTIFY CONTROL PANELS AND MAJOR CONTROL COMPONENTS OUTSIDE PANELS WITH PLASTIC NAMEPLATES.
   6. IDENTIFY VALVES IN MAIN AND BRANCH PIPING WITH TAGS.
   7. IDENTIFY HUMIDIFIERS WITH NUMBERED TAGS.
   8. TAG AUTOMATIC CONTROLS, INSTRUMENTS, AND RELAYS. KEY TO CONTROL SCHEMATIC.
   9. IDENTIFY PIPING, CONCEALED OR EXPOSED, WITH PLASTIC TAPE PIPE MARKERS. USE TAGS ON PIPING 3/4 INCH DIAMETER AND SMALLER. IDENTIFY SERVICE, FLOW DIRECTION, AND PRESSURE. INSTALL IN CLEAR VIEW AND ALIGN WITH AXIS OF PIPING. LOCATE IDENTIFICATION NOT TO EXCEED 20 FEET ON STRAIGHT RUNS INCLUDING RISERS AND DROPS, ADJACENT TO EACH VALVE AND TEE, AT EACH SIDE OF PENETRATION OF STRUCTURE OR ENCLOSURE, AND AT EACH OBSTRUCTION.

HVAC INSULATION

A. PIPE INSULATION: 2" THICKNESS MOLDED GLASS FIBER PIPE INSULATION.
   1. THERMAL CONDUCTIVITY: 0.23 AT 75 DEGREES F .
   2. OPERATING TEMPERATURE RANGE: 0 TO 850 DEGREES F.
   3. VAPOR BARRIER JACKET: ASTM C1136, TYPE I, FACTORY APPLIED REINFORCED FOIL KRAFT WITH SELF-SEALING ADHESIVE JOINTS.
   4. JACKET TEMPERATURE LIMIT: MINUS 20 TO 150 DEGREES F

B. PIPE INSULATION JACKETS: VAPOR RETARDER JACKET: ASTM C921, WHITE KRAFT PAPER WITH GLASS FIBER YARN, BONDED TO ALUMINIZED FILM.WATER VAPOR PERMEANCE: ASTM E96/E96M; 0.02 PERMS.

C. PIPE INSULATION ACCESSORIES
   1. VAPOR RETARDER LAP ADHESIVE: COMPATIBLE WITH INSULATION.
   2. PIPING 1-1/2 INCHES DIAMETER AND SMALLER: GALVANIZED STEEL INSULATION PROTECTION SHIELD. MSS SP-69, TYPE 40. LENGTH: BASED ON PIPE SIZE AND INSULATION THICKNESS.
   3. PIPING 2 INCHES DIAMETER AND LARGER: WOOD INSULATION SADDLE, HARD MAPLE. INSERTS LENGTH: NOT LESS THAN 6 INCHES LONG, MATCHING THICKNESS AND CONTOUR OF ADJOINING INSULATION.
   4. ADHESIVES: COMPATIBLE WITH INSULATION.

D. DUCTWORK INSULATION: ASTM C1290, 2" THICK FLEXIBLE GLASS FIBER, COMMERCIAL GRADE WITH FACTORY APPLIED REINFORCED ALUMINUM FOIL JACKET MEETING ASTM C1136, TYPE II. THERMAL CONDUCTIVITY: 0.2 AT 75 DEGREES F. MAXIMUM OPERATING TEMPERATURE: 250 DEGREES F. DENSITY: 6 POUND PER CUBIC FOOT.

E. DUCTWORK INSULATION ACCESSORIES
   1. VAPOR RETARDER TAPE: KRAFT PAPER REINFORCED WITH GLASS FIBER YARN AND BONDED TO ALUMINIZED FILM, WITH PRESSURE SENSITIVE RUBBER BASED ADHESIVE.
   2. VAPOR RETARDER LAP ADHESIVE: COMPATIBLE WITH INSULATION.
   3. ADHESIVE: WATERPROOF , ASTM E162 FIRE-RETARDANT TYPE.
   4. LINER FASTENERS: GALVANIZED STEEL, SELF-ADHESIVE PAD WITH INTEGRAL HEAD.
   5. TIE WIRE: 0.048 INCH STAINLESS STEEL WITH TWISTED ENDS ON MAXIMUM 12 INCH CENTERS.
   6. LAGGING ADHESIVE: FIRE RETARDANT TYPE WITH MAXIMUM 25/450 FLAME SPREAD/SMOKE DEVELOPED INDEX WHEN TESTED IN ACCORDANCE WITH ASTM E84.
   7. IMPALE ANCHORS: GALVANIZED STEEL, 12 GAGE SELF-ADHESIVE PAD.
   8. ADHESIVES: COMPATIBLE WITH INSULATION.
   9. MEMBRANE ADHESIVES: AS RECOMMENDED BY MEMBRANE MANUFACTURER.

F. INSTALLATION – INSULATION PIPING SYSTEMS
   1. PIPING EXPOSED TO VIEW IN FINISHED SPACES: LOCATE INSULATION AND COVER SEAMS IN LEAST VISIBLE LOCATIONS.
   2. CONTINUE INSULATION THROUGH PENETRATIONS OF BUILDING ASSEMBLIES OR PORTIONS OF ASSEMBLIES HAVING FIRE RESISTANCE RATING OF ONE HOUR OR LESS. PROVIDE INTUMESCENT FIRESTOPPING WHEN CONTINUING INSULATION THROUGH ASSEMBLY. FINISH AT SUPPORTS, PROTRUSIONS, AND INTERRUPTIONS.
   3. HOT PIPING SYSTEMS:
   4. FURNISH FACTORY-APPLIED OR FIELD-APPLIED STANDARD JACKETS. SECURE WITH OUTWARD CLINCH EXPANDING STAPLES OR PRESSURE SENSITIVE ADHESIVE SYSTEM ON STANDARD FACTORY-APPLIED JACKET AND BUTT STRIPS OR BOTH.
   5. INSULATE FITTINGS, JOINTS, AND VALVES WITH INSULATION OF LIKE MATERIAL AND THICKNESS AS ADJOINING PIPE. FINISH WITH GLASS CLOTH AND ADHESIVE OR PVC FITTING COVERS.
   6. INSULATE FLANGES AND UNIONS AT EQUIPMENT.

G. INSERTS AND SHIELDS:
   1. PIPING 1-1/2 INCHES DIAMETER AND SMALLER: INSTALL GALVANIZED STEEL SHIELD BETWEEN PIPE HANGER AND INSULATION.
   2. PIPING 2 INCHES DIAMETER AND LARGER: INSTALL INSERT BETWEEN SUPPORT SHIELD AND PIPING AND UNDER FINISH JACKET.
   a. INSERT CONFIGURATION: MINIMUM 6 INCHES LONG, OF THICKNESS AND CONTOUR MATCHING ADJOINING INSULATION; MAY BE FACTORY FABRICATED.
   b. INSERT MATERIAL: COMPRESSION RESISTANT INSULATING MATERIAL SUITABLE FOR PLANNED TEMPERATURE RANGE AND SERVICE.

H. INSULATION TERMINATING POINTS:
   1. HUMIDIFIER BRANCH PIPING 1 INCH AND SMALLER: TERMINATE STEAM HUMIDIFIER PIPING AT UNION UPSTREAM OF THE COIL CONTROL VALVE.

I. HIGH TEMPERATURE PIPE INSULATION:
   1. INSTALL IN MULTIPLE LAYERS TO MEET THICKNESS SCHEDULED.
   2. ATTACH EACH LAYER WITH BANDS. SECURE FIRST LAYER WITH BANDS BEFORE INSTALLING NEXT LAYER.
   3. STAGGER JOINTS BETWEEN LAYERS.
   4. FINISH WITH CANVAS JACKET.

J. INSTALLATION – DUCTWORK SYSTEMS
   1. DUCT DIMENSIONS INDICATED ON DRAWINGS ARE FINISHED INSIDE DIMENSIONS.
   2. INSULATED DUCTWORK CONVEYING AIR BELOW AMBIENT TEMPERATURE:
   a. PROVIDE INSULATION WITH VAPOR RETARDER JACKETS.
   b. FINISH WITH TAPE AND VAPOR RETARDER JACKET.
   c. CONTINUE INSULATION THROUGH WALLS, SLEEVES, HANGERS, AND OTHER DUCT PENETRATIONS.
   d. INSULATE ENTIRE SYSTEM INCLUDING FITTINGS, JOINTS, FLANGES, FIRE DAMPERS, FLEXIBLE CONNECTIONS, AND EXPANSION JOINTS.

STEAM AND CONDENSATE PIPING SPECIALTIES

A. STRAINERS
   1. SIZE 2 INCH AND SMALLER: SCREWED BRASS OR IRON BODY FOR 175 PSIG WORKING PRESSURE, Y PATTERN WITH 1/32 INCH STAINLESS STEEL PERFORATED SCREEN.
   2. SIZE 2-1/2 INCH TO 4 INCH: FLANGED IRON BODY FOR 175 PSIG WORKING PRESSURE, Y PATTERN WITH 3/64 INCH STAINLESS STEEL PERFORATED SCREEN.

B. FLOAT AND THERMOSTATIC TRAPS: CONSTRUCTION: ASTM A126, CAST IRON BODY AND BOLTED COVER, STAINLESS STEEL BELLOWS TYPE AIR VENT, STAINLESS STEEL FLOAT, STAINLESS STEEL LEVER AND VALVE ASSEMBLY 15 PSIG RATING, ACCESS TO INTERNAL PARTS WITHOUT DISTURBING PIPING, BOTTOM DRAIN PLUG. INSTALL WITH UNION AT BOTH ENDS. PROVIDE GATE VALVE AND STRAINER AT INLET.

C. PRESSURE REDUCING VALVES: CAST IRON BODY, STAINLESS STEEL VALVE SPRING, STEM, AND TRIM, PHOSPHOR BRONZE DIAPHRAGM, DIRECT ACTING, THREADED. INSTALL PRESSURE REDUCING VALVE AND STRAINER.

FIREPROOFING

A. CONTRACTOR IS RESPONSIBLE TO MAINTAIN EXISTING FIREPROOFING AT ALL WALLS PENETRATED BY NEW PIPING. CONTRACTOR SHALL COORDINATE WITH OWNER THE CURRENT SMOKE DESIGNATION FOR THE WALLS PENETRATED, AND PROVIDE PROPER FIREPROOFING TO MAINTAIN THE CURRENT SMOKE/FIRE DESIGNATION OF THE PARTITION AFFECTED.

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STATE OF TEXAS
ROLANDO LEGARRETA
84714
LICENSED PROFESSIONAL ENGINEER

JUNE 27, 2024

ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

UNIVERSITY MEDICAL CENTER HUMIDITY CONTROL IMPROVEMENTS FIRST FLOOR

4815 ALAMEDA AVE. EL PASO, TEXAS 79905

No.	REVISION/ISSUE	DATE

SHEET TITLE:
PROJECT SPECIFICATIONS

PROJECT NUMBER: 24-514

PHASE: 100% CD

DATE: 06/10/2024

SHEET NUMBER: M-2

THE CONTRACTOR SHALL ENSURE THE FOLLOWING OWNER'S POLICIES AND REQUIREMENTS ARE FULFILLED DURING THE CONSTRUCTION OF THE PROJECT:

CONSTRUCTION AND RENOVATION INFECTION CONTROL MEASURES

POLICY

- TO ENCOURAGE USE OF CURRENT CDC GUIDELINES IN CONSTRUCTION AND RENOVATION PROJECTS IN HOSPITAL.
- ESTABLISH A MULTIDISCIPLINARY TEAM THAT INCLUDES ENGINEERING, SAFETY AND INFECTION-CONTROL STAFF TO COORDINATE DEMOLITION, CONSTRUCTION, AND RENOVATION PROJECTS AND TO CONSIDER PROACTIVE PREVENTIVE MEASURES AT THE INCEPTION; PRODUCE AND MAINTAIN SUMMARY STATEMENTS OF THE TEAM'S ACTIVITIES.
- EDUCATE BOTH THE CONSTRUCTION TEAM AND THE HOSPITAL STAFF IN IMMUNE COMPROMISED PATIENT- CARE AREAS REGARDING THE AIRBORNE INFECTION RISKS ASSOCIATED WITH CONSTRUCTION PROJECTS, DISPERSAL OF FUNGAL SPORES DURING SUCH ACTIVITIES, AND METHODS TO CONTROL THE DISSEMINATION OF FUNGAL SPORES.
- INCORPORATE MANDATORY ADHERENCE AGREEMENTS FOR INFECTION CONTROL INTO CONSTRUCTION CONTRACTS, WITH PENALTIES FOR NONCOMPLIANCE AND MECHANISMS TO ENSURE TIMELY CORRECTION OF PROBLEMS.
- ESTABLISH AND MAINTAIN SURVEILLANCE FOR AIRBORNE ENVIRONMENTAL DISEASE (E.G., ASPERGILLOSIS) AS APPROPRIATE DURING CONSTRUCTION, RENOVATION, REPAIR, AND DEMOLITION ACTIVITIES TO ENSURE THE HEALTH AND SAFETY OF IMMUNE COMPROMISED PATIENTS.
  - USING ACTIVE SURVEILLANCE, MONITOR FOR AIRBORNE INFECTIONS IN IMMUNOCOMPROMISED PATIENTS.
  - PERIODICALLY REVIEW THE HOSPITAL'S MICROBIOLOGIC, HISTOPATHOLOGY, AND POSTMORTEM DATA TO IDENTIFY ADDITIONAL CASES.
  - IF CASES OF ASPERGILLOSIS OR OTHER HEALTH CARE-ASSOCIATED AIRBORNE FUNGAL INFECTIONS OCCUR, AGGRESSIVELY PURSUE THE DIAGNOSIS WITH TISSUE BIOPSIES AND CULTURES AS FEASIBLE.
- IMPLEMENT INFECTION CONTROL MEASURES RELEVANT TO CONSTRUCTION, RENOVATION, MAINTENANCE, DEMOLITION, AND REPAIR.

RESPONSIBILITY

ENGINEERING ASSOCIATES CONSTRUCTION CONTRACT WORKERS

INFECTION CONTROL PRACTITIONER(S) SAFETY MANAGER

ENVIRONMENTAL SERVICES ASSOCIATES NURSING ASSOCIATES

MANAGEMENT INFORMATION SYSTEMS ASSOCIATES

POLICY REFERENCES LITERATURE REFERENCES

CENTERS FOR DISEASE CONTROL AND PREVENTION(CDC): 2003 GUIDELINES FOR ENVIRONMENTAL INFECTION CONTROL IN HEALTH-CARE FACILITIES. RECOMMENDATION OF CDC AND HEALTH CARE INFECTION CONTROL PRACTICE ADVISORY COMMITTEE (HICPAC). HTTPS: //WWW.CDC.GOV/MMWR/PREVIEW/MMWRHTML/RR5210A1.HTM

ABBREVIATIONS

PE – PROTECTIVE ENVIRONMENT

ACH – AIR CHANGES PER HOUR

HVAC – HEATING, VENTILATION, AIR CONDITIONING

PROCEDURE

A. BEFORE THE PROJECT GETS UNDER WAY, PERFORM INFECTION CONTROL RISK ASSESSMENT (ICRA) TO DEFINE THE SCOPE OF THE ACTIVITY AND THE NEED FOR BARRIER MEASURES. SEE ATTACHMENT A ICRA FORM.
   1. DETERMINE WHETHER IMMUNE COMPROMISED PATIENTS MAY BE AT RISK FOR EXPOSURE TO FUNGAL SPORES FROM DUST GENERATED DURING THE PROJECT.
   2. DEVELOP A CONTINGENCY PLAN TO PREVENT SUCH EXPOSURES.

B. BASED UPON THE INFECTION CONTROL RISK ASSESSMENT (ICRA) FOR EACH PROJECT, SURVEILLANCE AND MONITORING WILL BE CONDUCTED AND DOCUMENTED BY MEMBERS OF THE MULTIDISCIPLINARY TEAM UTILIZING CHECKLISTS (ATTACHMENT 8) AS FOLLOWS:
   1. EACH CONSTRUCTION PROJECT, REGARDLESS OF ITS CLASSIFICATION, WILL BE SURVEYED BY MEMBER(S) OF THE ICRA MULTIDISCIPLINARY TEAM FOR COMPLIANCE INITIALLY (AT THE

      BEGINNING OF THE PROJECT) TO DETERMINE THAT ALL INFECTION CONTROL MEASURES AND BARRIERS ARE IN PLACE BASED ON THE ICRA MATRIX OF PRECAUTIONS.
   2. IN ADDITION TO THE INITIAL AND COMPLETION SURVEYS, SURVEILLANCE WILL BE CONDUCTED PERIODICALLY FOR THE DURATION OF EACH PROJECT AND DOCUMENTED.
   3. INFECTION CONTROL WILL INSPECT AREAS WHERE CONSTRUCTION HAS OCCURRED AFTER FINAL CLEANING AND APPROVE RE-OPENING OF THE AREAS.
   4. DEFICIENCIES OBSERVED DURING SURVEILLANCE AS WELL AS CORRECTIVE ACTIONS TAKEN WILL BE DOCUMENTED ON THE APPROPRIATE CHECKLIST.
   5. THE INFECTION CONTROL RISK ASSESSMENT, SURVEILLANCE AND CORRECTIVE ACTION DOCUMENTATION WILL BE MAINTAINED IN THE ENGINEERING DEPARTMENT.

C. IMPLEMENT INFECTION CONTROL MEASURES FOR EXTERNAL DEMOLITION AND CONSTRUCTION ACTIVITIES.
   1. DETERMINE IF THE HOSPITAL CAN OPERATE TEMPORARILY ON RECIRCULATED AIR; IF FEASIBLE, SEAL OFF ADJACENT AIR INTAKES.
   2. IF THIS IS NOT POSSIBLE OR PRACTICAL, CHECK THE LOW-EFFICIENCY (ROUGHING) FILTER BANKS FREQUENTLY AND REPLACE AS NEEDED TO AVOID BUILDUP OF PARTICULATES.
   3. SEAL WINDOWS AND REDUCE WHEREVER POSSIBLE OTHER SOURCES OF OUTSIDE AIR INTRUSION (E.G., OPEN DOORS IN STAIRWELLS AND CORRIDORS).

D. AVOID DAMAGING THE UNDERGROUND WATER SYSTEM (I.E., BURIED PIPES) TO PREVENT SOIL AND DUST CONTAMINATION OF THE WATER.

E. IMPLEMENT INFECTION CONTROL MEASURES FOR INTERNAL CONSTRUCTION ACTIVITIES:
   1. CONSTRUCT BARRIERS TO PREVENT DUST FROM CONSTRUCTION AREAS FROM ENTERING PATIENT CARE AREAS; ENSURE THAT BARRIERS ARE IMPERMEABLE TO FUNGAL SPORES AND IN COMPLIANCE WITH LOCAL FIRE CODES.
   2. SEAL OFF AND BLOCK RETURN AIR VENTS IF RIGID BARRIERS ARE USED FOR CONTAINMENT.
   3. IMPLEMENT DUST CONTROL MEASURES ON SURFACES AND DIVERT PEDESTRIAN TRAFFIC AWAY FROM WORK ZONES.
   4. RELOCATE PATIENTS WHOSE ROOMS ARE ADJACENT TO WORK ZONES DEPENDING ON THEIR IMMUNE STATUS, THE SCOPE OF THE PROJECT, THE POTENTIAL FOR GENERATION OF DUST OR WATER AEROSOLS, AND THE METHODS USED TO CONTROL THESE AEROSOLS.

F. PERFORM THOSE ENGINEERING AND WORK-SITE RELATED INFECTION-CONTROL MEASURES AS NEEDED FOR INTERNAL CONSTRUCTION, REPAIRS, AND RENOVATIONS:
   1. ENSURE PROPER OPERATION OF THE AIR-HANDLING SYSTEM IN THE AFFECTED AREA AFTER ERECTION OF BARRIERS AND BEFORE THE ROOM OR AREA IS SET TO NEGATIVE PRESSURE.
   2. CREATE AND MAINTAIN NEGATIVE AIR PRESSURE IN WORK ZONES ADJACENT TO PATIENT-CARE AREAS AND ENSURE THAT REQUIRED ENGINEERING CONTROLS ARE MAINTAINED.
   3. MONITOR NEGATIVE AIRFLOW INSIDE RIGID BARRIERS.
   4. MONITOR BARRIERS AND ENSURE INTEGRITY OF THE CONSTRUCTION BARRIERS; REPAIR GAPS OR BREAKS IN BARRIER JOINTS.
   5. SEAL WINDOWS IN WORK ZONES, IF PRACTICAL; USE WINDOW CHUTES FOR DISPOSAL OF LARGE PIECES OF DEBRIS AS NEEDED BUT ENSURE THAT THE NEGATIVE PRESSURE DIFFERENTIAL FOR THE AREA IS MAINTAINED.
   6. DIRECT PEDESTRIAN TRAFFIC FROM CONSTRUCTION ZONES AWAY FROM PATIENT-CARE AREAS TO MINIMIZE DISPERSION OF DUST.
   7. PROVIDE CONSTRUCTION CREWS WITH:
      a. DESIGNATED ENTRANCES, CORRIDORS, AND ELEVATORS WHEREVER PRACTICAL;
      b. ESSENTIAL SERVICES (E.G., TOILET FACILITIES) AND CONVENIENCE SERVICES (E.G., VENDING MACHINES);
      c. PROTECTIVE CLOTHING (E.G., COVERALLS, FOOT GEAR, AND HEADGEAR) FOR TRAVEL TO PATIENT-CARE AREAS; AND A SPACE OR ANTEROOM FOR CHANGING CLOTHING AND STORING EQUIPMENT.
   8. CLEAN WORK ZONES AND THEIR ENTRANCES DAILY BY:
      a. WET-WIPING TOOLS AND TOOL CARTS BEFORE THEIR REMOVAL FROM THE WORK ZONE;
      b. PLACING MATS WITH TACKY SURFACES INSIDE THE ENTRANCE; AND
      c. COVERING DEBRIS AND SECURING THIS COVERING BEFORE REMOVING DEBRIS FROM THE WORK ZONE.
   9. IN PATIENT-CARE AREAS, FOR MAJOR REPAIRS THAT INCLUDE REMOVAL OF CEILING TILES AND DISRUPTION OF THE SPACE ABOVE THE FALSE CEILING, USE PLASTIC SHEETS OR PREFABRICATED PLASTIC UNITS TO CONTAIN DUST; USE A NEGATIVE PRESSURE SYSTEM WITHIN THIS ENCLOSURE TO REMOVE DUST; AND EITHER PASS AIR THROUGH AN INDUSTRIAL GRADE, PORTABLE HEPA FILTER CAPABLE OF FILTRATION RATES OF 300 FT3/MIN-800 FT3/MIN. OR EXHAUST AIR DIRECTLY TO THE OUTSIDE.
   10. UPON COMPLETION OF THE PROJECT, CLEAN THE WORK ZONE ACCORDING TO HOSPITAL PROCEDURES, AND INSTALL BARRIER CURTAINS TO CONTAIN DUST AND DEBRIS BEFORE REMOVING RIGID BARRIERS.
   11. FLUSH THE WATER SYSTEM TO CLEAR SEDIMENT FROM PIPES TO MINIMIZE WATERBORNE MICROORGANISM PROLIFERATION.
   12. RESTORE APPROPRIATE ACH, HUMIDITY, AND PRESSURE DIFFERENTIAL; CLEAN OR REPLACE AIR FILTERS; DISPOSE OF SPENT FILTERS.

G. USE AIRBORNE-PARTICLE SAMPLING AS A TOOL TO EVALUATE BARRIER INTEGRITY.

H. COMMISSION THE HVAC SYSTEM FOR NEWLY CONSTRUCTED AREAS AND RENOVATED SPACES BEFORE OCCUPANCY AND USE, WITH EMPHASIS IN ENSURING PROPER VENTILATION FOR OPERATING ROOMS, ALL ROOMS, AND PROTECTIVE ENVIRONMENT (PE) AREAS.

I. NO RECOMMENDATION IS OFFERED REGARDING ROUTINE MICROBIOLOGIC AIR SAMPLING BEFORE, DURING, OR AFTER CONSTRUCTION, OR BEFORE OR DURING OCCUPANCY OF AREAS HOUSING IMMUNE COMPROMISED PATIENTS.

J. IF A CASE OF HEALTH CARE ACQUIRED ASPERGILLOSIS OR OTHER OPPORTUNISTIC AIRBORNE FUNGAL DISEASE OCCURS DURING OR IMMEDIATELY AFTER CONSTRUCTION, IMPLEMENT APPROPRIATE FOLLOW- UP MEASURES.
   1. REVIEW PRESSURE-DIFFERENTIAL MONITORING DOCUMENTATION TO VERIFY THAT PRESSURE DIFFERENTIALS IN THE CONSTRUCTION ZONE AND IN PE ROOMS ARE APPROPRIATE FOR THEIR SETTINGS.
   2. IMPLEMENT CORRECTIVE ENGINEERING MEASURES TO RESTORE PROPER PRESSURE DIFFERENTIALS AS NEEDED.
   3. CONDUCT A PROSPECTIVE SEARCH FOR ADDITIONAL CASES AND INTENSIFY RETROSPECTIVE EPIDEMIOLOGIC REVIEW OF THE HOSPITAL'S MEDICAL AND LABORATORY RECORDS.
   4. IF NO EPIDEMIOLOGIC EVIDENCE OF ONGOING TRANSMISSION EXISTS, CONTINUE ROUTINE MAINTENANCE IN THE AREA TO PREVENT HEALTH CARE ACQUIRED FUNGAL DISEASE.

K. IF NO EPIDEMIOLOGIC EVIDENCE EXISTS OF ONGOING TRANSMISSION OF FUNGAL DISEASE, CONDUCT AN ENVIRONMENTAL ASSESSMENT TO FIND AND ELIMINATE THE SOURCE.
   1. COLLECT ENVIRONMENTAL SAMPLES FROM POTENTIAL SOURCES OF AIRBORNE FUNGAL SPORES, PREFERABLY BY USING A HIGH-VOLUME AIR SAMPLER RATHER THAN SETTLE PLATES.
   2. IF EITHER AN ENVIRONMENTAL SOURCE OF AIRBORNE FUNGI OR AN ENGINEERING PROBLEM WITH FILTRATION OR PRESSURE DIFFERENTIALS IS IDENTIFIED, PROMPTLY PERFORM CORRECTIVE MEASURES TO ELIMINATE THE SOURCE AND ROUTE OF ENTRY.
   3. USE AN EPA-REGISTERED ANTIFUNGAL BIOCIDE (E.G., COPPER-8-QUINOLINOLATE) FOR DECONTAMINATING STRUCTURAL MATERIALS.
   4. IF AN ENVIRONMENTAL SOURCE OF AIRBORNE FUNGI IS NOT IDENTIFIED, REVIEW INFECTION CONTROL MEASURES, INCLUDING ENGINEERING CONTROLS, TO IDENTIFY POTENTIAL AREAS FOR CORRECTION OR IMPROVEMENT.
   5. IF POSSIBLE, PERFORM MOLECULAR SUB TYPING OF ASPERGILLUSSPP. ISOLATED FROM PATIENTS AND THE ENVIRONMENT TO COMPARE THEIR STRAIN IDENTITIES.

L. IF AIR-SUPPLY SYSTEMS TO HIGH-RISK AREAS (E.G., PE ROOMS) ARE NOT OPTIMAL, USE PORTABLE, INDUSTRIAL-GRADE HEPA FILTERS ON A TEMPORARY BASIS UNTIL ROOMS WITH OPTIMAL AIR- HANDLING SYSTEMS BECOME AVAILABLE.

INTERIM LIFE SAFETY MEASURES (ILSM)

POLICY

THIS POLICY ESTABLISHES A TOOL TO HELP MAINTAIN A SAFE ENVIRONMENT FOR ALL PATIENTS, VISITORS AND ASSOCIATES BY EVALUATING THE LOSS OF A LIFE SAFETY FEATURE DURING THE COURSE OF CONSTRUCTION OR RENOVATION OR WHEN A LIFE SAFETY CODE DEFICIENCY IS IDENTIFIED AND CANNOT BE IMMEDIATELY CORRECTED (LS.01.02.01 EP1).

AS A RESULT OF THE ASSESSMENT, ADDITIONAL MEASURES, AS DEEMED APPROPRIATE BY THE ASSISTANT ADMINISTRATOR OF CONSTRUCTION MANAGEMENT, ENGINEERING DIRECTOR, OR A REPRESENTATIVE OF THE HOSPITAL SAFETY DEPARTMENT, MAY BE IMPLEMENTED TO ENSURE AN EQUIVALENT LEVEL OF PROTECTION IS PROVIDED.

UNOCCUPIED OR NEW BUILDINGS ARE NOT INCLUDED IN THIS PROCEDURE, UNLESS CONSTRUCTION ACTIVITIES AFFECT THE LIFE SAFETY SYSTEMS/FEATURES OF ADJOINING BUILDINGS OR IF THE BUILDING WILL BECOME PARTIALLY OCCUPIED PRIOR TO THE COMMISSIONING OF THE LIFE SAFETY SYSTEMS.

RESPONSIBLE

PLANNING, DESIGN AND CONSTRUCTION ENGINEERING DEPARTMENT

SAFETY DEPARTMENT UMC ASSOCIATES

REFERENCES

S-LS-001 FIRE SAFETY MANAGEMENT PLAN

S-LS-015 FIRE WATCH POLICY

COMPREHENSIVE ACCREDITATION MANUAL FOR HOSPITALS. OAKBROOK TERRACE, IL. JOINT COMMISSION ON ACCREDITATION OF HEALTHCARE ORGANIZATIONS (LS 01.02.01).

NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 101 LIFE SAFETY CODE – 2012 EDITION

DEFINITIONS

INTERIM LIFE SAFETY MEASURES (ILSM) – HEALTH AND SAFETY MEASURES THAT ARE PUT IN PLACE TO PROTECT THE SAFETY OF PATIENTS, VISITORS, AND STAFF WHO WORK IN HOSPITALS AND OTHER HEALTHCARE FACILITIES WHENEVER LIFE SAFETY CODE DEFICIENCIES OCCUR DUE TO CONSTRUCTION OR OTHER ACTIVITY TO TEMPORARILY COMPENSATE FOR HAZARDS UNTIL CORRECTIONS ARE MADE OR UNTIL THE COMPLETION OF A CONSTRUCTION PROJECT.

PROCEDURE

A. EL PASO COUNTY HOSPITAL DISTRICT (EPCHD) WILL INSTITUTE AND DOCUMENT ILSM AS THEY APPLY TO LIFE SAFETY CODE (LSC) DEFICIENCIES.

   THE ILSM PROCESS ADDRESSES THE FOLLOWING FOUR STEPS:
   1. IS AN ILSM ASSESSMENT REQUIRED?
   2. IF YES, DOES THE ASSESSMENT REQUIRE THE IMPLEMENTATION OF ILSM?
   3. IF YES, WHICH INTERIM MEASURES APPLY?
   4. REQUIRED INTERIM MEASURES ARE IMPLEMENTED AND DOCUMENTED.

B. WHENEVER A LSC DEFICIENCY IS IDENTIFIED THAT CANNOT BE CORRECTED IMMEDIATELY (WITHIN 8 HOURS), PRIOR TO EACH CONSTRUCTION/RENOVATION PROJECT OR REPAIR/MAINTENANCE TO LIFE SAFETY COMPONENTS, AN ASSESSMENT WILL BE CONDUCTED TO DETERMINE IF ILSM APPLY AND THE MEASURES TO BE IMPLEMENTED. ILSM WILL BE IMPLEMENTED IF A DEFICIENCY OR PROJECT IMPAIRS THE LEVEL OF LIFE SAFETY OR WHEN THE FIRE ALARM IS OUT OF SERVICE FOR MORE THAN 4 HOURS IN A 24-HOUR PERIOD AND/OR FIRE SUPPRESSION SYSTEM IS TAKEN OUT OF SERVICE FOR MORE THAN 10 HOURS IN AN OCCUPIED BUILDING AS DEFINED BY THE FIRE WATCH DECISION GRID (ATTACHMENT B).

   ROUTINE WORK ORDERS AND SUPERFICIAL PROJECTS THAT DO NOT IMPACT LIFE SAFETY WITHIN THE HOSPITAL WILL NOT REQUIRE AN ILSM ASSESSMENT.

C. ENGINEERING/SAFETY DEPARTMENT IS RESPONSIBLE FOR THE IMPLEMENTATION AND DOCUMENTATION OF ALL ILSM THAT APPLY TO THE DEFICIENCY AND/OR PROJECT UNTIL ITS COMPLETION.

D. DOCUMENTATION FOR ILSM WILL BE MAINTAINED IN THE ENGINEERING/SAFETY DEPARTMENT.

E. LSC DEFICIENCIES, CONSTRUCTION OR OTHER PROJECTS THAT REQUIRE THE IMPLEMENTATION OF ILSM WILL BE SUMMARIZED ON AT LEAST A QUARTERLY BASIS TO THE ENVIRONMENT OF CARE COMMITTEE.

F. THE MEANS OF EGRESS IN ANY OCCUPIED HEALTHCARE OCCUPANCY AREA UNDERGOING CONSTRUCTION, REPAIR, OR IMPROVEMENTS SHALL BE INSPECTED DAILY FOR COMPLIANCE WITH EGRESS REQUIREMENTS.

G. ENGINEERING WILL ASSURE THAT SPECIFIC ASSIGNMENTS ARE MADE FOR FIRE WATCHES WHEN CUTTING AND/OR BRAZING TORCHES ARE BEING USED OR, WHEN INTERRUPTIONS ARE MADE IN THE FIRE ALARM AND/OR SUPPRESSION SYSTEMS.

H. ENGINEERING WILL ASSURE THAT FLAMMABLE LIQUIDS ARE STORED PROPERLY AT ALL TIMES AT THE CONSTRUCTION SITE

I. THE ILSM ASSESSMENT (ATTACHMENT A) WILL BE COMPLETED TO DETERMINE WHICH OF THE ILSM ARE APPLICABLE TO IDENTIFIED LSC DEFICIENCIES, CONSTRUCTION, RENOVATION, REPAIR OR MAINTENANCE:

   NOTE: ILSM APPLY TO ALL PERSONNEL, INCLUDING CONSTRUCTION WORKERS, AND THEY ARE IMPLEMENTED UPON IDENTIFICATION OF LSC DEFICIENCIES, PROJECT DEVELOPMENT AND CONTINUOUSLY ENFORCED THROUGH CORRECTION AND/OR COMPLETION.

J. IMPLEMENTATION OF ILSM MEASURES – DETERMINE THE NEED FOR ILSM. ILSM WILL BE BASED ON THE RISK DETERMINED BY THE PEOPLE CONDUCTING THE ASSESSMENT AND BY MEASURES REQUIRED BY CODE. THE FOLLOWING GUIDELINES WILL BE FOLLOWED FOR ILSM THAT APPLY TO IDENTIFIED LSC DEFICIENCIES, CONSTRUCTION, RENOVATION, MAINTENANCE OR REPAIR:
   1. MEASURE 1 – EITHER EVACUATE THE BUILDING OR NOTIFY THE FIRE DEPARTMENT AND INITIATE A FIRE WATCH WHENEVER THE FIRE ALARM SYSTEM IS TAKEN OUT OF SERVICE FOR MORE THAN 4 HOURS DURING A 24-HOUR PERIOD OR A FIRE SUPPRESSION SPRINKLER SYSTEM IS TAKEN OUT OF SERVICE FOR MORE THAN 10 HOURS IN A 24-HOUR PERIOD IN AN OCCUPIED BUILDING AS DEFINED BY THE FIRE WATCH DECISION GRID (ATTACHMENT B).
   2. MEASURE 2 – WHENEVER EGRESS DEFICIENCIES ARE IDENTIFIED, BLOCKED OR CHANGED, THE HOSPITAL WILL POST SIGNAGE IDENTIFYING ALTERNATIVE EXITS FOR EVERYONE AFFECTED.
      a. EDUCATION WILL BE PROVIDED FOR ALL AFFECTED STAFF. EDUCATION WILL INCLUDE A SUMMARY OF EXITS TO BE BLOCKED AND LOCATIONS OF ALTERNATE EXITS. A LIST OF THOSE ATTENDING WILL BE MAINTAINED IN THE ILSM FILE FOR THAT LSC PROJECT.
      b. EDUCATION WILL BE PROVIDED TO CONSTRUCTION WORKERS BY ENGINEERING PRIOR TO ACTUAL CONSTRUCTION. EDUCATION WILL INCLUDE A SUMMARY OF EXITS TO BE BLOCKED AND LOCATIONS OF ALTERNATE EXITS.
   3. MEASURE 3 – DAILY INSPECTION OF EXITS AND EXIT ACCESS (ATTACHMENT C) IN AFFECTED AREAS AND IN CONSTRUCTION ZONES WILL BE CONDUCTED AND DOCUMENTATION MAINTAINED. DOCUMENTATION WILL REFLECT THAT THE AREA IS ACCESSIBLE TO OUTSIDE EMERGENCY PERSONNEL.
   4. MEASURE 4 – IF THE LSC DEFICIENCY, REPAIR, OR MAINTENANCE OR CONSTRUCTION PROJECT REQUIRES THAT THE FIRE ALARM SYSTEM IS IMPAIRED FOR A PERIOD THAT EXCEEDS 4 HOURS IN A 24-HOUR PERIOD, A TEMPORARY BUT EQUIVALENT FIRE ALARM AND DETECTION SYSTEM WILL BE PROVIDED. THE EXTENT OF THE TEMPORARY SYSTEM WILL BE DOCUMENTED IN DETAIL.
   5. MEASURE 5 – WHENEVER THE FIRE SUPPRESSION SYSTEM ARE IDENTIFIED AS DEFICIENT OR TAKEN OUT OF SERVICE OR WHEN AN ACTIVITY PRODUCES EXCESSIVE COMBUSTIBLES IN AN AREA OF THE HOSPITAL, ADDITIONAL FIREFIGHTING EQUIPMENT WILL BE PROVIDED IN THE AFFECTED AREA(S). DOCUMENTATION OF THE TYPE AND LOCATION OF THE EQUIPMENT WILL BE MAINTAINED IN THE ILSM FILE/BINDER FOR THE DEFICIENCY/PROJECT.
   6. MEASURE 6 – THE HOSPITAL WILL ENSURE THAT TEMPORARY PARTITIONS USED ARE SMOKE TIGHT OR MADE OF NON-COMBUSTIBLE MATERIAL. DOCUMENTATION TO INDICATE PARTITIONS ARE BUILT OF NONCOMBUSTIBLE OR LIMITED COMBUSTIBLE MATERIAL MAY INCLUDE INVOICES OR MEMOS SIGNED BY THE PROJECT SUPERVISOR.
   7. MEASURE 7 – SURVEILLANCE IN AREA(S) UNDER ILSM WILL BE INCREASED TO WEEKLY (ATTACHMENT D) IN ADDITION TO DAILY INSPECTION OF EXITS AND DAILY IN CONSTRUCTION ZONES. SMOKING IS PROHIBITED IN ALL CONSTRUCTION ZONES. TRAINING OF CONSTRUCTION PERSONNEL WILL BE CONDUCTED AND DOCUMENTED BY ENGINEERING.
   8. MEASURE 8 – FOR ALL ACTIVITIES AND/OR CONSTRUCTION AND RENOVATION PROJECTS THAT GENERATE LARGE QUANTITIES OF COMBUSTIBLE AND/OR FLAMMABLE MATERIALS, STORAGE, HOUSEKEEPING AND DEBRIS REMOVAL PRACTICES THAT REDUCE THE BUILDINGS FLAMMABLE AND COMBUSTIBLE FIRE LOAD WILL BE ENFORCED BY DAILY AND WEEKLY SURVEILLANCE.
   9. MEASURE 9 – ADDITIONAL TRAINING AND EDUCATION ON FIREFIGHTING EQUIPMENT WILL BE PROVIDED FOR ALL STAFF IN THE AFFECTED AREA.
   10. MEASURE 10 – WHENEVER THE MEANS OF EGRESS, BUILDING FIRE AND/OR SMOKE COMPARTMENTS OR THE FIRE ALARM AND SUPPRESSION SYSTEMS ARE COMPROMISED, AN ADDITIONAL FIRE DRILL PER SHIFT PER QUARTER WILL BE CONDUCTED AND DOCUMENTED. DOCUMENTATION OF SUCH FIRE DRILLS WILL BE MAINTAINED IN THE ILSM FILE/BINDER.
   11. MEASURE 11 – IF A TEMPORARY FIRE ALARM AND/OR SUPPRESSION SYSTEM IS INSTALLED, A MONTHLY INSPECTION AND TESTING OF THE SYSTEM WILL BE CONDUCTED. DOCUMENTATION WILL BE MAINTAINED IN THE ILSM FILE/BINDER FOR THE IDENTIFIED DEFICIENCY OR PROJECT.
   12. MEASURE 12 – PROVIDE EDUCATION TO ALL STAFF AND/OR CONSTRUCTION WORKERS OF BUILDING DEFICIENCIES, CONSTRUCTION HAZARDS AND TEMPORARY MEASURES IMPLEMENTED TO MAINTAIN FIRE SAFETY.
   13. MEASURE 13 – PROVIDE TRAINING FOR ALL STAFF AFFECTED BY THE LSC DEFICIENCY AND/OR CONSTRUCTION PROJECT TO COMPENSATE FOR STRUCTURAL OR COMPARTMENTAL FIRE SAFETY FEATURES.

K. WHEN THE CONSTRUCTION/RENOVATION PROJECT IS COMPLETED, A FINAL LSC INSPECTION WILL BE CONDUCTED UTILIZING THE CHECKLIST (ATTACHMENT E).

HOT WORK PERMIT

POLICY

THIS PROCEDURE IS WRITTEN TO SPECIFY THE APPROVAL PROCESS FOR A TEMPORARY OPERATION INVOLVING OPEN FLAMES, HEAT AND/OR SPARKS WITHIN THE EL PASO COUNTY HOSPITAL DISTRICT (EPCHD). THIS INCLUDES, BUT IS NOT LIMITED TO, OPERATIONS SUCH AS BRAZING, CUTTING, SOLDERING, AND THAWING PIPES, TORCH-APPLIED ROOFING, WELDING, GRINDING OR PROPANE TORCHES USED FOR FLOOR TILE OR COVE BASE THAT ARE CONDUCTED INSIDE OR OUTSIDE ON EL PASO COUNTY HOSPITAL DISTRICT PROPERTIES.

RESPONSIBLE

ENGINEERING MANAGEMENT DIRECTOR OF SAFETY OPERATIONS DEPARTMENT

DIRECTORS/MANAGERS

CONSTRUCTION AND CONTRACT PERSONNEL

REFERENCES

S-LS-001 FIRE/LIFE SAFETY MANAGEMENT PLAN

DEFINITIONS

HOT WORK – ANY OPERATION THAT PRODUCES FLAMES, HEAT AND/OR SPARKS THAT HAS THE POTENTIAL TO INITIATE A FIRE.

ENGINEERING MANAGEMENT – ENGINEERING DEPARTMENT MANAGERS, AND SUPERVISORS

PROCEDURE

A. WHEN A CONTRACTOR HAS IDENTIFIED A JOB AS TRIGGERING REQUIREMENTS FOR HOT WORK PRACTICES, THAT INDIVIDUAL IS RESPONSIBLE FOR CONTACTING ENGINEERING DEPARTMENT MANAGEMENT IN ORDER TO RECEIVE A "HOT WORK PERMIT" PRIOR TO THE BEGINNING OF THE HOT WORK.

B. WHEN AN INDIVIDUAL OR CONTRACTOR WORKING FOR THE ENGINEERING DEPARTMENT HAS IDENTIFIED A JOB AS TRIGGERING REQUIREMENTS FOR HOT WORK PRACTICES, THAT INDIVIDUAL IS RESPONSIBLE FOR CONTACTING ENGINEERING DEPARTMENT MANAGEMENT IN ORDER TO RECEIVE A "HOT WORK PERMIT" PRIOR TO THE BEGINNING OF THE HOT WORK.

C. FOR PROJECTS PERFORMED IN CONSTRUCTION AREAS, ENGINEERING MANAGEMENT AND/OR THE DIRECTOR OF SAFETY OPERATIONS ARE RESPONSIBLE FOR ENSURING THE CONTRACTOR SECURES A HOT

   WORK PERMIT TO INCLUDE AREAS INSIDE AND OUTSIDE OF BUILDINGS WHERE HOT WORK IS PERFORMED.

D. FOR PROJECTS PERFORMED THROUGH THE ENGINEERING DEPARTMENT, POWER PLANT, OR IN-HOUSE RENOVATION, ENGINEERING MANAGEMENT AND/OR THE DIRECTOR OF SAFETY OPERATIONS ARE RESPONSIBLE FOR ENSURING THE WORKER OR CONTRACTOR SECURES A HOT WORK PERMIT TO INCLUDE AREAS INSIDE AND OUTSIDE OF BUILDINGS WHERE HOT WORK IS PERFORMED.

E. FOR PROJECTS PERFORMED BY IN-HOUSE DEPARTMENTS SUCH AS INFORMATION TECHNOLOGY, SECURITY OR OTHERS, THE DEPARTMENT CONDUCTING THE HOT WORK IS RESPONSIBLE FOR CONTACTING ENGINEERING MANAGEMENT TO SECURE THE PROPER HOT WORK PERMIT.

F. DESIGNATED ENGINEERING MANAGEMENT AND/OR DIRECTOR OF SAFETY OPERATIONS WILL EVALUATE THE REQUEST FOR HOT WORK AND PROVIDE THE HOT WORK PERMIT TO THE CONTRACTOR OR EL PASO COUNTY HOSPITAL DISTRICT ASSOCIATE AFTER REVIEWING THE MANDATORY REQUIREMENTS OF THE HOT WORK PERMIT WITH THE REQUESTING CONTRACTOR.

G. ALL HOT WORK PERMITS AND DOCUMENTATION TO INCLUDE FIRE WATCH LOGS WILL BE MAINTAINED IN THE ENGINEERING DEPARTMENT.

H. IT IS THE RESPONSIBILITY OF THE CONTRACTOR/ASSOCIATE PERFORMING THE HOT WORK TO COMPLY WITH THE GUIDELINES LISTED ON THE "HOT WORK PERMIT." FAILURE TO COMPLY WITH THESE GUIDELINES MAY RESULT IN IMMEDIATE REVOCATION OF THE "HOT WORK PERMIT." THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL DAMAGES RESULTING FROM FAILURE TO COMPLY WITH THESE GUIDELINES. A COPY OF THIS PERMIT SHALL BE READILY AVAILABLE AND POSTED ON THE JOB SITE AT ALL TIMES.

I. IT IS THE RESPONSIBILITY OF THE CONTRACTOR/ASSOCIATE TO CONTACT ENGINEERING DEPARTMENT MANAGEMENT AND/OR THE SAFETY OFFICER AT THE HOSPITAL EACH DAY TO IDENTIFY WHEN THE HOT WORK WILL START AND AGAIN AT THE END OF THE DAY WHEN THE HOT WORK HAS BEEN COMPLETED. THESE NOTIFICATIONS WILL ALLOW THE FIRE ALARM SYSTEMS TO BE APPROPRIATELY ADDRESSED AND WILL IDENTIFY THE HOT WORK AREA SO THE AREA CAN BE SURVEYED BY ENGINEERING STAFF UPON COMPLETION OF THE HOT WORK. THE APPROPRIATE ENGINEERING ASSOCIATE CAN BE REACHED THROUGH:

   ENGINEERING DEPARTMENT: (915) 521-7640

   IF EMERGENCY HOT WORK NEEDS TO BE DONE AFTER HOURS, ENGINEERING MANAGEMENT ON CALL WILL BE CONTACTED.

J. THE CONTRACTOR WILL DOCUMENT ALL HOT WORK PATROLS (FIRE WATCH) ON THE ATTACHED FORM, "CUTTING, WELDING AND BRAZING ACTIVITY & FIRE WATCH LOG." AFTER COMPLETION, THESE FORMS WILL BE FORWARDED TO THE ENGINEERING DEPARTMENT FOR FINAL RETENTION.

K. THE CONTRACTOR MUST ENSURE THAT ANY INDIVIDUALS UNDER HIS OR HER COMMAND WHO PERFORM HOT WORK OR WHO WORK IN AN AREA IN WHICH HOT WORK IS BEING PERFORMED ARE TRAINED IN AND KNOWLEDGEABLE OF THE CONDITIONS IMPOSED BY THE HOT WORK PERMIT AND THIS PROCEDURE.

L. ON LARGE CONSTRUCTION PROJECTS, EL PASO COUNTY HOSPITAL DISTRICT MAY REQUIRE THE CONSTRUCTION MANAGER TO CONTROL ALL HOT WORK PERMITS THAT ARE ISSUED FOR SUBCONTRACTORS OF THAT PROJECT. THE HOT WORK PERMIT FOR ALL SUBCONTRACTORS WILL BE ISSUED OUT OF THE ENGINEERING DEPARTMENT BUT THE DAILY NOTIFICATIONS WILL BE THE RESPONSIBILITY OF THE CONSTRUCTION MANAGER.

J. OVERSIGHT RESPONSIBILITY

   ENGINEERING MANAGEMENT AND THE DIRECTOR OF SAFETY OPERATIONS HAVE OVERSIGHT RESPONSIBILITY FOR ALL HOT WORK PERFORMED ON THE EL PASO COUNTY HOSPITAL DISTRICT CAMPUS AND SATELLITE FACILITIES. ENGINEERING MANAGEMENT AND/OR THE DIRECTOR OF SAFETY OPERATIONS MAY ENTER A WORK-SITE AT ANY TIME TO ASSESS ADEQUACY OF CONTROLS IMPOSED ON SUCH WORK, AND MAY AMEND ANY PERMITS ISSUED AS DEEMED NECESSARY TO PROTECT LIFE AND PROPERTY.

TEXAS REGISTRATION: F-000014

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Consulting Engineers
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STATE OF TEXAS
ROLANDO LEGARRETA
84714
LICENSED PROFESSIONAL ENGINEER
JUNE 27, 2024

ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

UNIVERSITY MEDICAL CENTER
HUMIDITY CONTROL IMPROVEMENTS
FIRST FLOOR

4815 ALAMEDA AVE. EL PASO, TEXAS 79905

No.	REVISION/ISSUE	DATE

SHEET TITLE: **OWNER REQUIREMENTS I**

PROJECT NUMBER: 24-514

PHASE: 100% CD

DATE: 06/10/2024

SHEET NUMBER: M-3

APPENDIX A
HOT WORK PERMIT
BEFORE INITIATING HOT WORK, CAN THIS JOB BE AVOIDED?
IS THERE A SAFER WAY?

THIS HOT WORK PERMIT IS REQUIRED FOR ANY TEMPORARY OPERATION INVOLVING OPEN FLAMES OR PRODUCING HEAT AND/OR SPARKS. THIS INCLUDES, BUT IS NOT LIMITED TO: BRAZING, CUTTING, GRINDING, AND SOLDERING, THAWING PIPE, TORCH APPLIED ROOFING, AND WELDING.

PART I

INSTRUCTIONS

1. FIRE SAFETY SUPERVISOR (ENGINEERING MANAGER /SUPERVISOR/DIRECTOR OF SAFETY OPERATIONS:

A. VERIFY PRECAUTIONS LISTED AT RIGHT (OR DO NOT PROCEED WITH THE WORK).
B. COMPLETE AND RETAIN ORIGINAL.
C. ISSUE COPY TO PERSON DOING JOB.

HOT WORK BEING DONE BY:
A UMC DEPARTMENT/ASSOCIATE

A CONTRACTOR:

DATE: JOB NO.

LOCATION/BUILDING & FLOOR:

NATURE OF JOB:

NAME OF PERSON DOING HOT WORK:

I VERIFY THE ABOVE LOCATION HAS BEEN EXAMINED, THE PRECAUTIONS CHECKED ON THE REQUIRED PRECAUTIONS CHECKLIST HAVE BEEN TAKEN TO PREVENT FIRE, AND PERMISSION IS AUTHORIZED FOR THIS WORK.

SIGNED (ENGINEERING MANAGER / SAFETY DIRECTOR):

PERMIT EXPIRES DATE TIME A.M. P.M.

REQUIRED PRECAUTIONS CHECKLIST

A AVAILABLE SPRINKLERS, HOSE STREAMS AND EXTINGUISHERS ARE IN SERVICE/OPERABLE.
A HOT WORK EQUIPMENT IN GOOD REPAIR.

REQUIREMENTS WITHIN 35 FT. (11M.) OF WORK
A FLAMMABLE LIQUIDS, DUST, LINT AND OILY DEPOSITS REMOVED.
A EXPLOSIVE ATMOSPHERE IN AREA ELIMINATED.
A FLOORS SWEPT CLEAN.
A COMBUSTIBLE FLOORS WET DOWN, COVERED WITH DAMP SAND OR FIRE-RESISTIVE SHEETS.
A REMOVE OTHER COMBUSTIBLES WHERE POSSIBLE. OTHERWISE PROTECT WITH FIRE-RESISTANT TARPAULINS OR METAL SHIELDS.
A ALL WALL AND FLOOR OPENINGS COVERED.
A FIRE RESISTANT TARPAULINS SUSPENDED BENEATH WORK.

WORK ON WALLS, CEILINGS OR DECKS
A CONSTRUCTION IS NONCOMBUSTIBLE AND WITHOUT COMBUSTIBLE COVERING OR INSULATION.
A COMBUSTIBLES ON OTHER SIDE OF WALLS MOVED AWAY.

WORK ON ENCLOSED EQUIPMENT
A ENCLOSED EQUIPMENT CLEANED OF ALL COMBUSTIBLES.
A CONTAINERS PURGED OF FLAMMABLE LIQUIDS/VAPORS.
A PRESSURIZED VESSELS, PIPING AND EQUIPMENT REMOVED FROM SERVICE, ISOLATED AND VENTED.

FIRE WATCH/HOT WORK AREA MONITORING
A FIRE WATCH WILL BE PROVIDED DURING AND FOR 60 MINUTES AFTER WORK, INCLUDING ANY COFFEE OR LUNCH BREAKS.
A FIRE WATCH IS SUPPLIED WITH SUITABLE EXTINGUISHERS (MINIMUM 10 LB. ABC), AND WHERE PRACTICAL, CHARGED SMALL HOSE.
A FIRE WATCH IS TRAINED IN USE OF THIS EQUIPMENT AND IN HOSPITAL CODE RED PROCEDURES.
A FIRE WATCH MAY BE REQUIRED FOR ADJOINING AREAS ABOVE, AND BELOW.
A MONITOR HOT WORK AREA FOR 4 HOURS AFTER JOB IS COMPLETED.

OTHER PRECAUTIONS TAKEN
A

ABOVE THE CEILING WORK PERMIT FIRE WALLS AND/OR SMOKE BARRIERS

POLICY

THE LIFE SAFETY, ABOVE THE CEILING WORK PERMIT POLICY FOR ALL UNIVERSITY MEDICAL CENTER FACILITIES ESTABLISHES CRITERIA TO MINIMIZE FIRE/SMOKE WALL DAMAGE (PENETRATIONS) AND ANY ABOVE CEILING LIFE SAFETY NON-COMPLIANT CONDITIONS POSED BY CONSTRUCTION AND OTHER INSTALLATION ACTIVITIES.

THIS POLICY ASSURES THE ONLY UMC APPROVED METHOD OF ACCOMPLISHING THIS WORK BY REQUIRING THE USE OF CERTIFIED AND/OR PROFESSIONALLY TRAINED INSTALLERS USING U.L. LISTED ASSEMBLIES, OR AN ENGINEERED JUDGMENT APPROVED BY THE MANUFACTURER FOR EACH SPECIFIC PENETRATION OR APPLICATION. PROOF OF A VALID FIRE STOPPING MANUFACTURER'S TRAINING CARD OR CERTIFICATE MUST BE PRESENTED AT THE MOMENT OF REQUESTING AN "ABOVE CEILING PERMIT" UNLESS THE WORK DOES NOT INVOLVE PENETRATIONS OR ANY WORK THE COMPROMISES THE RATING OF THE WALL. FOR EXAMPLE; INSPECTIONS, VISUAL, LOCALIZED REPAIRS OR ANY WORK THAT PROTRUDE ANY FIRE SMOKE RATED MEMBRANES. IF THE CONTRACTOR DOES NOT HAVE A MANUFACTURER'S TRAINING CARD OR CERTIFICATE, THEN A COMPANY SUCH AS ACO OR MCNEILL AND SONS MUST BE USED OR AN APPROVED EQUAL

THE MANUFACTURERS' PRODUCT OF CHOICE FOR UMC FIRE STOPPING WILL BE STI™ OR AN APPROVED EQUAL UNDER THE ENGINEERING DIRECTOR'S APPROVAL AND ALL FIRE STOPPING ACTIVITIES MUST BE DONE ACCORDING TO THEIR MANUFACTURERS RECOMMENDATIONS.

THIS POLICY APPLIES TO ALL WORK THAT REQUIRES OPENING CEILING TILES IN THE HOSPITAL, CLINICS, AND ALL OTHER SERVICE BUILDINGS OWNED OR OPERATED BY UNIVERSITY MEDICAL CENTER OF EL PASO.

RESPONSIBLE

ENGINEERING DEPARTMENT

IT DEPARTMENT

SECURITY DEPARTMENT

BIOMED DEPARTMENT

ALL HOSPITAL DEPARTMENTS

SAFETY DEPARTMENT

HIRED OUTSIDE CONTRACTORS AND VENDORS

THE ENGINEERING DEPARTMENT WILL PERFORM THAT THE FINAL VERIFICATION OF ALL WORK CONDUCTED ABOVE THE CEILING IS COMPLIANT WITH THE LIFE SAFETY CODE (NFPA 101 2012). EACH OF UMC'S CONTRACTING DEPARTMENTS (IT, BIOMED, ENGINEERING, SECURITY) WILL VERIFY AND SIGN THE WORK PERMIT UNDER INTERIM INSPECTION IN THE FORM THAT ANY WORK PERFORMED BY INTERNAL AND EXTERNAL PERSONNEL RELATED TO PENETRATIONS FIRE / SMOKE RATED WALLS SPECIFICALLY SEAL THE PENETRATIONS FOR BOTH NEW AND EXISTING WORK IN ACCORDANCE TO THE MANUFACTURER'S INSTRUCTIONS TO MEET THE APPLICABLE UL FIRE STOPPING SYSTEM.

PROCEDURE

A. ABOVE-THE-CEILING PERMIT: CONTRACT OR IN-HOUSE PERSONNEL (SEE EXCEPTION ON POINT #2) ENGAGING IN WORK THAT WILL REQUIRE OPENING CEILING TILES WHETHER THERE WILL OR WILL NOT BE PENETRATIONS OF SMOKE OR FIRE RATED PARTITIONS MUST OBTAIN AN "ABOVE THE CEILING WORK PERMIT" IN THE ENGINEERING OFFICE IN ACCORDANCE TO THE STIPULATIONS OF THIS POLICY. THIS PERMIT MUST BE COMPLETED AND SIGNED BY THE CONTRACTOR AND AN ENGINEERING DEPARTMENT REPRESENTATIVE PRIOR TO INITIATION OF THE WORK.
   1. THE UMC ASSOCIATE, MANAGER, OR CONTRACTOR'S REPRESENTATIVE RESPONSIBLE FOR PERFORMING OR SUPERVISING THE PERFORMANCE OF CONSTRUCTION, DEMOLITION, INSTALLATION, MODERNIZATION, OR RENOVATION WORK THAT REQUIRES PENETRATION OF ASSEMBLIES AND WALLS SERVING AS FIRE OR SMOKE BARRIERS SHALL COMPLETE A COPY OF THE UMC PERMIT FOR ABOVE THE CEILING WORK REGARDLESS OF LOCATION OF PENETRATION ON ANY RATED ASSEMBLY (ABOVE OR BELOW CEILING). THIS PERMIT SHALL INCLUDE A MARKED UP ARCHITECTURAL PLAN OF THE AREA(S) AFFECTED INDICATING THE LOCATION OF ALL PLANNED PENETRATIONS OF WALLS OR ASSEMBLIES SERVING AS FIRE OR SMOKE BARRIERS.
   2. THE UMC ASSOCIATE, DEPARTMENT, OR CONTRACTOR WILL DISPLAY A COPY OF THE COMPLETED WORK PERMIT ON THE DOOR OR OTHER CLOSE PROXIMITY TO THE AREA FOR THE FULL DURATION OF THE PROJECT.
B. EXCEPTION, UMC IN HOUSE PERSONNEL IS ALLOWED TO OPEN CEILING TILES WITHOUT A PERMIT ONLY IF ALL THE FOLLOWING CIRCUMSTANCES APPLY;
   1. EMERGENCIES OR INSPECTIONS.
   2. ONLY ONE CEILING TILE CAN BE OPEN AT A TIME (UNDER EXTREME EMERGENCIES MORE THAN ONE TILE WILL BE ALLOWED IF SAFETY IS COMPROMISED BY NOT DOING IT SO)
   3. NO WORK IS GOING TO BE PERFORMED ON FIRE RATED WALLS OR BARRIERS THAT WILL RESULT IN PENETRATIONS.
   4. INSPECTION OR EMERGENCY REPAIR WORK DOES NOT TAKE MORE THAN 30 MINUTES ON THE SAME OPENING.
   5. THE CEILING TILE OPENING CANNOT BE LEFT UNATTENDED AT ANY MOMENT FOR ANY AMOUNT OF TIME
   6. NOTE: THESE POINTS DO NOT EXCLUDE ANY APPLICABLE INFECTION CONTROL MEASURES.
C. FIREWALL PENETRATIONS: ROUTING OF WIRING, PIPING OR CONDUIT MAY REQUIRE DRILLING THROUGH SMOKE OR FIRE WALLS ABOVE THE CEILING. WHEN THIS OCCURS, ALL WIRES, CONDUITS AND / OR SYSTEMS THAT PENETRATE THE RATED ASSEMBLY MUST BE MARKED WITH AN IDENTIFICATION CARD OR TAG PROVIDED BY THE CONTRACTOR AS PART OF THEIR CONTRACT RESPONSIBILITIES BUT PREVIOUSLY APPROVED BY ENGINEERING.
   1. THE PENETRATIONS OF WIRING, PIPING, ETC. WILL BE IDENTIFIED WITH AN APPROVED FIRE STOPPING MANUFACTURER PENETRATION UL SYSTEM TAGS ON BOTH SIDES OF THE PENETRATION TO INCLUDE THE FOLLOWING:
      - PRODUCT INSTALLED
      - DATE OF INSTALLATION
      - INSTALLING CONTRACTOR
      - CONTRACTOR PHONE( ) _____
      - UL SYSTEM #
   2. THE INSTALLED SYSTEM RUNS TO INCLUDE CABLE/CONDUIT, COMMUNICATION WIRE, ELECTRICAL CONDUITS, DUCT WORK; SPRINKLER, GROUPS OF CABLE RAN SIMULTANEOUSLY CAN BE LABELED AS ONE ETC. MUST BE TAGGED ON BOTH SIDES OF THE PENETRATION AND EVERY 30 FEET WITH THE FOLLOWING INFORMATION ON A PREVIOUSLY APPROVED IDENTIFICATION CARD OR TAG BY ENGINEERING OR WITH THE APPROPRIATE COLOR SCHEME DENOTING VENDOR AS DIRECTED BY THE CONTRACTING PARTY
      - COMPANY NAME
      - COMPANY INSTALLER NAME
      - DATE MMDDYY
      - UMC CONTRACTING DEPARTMENT
      - UMC CONTRACTING DEPARTMENT CONTACT NAME
D. ALL PENETRATIONS MUST BE RESEALED WITH THE PROPER RED SMOKE OR FIRE BARRIER SEAL MATERIALS PRIOR TO THE INTERIM INSPECTION AND FINAL INSPECTION BY AN ENGINEERING DEPARTMENT ASSOCIATE AT THE PLACE OF WORK EXECUTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEEK THE INTERIM AND FINAL PHYSICAL / SITE INSPECTION SIGNATURES BY A UMC ENGINEERING ASSOCIATE AT THE FIRE PENETRATION SITES, HAVE THE LADDER READY FOR INSPECTIONS AND BE READY TO FACILITATE THE FIELD INSPECTION BEFORE THE END OF THE REGULAR WORK DAY AND BEFORE TURNING THE "ABOVE CEILING PERMIT" FOR FINAL APPROVAL SIGNATURE AND CLOSE OUT OF THE PERMIT DOCUMENT AT THE MAIN ENGINEERING OFFICE (4 SIGNATURES TOTAL).
   1. IT IS THE RESPONSIBILITY OF ALL CONTRACTORS, SUBCONTRACTORS, VENDORS, ALL DEPARTMENTS AND EMPLOYEES WORKING OR PROVIDING SERVICES AT UMC TO UNDERSTAND AND ADHERE TO THIS 'ABOVE THE CEILING WORK PERMIT AND POLICY WHILE WORKING AT UMC IN ANY MANNER THAT INVOLVES ANY TYPE OF PENETRATION TO A FIRE WALL OR SMOKE PARTITION. THE PROJECT WILL NOT BE GRANTED FINAL APPROVAL UNTIL THE WORK HAS BEEN INSPECTED BY THE DESIGNATED FIELD INSPECTIONS ENGINEERING ASSOCIATE AND THE PERMIT HAS BEEN APPROVED AS COMPLETED BY THE ASSIGNED ENGINEERING DEPARTMENT SUPERVISOR.
   2. IT IS THE RESPONSIBILITY OF ALL CONTRACTORS, SUBCONTRACTORS, VENDORS AND IN-HOUSE DEPARTMENTS TO PROVIDE THE ENGINEERING DEPARTMENT DOCUMENTATION IN THE FORM OF MANUFACTURER SPECIFICATIONS OR A SAFETY DATA SHEET CONFIRMING THAT THE MATERIAL USED TO SEAL PENETRATIONS IS AN APPROVED FIRE STOPPING MATERIAL IN ACCORDANCE TO THIS POLICY.
   3. NO PAINTING IS ALLOWED TO BE APPLIED ON TOP OF, NOR COVER OF FIRE RATED MATERIAL, UNLESS PREVIOUSLY REQUESTED AND APPROVED BY ENGINEERING IN WRITING.
   4. THE CORRECT FIRE RATED MATERIAL SHALL BE USED FOR THE CORRECT APPLICATION IN AGREEMENT TO THE MANUFACTURER RECOMMENDED SYSTEM AND IT'S APPROVED BY ENGINEERING DEPARTMENT.
   5. IF THE CONTRACTOR DECIDES TO USE AN EXISTING PENETRATION, ALL THE EXISTING FIRE RATED MATERIAL MUST BE REMOVED COMPLETELY AND A NEW FIRE RATED SYSTEM MUST BE APPLIED.
      a. USING TWO DIFFERENT MATERIALS TO SEAL THE SAME PENETRATION WILL NOT BE ALLOWED (IE; ELASTOMERIC VS INTUMESCENT)
      b. USING TWO DIFFERENT COLORS TO SEAL THE SAME PENETRATION WILL NOT BE ALLOWED.
      c. USING TWO DIFFERENT TYPES OF MANUFACTURERS WILL NOT BE ALLOWED FOR THE SAME PENETRATION
   6. FOR IT DATA, SECURITY WIRING, BIOMED AND FACILITIES CONTROL CABLE, IT WILL NOT BE ALLOWED TO RUN THE WIRES STRAIGHT THROUGH THE WALL OR UTILIZING AN EXISTING THROUGH THE WALL CABLE PENETRATION WHICH DOES NOT HAVE A CONDUIT, GROMMET OR EAZY PATCH.
   7. THE ONLY APPROVED INSTALLATION FOR IT DATA, SECURITY WIRING, BIOMED AND FACILITIES CONTROL CABLE IS AS FOLLOWS
      a. MANUFACTURER FIRE RATED GROMMETS
      b. METAL CONDUIT SLEEVE MINIMUM 4 INCH CONDUIT LENGTH ON EACH SIDE WITH INTUMESCENT SEAL FROM CONDUIT TO WALL WITH ¼ INCH ANNULAR SPACE AND ½ INCH FIRE PATCH INTUMESCENT MATERIAL PENETRATION AND FIE PUTTING WITH ½ INCH PENETRATION ON CABLE END ON EACH SIDE PUTTING WIRE ON CENTER OF FIRE PUTTY
      c. MANUFACTURER EAZY PATCH STI OR APPROVED EQUAL
E. FINAL APPROVAL: WHEN THE WORK HAS BEEN COMPLETED AND ALL SMOKE AND FIRE PENETRATIONS HAVE BEEN PROPERLY RESEALED, AN INSPECTION OF THE WORK AREA WILL BE PERFORMED AND THE PERMIT WILL BE SIGNED BY AN ENGINEERING DEPARTMENT SUPERVISOR, INDICATING FINAL APPROVAL.
   1. FOR OUTSIDE CONTRACTORS/VENDORS, FINAL APPROVAL OF THE ABOVE-THE-CEILING WORK PERMIT IS REQUIRED BEFORE PAYMENT CAN BE AUTHORIZED.
   2. TO COMPLY WITH POINT 6A, EACH DEPARTMENT DIRECTOR CONTRACTING SERVICES REQUIRING WORK ABOVE THE CEILING, SHALL SEND THE DIRECTOR OF ENGINEERING A COPY OF THE FINAL COMPLETED ABOVE-THE CEILING WORK PERMIT WITH A COPY OF INVOICES OF SERVICES. THE DIRECTOR OF ENGINEERING WILL THEN SIGN OFF ON THE INVOICE FOR PAYMENT APPROVAL FOR ALL CONTRACTORS OR VENDORS. (THE DIRECTOR OF ENGINEERING OR DESIGNATED ENGINEERING MANAGER WILL ONLY BE SIGNING OFF ON THE ABOVE-THE CEILING WORK PERMIT PROCESS NOT ON THE ACTUAL VENDOR PROVIDED SERVICES). THE DEPARTMENTS CONTRACTING ABOVE THE CEILING SERVICES (IT DATA, SECURITY WIRING, BIOMED AND FACILITIES CONTROL CABLE) SHALL NOT APPROVE ANY INVOICE PAYMENTS, UNLESS THE INVOICE IS SIGNED OFF BY THE DIRECTOR OF ENGINEERING.
   3. PRIOR TO THE START OF EACH PROJECT, OUTSIDE CONTRACTORS AND VENDORS ARE RESPONSIBLE TO UNDERSTAND THAT ANY UNSEALED PENETRATION TO A FIRE WALL OR SMOKE BARRIER, OPEN BOXES, CABLES TOUCHING ANY PART OF THE FIRE SPRINKLER SYSTEM, AND CABLES LYING ON THE CEILING AT THE CONCLUSION OF THE PROJECT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REMEDIATE THE NECESSARY REPAIRS WITHIN 48 HOURS. A $150.00 CHARGE WILL BE ASSESSED FOR EACH INCIDENT THAT IS NOT REPAIRED WITHIN 48 HOURS AND REPAIRED BY UMC.
F. ALL FIRE STOPPING WILL BE DONE ACCORDING TO THE MANUFACTURERS' RECOMMENDATION FOLLOWING STRICT ADHERENCE TO THE FOLLOWING SECTIONS. SECTIONS WILL BE AVAILABLE UPON REQUEST AT THE ENGINEERING DEPARTMENT.
   1. SECTION 07 84 00 FIRESTOPPING
   2. SECTION 07 84 13 THROUGH-PENETRATION FIRESTOPPING
   3. SECTION 07 84 43 FIRE RESISTIVE JOINT SYSTEMS
   4. SECTION 07 84 53 BUILDING PERIMETER FIRESTOPPING
   5. SECTION 22 00 00 FIRESTOPPING FOR PLUMBING
   6. SECTION 26 00 00 THROUGH-PENETRATION FIRESTOPPING FOR ELECTRICAL SYSTEMS
   7. SECTION 27 00 00 FIRESTOPPING FOR COMMUNICATIONS
   8. ATTACHMENT A SAMPLE FIRESTOPPING SAMPLES
G. SPRINKLER SYSTEMS AND MEDICAL GAS PIPING. SPRINKLER, FIRE SUPPRESSION AND MEDICAL GAS PIPING OR THEIR SUPPORTS SHALL NOT BE SUBJECTED TO EXTERNAL LOADS. NOTHING THAT IS NOT PART OF THE SPRINKLER SYSTEM SHOULD BE ATTACHED. NOTHING ABOVE, BELOW OR ON THE SIDES OF THE SPRINKLER SYSTEM, TO INCLUDE THE SUPPORTS SHOULD BE TOUCHING OR NEAR WITH-IN ¼" . THE SPRINKLER, FIRE SUPPRESSION AND MEDICAL GAS SYSTEM PIPING OR ANY OF ITS SUPPORTING MEMBERS. ALL CONTRACTORS WILL BE REQUIRED TO HAVE A PERMIT AT ALL TIMES WORKING ABOVE THE CEILING.
H. ALL UMC DEPARTMENTS REQUIRING TO CONTRACT VENDORS OR ARE AUTHORIZED BY THE NATURE OF THEIR SERVICE TO ACCESS ABOVE THE CEILING TO INSTALL, MODIFY, ALTER ANY SYSTEM, SHALL BE RESPONSIBLE TO MANAGE THEIR OWN CONTACTORS AND ASSOCIATES TO COMPLY WITH THIS POLICY. THE DEPARTMENTS ARE ALSO RESPONSIBLE TO INCLUDE THE PROVISIONS OF THIS POLICY IN THEIR CONTRACT DOCUMENTATION AND IN HOUSE TRAINING REQUIREMENTS TO ENFORCE FULL COMPLIANCE WITH THE PROVISIONS AND INTENT OF THIS POLICY.
I. ENGINEERING ORGANIZE WEEKLY ROUNDS TO SURVEY ABOVE CEILING LIFE SAFETY COMPLIANCE CONDITIONS AND WILL REPORT ANY NON-COMPLIANT FINDINGS TO THE DEPARTMENTS WHICH SYSTEMS ARE FOUND NOT BE INSTALLED IN ACCORDANCE TO THIS POLICY.
J. ANY UMC DEPARTMENT CONTRACTING VENDOR SERVICES REQUIRING TO WORK ABOVE CEILING ARE RESPONSIBLE TO TRACK THEIR WORK, ENSURE CONTRACTOR (ASSOCIATE) UNDERSTANDING OF INTENT AND FULL ADHERENCE TO THE PROVISIONS THIS POLICY. THE UMC DEPARTMENT RESPONSIBLE OF CONTRACTING THE SERVICES FOUND TO BE DEFICIENT SHALL ACTIVELY RESOLVE WITH THEIR OWN MEANS AND FUNDS ANY NON-COMPLIANT CONDITIONS FOUND AND REPORTED BY ENGINEERING DEPARTMENT AS A RESULT OF THE WEEKLY EOC ROUNDS OR OTHER INCIDENTAL SURVEY.

UNIVERSITY MEDICAL CENTER OF EL PASO

YY / MM / DD / HHMM

ABOVE THE CEILING WORK PERMIT # **FIRE STOP INSTALLER CERTIFICATE ID #:**

NAME: **DATE:**

DEPARTMENT/COMPANY:

PHONE#: **FAX#:**

UMC DEPARTMENT REQUESTING THE WORK:

UMC CONTACT NAME: **PHONE#:**

COMPLETE ILSM ASSESSMENT FOR EACH ATC PERMIT ISSUED

SYSTEM CATEGORY TO BE INSTALLED: ☐COMMUNICATION ☐FIBER OPTIC

☐SECURITY ☐DOOR CONTROLS ☐FIRE ALARM ☐TELEPHONE ☐ELECTRIC

☐HVAC ☐TELEVISION ☐OTHER

HOW WILL WORK BE SUPPORTED? ☐WALL ☐CONDUIT RACK

☐EXISTING CASEWORK ☐EXISTING CABLETRAY ☐NEW CABLE TRAY ☐OTHER

WILL ANY PENETRATIONS BE MADE IN WALLS, ROOF OR CEILING? ☐YES ☐NO

IF YES, ALL PENETRATIONS IN THE WALLS, ROOF OR CEILING WILL BE PROPERLY SEALED WITH APPROVED STI™ FIRE STOPPING AS PER MANUFACTURER INSTRUCTIONS FOR FIRE RESISTANT CAULKING PRIOR TO FINAL PROJECT APPROVAL.

PRODUCT OF CHOICE : ALL FIRE PROOFING MUST BE DONE USING STI™ FIRE STOPPING OR AN APPROVED EQUAL UNDER ENGINEERING DIRECTOR'S APPROVAL OR DIRECTOR'S DESIGNATED PROJECT SPECIFIC MANAGER
DOCUMENTATION (MFG.; SDS) OF APPROVED FIRE RESISTANT RED CAULKING PROVIDED. ☐YES ☐NO

START DATE: **TIME:** **COMPLETION DATE:** **TIME:**

AUTHORIZATION TO PROCEED: **DATE:**

SIGNATURE (ENGINEERING SUPERVISOR)

INTERIM INSPECTION: **DATE:**

FINAL INSPECTION: **DATE:**

FINAL APPROVAL: **DATE:**
SIGNATURE (ENGINEERING SUPERVISOR)

THE COMPLETED "ABOVE THE CEILING WORK PERMIT" SHALL BE DISPLAYED AT THE SITE OF THE WORK BEING PERFORMED FOR THE DURATION OF THE PROJECT.

ORIGINAL MUST BE RETURNED UPON COMPLETION OF THE JOB WITH FINAL INSPECTION SIGNATURE

MECHANICAL REQUIREMENTS FOR NEW WORK AND CONSTRUCTION

I. CONTRACTORS EXPECTATIONS:
   1. ALL NEW MECHANICAL WORK SHALL BE PERFORMED BY A QUALIFIED MECHANICAL CONTRACTOR THAT IS LICENSED AND BONDED APPLICABLE TO TEXAS DEPARTMENT LICENSE AND REGULATION RULES OR EQUIVALENT APPROVAL LICENSE APPROVED BY THE STATE. MECHANICAL CONTRACTOR MUST FOLLOW ALL AND MOST CURRENT APPLICABLE STANDARD FOR THE AUTHORITY HAVING JURISDICTION FOR ALL MECHANICAL WORK PERFORMED FOR UMC WITH THE EXCEPTION OF THE FOLLOWING ARTICLES WHICH MUST BE COMPLIED WITH AS LISTED UNLESS OTHERWISE APPROVED BY HOSPITAL MANAGEMENT IN WRITING. IN THE EVENT THERE IS CONFLICT BETWEEN ANY CODE REQUIREMENT AND THE EXCEPTIONS OF THIS LIST, THE MOST STRINGENT RULE SHALL APPLY.
A. ANYONE THAT WORKS AT UMC WILL NEED TO SIGN IN AND OUT AT ENGINEERING OFFICE, WEAR A HOSPITAL BADGE AT ALL TIMES AT WORK AND MUST RECEIVE CONTRACTOR'S ORIENTATION AT LEAST ONCE WHICH IS PERFORMED EVERY THURSDAY AT 8AM. ARRANGEMENTS SHALL BE MADE WITHIN AT LEAST 24 HOURS OF ANTICIPATION TO SCHEDULE A REQUIRED ONE TIME 45 MINUTES SAFETY ORIENTATION. THE TRAINING SHALL BE SCHEDULED WITH MINDY APARICIO OF THE ENGINEERING DEPARTMENT MAIN OFFICE AT 521-7640.
B. ALL MECHANICAL CONTRACTOR PERSONNEL MUST ARRIVE IN PRESENTABLE ATTIRE. NO RIPPED SHIRTS OR RIPPED PANTS ETC… IT IS RECOMMENDED FOR PERSONNEL TO WEAR A UNIFORM WITH COMPANY LOGO. WHEN WORKING ON HOSPITAL PUBLIC AREAS THE CONTRACTOR MUST ABIDE TO HOSPITAL APPEARANCE POLICIES.
C. REGARDLESS OF WHICH DEPARTMENT CONTRACTED YOUR MECHANICAL SERVICE COMPANY, ALL CONTRACTORS MUST NOTIFY ANY ONE OF UMC MECHANICAL STAFF UPON ARRIVAL AND UPON COMPLETION OF WORK TO INSPECT FOR PROPER INSTALLATION. UMC HVAC STAFF WILL ACKNOWLEDGE THE INTENDED SCOPE OF WORK, ASSESS ITS FEASIBILITY AND SAFE EXECUTION AND TO CONDUCT A MANDATORY. THE HVAC CONTRACTOR MUST MAKE ALL NECESSARY PROVISIONS TO PARTICIPATE AND FULLY COMPLY WITH THIS MANDATORY REQUIREMENT.
   1. WHEN WORKING IN THE CEILING, "ABOVE THE CEILING PERMITS" MUST BE FILLED OUT PRIOR TO STARTING WORK & MUST HAVE A COPY WITH THEM ON JOB SITE AT ALL TIMES.
      a. THE CONTRACTOR MUST ENSURE THAT ALL BOXES INCLUDING CONTROL BOXES ARE COVERED AND PROPERLY LATCHED.
      b. ANY UNACCEPTABLE JOB CONDITIONS FOUND AT THE TIME OF THE WORK EXECUTION AND THAT ARE NOT PART OF THE SCOPE OF WORK (FIRE PENETRATIONS, EXPOSED WIRES, UNSAFE CONDITIONS ETC.) SHALL BE DOCUMENTED AND BROUGHT BACK TO THE ATTENTION OF THE UMC ELECTRICIAN OVERSEEING THE JOB RELATED WITH THE SCOPE OF WORK. ANY ITEMS NOT REPORTED AN OPPORTUNE TIME MIGHT BE CONSIDERED THE RESPONSIBILITY OF THE CONTRACTOR TO CORRECT OR REPAIR.

II. MECHANICAL REQUIREMENTS FOR NEW INSTALLATIONS.
   1. ANY TIME A CONTRACTOR PERFORMS ANY WORK ON MECHANICAL SYSTEM WHICH INCLUDES BUT NOT LIMITED TO, BUILDING AUTOMATION SYSTEM, REFRIGERATION SYSTEM, HEATING, AIR CONDITION AND VENTILATION SYSTEM MUST PROVIDE MECHANICAL DRAWINGS RELATED TO NEW INSTALLATION ACCURACY OF THE EXISTING MECHANICAL DRAWING, THE CONTRACTOR IS RESPONSIBLE TO FURNISH AND INSTALL NEW LABELS ON EQUIPMENT, ANY ADDITIONAL INFORMATION ASSOCIATED WITH NEW EQUIPMENT, WHICH INCLUDES BUT NOT LIMITED TO POWER, AIR AND WATER SOURCE. ANY CHANGES MUST BE PROPERLY LABELED AND NOT HAND WRITTEN.
      a. MECHANICAL EQUIPMENT TO BE IDENTIFIED WITH NAMEPLATES INCLUDES: EQUIPMENT ID, AREA SEVERED, AND POWER SOURCE (VOLTAGE AND BREAKER ID)
      b. NAMEPLATES SHALL BE REQUIRED TO BE COLOR CODED IN ACCORDANCE WITH THE COLOR CODE STATED IN THE TABLE BELOW. PROVIDE APPROPRIATELY COLOR CODED PLASTIC LAMINATED NAMEPLATES AT ALL LOCATIONS OF MAJOR UNITS OF THE ELECTRICAL EQUIPMENT AS STATED ABOVE. NAMEPLATES SHALL BE CONSTRUCTED FROM LAMINATED PHENOLIC PLASTIC, 1/8 INCH THICK, 3-PLY COLORED SURFACES WITH WHITE CORE. ENGRAVING SHALL BE WITH ROMAN GOTHIC LETTERING, 3/16 INCH HIGH, APPROPRIATELY SPACED. THE NAMEPLATE SHALL BE ATTACHED TO THE CONTROL DEVICES BY USE OF SELF-TAPPING FLAT HEAD CHROMIUM PLATED SCREWS UNLESS APPROVED OTHERWISE.
      c. THE NAMEPLATE MUST INCLUDE WHERE THE EQUIPMENT IT FED FROM.
   2. ALL MECHANICAL INSTALLATION MUST FOLLOW NFPA 101 EDITION 2012
      a. TDSHS TITLE 25, CHAPTER 133, 2007
         i. LAST AMENDED SEPTEMBER 14, 2014
      b. AIR CHANGES, TEMPERATURE, HUMIDITY AND PRESSURE MUST BE MEET BY TEXAS CODE OR FGI WHICHEVER IS STRICTER.
      c. PRESSURE DIFFERENTIAL FOR ISOLATION MUST MEET 0.02 INCHES OF WATER COLUMN
      d. AIR CHANGES SHALL NOT COMPRISED THE ROOM TEMPERATURE AND PRESSURE DIFFERENTIAL
   3. NEW EQUIPMENT
      a. AIR HANDLER UNIT AND VENTILATION EQUIPMENT SHALL NOT BE DESIGNED TO OPERATE ABOVE 60 HERTZ UNLESS PREVIOUS APPROVED FROM OWNER'S DIRECTION OF ENGINEER, MANUFACTURE AND UMC DIRECTOR.
      b. VFD SHALL HAVE A MANUAL BYPASS
      c. AIR HANDLER UNIT SHALL BE DESIGN FOR 80% CAPACITY AT OPTIMAL OPERATION.

TEXAS REGISTRATION: F-000014
Alegro Engineering
Consulting Engineers
5822 Cromo Dr, Suite 105
El Paso, Texas 79912
Tel. 915.533.0700

STATE OF TEXAS
ROLANDO LEGARRETA
84714
LICENSED PROFESSIONAL ENGINEER
JUNE 27, 2024

ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

UNIVERSITY MEDICAL CENTER HUMIDITY CONTROL IMPROVEMENTS FIRST FLOOR

4815 ALAMEDA AVE, EL PASO, TEXAS 79905

No.	REVISION/ISSUE	DATE

SHEET TITLE:
OWNER REQUIREMENTS II

PROJECT NUMBER: 24-514
PHASE: 100% CD
DATE: 06/10/2024
SHEET NUMBER: M-4

ISOLATION EXHAUST SHALL BE CLEARING MARK AROUND THE UNIT, MUST INCLUDE THE FOLLOWING:

I. SIZE: 10.5" BY 8.5"
   ii. COLOR: ORANGE RED
   iii. SIGN "CAUTION BIOHAZARD – WEAR PROPER PPE WITHIN 10 FEET"
   iv. MATERIAL MUST BE WEATHER PROOF: ACRYLIC OR METAL
   v. MUST BE FASTEN TO THE EQUIPMENT
   e. HUMIDIFIER UNIT SHALL BE INSTALLED IN DUCT SYSTEM
   i. MUST BE ACCESSIBLE FOR SERVICE
   ii. FOLLOW ALL MANUFACTURE RECOMMENDATION
   iii. FAIL SAFE (LOSS OF COMMUNICATION, OR POWER)
   iv. HIGH LIMITED
   v. SECONDARY PAN SHALL BE INSTALLED WITH WATER SENSOR

4. CODE COMPLIANCE

A. NFPA 101 EDITION 2012

5. OVERALL TEST AND BALANCE SHELL BE PERFORMED BEFORE AND AFTER ANY NEW INSTALL OR MODIFICATION.

A. AIR BALANCE MUST BE INITIATED BY AND APPROVAL TEST AND BALANCE COMPANY WITH THE PANEL NAME AND THE CIRCUIT NUMBER.

B. ALL DUCTWORK MUST FOLLOW SHEET METAL AND AIR CONDITIONING NATIONAL ASSOCIATION SMACNA STANDARDS, MUST BE IDENTIFY AND CLEAR MARK ON EQUIPMENT SYSTEM ON BUILDING AUTOMATION SYSTEM.

C. WATER SYSTEM (CHILLED AND HYDRONIC SYSTEM), MUST BE IDENTIFY AND CLEAR MARK ON EQUIPMENT SYSTEM ON BUILDING AUTOMATION SYSTEM.

DUCTING AND AIR DISTRIBUTION

1. ALL DUCT MODIFICATION MUST BE PROPERLY SEALED AND TESTED FOR AIR LEAKS. PERFORM DUCT LEAK REMEDIATION AS REQUIRED IN COMPLIANCE WITH SMACNA STANDARDS
2. PRESENT PROOF OF CALIBRATION OF TEST EQUIPMENT WITH IN ONE ROLLING YEAR.
3. OWNER TO WITNESS AIR LEAK TESTING.
4. PRESENT NOZZLE CERTIFICATE OF CALIBRATION.
5. DEMONSTRATE TO OWNER THAT TEST NOZZLE IS WITH–IN THE CFM TEST CURVE PER MANUFACTURE CFM TEST CURVE PER MANUFACTURES CFM/PRESSURE CHART FOR THE APPLICATION LEAK RATE EXPECTED (AVOID WE OVER–SIZED).
6. ALL DUCTWORK MUST BE MODIFY TO PREVENT FROM MOISTURE DAMAGING EQUIPMENT LOCATED BELOW. STRUCTURAL ENGINEERING WILL EVALUATE NEW LOCATION; GET WITH CONTRACTOR FOR ANY MODIFICATION FOR STRUCTURAL INFRASTRUCTURE. DUCTWORK SHALL BE SUITABLE FOR CONTINUOUS USE THROUGHOUT THE RANGE OF OPERATING TEMPERATURE AND WITHIN THE ENVIRONMENT INDICATED. DUCT SHALL BE DOUBLE LAYERED, DOUBLE WALL, PRE–INSULATED, WEATHERPROOF OUTDOOR DUCT SYSTEM DESIGNED FOR EXTERIOR APPLICATION. ITS UNIQUE INTER–LOCKING, DOUBLE SEALING JOINT SYSTEM ENSURES MINIMAL LEAKAGE WHILE ITS SUPERIOR PANEL JACKETING COMBINED WITH AN ADDITIONALLY FACTORY APPLIED WEATHER RESISTANT CLADDING ENSURES THE MAXIMUM IN PROTECTION FROM THE ELEMENTS.

PIPING REQUIREMENTS

1. PIPING OR TUBING PASSING UNDER OR THROUGH WALLS SHALL BE PROTECTED FROM BREAKAGE. PIPING PASSING THROUGH OR UNDER CINDERS OR OTHER CORROSIVE MATERIALS SHALL BE PROTECTED FROM EXTERNAL CORROSION IN AN APPROVED MANNER. APPROVED PROVISIONS SHALL BE MADE FOR EXPANSION OF HOT WATER PIPING. VOIDS AROUND PIPING OR TUBING PASSING THROUGH CONCRETE FLOORS ON THE GROUND SHALL BE SEALED.
2. PIPING OR TUBING SHALL BE INSTALLED SO THAT THE PIPING, TUBING, OR CONNECTIONS WILL NOT BE SUBJECT TO UNDUE STRAINS OR STRESSES, AND PROVISIONS SHALL BE MADE FOR EXPANSION, CONTRACTION, AND STRUCTURAL SETTLEMENT. NO PIPING OR TUBING, UNLESS DESIGNED AND LISTED FOR SUCH USE, SHALL BE DIRECTLY EMBEDDED IN CONCRETE OR MASONRY. NO STRUCTURAL MEMBER SHALL BE SERIOUSLY WEAKENED OR IMPAIRED BY CUTTING, NOTCHING, OR OTHERWISE AS DEFINED IN THE BUILDING CODE.
3. PIPING, TUBING, APPLIANCES, AND APPURTENANCES SHALL BE SUPPORTED IN ACCORDANCE WITH THIS CODE, THE MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION. PIPING OR TUBING SUBJECT TO CORROSION, EROSION, OR MECHANICAL DAMAGE SHALL BE PROTECTED IN AN APPROVED MANNER.
4. REFRIGERATION LINES SHALL BE PROPERLY INSULATED AS PER MANUFACTURE RECOMMENDATION AND SHALL NOT BE INSTALLED ABOVE IT EQUIPMENT TO PREVENT POTENTIAL CONDENSATION LEAK. IF REFRIGERATION LINES ARE INSTALLED NEAR–BY OR DIRECTLY ABOVE IT EQUIPMENT, CONTRACTOR MUST MAKE PROVISION TO INSTALLATION CAPTURE PAN UNDERNEATH REFRIGERATION LINES.
5. ALL PIPING, TO INCLUDE ELECTRICAL LINES, LOW VOLTAGE WIRE AND EQUIPMENT, SHALL NOT TOUCH OR BE SUPPORTED BY SPRINKLER LINE OR ANY SPRINKLER ASSEMBLY, TO INCLUDE BUT NOT LIMITED HANGERS, FIRE SUPPRESSION FLEX HOSES, ETC.

CONDENSATION REQUIREMENTS

1. CONDENSATE DRAIN LINES FROM INDIVIDUAL CONDENSING APPLIANCES SHALL BE SIZED AS REQUIRED BY THE MANUFACTURER'S INSTRUCTIONS. CONDENSATE DRAIN LINES SERVING MORE THAN ONE APPLIANCE SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION, PRIOR TO INSTALLATION.
2. CONDENSATION DISCHARGE OPTIONS:
   a. FLOOR DRAIN: MUST BE ONE TO TWO INCHES ABOVE FLOOR DRAIN.
   b. AIR–CONDITIONING CONDENSATE WASTE PIPES SHALL CONNECT INDIRECTLY TO THE DRAINAGE SYSTEM THROUGH AN AIR–GAP TO PROPERLY TRAPPED AND VENTED RECEPTORS DRY WELLS, LEACH PITS, OR THE TAILPIECE OF PLUMBING FIXTURES. CONDENSATE WASTE SHALL NOT DRAIN OVER A PUBLIC WAY.
3. WHERE AN EQUIPMENT OR APPLIANCE IS INSTALLED IN A SPACE WHERE DAMAGE IS CAPABLE OF RESULTING FROM CONDENSATE OVERFLOW, OTHER THAN DAMAGE TO REPLACEABLE LAY–IN CEILING TILES, A DRAIN LINE SHALL BE PROVIDED AND SHALL BE DRAINED IN ACCORDANCE WITH PLUMBING CODE. AN ADDITIONAL PROTECTION METHOD FOR CONDENSATE OVERFLOW SHALL BE PROVIDED IN ACCORDANCE WITH ONE OF THE FOLLOWING:
   a. A WATER LEVEL DETECTING DEVICE THAT WILL SHUT OFF THE EQUIPMENT OR APPLIANCE IN THE EVENT THE PRIMARY DRAIN IS BLOCKED.
   b. AN ADDITIONAL WATERTIGHT PAN OF CORROSION–RESISTANT MATERIAL, WITH A SEPARATE DRAIN LINE, INSTALLED BENEATH THE COOLING COIL, UNIT, OR THE APPLIANCE TO CATCH THE OVERFLOW CONDENSATE DUE TO A CLOGGED PRIMARY CONDENSATE DRAIN.
   c. AN ADDITIONAL DRAIN LINE AT A LEVEL THAT IS HIGHER THAN THE PRIMARY DRAIN LINE CONNECTION OF THE DRAIN PAN.
   d. AN ADDITIONAL WATERTIGHT PAN OF CORROSION–RESISTANT MATERIAL WITH A WATER LEVEL DETECTION DEVICE INSTALLED BENEATH THE COOLING COIL, UNIT, OR THE APPLIANCE TO CATCH THE OVERFLOW CONDENSATE DUE TO A CLOGGED PRIMARY CONDENSATE DRAIN AND TO SHUT OFF THE EQUIPMENT.
   e. THE ADDITIONAL PAN OR THE ADDITIONAL DRAIN LINE CONNECTION SHALL BE PROVIDED WITH A DRAIN PIPE OF NOT LESS THAN 3/4 OF AN INCH (20 MM) NOMINAL PIPE SIZE, DISCHARGING AT A POINT THAT IS READILY OBSERVED.

GENERAL MINIMUM REQUIREMENTS

1. CONTRACTORS SHALL WEAR A COMPANY UNIFORM AND COMPANY PICTURE IDENTIFICATION BADGE WHILE PERFORMING SERVICES ON UMC'S PROPERTY. ALL CONTRACTORS MUST CHECK IN AND CHECK OUT AT ENGINEERING DEPARTMENT EVERY DAY AND OBTAIN A CONTRACTOR BADGE.
2. PRE–EXISTING CONDITIONS VERIFICATION WALK THROUGH AND DOCUMENTATION OF FINDINGS MUST BE PERFORMED PRIOR TO THE COMMENCEMENT OF WORK ON ALL THE LOCATIONS OF WHICH ARE MADE KNOWN TO OR SHOULD BE KNOWN BY THE CONTRACTOR AS THE WORK SCOPE AREA. THE CONTRACTOR MUST MADE HIMSELF/HERSELF THOROUGHLY ACQUAINTED WITH EXISTING CONDITIONS ON THE JOB SITE IN ORDER REDUCE OR TO ELIMINATE ANY UNFORESEEN CONDITIONS THAT MIGHT PRODUCE CHANGE ORDERS.
3. CONTRACTOR SHALL COORDINATE ALL ASPECTS OF JOB WITH DESIGNATED UNIVERSITY MEDICAL CENTER ENGINEERING MANAGER, SUPERVISOR OR DESIGNATED ASSOCIATE.
4. ALL DEBRIS AND PACKAGING SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR TO AN OFFSITE DISPOSAL SITE OR RECYCLING CENTER IN COMPLIANCE WITH STATE AND LOCAL ORDINANCES. THOROUGHLY CLEAN–UP THE WORK AREA AT THE END OF EACH DAY'S WORK, AND AT COMPLETION OF THE PROJECT. LEAVE PREMISES CLEAN AND FREE OF WASTE, SCRAPS, USED EQUIPMENT, OR OTHER MATERIAL INTENTIONALLY OR INCIDENTALLY DELIVERED TO THE BY CONTRACTOR OR CONTRACTOR PERSONNEL.
5. NEW UNITS REPLACING EXISTING UNITS ON THE ROOF SHALL MATCH EXISTING SYSTEM IN FUNCTION, ROOF CURVE FOOTPRINT AND CAPACITY OR APPROVED EQUAL PER SUBMITTAL APPROVAL BY OWNER. CONTRACTOR WILL BE RESPONSIBLE TO HIRE A STRUCTURAL ENGINEERING TO EVALUATE NEW UNITS WEIGHT LOAD AND PROPOSED A LOCATION AND DETAILS MUST BE SPECIFIED ON DRAWINGS.
6. THE CONTRACTOR IS RESPONSIBLE TO COMPLY WITH UMC STANDARDS IF THE ROOF CURVE SHALL BE EXCHANGED. CONTRACTOR SHALL EVALUATED ELECTRICAL SYSTEM BEFORE INSTALLING NEW UNITS. ALL ELECTRICAL WORK MUST COMPLY UMC ELECTRICAL STANDARDS.
7. MUST INCLUDE DISPOSAL OF EQUIPMENT AND NEW INSTALLATION MUST COMPLY WITH ALL CITY REGULATION AND APPLICABLE CODE. ALL REPLACEMENT UNITS SHALL MEET THE MINIMUM EFFICIENCY REQUIREMENTS SHOWN IN THE SCOPE OF WORK. ANY SUPPLEMENTAL COOLING REQUIRED FOR CONSTRUCTION MUST BE PROVIDED AT CONTRACTOR'S EXPENSE IF DISRUPTIVE OF COOLING IS COMPROMISED. ICRA, ILSM, TEMPORARY COOLING AND PROVISIONS FOR ELECTRICAL EQUIPMENT PROTECTION DURING THE EXECUTION OF THE CONSTRUCTION WORK MUST BE INCLUDED IN THIS PROPOSAL AND NO EXTRA COST MUST BE GENERATED AS RESULT OF FULFILLING THIS REQUIREMENT.
8. CONTRACTOR SHALL WARRANTY ALL LABOR, MATERIAL, REFRIGERANT, AND PARTS FOR A PERIOD OF 36 MONTHS FROM THE DATE(S) OF PROJECT ACCEPTANCE BY OWNER. WARRANTY SHALL ALSO INCLUDE ROOF LEAKS OR CONDENSATION LEAKS FROM NEW AC EQUIPMENT RELATED TO INSTALLATION.
9. THE CONTRACTOR SHALL PROTECT FROM DAMAGE ALL EXISTING SYSTEMS, UTILITIES, AND IT EQUIPMENT AT OR NEAR THE WORK SITE AND ON ADJACENT PROPERTY TO INCLUDE OWN OR A THIRD PARTY SUBCONTRACTORS. ANY DAMAGE TO BUILDING, SYSTEMS, OPERATION AND GROUNDS DIRECTLY RELATED TO WORK PERFORMED IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR IS LIABLE AND SHALL REPAIR ANY DAMAGE TO THOSE FACILITIES, INCLUDING THOSE THAT ARE THE PROPERTY OF A THIRD PARTY, RESULTING FROM FAILURE TO COMPLY WITH THE REQUIREMENTS OF THIS CONTRACT OR FAILURE TO EXERCISE REASONABLE WORKMANSHIP IN PERFORMING THE SCOPE.
10. ONLY OEM PARTS, COMPONENTS, OR UNDERWRITERS LABORATORY (UL) CERTIFIED OR APPROVED EQUAL LISTED PRODUCTS ARE TO BE INSTALLED ON UNIVERSITY MEDICAL CENTER SYSTEMS

CONTROLS FOR BUILDING AUTOMATION SYSTEM

1. THE CONTRACTOR MUST PROVIDE ALL NECESSARY PARTS, COMPONENTS, CONTROLLERS FOR SEAMLESS INTEGRATION, UNLIMITED READ AND WRITE SEAMLESS COMMUNICATION WITH EXISTING UMC MAIN BUILDING AUTOMATION WEB PORTAL AND GENERATE ALL CUSTOM PROGRAM AND A MINIMUM OF CUSTOM GRAPHICS TO MEET THE OWNER CONTROL, ANALYTICAL, AND PREDICTIVE MONITORING ALARM AND TRENDING SYSTEM. THE PROGRAM LOGIC MUST BE FULLY OPEN AND ACCESSIBLE TO UMC HVAC TEAM FOR TROUBLESHOOTING AND MODIFICATION. THE SCOPE MUST INCLUDE ANY BAS SYSTEM PROGRAM UPGRADES AND 40 HOURS OF CUSTOM BUILDING AUTOMATION ONSITE TRAINING AS PER OWNER PROVIDED OWNER SCHEDULE. THE CUSTOM–MADE PREDICTIVE PROGRAM MUST MEET THE SPECIFIC OWNER SPECIFICATION. COMMUNICATION BOARDS FROM ALL EQUIPMENT SHALL BE BACNET MS TP PREFERRED OR APPROVE EQUAL.

SPECIAL REQUIREMENTS

1. UNDER THIS CONTRACT, THE AWARDED VENDOR MUST ATTEND A ONE–TIME HOSPITAL CONTRACTOR ORIENTATION WHICH IS HELD EVERY THURSDAY AT 8:30 AM AT THE ENGINEERING CONFERENCE ROOM.

   PER PREVIOUS APPOINTMENT WITH ENGINEERING OFFICE COORDINATOR AT (915) 521–7640. ALL PERSONNEL MUST ATTEND A UMC CONTRACTOR ORIENTATION WHO WILL BE PERFORMING WORK IN ANY UMC CAMPUS. ALL HOT WORK PERMITS THE CONTRACTOR WILL BE RESPONSIBLE TO PROVIDE FIRE WATCH PERSONNEL AT ANY TIME THE FIRE SAFETIES ARE COMPROMISED DURING THE COURSE OF THE INSTALLATION LISTED IN THIS CONTRACT. THE DESIGNATED FIRE WATCH MUST HAVE BEEN TRAINED IN AN APPROVED EL PASO FIRE DEPARTMENT FIRE WATCH TRAINING (PROOF OF FIRE WATCH TRAINING MUST BE PROVIDED). THE AWARDED VENDOR WILL BE RESPONSIBLE TO PURSUE, FILL OUT AND PROPERLY PROCESS ALL THE DOCUMENTATION REQUIRED BY UMC POLICY AND PROCEDURES TO SAFELY PERFORM THE INSPECTIONS (ILSM, OUTAGE REQUEST FORM, CALL FIRE DEPARTMENT TO DOCUMENT ILSM, ABOVE THE CEILING PERMIT ETC.). IN ADDITION THE FIELD PERFORMING PERSONAL. IN ADDITION, THE AWARDED CONTRACTOR'S FIELD PERFORMING PERSONNEL.

2. THE AWARDED VENDOR FIELD PERFORMING PERSONNEL MUST MEET ALL UMC POLICY AND REQUIREMENTS FOR MANDATORY VACCINATION AND IMMUNIZATION AS SET FOR BY UMC'S HR AND OCCUPATIONAL HEALTH DEPARTMENTS FOR CONTRACT WORK AND MUST PRESENT PROOF PREVIOUS TO START THE CONTRACT EXECUTION OR AT ANY TIME A NEW FIELD TECHNICIAN IS REPLACED. VENDORS SHALL BE EXPECTED TO COMPLY WITH ANY UPDATE, CHANGE, MODIFICATIONS, EXCLUSIONS OR

   INCLUSIONS TO MATCH UMC'S POLICIES AND PROCEDURES REGARDING VACCINES. FAILURE TO COMPLY WITH A CHANGE OF DIRECTION MIGHT CONSTITUTE REASON TO END THIS CONTRACT AGREEMENT.

AFTER EACH DUCT RUN TEST AND WITH THE TEST BLOWER STILL RUNNING PERFORM A 3/8" HOLE TO DEMONSTRATE LEAKS SENSING.

MECHANICAL CONTRACTOR SHALL PROVIDE THE FOLLOWING CERTIFICATION PRIOR TO START OF ANY WORK AT UMC

I ,_____________________________REPRESENTING THE MECHANICAL COMPANY

DESIGNATED AS______________________________ACKNOWLEDGE THAT I RECEIVED, READ AND WILL COMPLY WITH THE

SPECIFIC REQUIREMENTS OF THIS DOCUMENT WHILE WORKING FOR UMC ON ANY HVAC WORK.

DATE; ______________________________

SIGNATURE; ______________________________

APPENDIX B

EL PASO COUNTY HOSPITAL DISTRICT

CUTTING, WELDING AND BRAZING ACTIVITY & FIRE WATCH LOG

DATE	TIME CONTACTED	CONTACTED BY
LOCATION OF WORK	**TIME WORK STARTED**	**TIME WORK ENDED**

DISPATCHER NOTIFICATIONS

NOTIFICATION	TIME	NOTIFIED BY
ENGINEERING MANAGER		
SAFETY OFFICER		

AREA PATROLS

TIME	OFFICER	TIME	OFFICER	TIME	OFFICER
00:00		08:00		16:00	
01:00		09:00		17:00	
02:00		10:00		18:00	
03:00		11:00		19:00	
04:00		12:00		20:00	
05:00		13:00		21:00	
06:00		14:00		22:00	
07:00		15:00		23:00	

ENGINEERING MANAGER OR DIRECTOR OF SAFETY OPERATIONS REVIEW:

SIGNATURE   DATE

ELECTRICAL REQUIREMENTS FOR NEW WORK AND CONSTRUCTION

I. CONTRACTORS EXPECTATIONS:

1. ALL NEW ELECTRICAL WORK SHALL BE PERFORMED BY A QUALIFIED ELECTRICAL CONTRACTOR THAT IS LICENSED AND BONDED APPLYING NFPA 70–2020, NFPA 99–2012 AND NFPA 70E 2015 OR THE MOST CURRENT APPLICABLE STANDARD FOR THE AUTHORITY HAVING JURISDICTION FOR ALL ELECTRICAL WORK PERFORMED FOR UMC WITH THE EXCEPTION OF THE FOLLOWING ARTICLES WHICH MUST BE COMPLIED WITH AS LISTED UNLESS OTHERWISE APPROVED BY HOSPITAL MANAGEMENT IN WRITING. IN THE EVENT THERE IS CONFLICT BETWEEN ANY CODE REQUIREMENT AND THE EXCEPTIONS OF THIS LIST, THE MOST STRINGENT RULE SHALL APPLY.

A. ANYONE THAT WORKS AT UMC WILL NEED TO SIGN IN AND OUT AT ENGINEERING OFFICE, WEAR A HOSPITAL BADGE AT ALL TIMES AT WORK AND MUST RECEIVE CONTRACTOR'S ORIENTATION AT LEAST ONCE WHICH IS PERFORMED EVERY THURSDAY AT 8:30AM. ARRANGEMENTS SHALL BE MADE WITHIN AT LEAST 24 HOURS OF ANTICIPATION TO SCHEDULE A REQUIRED ONE TIME 45 MINUTES SAFETY ORIENTATION. THE TRAINING SHALL BE SCHEDULED WITH MINDY APARICIO OF THE ENGINEERING DEPARTMENT MAIN OFFICE AT 521–7640.

B. ALL ELECTRICAL CONTRACTOR PERSONNEL MUST ARRIVE IN PRESENTABLE ATTIRE. NO RIPPED SHIRTS OR RIPPED PANTS ETC... IT IS RECOMMENDED FOR PERSONNEL TO WEAR A UNIFORM WITH COMPANY LOGO. WHEN WORKING ON HOSPITAL PUBLIC AREAS THE CONTRACTOR MUST ABIDE TO HOSPITAL APPEARANCE POLICIES.

C. REGARDLESS OF WHICH DEPARTMENT CONTRACTED YOUR ELECTRICAL SERVICE COMPANY, ALL CONTRACTORS MUST NOTIFY ANY ONE OF UMC ELECTRICAL STAFF UPON ARRIVAL AND UPON COMPLETION OF WORK TO INSPECT FOR PROPER INSTALLATION. UMC ELECTRICAL STAFF WILL ACKNOWLEDGE THE INTENDED SCOPE OF WORK, ASSESS ITS FEASIBILITY AND SAFE EXECUTION AND TO CONDUCT A MANDATORY NFPA 70E 2015 ARTICLE 110.1 (A,B,C) PRE JOB BRIEFING MEETING WHICH MUST BE SIGNED BY ALL MEMBERS PARTICIPATING IN THE EXECUTION OF THE JOB SCOPE INTENDED FOR EACH WORKING DAY. THE ELECTRICAL CONTRACTOR MUST MAKE ALL NECESSARY PROVISIONS TO PARTICIPATE AND FULLY COMPLY WITH THIS MANDATORY REQUIREMENT.

D. A LOAD ASSESSMENT SHALL BE PERFORMED BY THE CONTACTOR ANYTIME HIS PROPOSAL INCLUDES CONNECTING TO AN EXISTING CIRCUIT. AMPERAGE AND VOLTAGE READINGS MUST BE PERFORMED PRIOR TO THE INSTALLATION TO AVOID OVERLOAD. THE INFORMATION TAKEN MUST BE MADE AVAILABLE TO UMC ELECTRICIANS FOR EVALUATION. THE SCOPE OF WORK WHEN CONNECTING TO EXISTING CIRCUITS MUST BE PREAPPROVED IN WRITING (EMAIL OR SIGNED SHOP DRAWINGS ETC.) BY A MEMBER OF UMC ELECTRICAL SERVICE TEAM AFTER MAKING AVAILABLE

2. WHEN WORKING IN THE CEILING, "ABOVE THE CEILING PERMITS" MUST BE FILLED OUT PRIOR TO STARTING WORK & MUST HAVE A COPY WITH THEM ON JOB SITE AT ALL TIMES. CONTRACTOR TO HAVE THE PROJECT PO# WRITTEN ON THE PERMIT IN ORDER TO HAVE PERMIT APPROVED.

A. THE CONTRACTOR MUST ENSURE THAT ALL BOXES ARE COVERED, ALL KNOCKOUTS ARE SEALED.

B. ANY UNACCEPTABLE JOB CONDITIONS FOUND AT THE TIME OF THE WORK EXECUTION AND THAT ARE NOT PART OF THE SCOPE OF WORK (OPEN BOXES, FIRE PENETRATIONS, EXPOSED WIRES, UNSAFE CONDITIONS ETC.) SHALL BE DOCUMENTED AND BROUGHT BACK TO THE ATTENTION OF THE UMC ELECTRICIAN OVERSEEING THE JOB RELATED WITH THE SCOPE OF WORK. ANY ITEMS NOT REPORTED AN OPPORTUNE TIME MIGHT BE CONSIDERED THE RESPONSIBILITY OF THE CONTRACTOR TO CORRECT OR REPAIR.

II. ELECTRICAL REQUIREMENTS FOR NEW INSTALLATIONS.

1. ANY TIME A CONTRACTOR PERFORMS ANY WORK ON A DISTRIBUTION PANEL, SWITCHBOARD, MOTOR CONTROL CENTER THAT WILL CHANGE THE DESIGNATION / ACCURACY OF ANY ELEMENT ON THE PANEL SCHEDULE OR THE ACCURACY OF THE EXISTING LABELS ON ANY EQUIPMENT, THE CONTRACTOR IS RESPONSIBLE TO FURNISH AND INSTALL NEW LABELS / PANEL SCHEDULES IN CONFORMITY TO NEC 70, 70E AND THIS UMC ELECTRICAL REQUIREMENTS FOR NEW CONSTRICTION WHICHEVER IS STRICTER. ANY CHANGES MADE TO A PANEL SCHEDULES MUST BE TYPED AND NOT HAND WRITTEN.
   i. ELECTRICAL EQUIPMENT TO BE IDENTIFIED WITH NAMEPLATES INCLUDES: DISTRIBUTION PANELS, LIGHTING PANELBOARDS, SWITCHBOARDS, TRANSFORMERS, DISCONNECTS, AND ALL OTHER ELECTRICAL EQUIPMENT.
   ii. NAMEPLATES SHALL BE REQUIRED TO BE COLOR CODED IN ACCORDANCE WITH THE COLOR CODE STATED IN THE TABLE BELOW. PROVIDE APPROPRIATELY COLOR CODED PLASTIC LAMINATED NAMEPLATES AT ALL LOCATIONS OF MAJOR UNITS OF THE ELECTRICAL EQUIPMENT AS STATED ABOVE. NAMEPLATES SHALL BE CONSTRUCTED FROM LAMINATED PHENOLIC PLASTIC, 1/8 INCH THICK, 3–PLY COLORED SURFACES WITH WHITE CORE. ENGRAVING SHALL BE WITH ROMAN GOTHIC LETTERING, 3/16 INCH HIGH, APPROPRIATELY SPACED. THE NAMEPLATE SHALL BE ATTACHED TO THE CONTROL DEVICES BY USE OF SELF TAPPING FLAT HEAD CHROMIUM PLATED SCREWS UNLESS APPROVED OTHERWISE.
   iii. THE NAMEPLATE MUST INCLUDE WHERE THE EQUIPMENT IT FED FROM.
2. ALL CONDUIT AND WIRING SHALL BE INSTALLED IN A NEAT AND PRESENTABLE MANNER.

A. ALL BOX COVERS, RECEPTACLES, AND SWITCHES SHALL BE PERMANENTLY IDENTIFIED WITH THE PANEL NAME AND THE CIRCUIT NUMBER.
B. ALL HOMERUNS THAT SHALL BE ¾" CONDUIT OR LARGER.
C. EMT FITTINGS MUST BE RAIN TIGHT FOR OUTDOORS AND COMPRESSION TYPE FOR INDOORS.
D. BOXES MUST BE AT LEAST 2 ½" DEEP UNLESS APPROVED BY UMC.
E. AT LEAST 10" OF FREE CONDUCTOR, MEASURED FROM THE POINT IN THE BOX WHERE IT EMERGES FROM THE RACEWAY.
F. HOMERUNS SHALL BE AT LEAST NUMBER 10 AWG AND MUST BE THHN OR EQUIVALENT.
   EXCEPTION: IN AN UNGROUNDED ISOLATED POWER SYSTEM CONDUCTORS MUST BE AT LEAST NUMBER 10 AWG STRANDED WITH XHHW INSULATION OR EQUIVALENT.
   CONDUCTORS MUST BE BROWN AND ORANGE IN COLOR. THE BROWN CONDUCTOR MUST BE TERMINATED ON THE BRASS SCREW ON THE RECEPTACLE AND THE ORANGE CONDUCTOR ON THE SILVER SCREW.
G. ON A 120 – 208 VOLT WYE SYSTEM BLACK, RED, BLUE, AND WHITE CONDUCTORS MUST BE USED AND ON A 277–480 VOLT WYE SYSTEM BROWN, ORANGE, YELLOW, AND GRAY MUST BE USED.
H. BRANCH CIRCUITS THAT HAVE A DIFFERENT VOLTAGE SHALL NOT BE INSTALLED IN THE SAME RACEWAY OR BOX.
I. SIMILARLY, BRANCH CIRCUITS FROM DIFFERENT BRANCHES OF THE EMERGENCY & NORMAL POWER SYSTEMS SHALL NOT BE INSTALLED IN THE SAME RACEWAY OR BOX.
J. IF RUNNING OUTSIDE (ROOFS. FLOOR, ETC.) CONDUIT SHALL BE RIGID.
K. IF RUNNING ON ROOF DURA BLOCKS TO BE USED FOR STRAPPING AND NOT WOOD BLOCKS.
L. IN ACCORDANCE WITH NEC ARTICLE 517.13(A) WIRING METHODS, ALL BRANCH CIRCUITS INSTALLED IN A PATIENT CARE AREA SHALL BE INSTALLED IN A METAL RACEWAY.
M. IF LESS THAN OR EQUAL TO 100 AMPS OR WIRE SIZES 12 TO 1 AWG CONDUCTORS, THE CONTRACTOR MUST SIZE ALL CONDUCTORS BASED ON THE 60 DEGREES CELSIUS WIRE AMPACITY SELECTION COLUMN.
N. IF GREATER THAN 100 AMPS OR LARGER THAN 1 AWG CONDUCTOR, THE CONTRACTOR MUST SIZE CONDUCTORS BASED ON THE 75 DEGREE CELSIUS WIRE AMPACITY SELECTION COLUMN.
O. REGARDLESS OF THE WIRE SELECTION METHOD USED AS PERMITTED BY BULLETS M OR N ON THIS DOCUMENT, ALL EQUIPMENT INSTALLATIONS, TERMINATION, WIRE SIZE, WIRE SPLICES SHALL BE MADE TO COMPLY WITH THE 90 DEGREE CELSIUS WIRE AMPACITY COLUMN.
P. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE INSTALLATIONS TO COMPLY WITH THE VOLTAGE DROP REQUIREMENTS STATED IN THE 2014 NFPA NEC 70 CODE ARTICLE 210.19 (A) FPN 4. UMC WILL VERIFY COMPLIANCE WITH THIS ARTICLE AT FULL LOAD AND THE CONTRACTOR IS SOLELY RESPONSIBLE TO CORRECT AT THEIR OWN COST ANY INSTALLATION PERFORMED THAT DOES NOT MEET THE REQUIREMENT UNDER THE REFERRED ARTICLE.

2. DEVICE REQUIREMENTS.

A. ALL RECEPTACLES SHALL BE HOSPITAL GRADE, RATED 20AMPS, AND INSTALLED WITH THE GROUND PRONG ON TOP.
B. SWITCHES SHALL BE SPEC GRADE.
C. ALL MULTI–STRIPS OUTLETS MUST BE UL HOSPITAL APPROVED AND HOSPITAL GRADE TYPE OUTLET. SHALL BE SECURED AND FIXED TO THE WALL OR EQUIPMENT SERVED.

3. LIGHTING

A. COLOR TEMPERATURE ON FLUORESCENT LAMPS MUST BE 4100 KELVINS OR 5,000 KELVINS WHEN SPECIFIED BY UMC STAFF.
B. OUTSIDE LIGHTING SHALL COMPLY WITH THE CITY LIGHT ORDINANCE.
C. ALL LAY IN LIGHT FIXTURES TO BE SUPPORTED BY THEIR OWN INDEPENDENT DISTINCT COLORED WIRE. NO LESS THAN TWO INDEPENDENT POINTS OF ATTACHMENT AND THE WIRE SHALL BE INDEPENDENTLY SECURED TO THE DECK OR ROOF STRUCTURE (JOISTS).
D. ALL LIGHT SWITCH LOCATIONS SHALL BE PROVIDED WITH A GROUNDED CONDUCTOR AT ALL NEW INSTALLATION WORK. THE APPLICATION OF PROVISIONS AS STATED ON ARTICLE 404.2(C) EXCEPTIONS SHALL BE REQUESTED FOR UMC APPROVAL IN WRITING AT THE TIME OF SUBMITTING THE QUOTE OR AT ANY TIME DURING THE JOB EXECUTION. UMC WILL DECIDE ON THE ACCEPTANCE OF THE REQUEST FOR EXCEPTIONS FOR EACH JOB PROPOSAL.
E. FOR NEW CONSTRUCTION ALL RECESS CAN TYPE LIGHTING MUST BE L.E.D AND COMPLETELY SEALED RECESSED LIGHT COVER ASSEMBLY WITHOUT A PERFORATION OPENING ABOVE CEILING PLENUM. REGARDLESS IF PLANS OR PROJECT SHOW OTHERWISE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN AUTHORIZATION IN WRITING FROM THE UMC ELECTRICAL TEAM OR MANAGER, DIRECTOR BEFORE DEVIATING FROM THIS REQUIREMENT. LED DOWN LIGHTS MUST BE ENVISION LED–SL–PNL–8R–22W–5CCT–0/10V OR APPROVED EQUIVALENT APPROVED BY UMC ENGINEERING ELECTRICIANS
F. ANY NEW EXIT SIGN OR EMERGENCY "FROG EYE" FIXTURES OR INDOOR EGRESS LIGHTS MUST BE SMART SELF–TESTING HEXMODAL TYPE. WHITE BORDER WITH RED LETTERS. <u>HEXMODAL | EVERY CMS TEST – AUTOMATED</u> UNLESS OTHERWISE APPROVED.

4. PANEL BOARDS WILL BE "BOLT ON" TYPE SQUARE D OR APPROVED EQUAL. DIFFERENT TERMINATION (SNAP ON) SHALL NOT BE USED UNLESS OTHERWISE APPROVED BY HOSPITAL.
5. ALL STANDARD COVERS MUST BE STAINLESS STEEL.
6. NO MORE THAN 6' OF FMC, HCF90 CABLE, ETC. UNLESS APPROVED BY HOSPITAL ELECTRICIAN OR SUPERVISORS.
7. NO PVC RACEWAYS SHALL BE ALLOWED IN HOSPITAL.
8. UNDER NO CIRCUMSTANCE A BREAKER IS TO BE TURNED <u>OFF</u> BEFORE GETTING APPROVAL FROM HOSPITAL ELECTRICIANS OR SUPERVISORS. TWO LEVELS OF OVERCURRENT PROTECTION FROM THE LOAD MUST BE INVESTIGATED BEFORE WORKING WITH A CIRCUIT HOT.
9. UNDER NO CIRCUMSTANCE IS A JOB SITE WITH TOOLS, MATERIALS, OR OPEN CEILING TILES TO BE LEFT UNATTENDED. ALL ITEMS ARE TO BE ON A MOVEABLE CART, LADDERS REMOVED AND CEILING TILES PUT BACK BEFORE LEAVING A WORK AREA WITH NO RESTRICTED ACCESS.
10. NEVER LEAVE ANY LIVE, OPEN, OR ETC. FOR ANY REASON WITHOUT SUPERVISION.
11. NO QUADS ON PATIENT CARE AREAS (TDH)
12. NO FLEX OR RACEWAY SHOULD BE APPROVED FOR GROUNDING PATH (A EQUIPMENT GROUNDING CONDUCTOR SHALL BE RUN THROUGH THE RACEWAY AT ALL TIMES).
13. TAMPER PROOF OUTLETS WILL BE REQUIRED TO BE USED IN ANY PEDI AREA'S, WAITING ROOMS, ER, ETC. (ANY PLACE KIDS MAY BE PRESENT) 20 AMP HOSPITAL GRADE RECEPTACLE TAMPER PROOF.
14. FIRE ALARM: ANY WORK WILL NEED TO GO THROUGH ELECTRICIAN OR MANAGEMENT & CORRECT PAPER WORK TO BE FILLED OUT.
15. RIGID CONDUIT TO BE USED ON RUNS OUTSIDE BELOW 6FT OR TOPS.
16. CONTRACTOR MUST HAVE AT LEAST ONE LICENSED TEXAS JOURNEYMAN ELECTRICIAN ON SITE WHILE PERFORMING ELECTRICAL WORK AT UMC PREMISES AND CONTRACTOR MUST BE READY TO PROVIDE COPIES OF JOURNEYMAN & MASTER ELECTRICIAN LICENSE UPON REQUEST.
17. CONTRACTORS NEED TO CONTACT UMC ELECTRICIANS WHEN THEY ARE PRESENT TO PERFORM ANY WORK IN UMC.
18. THERE MUST BE A QUALIFIED PERSON SUCH AS A JOURNEYMAN ELECTRICIAN PRESENT AT ALL TIMES

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JUNE 27, 2024

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UNIVERSITY MEDICAL CENTER HUMIDITY CONTROL IMPROVEMENTS FIRST FLOOR

4815 ALAMEDA AVE. EL PASO, TEXAS 79905

No.	REVISION/ISSUE	DATE

SHEET TITLE: **OWNER REQUIREMENTS III**

PROJECT NUMBER: 24–514

PHASE: 100% CD

DATE: 06/10/2024

SHEET NUMBER: M-5

1. ALL WORK ON ELECTRICAL EQUIPMENT MUST BE PERFORMED DE-ENERGIZED. PROPER DOCUMENTATION AND COORDINATION MUST BE FOLLOWED TO MINIMIZE THE IMPACT TO THE HOSPITAL.
2. IN THE EVENT ELECTRICAL WORK NEEDS TO BE PERFORMED WHILE ENERGIZED, AN ENERGIZED WORK PERMIT MUST BE FILLED OUT WITH THE APPROVAL AND SIGNATURES OF THE SAFETY DEPARTMENT
3. CONDUCTORS SHALL BE COLOR CODED BY THE VOLTAGE A PER TABLE BELOW;

VOLTAGEPHASE APHASE BPHASE CNEUTRAL GROUND480VBROWN ORANGE YELLOWGRAYGREEN208VBLACKRED BLUE WHITEGREEN22. COLOR CODING FOR HOSPITAL ELECTRICAL BRANCHES SHALL BE AS FOLLOWS:

BRANCHCOLORNORMALBLACKCRITICALORANGELIFE SAFETYYELLOWEQUIPMENTBLUEFIRE ALARMREDLOW VOLTAGE CONTROL WIRINGPINKEMERGENCY POWER BEFORE ATSRED23. WHEN MC CABLE IS BEING USED, THE CONTRACTOR SHALL INSTALL THE CABLE SHALL BE IDENTIFIED ACCORDING TO THE VOLTAGE IT IS FEEDING SUCH AS 120V A BLACK BAND AROUND THE METAL JACKET OF AN MC CABLE AND FOR 277V A CABLE WITH A BROWN BAND SHALL BE USED.

24. WHEN ADDING CIRCUITS TO AN ELECTRICAL PANEL THE CONTRACTOR MUST REVISE THE PANEL SCHEDULE.
25. THE ELECTRICAL PANEL SHALL NOT HAVE A SPARE BREAKER WITH AN EXISTING CONDUCTOR ON IT. IN THE EVENT THIS CONDITION EXISTS, IT MUST BE BOUGHT TO THE ATTENTION OF THE UMC ELECTRICIANS IMMEDIATELY.
26. TO PREVENT AN UNINTENDED GROUND FAULT CONDITION AND TO MINIMIZE RISK OF AN ELECTRICAL SHOCK, ALL METAL PARTS OF THE ELECTRICAL SYSTEM THAT IS LIKELY TO BECOME ENERGIZED, MUST BE BONDED TO THE BUILDING GROUNDING SYSTEM.
27. ANY UNSAFE CONDITION THAT IS OBSERVED MUST BE BROUGHT TO THE ATTENTION OF THE ELECTRICIANS OR MANAGEMENT IMMEDIATELY.
28. AS PER NFPA 25 5.2.2.2 – "SPRINKLER PIPING SHALL NOT BE SUBJECTED TO EXTERNAL LOADS BY MATERIALS EITHER RESTING ON THE PIPE OR HUNG FROM THE PIPE."
29. ALL FIREWALL PENETRATIONS SHALL BE SEALED WITH SSS FIRESTOP PRODUCTS AND THE INSTALLER MUST BE A CERTIFIED FOR SSS PRODUCTS. PLEASE GET IN CONTACT WITH GRAINGER SUPPLY FOR CERTIFICATION INFORMATION
30. IMPACT GUNS WILL NOT BE ALLOWED TO BE USED TO OPEN AND CLOSE ELECTRICAL PANELS.
31. CONTRACTOR TO SUPPLY THEIR OWN PPE, BUNNY SUITS AND ZIP WALLS.
32. ANY NEW TRANSFORMERS WILL BE MINIMUM 75KVA K-TYPE 5X IN RUSH.
33. TEMPORARY EMERGENCY STANDBY GENERATOR POWER

1. EVERY TIME THAT UMC REQUIRES OR REQUEST CONTRACT SERVICE TO PROVIDE A TEMPORARY EMERGENCY GENERATOR THE FOLLOWING SHALL APPLY UNLESS OTHERWISE APPROVED BY THE UMC PROJECT MANAGER REQUESTING THE SERVICE AND MUST BE IN WRITING.

A. THE TEMPORARY EMERGENCY GENERATOR MUST BE OF EQUAL OR GREATER CAPACITY AS EXISTING BUILDING EMERGENCY GENERATOR.
B. CONTRACTOR WILL NEED TO PROVIDE GENERATOR WITH A FULL TANK OF DIESEL.
C. THE GENERATOR MUST BE EMERGENCY POWER GRADE TO MEET NFPA 110 REQUIREMENTS FOR HOSPITAL SERVICE NFPA 99 CATEGORY 1 NFPA 110 LEVEL 1
D. THE GENERATOR MUST BE IN GOOD OPERATIONAL ORDER. (UMC MIGHT ASK AT ANY TIME FOR THE RECORDS OF SERVICE IF DEEMED NECESSARY).
E. IN ORDER TO PREVENT THAT A GENERATOR WITH HIDDEN FAILURE CONDITIONS IS SET UP IN PLACE CAUSING DANGER TO THE INTENDED OPERATION, UMC REQUIRES TO LOAD BANK TEMPORARY PORTABLE GENERATOR TO AT LEAST 80% OF FULL RATED CAPACITY AND PROVIDE THE PROPER DOCUMENTATION THAT LOAD TEST PASSED BEFORE CONNECTING TO BUILDING LOAD.
F. IF THE SCOPE OF WORK IS A TURNKEY PROJECT THEN THE CONTRACTOR IS ALSO RESPONSIBLE TO PROVIDE THE APPROPRIATE CABLING, CONNECTORS, EXTENSION CORDS, POLARIS LUGS, ETC. NEEDED TO TIE IN PORTABLE GENERATOR TO BUILDING LOAD
   i) CONTRACTOR IS ALSO RESPONSIBLE TO TIE IN ATS START SIGNAL AND VERIFY ATS'S ARE WORKING CORRECTLY WITH TEMPORARY GENERATOR.
   ii) CONTRACTOR IS ALSO RESPONSIBLE TO CONNECT ANY ASSOCIATED GENERATOR EQUIPMENT SUCH AS COOLANT HEATER, BATTERY CHARGER, ETC. THAT IS ON THE TEMPORARY PORTABLE GENERATOR.
   iii) CONTRACTOR IS ALSO RESPONSIBLE TO DISCONNECT ALL TEMPORARY WIRING AND RECONNECT EXISTING BUILDING ATS START SIGNAL AND VERIFY PROPER FUNCTION OF BUILDING GENERATOR AND ASSOCIATED ATS'S BEFORE REMOVING TEMPORARY PORTABLE GENERATOR FROM UMC SITE.

34. LOW VOLTAGE WIRING 50 VOLTS OR LESS WILL BE SPLICED WITH UMC APPROVED WAGO CONNECTORS OR WITH UMC APPROVED BUTT SPLICES.

THE FOLLOWING CERTIFICATION SHALL BE SUBMITTED TO UMC PRIOR TO STARTING ANY WORK:

I , _____ REPRESENTING THE ELECTRICAL SERVICE COMPANY

DESIGNATED AS _____ ACKNOWLEDGE THAT I RECEIVED,

READ AND WILL COMPLY WITH THE SPECIFIC REQUIREMENTS OF THIS DOCUMENT WHILE WORKING FOR

UMC ON ANY ELECTRICAL WORK. DATE; _____

SIGNATURE;_____

PLUMBING REQUIREMENTS FOR NEW WORK AND CONSTRUCTION

1. FOR THE BALL VALVES THEY HAVE TO BE NIBCO BRAND
2. SHUT OFF VALVES MUST BE PUT FOR ALL BRANCHES
3. FOR NO HUB IT MUST BE SEAMLESS PIPE
4. NO HUB CLAMPS MUST BE HUSKY HEAVY DUTY
5. NO DOUBLE SIDED WYE OR COMBOS ON NO HUB FITTINGS
6. A SHOWER PAN MUST BE PUT IN RESTROOM
7. CLEAN OUTS MUST BE PUT ON ALL TOILETS AND SINK OR WHERE THEY ARE NECESSARY AND ACCESSIBLE
8. FAUCET BRAND FOR SINKS IS CHICAGO FAUCET
9. BRAND FOR SHOWER FAUCET IS SYMMONS BRAND
10. IF BACK FLOWS ARE INSTALLED CERTIFICATION OF COMPLIANCE IS REQUIRED TO BE TURNED IN TO UMC PLUMBER AND SUPERVISOR.
11. NO PVC IS ALLOWED ABOVE GROUND
12. HAVE TO FOLLOW TEXAS, AND STATE HOSPITAL CODES
13. CONTRACTOR MUST HAVE TEXAS LICENSED PLUMBER ON SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED.
14. ANY MED GAS INSTALLATION OR REPAIRS MUST BE MADE BY A LICENSED 6010 INSTALLER.

THE FOLLOWING CERTIFICATION SOULD BE SUBMITTED PRIOR TO STARTING ANY WORK AT UMC

I , _____ REPRESENTING THE PLUMBING SERVICE COMPANY

DESIGNATED AS _____ ACKNOWLEDGE THAT I RECEIVED,

READ AND WILL COMPLY WITH THE SPECIFIC REQUIREMENTS OF THIS DOCUMENT WHILE WORKING FOR UMC ON ANY PLUMBING WORK.

DATE; _____

SIGNATURE;_____

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UNIVERSITY MEDICAL CENTER HUMIDITY CONTROL IMPROVEMENTS FIRST FLOOR

4815 ALAMEDA AVE. EL PASO, TEXAS 79905

No.	REVISION/ISSUE	DATE

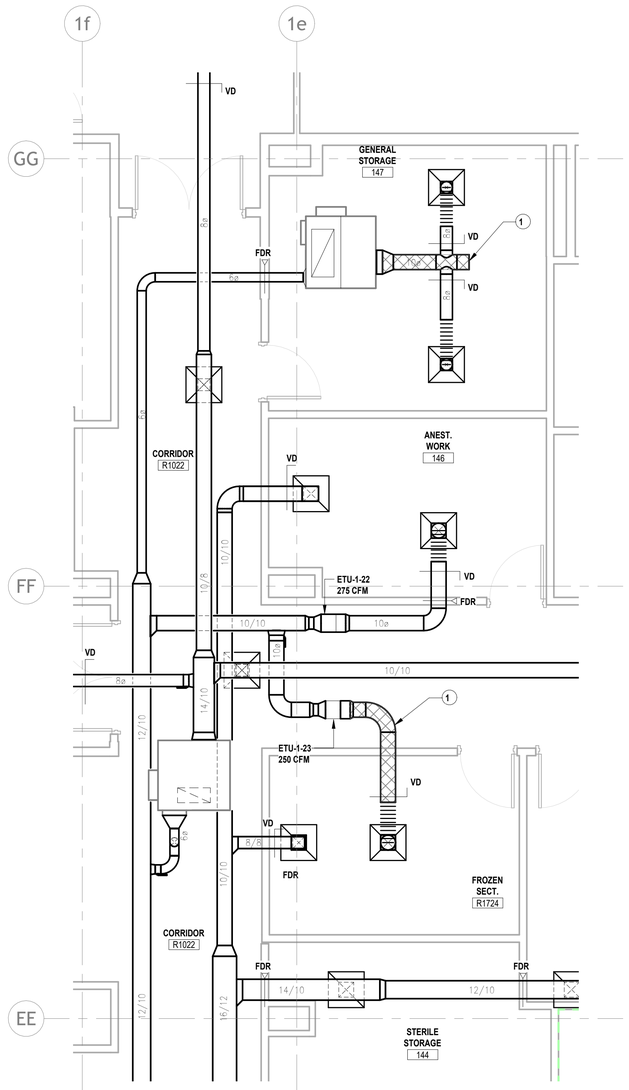
SHEET TITLE:
OWNER REQUIREMENTS IV

PROJECT NUMBER: 24-514

PHASE: 100% CD

DATE: 06/10/2024

SHEET NUMBER: M-6

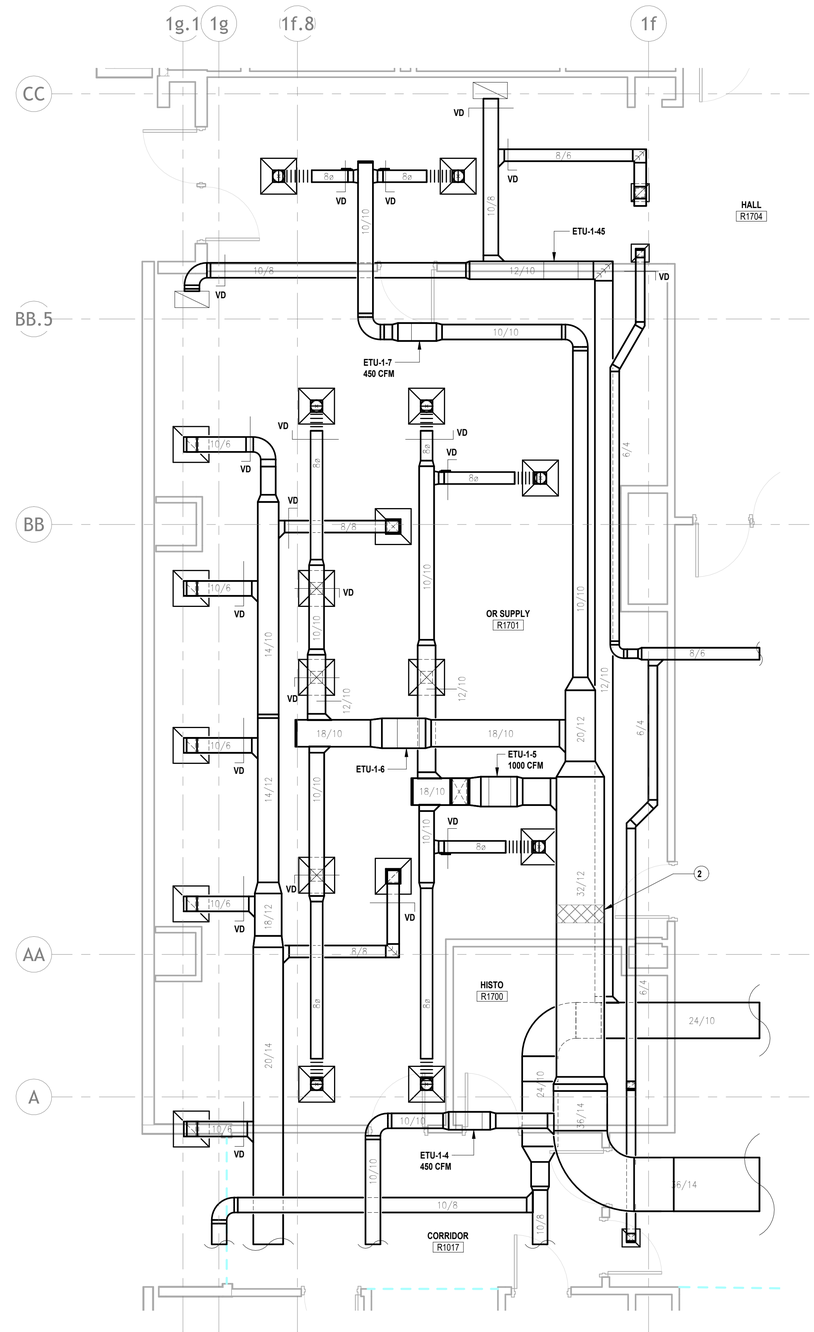


N 1 MECHANICAL DEMOLITION FIRST FLOOR PLAN - AREA A

1/4" = 1'-0"

4' 2' 0' 4' 8'

1/4" = 1'-0"



N 2 MECHANICAL DEMOLITION FIRST FLOOR PLAN - AREA B

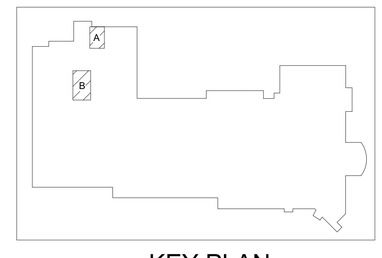
1/4" = 1'-0"

4' 2' 0' 4' 8'

1/4" = 1'-0"

DEMOLITION NOTES

1. REMOVE SECTION INDICATED OF 10" DIAMETER DUCT.
2. REMOVE SECTION INDICATED OF 32/12 DUCT.



KEY PLAN

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FIRST FLOOR

4815 ALAMEDA AVE. EL PASO, TEXAS 79905

No.	REVISON/ISSUE	DATE

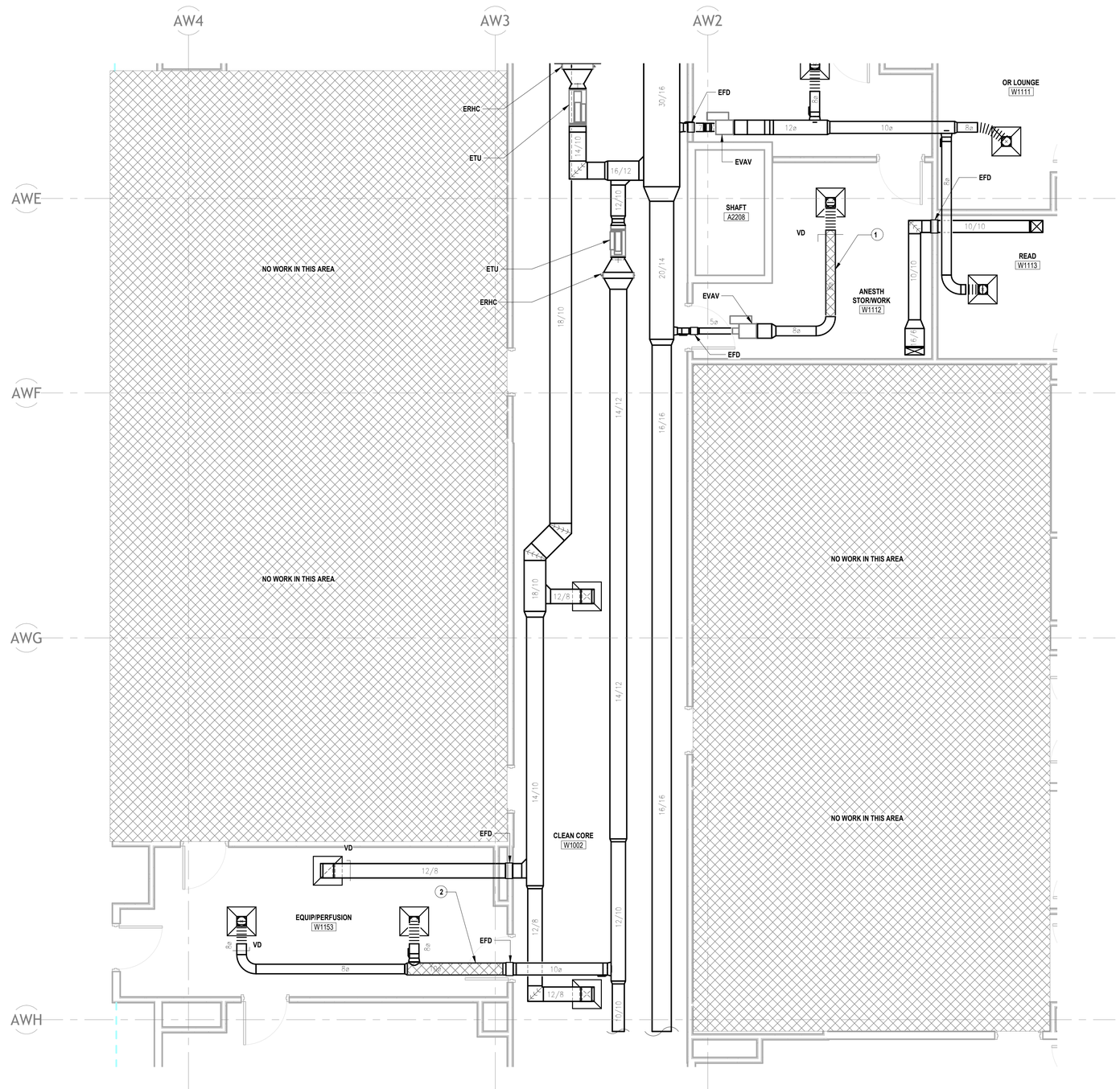
SHEET TITLE:
MECHANICAL DEMOLITION FIRST FLOOR PLAN - AREA "A" AND "B"

PROJECT NUMBER:
24-514

PHASE STATUS:
100% CD

06/10/2024

SHEET NUMBER
M-7



N 1 MECHANICAL DEMOLITION FIRST FLOOR PLAN - AREA C

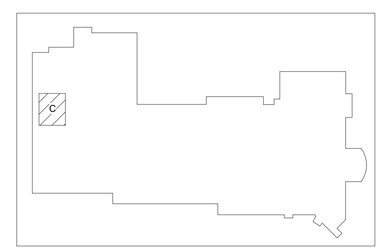
1/4" = 1'-0"

4' 2' 0' 4' 8'

1/4" = 1'-0"

DEMOLITION NOTES

1. REMOVE SECTION INDICATED OF 8" DIAMETER DUCT.
2. REMOVE SECTION INDICATED OF 10" DIAMETER DUCT.



KEY PLAN

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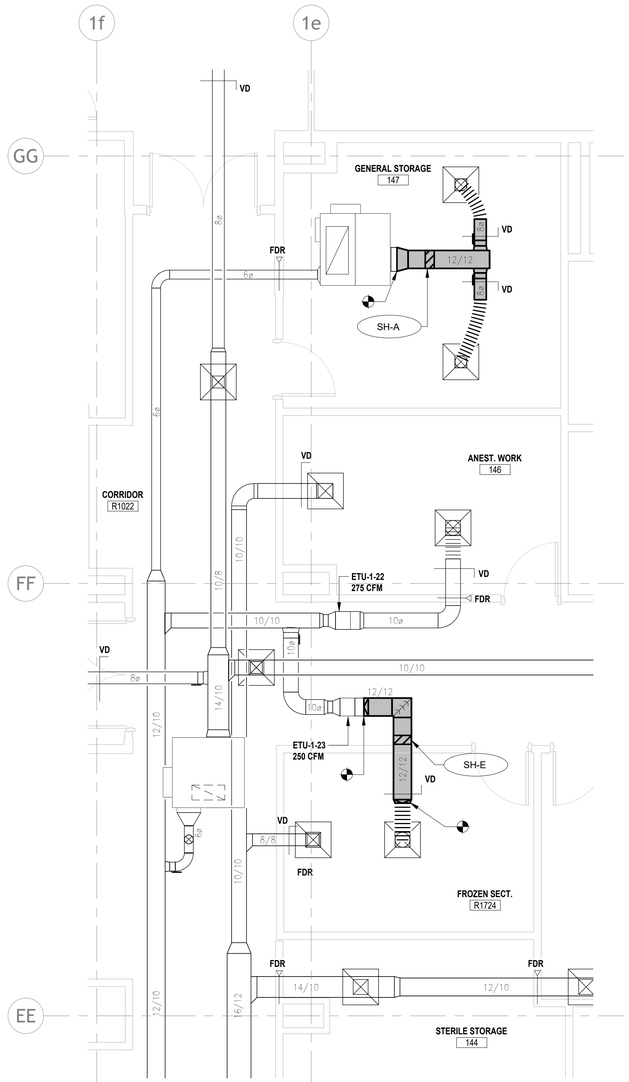
No.	REVISON/ISSUE	DATE

SHEET TITLE:
MECHANICAL DEMOLITION FIRST FLOOR PLAN - AREA C

PROJECT NUMBER:
24-514

PHASE STATUS:
100% CD
06/10/2024

SHEET NUMBER
M-8

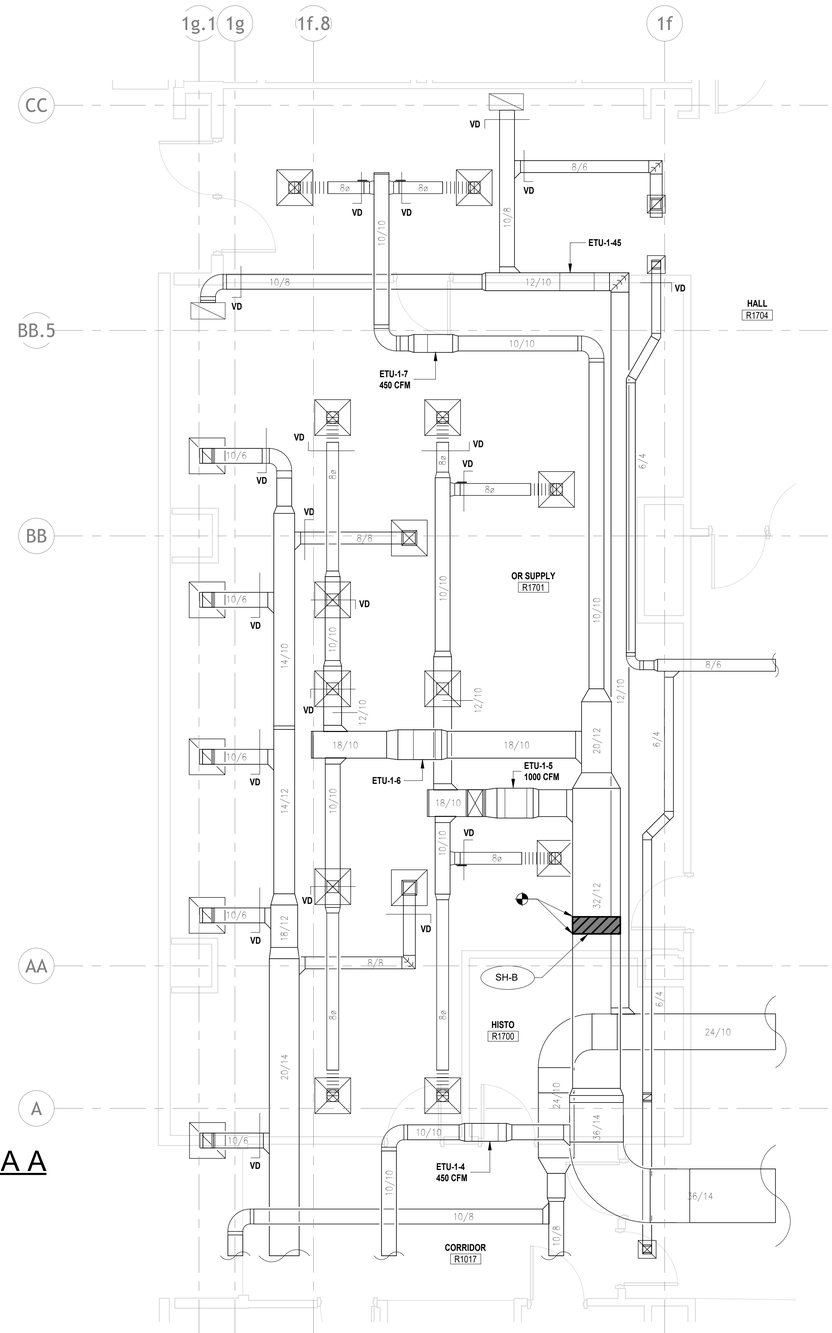


N 1 MECHANICAL IMPROVEMENT FIRST FLOOR PLAN - AREA A

1/4" = 1'-0"

4' 2' 0' 4' 8'

1/4" = 1'-0"

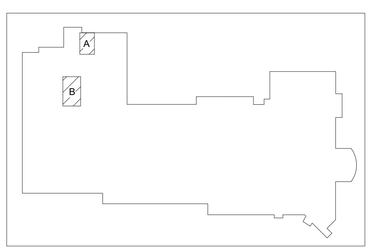


N 2 MECHANICAL IMPROVEMENT FIRST FLOOR PLAN - AREA B

1/4" = 1'-0"

4' 2' 0' 4' 8'

1/4" = 1'-0"



KEY PLAN

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No.	REVISON/ISSUE	DATE

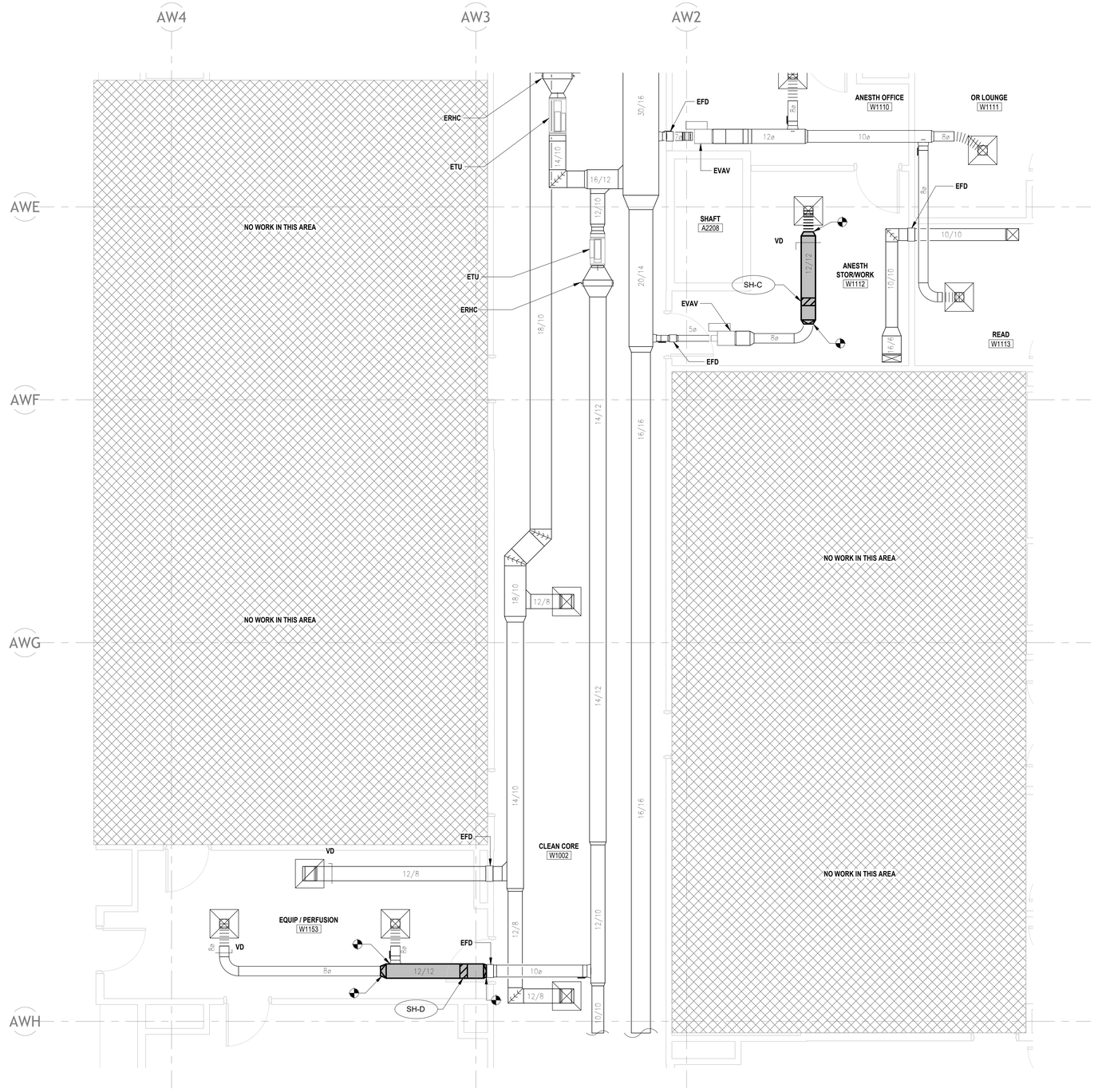
SHEET TITLE:
MECHANICAL IMPROVEMENT FIRST FLOOR PLAN - AREA "A" AND "B"

PROJECT NUMBER:
24-514

PHASE STATUS:
100% CD

06/10/2024

SHEET NUMBER
M-9

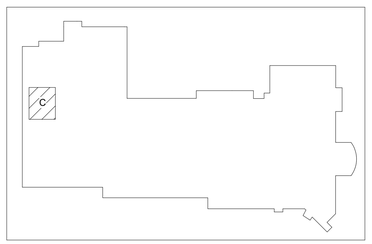


N 1 MECHANICAL IMPROVEMENT FIRST FLOOR PLAN - AREA C

1/4" = 1'-0"

4' 2' 0' 4' 8'

1/4" = 1'-0"



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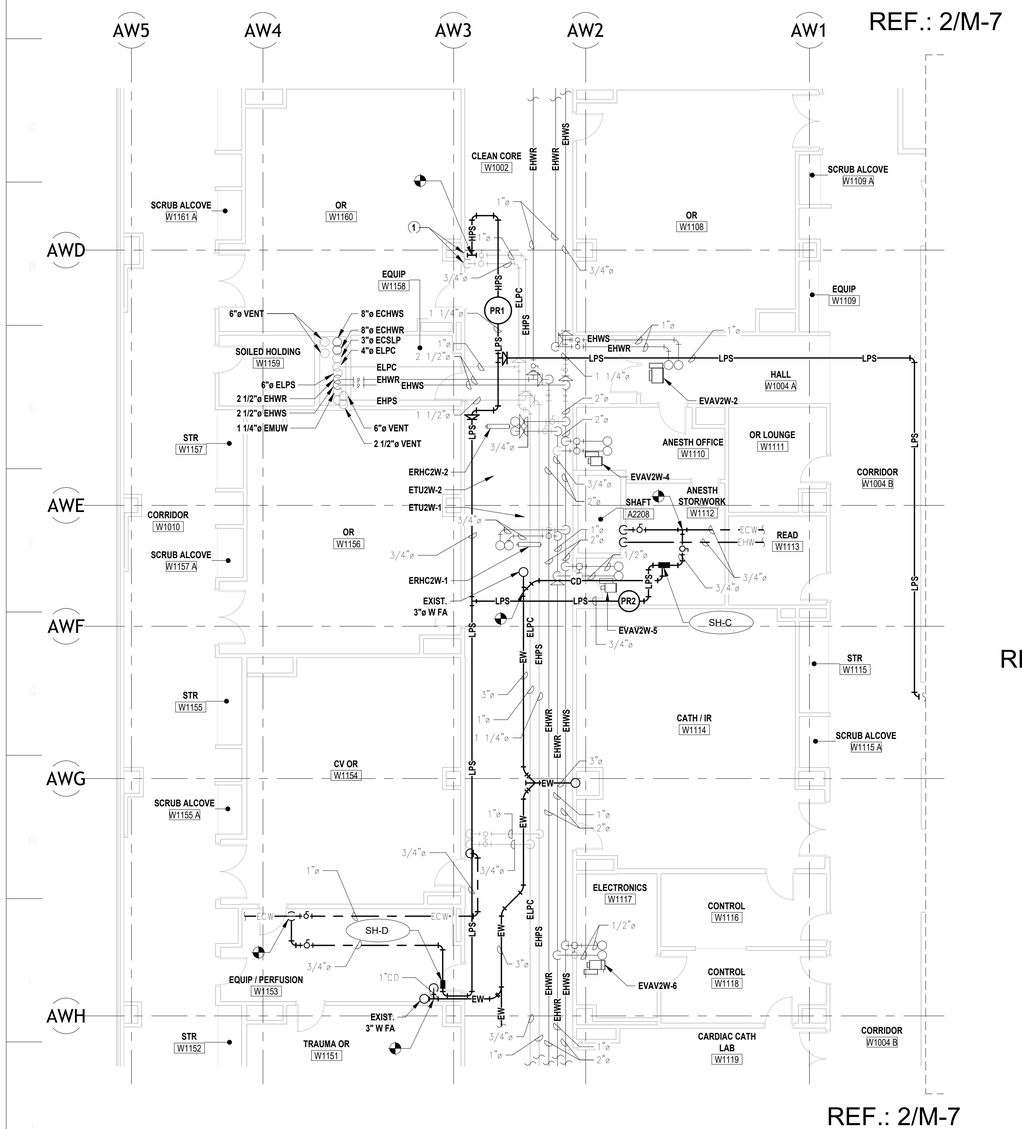
No.	REVISON/ISSUE	DATE

SHEET TITLE:
MECHANICAL IMPROVEMENT FIRST FLOOR PLAN - AREA C

PROJECT NUMBER:
24-514

PHASE STATUS:
100% CD
06/10/2024

SHEET NUMBER
M-10

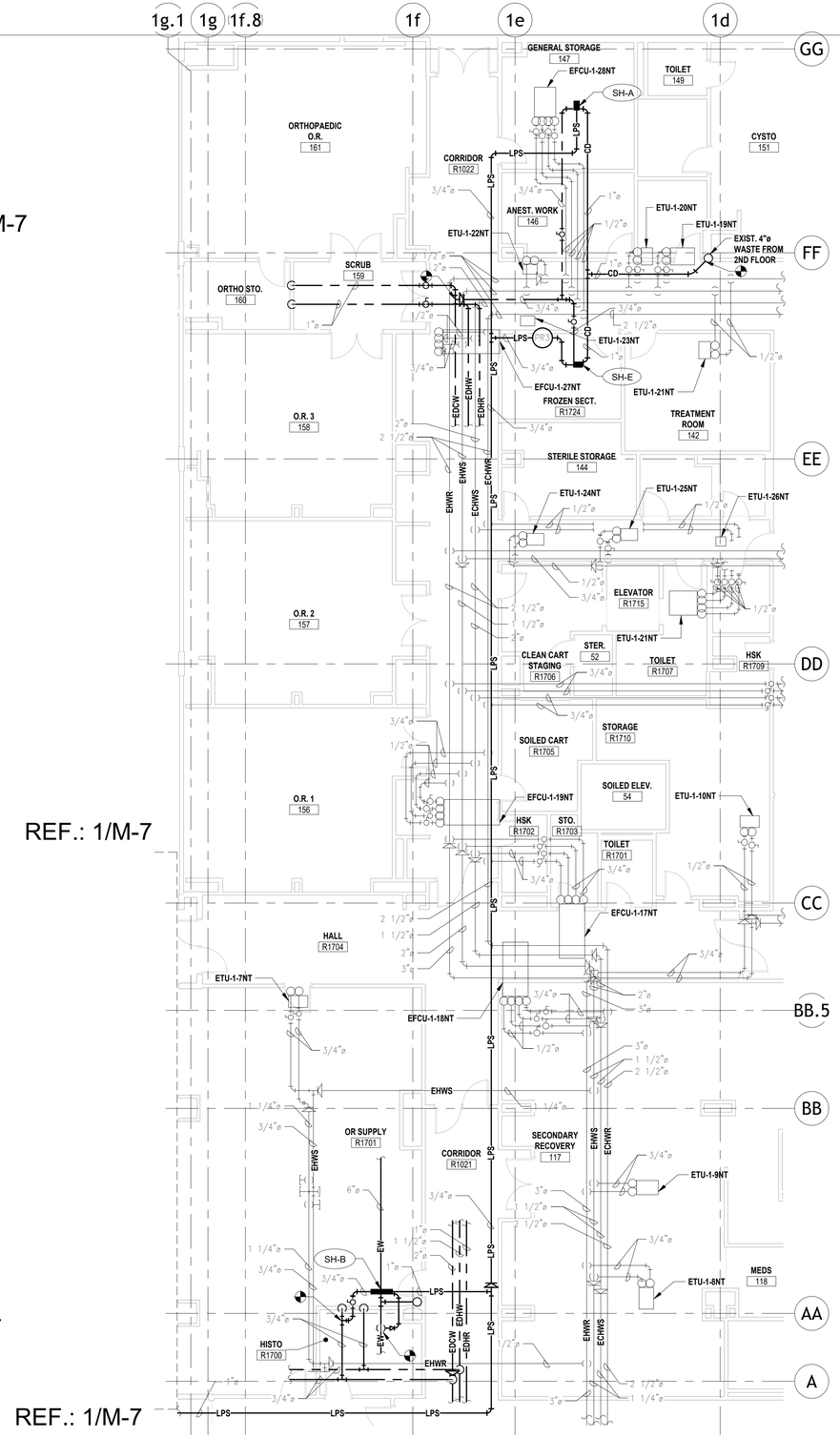


N 1 MECHANICAL PIPING IMPROVEMENT FLOOR PLAN AREA C

1/8" = 1'-0"

4' 2' 0' 4' 8'

1/8" = 1'-0"

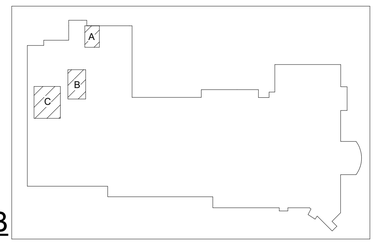


N 2 MECHANICAL PIPING IMPROVEMENT FLOOR PLAN AREA A & B

1/8" = 1'-0"

4' 2' 0' 4' 8'

1/8" = 1'-0"



KEY PLAN

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4815 ALAMEDA AVE, EL PASO, TEXAS 79905

No.	REVISON/ISSUE	DATE

SHEET TITLE:

MECHANICAL PIPING IMPROVEMENT PLANS

PROJECT NUMBER:
24-514

PHASE STATUS:
100% CD

06/10/2024

SHEET NUMBER
M-11