AS-BUILT DRAWING

UNLV | School of MEDICINE

SLC-A RENOVATION

NUMBER	DRAWING TITLE
ARCHITECTURAL	
G0.00	COVER/SHEET INDEX
A1.01	FLOOR PLANS/ELEVATIONS/SECTIONS/SCHEDULES
MECHANICAL	
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M1.01	MECHANICAL FLOOR PLAN
M4.01	DIAGRAMS
PLUMBING	
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ELECTRICAL	
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E0.21	DEMOLITION PLAN
E2.01	POWER PLAN
E5.01	ONE LINE DIAGRAMS AND SCHEDULES

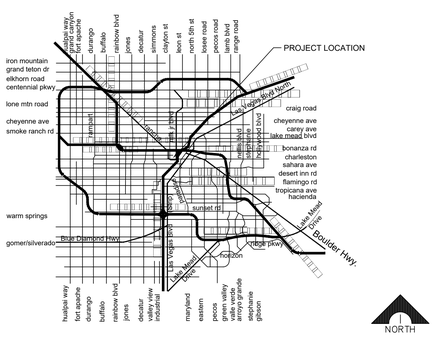
ZONING CLASSIFICATION:	URBAN GENERAL (T6-UG)			NO CHANGE
BUILDING CODES:	2018 INTERNATIONAL BUILDING CODE (IBC) 2018 INTERNATIONAL EXISTING BUILDING CODE (IEBC) 2018 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) 2017 NATIONAL ELECTRICAL CODE (NEC) 2018 UNIFORM PLUMBING CODE (UPC) 2018 UNIFORM MECHANICAL CODE (UMC) 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN			
OCCUPANCY CLASSIFICATION: (IBC CHAPTER 3)	'B' (BUSINESS)			NO CHANGE
TYPE OF CONSTRUCTION: (IBC CHAPTER 6)	I-FR			NO CHANGE
FIRE SPRINKLERS: (IBC 903)	YES			NO CHANGE
FIRE ALARM: (IBC 907)	YES			NO CHANGE
BUILDING HEIGHT: (IBC 503 & 504)	ALLOWABLE:		UNLIMITED	
	ACTUAL SHELL BUILDING:		NO CHANGE	NO CHANGE
NUMBER OF STORIES: (IBC 503 & 504)	ALLOWABLE:		UNLIMITED	
	ACTUAL SHELL BUILDING:		NO CHANGE	NO CHANGE
	ACTUAL TENANT IMPROVEMENT:		1 STORY	NO CHANGE
BUILDING AREA: (IBC 503-507)	ALLOWABLE:		UNLIMITED	
	ACTUAL SHELL BUILDING:		NO CHANGE	NO CHANGE
	ACTUAL TENANT IMPROVEMENT:		306 S.F.	NO CHANGE
OCCUPANT LOAD FACTOR: (IBC 1004)				
USE	SPACE	AREA	LOAD FACTOR	OCCUPANT LOAD
B (BUSINESS)	LABORATORY	306 S.F.	1 OCC: 50 S.F.	7 OCCUPANTS
NUMBER OF EXITS (TENANT IMPROVEMENT): (IBC 1015.1, 1021)			1 REQUIRED / 1 PROVIDED (NO CHANGE)	
NON-SEPARATED OR SEPARATED USES: (IBC 508.3 OR 508.4)				NO MIXED-USE OCCUPANCIES
ROOF COVERING MATERIAL: (IBC 508.3 OR 508.4)				NO CHANGE
PLUMBING FIXTURES: (IBC 2902)	EXISTING PLUMBING RESTROOM/FIXTURES UTILIZED			NO CHANGE
I.E.C.C. COMPLIANCE REPORT: (IBC 1301 & 2018 IECC)	REFER TO MECHANICAL AND ELECTRICAL PLANS			

CODE CHAPTER

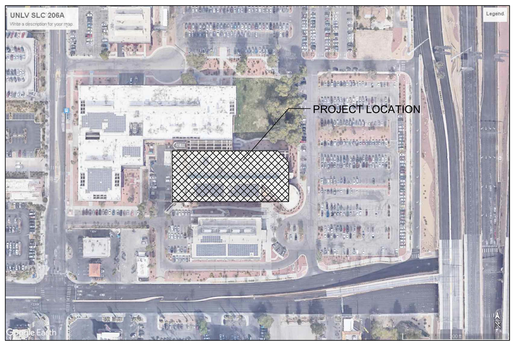
MAIN CONTRACTOR:

RED MESA BUILDERS
NEVADA CONTRACTOS B#81273
OFFICE: (702) 434-0046 FAX: (702) 434-0051
ebony@redmesabuilders.com
4023 W.OQUENDO RD.STE B
LAS VEGAS NV 89118

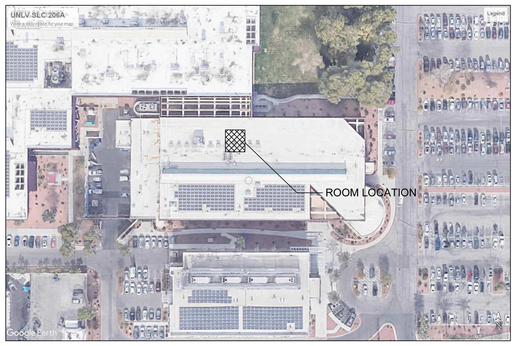
1001 SHADOW LANE
NORTH LAS VEGAS, NV 89106



VICINITY MAP
1700 W. CHARLESTON BLVD., LAS VEGAS, NV 89102 BUILDING 'A'



CAMPUS MAP
1700 W. CHARLESTON BLVD., LAS VEGAS, NV 89102 BUILDING 'A'

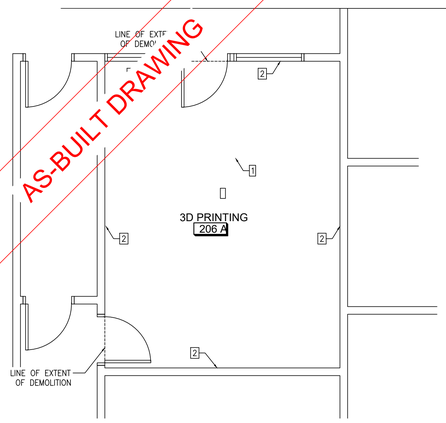


LOCATOR MAP
1700 W. CHARLESTON BLVD., LAS VEGAS, NV 89102 BUILDING 'A'

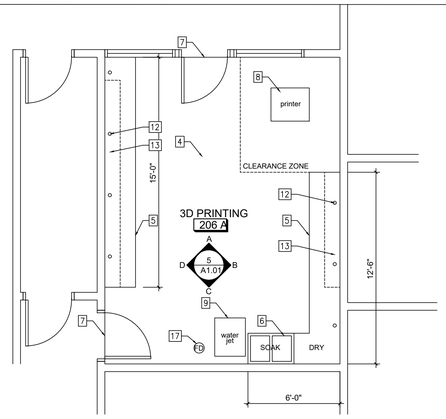
sc STUDIO
Simpson Coulter | STUDIO
151 E. Warm Springs Rd.
Las Vegas, NV 89119
702-435-1150
www.simpsoncoulter.com

tjk consulting engineers, inc.
8728 Spanish Ridge Avenue
Suite 100
Las Vegas, NV 89148
P: 702.871.3621
F: 702.871.8353
www.tjkengineers.com

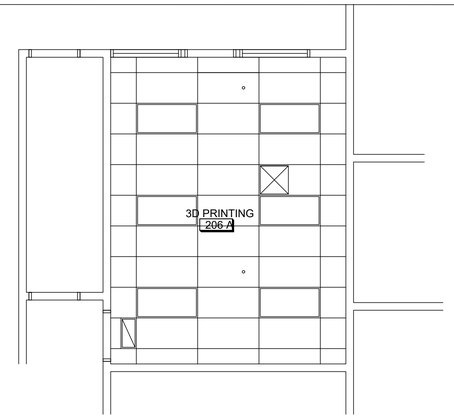
SCAN L. COULTER
No. 3451
05.09.2023
ARCHITECT
STATE OF NEVADA



1 DEMOLITION FLOOR PLAN
SCALE:1/4" = 1'-0"

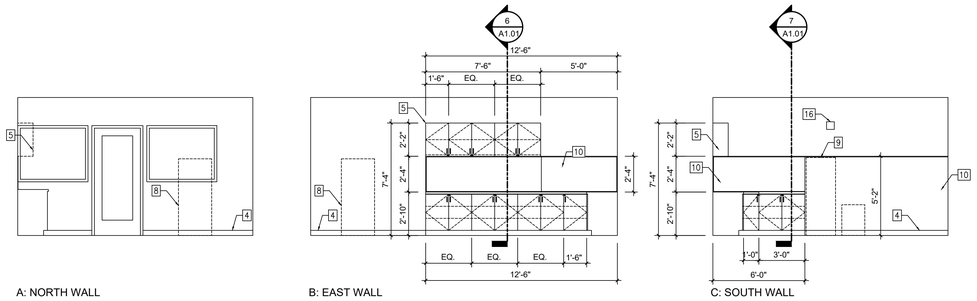


2 FLOOR PLAN
SCALE:1/4" = 1'-0"



3 REFLECTED CEILING PLAN
SCALE:1/4" = 1'-0"

4 NOT USED
SCALE:1/4" = 1'-0"



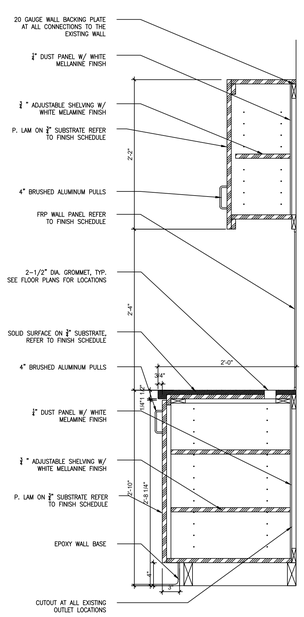
A: NORTH WALL
B: EAST WALL
C: SOUTH WALL
D: WEST WALL

1 INTERIOR ELEVATIONS
SCALE:1/4" = 1'-0"

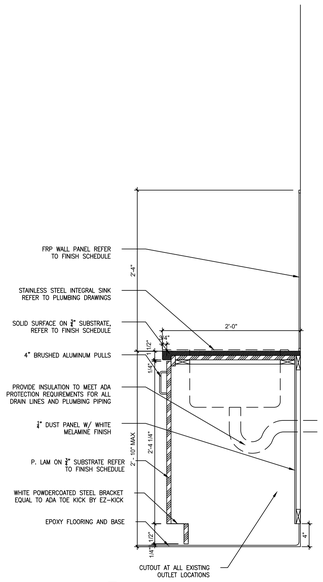
FINISH MATERIAL SCHEDULE				
ITEM	MANUFACTURER	PRODUCT	COLOR/NUMBER	REMARKS
PT-01	SHERWIN WILLIAMS	LATEX PAINT	COLOR TO MATCH EXISTING	USE IF PATCHING IS REQUIRED
EF-01	DURA-FLEX	EPOXY FLOORING	DUR-A-CHIP, COLOR TO BE SELECTED BY OWNER/ ARCHITECT	INSTALL PER MANUFACTURERS INSTRUCTIONS.
WB-01	DURA-FLEX	EPOXY WALLBASE	DUR-A-CHIP, COLOR TO BE SELECTED BY OWNER/ ARCHITECT	INSTALL PER MANUFACTURERS
PL-01	FORMICA	PLASTIC LAMINATE	MOUSE 928-58, MATTE FINISH GRIS SOURIS	
SS-01	FORMICA	SOLID SURFACE	MIRAGE 733	
FRP-01	FORMICA	WALL PANEL	HARDSTOP - WHITE 949	INSTALL PER MANUFACTURERS

GENERAL NOTES	KEYNOTES	
A. VERIFY ALL OPENINGS PRIOR TO FABRICATIONS B. FABRICATE AND INSTALL ALL WORK IN STRICT ACCORDANCE WITH APPLICABLE CODES AND REGULATIONS, ORIGINAL DESIGN, FINAL SHOP DRAWINGS AND MANUFACTURERS RECOMMENDATIONS. ANCHORING ALL COMPONENTS FIRMLY IN POSITION. C. PROVIDE CUTOUTS, REINFORCEMENTS, ANCHOR FASTENINGS FOR HARDWARE PER MANUCATURERS SPECIFICATIONS D. GENERAL CONTRACTOR TO VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING WORK AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES IMMEDIATELY. E. DRAWINGS AS SHOWN FOR REFERENCE/INTENT ONLY. GENERAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ARCHITECT AND OWNER FOR DIRECT APPROVAL PRIOR TO FABRICATION. F. VERIFY ALL FINISHES WITH ARCHITECT AND OWNER. G. ALL EXPOSED SURFACES ON CASEWORK TO B PLASTIC LAMINATE U.N.O. H. ALL INTERIOR SURFACES OF CASEWORK TO BE MELAMINE. U.N.O. I. PROVIDE BRUSH ALUMINUM FINISH WIRE PULLS THROUGHOUT. J. PROVIDE 4" BASE, REFER TO FINISH SCHEDULE K. PROVIDE 20GA WALL BACKING PLANT FOR UPPER AND BASE CABINETS. L. PROVIDE 2" FILLER PANEL TO ALLOW CABINET DOORS TO SWING FULLY OPEN AGAINST WALLS. M. WALL CASEWORK TO COMPLY WITH ARCHITECTURAL WOODWORK INSTITUTE (AWI) CUSTOM GRADE SPECIFICATIONS, STYLE 1, FLUSH OVERLAY, TYPE A CONSTRUCTION PER AWI 1.2.18.1.1 AND 1.2.19.2.2.1. N. ALL COUNTERTOPS SHALL HAVE EASED / SQUARE EDGES, BUILD-UP WITH DRIP GROOVE PER AWI 1.2.11.1	NO.	KEYNOTE
	1	REMOVE EXISTING VCT FLOORING CLEAN AND PREP CONCRETE TO RECEIVE EPOXY FLOORING
	2	REMOVE EXISTING RUBBER BASE, PATCH, CLEAN AND PREPARE WALL TO RECEIVE NEW EPOXY BASE
	3	EXISTING STOREFRONT AND WINDOWS TO REMAIN
	4	NEW FLOORING AND WALL BASE THROUGHOUT; REF TO MATERIAL FINISH SCHEDULE
	5	NEW BASE AND WALL CABINETS W/ LOCKABLE DOOR
	6	NEW INTEGRAL STAINLESS STEEL ADA SINK. REFER PLUMBING DRAWINGS
	7	NEW METAL TRANSITION STRIP
	8	3D PRINTER - OWNER FURNISHED CONTRACTOR INSTALLED
	9	WATER JET - OWNER FURNISHED CONTRACTOR INSTALLED
	10	WHITE FRP - REFER TO FINISH MATERIAL SCHEDULE
	11	EXISTING SWITCH TO REMAIN
	12	2-1/2" GROMMETS, 4'-0" O.C.
	13	COORDINATE LOCATION FOR AIR HOSES
	14	STEEL COUNTERTOP SUPPORT BRACKET, ADA COMPLIANT
	15	REMOVE AND RELOCATE EXISTING FIRE ALARM/HORN STROBE
	16	NEW LOCATION OF FIRE ALARM/HORN STROBE
	17	NEW FLOOR DRAIN SEE DETAIL 10 / A1.01

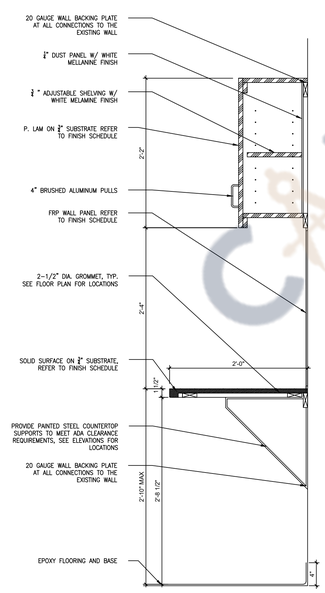
GENERAL DETAIL NOTES
SEE PLUMBING DRAWINGS



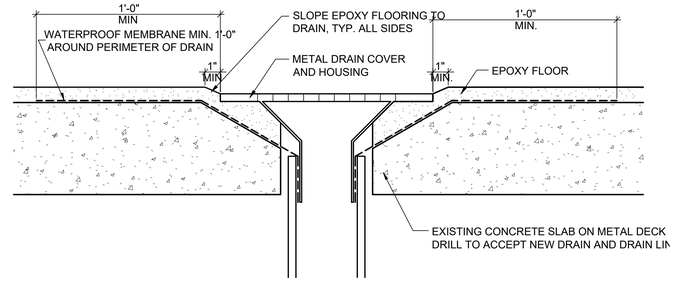
6 CASEWORK SECTION
SCALE: 3/16" = 1'-0"



7 CASEWORK SECTION
SCALE: 3/16" = 1'-0"



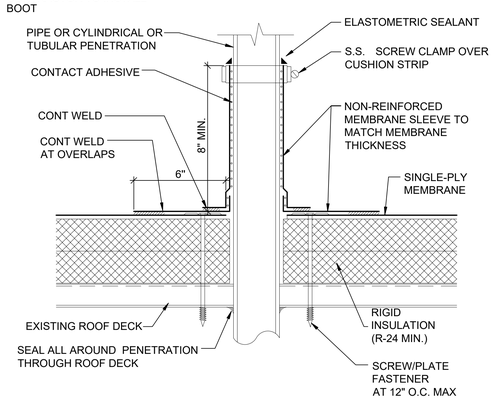
8 CASEWORK SECTION
SCALE: 3/16" = 1'-0"



10 EPOXY FLOORING AT DRAIN
SCALE:1/4" = 1'-0"

GENERAL DETAIL NOTES
SARNAFIL CERTIFIED CONTRACTOR TO INSTALL BOOT

GENERAL DETAIL NOTES
SARNAFIL CERTIFIED CONTRACTOR TO INSTALL BOOT



9 ROOF PENETRATION DETAIL
SCALE:1/4" = 1'-0"

CAD DRAFTER

No.	Description	Date

MAIN CONTRACTOR:
RED MESA BUILDERS
NEVADA CONTRACTOS B#81273
OFFICE: (702) 434-0046 FAX: (702) 434-0051
ebony@redmesabuilders.com
4023 W.OQUENDO RD.STE B
LAS VEGAS NV 89118

SUB CONTRACTOR:
RED MESA MECHANICAL
LICENSE NUMBER : NV #0086266 - & #0087531

AS-BUILT DATE: 12 September, 2023

SIGN: _____

NOTES:

UNLV SLC-A 2310 RENOVATION

1001 SHADOW LANE
NORTH LAS VEGAS,
NV 89106

FLOOR PLAN / CASEWORK

Project Number	23033
Date	12 September, 2023
Drawn By	SA
Checked By	SM
	A1.01
Scale	1/4" = 1'-0"

12 September, 2023

AS-BUILT DRAWING

LEGEND: (NOTE: NOT ALL SYMBOLS MAY BE USED.)

GENERAL

- EXISTING WORK SHOWN WITH SOLID LIGHTWEIGHT LINES
- NEW WORK SHOWN WITH SOLID HEAVYWEIGHT LINES
- EXISTING BELOW FLOOR / GRADE WORK SHOWN WITH DASHED LIGHTWEIGHT LINES
- NEW BELOW FLOOR / GRADE WORK SHOWN WITH DASHED HEAVYWEIGHT LINES
- DEMO WORK SHOWN WITH DASHED HEAVYWEIGHT LINES
- SHEET NOTE DESIGNATION
- REVISION DELTA TAG
- MECHANICAL EQUIPMENT CROSS REFERENCE
- DIAGRAM CALLOUT, TOP IS THE DIAGRAM NUMBER, BOTTOM IS REFERENCED SHEET
- FOOD SERVICE EQUIPMENT TAG
- HOMERUN CONDUIT, 2 #12 PLUS GROUND (UNLESS NOTED OTHERWISE)
- CONDUIT WITH CAP
- CONDUIT STUB

LIGHTING

- CEILING MOUNTED LIGHT FIXTURE
- WALL MOUNTED LIGHT FIXTURE
- BOLLARD LIGHT FIXTURE
- STRIP FIXTURE
- TRACK LIGHT FIXTURE
- LIGHT FIXTURE: SHADING INDICATES EMERGENCY FIXTURE, UPPER CASE LETTER DENOTES FIXTURE TYPE, LOWER CASE LETTER DENOTES SWITCHING ZONE, NUMBER INDICATES CIRCUIT NUMBER (TYPICAL ALL LIGHT FIXTURE TYPES)
- EMERGENCY LIGHTING UNIT
- EXIT FIXTURE - SHADED AREA DENOTES LIGHTED FACE, ARROWS DENOTE DIRECTION
- POLE MOUNTED AREA LIGHT
- POLE MOUNTED SPORTS FIELD LIGHT FIXTURE

CONTROL DEVICES

- S — SINGLE POLE SWITCH
- S3 — THREE-WAY SWITCH
- S4 — FOUR-WAY SWITCH
- SOS — OCCUPANCY SENSOR SWITCH
- SVS — VACANCY SENSOR SWITCH
- SD — DIMMER SLIDER SWITCH
- SK — KEY OPERATED SWITCH
- SMM — MOMENTARY SWITCH
- SM — THERMAL OVERLOAD SWITCH / MOTOR RATED
- SP — SWITCH WITH PILOT LIGHT
- ST — TIMER SWITCH
- OS — OCCUPANCY SENSOR
- VS — VACANCY SENSOR
- WS — WALL STATION - DIGITAL MULTI-BUTTON
- S1 — WALL STATION - DIGITAL MULTI-BUTTON
- S102 — WALL STATION - DIGITAL MULTI-BUTTON
- RC — ROOM CONTROLLER (UL924 LISTED WHERE REQUIRED)
- SR — AUTOMATIC SHUNT RELAY (UL924 LISTED)
- LR — AUTOMATIC LOAD CONTROL RELAY (UL924 LISTED, DIMMING OPTION WHERE REQUIRED)
- DS — AUTOMATIC DAYLIGHT DIMMING SENSOR
- LC — LIGHTING CONTACTOR
- TC — TIME CLOCK
- PC — PHOTOCELL
- MOTOR CONTROLLER OR STARTER
- MOTOR CONTROLLER OR STARTER - VENDOR FURNISHED
- COMBINATION MOTOR STARTER / DISCONNECT SWITCH
- COMBINATION MOTOR STARTER / DISCONNECT SWITCH - VENDOR FURNISHED
- F — DISCONNECT SWITCH - FUSIBLE
- DISCONNECT SWITCH - NON-FUSIBLE
- DISCONNECT SWITCH, VENDOR FURNISHED
- CONTACTOR
- CONTACTOR - VENDOR FURNISHED
- VFD — VARIABLE FREQUENCY DRIVE
- PUSHBUTTON CONTROL STATION
- PUSHBUTTON DOOR OPERATOR START / STOP SWITCH

EQUIPMENT

- PANELBOARD SURFACE MOUNTED
- PANELBOARD FLUSH MOUNTED
- SWITCHBOARD OR DISTRIBUTION BOARD
- T — POWER TRANSFORMER
- M — MOTOR
- G — GENERATOR

POWER

- JUNCTION BOX
- SINGLE RECEPTACLE
- DUPLEX RECEPTACLE
- QUADPLEX RECEPTACLE
- ISOLATED GROUND TYPE (ORANGE) DUPLEX RECEPTACLE
- ISOLATED GROUND TYPE (ORANGE) QUADPLEX RECEPTACLE.
- GFCI DUPLEX RECEPTACLE
- SWITCHED DUPLEX RECEPTACLE
- C — COUNTER HEIGHT DUPLEX RECEPTACLE
- SPECIAL PURPOSE RECEPTACLE
- FLOOR MOUNTED DUPLEX RECEPTACLE
- FLOOR MOUNTED QUADPLEX RECEPTACLE
- FLOOR MOUNTED JUNCTION BOX - FURNITURE CONNECTION
- PP — POWER POLE / VERTICAL RACEWAY
- MULTI-OUTLET ASSEMBLY
- P — PULLBOX OR VAULT

TECHNOLOGY

- TTC — TELEPHONE TERMINAL CABINET
- VOICE/DATA OUTLET
- VOICE OUTLET
- FLOOR MOUNTED VOICE/DATA OUTLET
- WAP — WIRELESS ACCESS POINT
- TV — TELEVISION
- CAMERA
- S — SPEAKER
- CR — CARD READER
- MD — MOTION DETECTOR
- KP — KEY PAD
- ACP — ACCESS CONTROL PANEL
- ICP — INTRUSION CONTROL PANEL

DIAGRAM

- CONTACT - NORMALLY OPEN
- CONTACT - NORMALLY CLOSED
- SWITCH
- FUSE
- SWITCH - FUSIBLE
- CIRCUIT BREAKER
- CIRCUIT BREAKER - DRAWOUT TYPE
- CIRCUIT BREAKER - MEDIUM VOLTAGE DRAWOUT TYPE
- POWER TRANSFORMER
- GROUNDING ELECTRODE
- M — SINGLE POWER METER WITH CT'S
- KW — KILOWATT HOUR DEMAND METER
- M — POWER METER
- DM — DIGITAL SUB-METER
- TRANSFER SWITCH
- SPD — SURGE PROTECTION DEVICE
- C — OPERATING COIL

FIRE ALARM

- F — PULL STATION
- FACP — FIRE ALARM CONTROL PANEL
- FAA — FIRE ALARM ANNUNCIATOR PANEL
- FS — SPRINKLER WATER FLOW SWITCH
- TS — SPRINKLER TAMPER SWITCH
- FSD — FIRE / SMOKE DAMPER
- F — FIREMAN PHONE
- S — SMOKE DETECTOR
- S — DUCT SMOKE DETECTOR
- H — HEAT DETECTOR
- STROBE
- H — HORN
- HORN / STROBE
- S — SPEAKER
- SPEAKER/STROBE
- DH — DOOR HOLDER
- PS — POWER SUPPLY

NOTE:
REFER TO ELECTRICAL PLANS AND SPECIFICATIONS FOR MOUNTING HEIGHTS.

ABBREVIATIONS:

GENERAL

A	AMPERE
AL	ALUMINUM
AFCI	ARC FAULT CURRENT INTERRUPTER
AIC	AVAILABLE INCOMING CURRENT
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
BLDG	BUILDING
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CLG	CEILING
CO	CONDUIT ONLY
CU	COPPER
(E)	EXISTING
EM	EMERGENCY
EMS	ENERGY MANAGEMENT SYSTEM
EMT	ELECTRICAL METALLIC TUBING
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FLA	FULL LOAD AMPS
GFCI	GROUND-FAULT CIRCUIT INTERRUPTER
GND	GROUND
GRS	GALVANIZED RIGID STEEL (CONDUIT)
HP	HORSEPOWER
HVAC	HEATING, VENTILATION AND AIR CONDITIONING
J-BOX	JUNCTION BOX
K	KELVIN
KAIC	KILO AMPERE INTERRUPTING CAPACITY
KV	KILOVOLT
KVA	KILOVOLT AMPERE
KVAR	KILOVOLT AMPERE REACTIVE
KW	KILOWATT
KWH	KILOWATT HOUR
LTG	LIGHT, LIGHTING
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCCB	MOLDED CASE CIRCUIT BREAKER
MCS	MOLDED CASE SWITCH
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
MOP	MAXIMUM OVERLOAD PROTECTION
MTS	MANUAL TRANSFER SWITCH
MTR	MOTOR, MOTORIZED
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NIC	NOT IN CONTRACT
OH	OVERHEAD
PH, Ø	PHASE
PNL	PANEL
PVC	POLYVINYL CHLORIDE (CONDUIT)
PWR	POWER
RCPT	RECEPTACLE
REF	REFERENCE
RM	ROOM
SF	SQUARE FOOT
SPEC	SPECIFICATION
(SPLIT-CKT)	SPLIT CIRCUIT
SWBD	SWITCHBOARD
TBD	TO BE DETERMINED
T-STAT	THERMOSTAT
TV	TELEVISION
TYP	TYPICAL
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
USB	UNIVERSAL SERIAL BUS
V	VOLTS
VA	VOLT AMPERES
VFD	VARIABLE FREQUENCY DRIVE
W	WATT
WP	WEATHER PROOF
XFMR	TRANSFORMER
FT, '	FEET
IN, "	INCHES
#	NUMBER
20	SINGLE POLE CIRCUIT BREAKER
20/2	TWO POLE CIRCUIT BREAKER
20/3	THREE POLE CIRCUIT BREAKER
20G	GFCI CIRCUIT BREAKER
20AG	ARC FAULT GFCI COMBINATION CIRCUIT BREAKER
20C	CONTROLLABLE CIRCUIT BREAKER

SHEET INDEX

NUMBER	TITLE	S&S PERMIT SET 05/09/2023
E0.01	GENERAL INFORMATION	●
E0.02	SPECIFICATIONS	●
E0.21	DEMOLITION PLAN	●
E2.01	POWER PLAN	●
E5.01	ONE LINE DIAGRAM & SCHEDULES	●

GENERAL NOTES:

GENERAL

1. WORK ASSOCIATED WITH THE ELECTRICAL CONTRACTOR'S TRADE SHALL BE SHOWN ON OTHER DISCIPLINE'S DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING ALL DRAWINGS ASSOCIATED WITH THIS PROJECT, INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, CIVIL, STRUCTURAL, MECHANICAL, AND LOW VOLTAGE. ANY ADDITIONAL COST RESULTING FROM THE FAILURE TO INCLUDE ALL SUCH ITEMS SHALL BE INCURRED BY THE CONTRACTOR.
2. THE CONTRACTOR IS RESPONSIBLE FOR FIELD COORDINATING WITH OTHER TRADES PRIOR TO ROUGH-IN TO AVOID INSTALLATION CONFLICTS. EQUIPMENT AND DEVICE LOCATION ADJUSTMENTS IN ANY DIRECTION FROM THAT OF WHAT IS SHOWN ON DRAWINGS SHALL BE MADE AT NO ADDITIONAL COST TO THE PROJECT.
3. THE INTENT OF THE PROJECT DRAWINGS AND SPECIFICATIONS IS TO ESTABLISH A STANDARD OF QUALITY. THE ENGINEER RESERVES THE RIGHT TO APPROVE OR DISAPPROVE INSTALLATION METHODS AND MATERIALS PROPOSED BY THE CONTRACTOR WHICH DEVIATE FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL INCUR ALL ADDITIONAL EXPENSES ASSOCIATED WITH REVISIONS TO PROJECT DRAWINGS OR SPECIFICATIONS WHERE REQUIRED TO ACCOMMODATE THE CONTRACTOR'S PROPOSED CHANGES. THE PROJECT AS-BUILT DRAWINGS SHALL BE UPDATED TO ACCURATELY REFLECT ANY INSTALLATIONS THAT DEVIATE FROM THE ORIGINAL CONSTRUCTION DRAWING SET.
4. ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH THE NECA STANDARDS AND TO THE SATISFACTION OF THE ARCHITECT, AND ENGINEER.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE TO VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BID (WHERE APPLICABLE).
6. DRAWINGS ARE BASED ON THE MOST ACCURATE INFORMATION AVAILABLE DURING THE PLANNING AND DESIGN PHASE OF THE PROJECT. HOWEVER, THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING FINAL LOCATIONS OF ALL EQUIPMENT, DEVICES (INCLUDING LIGHTING FIXTURES AND MECHANICAL EQUIPMENT) WITH THE ARCHITECT AND ENGINEER PRIOR TO ROUGH-IN. EQUIPMENT AND DEVICE LOCATION ADJUSTMENTS IN ANY DIRECTION FROM THAT OF WHAT IS SHOWN ON THE DRAWINGS, SHALL BE MADE AT NO ADDITIONAL COST TO THE PROJECT.
7. DO NOT SCALE THE ELECTRICAL DRAWINGS. FIELD VERIFY LOCATIONS AND DIMENSIONS PRIOR TO ROUGH-IN.
8. ROUTING OF RACEWAYS WHERE SHOWN ON DRAWINGS IS DIAGRAMMATIC. FINAL ROUTING OF RACEWAYS SHALL BE DETERMINED BY THE CONTRACTOR BASED ON ACTUAL FIELD CONDITIONS.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING AND PATCHING SURFACES AS REQUIRED WHERE NEW DEVICES OR EQUIPMENT WILL BE INSTALLED. PATCHING SHALL MATCH EXISTING ADJACENT SURFACES. PATCHING MATERIAL AND FINISH TYPE SHALL BE APPROVED BY THE ARCHITECT.
10. THE CONTRACTOR SHALL PROVIDE SHORT CIRCUIT AND OVERCURRENT PROTECTION FOR MECHANICAL EQUIPMENT PER THE EQUIPMENT NAMEPLATE AND MANUFACTURER'S RECOMMENDATIONS. SHOULD THE ACTUAL EQUIPMENT BEING PROVIDED DIFFER FROM INFORMATION SHOWN ON THE ELECTRICAL DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IN WRITING (PRIOR TO THE PURCHASING AND INSTALLING) FOR FURTHER DIRECTION.
11. PENETRATIONS THROUGH RATED WALLS, FLOORS AND CEILINGS SHALL BE SEALED TO MAINTAIN ORIGINAL RATING. PROVIDE FIRE RATED CALKING FOR CONDUIT PENETRATIONS THAT PENETRATE RATED WALLS, AND FIRE RATED PUTTY PADS OR OTHER APPROVED MEANS FOR RECESSED BOXES THAT PENETRATE RATED WALLS.
12. WHERE SHUT-DOWNS OF EXISTING FACILITY POWER SYSTEMS ARE REQUIRED, THE CONTRACTOR SHALL SUBMIT A REQUEST IN WRITING TO THE ARCHITECT AND ENGINEER A MINIMUM OF 5 WORKING DAYS IN ADVANCE.

AS-BUILT DRAWING

No.	Description	Date

MAIN CONTRACTOR:

RED MESA BUILDERS
NEVADA CONTRACTOS B#81273
OFFICE: (702) 434-0046 FAX: (702) 434-0051
ebony@redmesabuilders.com
4023 W.OQUENDO RD.STE B
LAS VEGAS NV 89118

SUB CONTRACTOR:

RED MESA MECHANICAL
LICENSE NUMBER : NV #0086266 - & #0087531

AS-BUILT DATE: 12 September, 2023

SIGN: _____

NOTES:

UNLV SLC-A 2310 RENOVATION

1001 SHADOW LANE
NORTH LAS VEGAS,
NV 89106

GENERAL INFORMATION

Project Number	23033
Date	12 September, 2023
Drawn By	SA
Checked By	SM

E0.01

Scale	1/4" = 1'-0"

12 September, 2023

AS-BUILT DRAWING

SPECIFICATIONS:

PART 1 - GENERAL REQUIREMENTS

1.1 DESCRIPTION

A. SCOPE: THE ELECTRICAL WORK CONSISTS OF FURNISHING ALL COMPONENTS NECESSARY FOR AND INCIDENTAL TO THE EXECUTION AND COMPLETION OF ALL ELECTRICAL WORK INDICATED ON THE DRAWINGS AND SPECIFIED BELOW INCLUDING BUT NOT LIMITED TO:
1. LIGHTING FIXTURES AS INDICATED AND SPECIFIED ON THE PLANS.
2. ELECTRICAL PANELS, CONTROLS SERVICE, DISCONNECTS, CONDUITS, WIRING, ETC. FOR ALL OUTLETS AND EQUIPMENT.
3. TELEPHONE OUTLETS AND CONDUIT AS INDICATED.
4. CONDUIT AND OUTLETS FOR ALARM, COMPUTER, CCTV, AND SECURITY SYSTEMS AS INDICATED.
5. CONTROL CONDUIT AND WIRING FOR ELECTRICAL AND HVAC SYSTEMS.

B. THE DRAWINGS ARE DIAGRAMMATIC UNLESS INDICATED OTHERWISE. THE DRAWINGS REFLECT CIRCUITING ONLY AND DO NOT DEPICT EXACT CONDUIT ROUTING UNLESS SPECIFICALLY NOTED OTHERWISE.
1. DATA PRESENTED ON THESE DRAWINGS AS PLANNING CAN DETERMINE, BUT FIELD VERIFICATION OF ALL DIMENSIONS, LOCATIONS, LEVELS, ETC. TO SUIT FIELD CONDITIONS IS REQUIRED. REVIEW ALL CIVIL, ARCHITECTURAL, STRUCTURAL AND MECHANICAL DRAWINGS AND ADJUST ALL WORK TO MEET THE REQUIREMENTS OF CONDITIONS SHOWN. DISCREPANCIES BETWEEN DIFFERENT PLANS, OR BETWEEN DRAWINGS AND SPECIFICATIONS, OR REGULATIONS AND CODES GOVERNING THE INSTALLATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING BEFORE THE DATE OF BID OPENING. IF DISCREPANCIES ARE NOT REPORTED, THE CONTRACTOR SHALL BID THE GREATER QUANTITY OR BETTER QUALITY, AND APPROPRIATE ADJUSTMENTS WILL BE MADE AFTER CONTRACT AWARD. CONTRACTOR SHALL BE RESPONSIBLE TO FIELD MEASURE AND CONFIRM MOUNTING HEIGHTS AND LOCATION OF ELECTRICAL EQUIPMENT WITH RESPECT TO COUNTERS, ETC. DO NOT SCALE DISTANCES OFF THE ELECTRICAL DRAWINGS. USE ACTUAL BUILDING DIMENSIONS.

C. EXAMINE ALL DRAWINGS FOR WORK REQUIRED BY THIS SUBCONTRACTOR.

1.2 CODES

A. ALL WORK SHALL BE IN ACCORDANCE WITH NEC AND LOCAL GOVERNING CODES.
1. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH REQUIREMENTS PUBLISHED BY THE SERVING POWER AND TELEPHONE COMPANIES.
2. ALL FIRE ALARM WORK SHALL BE IN ACCORDANCE WITH STATE FIRE MARSHALL, NFPA AND NFC.

B. ALL DATA/ TELECOMMUNICATIONS WORK SHALL BE IN ACCORDANCE WITH REQUIREMENTS LISTED IN THE TIA/EIA BUILDING TELECOMMUNICATIONS WIRING STANDARDS.

1.3 SUBSTITUTIONS

A. CONTRACTOR'S BID PRICE SHALL REFLECT THE COSTS OF ALL MATERIALS AS SPECIFIED. NO PRIOR APPROVAL OF MATERIALS WILL BE GIVEN PRIOR TO AWARD OF BID.

B. SUBSTITUTIONS OF EQUAL QUALITY, COST AND OF BENEFIT TO THE PROJECT WILL BE EVALUATED AT THE CONTRACTOR'S REQUEST. ANY ADDITIONAL COST TO THE PROJECT FOR REVIEW OF SUBSTITUTIONS WILL BE AT THE CONTRACTOR'S EXPENSE. CONTRACTOR TO PROVIDE ALL NECESSARY PHOTOMETRIC POINT BY POINT LAYOUT FOR ALL SUBSTITUTED FIXTURES.

C. AFTER REVIEW OF SUBSTITUTIONS, THE DECISION OF THE ENGINEER IN DETERMINING EQUAL MATERIALS WILL BE FINAL.

1.4 SUBMITTALS

A. PROVIDE SUBMITTALS FOR THE FOLLOWING EQUIPMENT:
1. WIRING DEVICES AND DIMMERS
2. DISCONNECTS
3. CIRCUIT BREAKERS
4. CONDUCTORS, CABLES AND RACEWAYS
5. UPS AND ASSOCIATED COMPONENTS

B. SHOP DRAWINGS AND APPROVALS
1. THE CONTRACTOR SHALL SUBMIT ELECTRONIC FILES, IN PDF FORMAT, OF SHOP DRAWINGS ON THE FOLLOWING ITEMS:
   a. OUTLINE DRAWINGS AND DATA SHEETS OF EACH CIRCUIT BREAKER, DISCONNECT, AND PANELBOARD.
2. HIGHLIGHT SERVICE CONDITIONS OF EQUIPMENT AND THE APPROPRIATE DERATING TO MEET 2.1.B.
   a. DATA SHEETS OF ALL WIRING DEVICES, LIGHTING FIXTURES, AND FUSES.

1.5 QUALITY ASSURANCE

A. ALL WORK SHALL BE COMPLETED IN A NEAT AND WORKMANLIKE MANNER AND IN ACCORDANCE WITH NECA STANDARDS.

B. ALL WORK SHALL BE SUBJECT TO INSPECTION AND POSSIBLE REJECTION IF NOT IN ACCORDANCE WITH THESE SPECIFICATIONS, THE DRAWINGS, AND INSTALLED IN NEAT AND WORKMANLIKE MANNER.

C. ANY REJECTED WORK SHALL BE REPLACED, BY THE CONTRACTOR, AT NO ADDITIONAL COST TO THE PROJECT.

D. ALL SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. IF TESTS SHOW DEFECTIVE WORK , THE CONTRACTOR SHALL MAKE CORRECTIONS AS NECESSARY AT NO ADDITIONAL COST TO THE PROJECT.

E. THE CONTRACTOR SHALL PROVIDE FUNCTIONAL TESTING PER IECC C408.3

PART 2 - PRODUCTS

2.1 MATERIAL AND EQUIPMENT

A. MATERIAL AND EQUIPMENT SHALL BE NEW AND OF CURRENT PRODUCTION BY MANUFACTURERS REGULARLY ENGAGED IN THE MANUFACTURER OF SUCH ITEMS. ELECTRICAL SWITCHGEAR AND COMPONENTS SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER. ALL MATERIAL SHALL BE U.L. LISTED.

B. SERVICE CONDITIONS
3. TEMPERATURE
   a. INDOOR - 40 DEGREE C (100 DEGREE F)
   b. OUTDOOR - 60 DEGREE C (140 DEGREE F)

C. CONDUITS
1. INTERIOR CONDUIT SHALL BE EMT WITH COMPRESSION OR SET SCREW FITTINGS.
2. EXTERIOR CONDUITS EXPOSED TO DAMAGE SHALL BE TYPE RGS.
3. EXTERIOR BURIED CONDUITS SHALL BE SCHEDULE 40 PVC WITH PVC COATED RGS BENDS WHEN PENETRATING THROUGH FLOOR SLABS. CONDUITS PENETRATING FLOOR SLABS SHALL BE INSTALLED A MINIMUM OF 2" AFF.
4. FMC SHALL BE USED FOR FINAL CONNECTION TO LIGHTING FIXTURES NOT TO EXCEED 72 INCHES.
   a. FNC OR ALUMINUM FMC SHALL NOT BE USED.
   b. FMC, EXCEPT AS NOTED ABOVE, SHALL NOT BE USED WITHOUT PRIOR APPROVAL OF THE ENGINEER.
5. LIQUID-TITE FMC SHALL BE USED FOR FINAL CONNECTION TO MOTORS.
6. MC CABLE MAY BE USED FOR WIRING BETWEEN DEVICES IN WALLS. DO NOT USE FOR HOMERUNS.
7. CONDUIT FITTINGS SHALL BE STEEL OR MALLEABLE IRON TYPE.
8. CONDUITS SHALL BE COLOR CODED USING USE COLORED TAPE OR PAINT . TAPE OR PAINT TO IDENTIFY CONDUIT BY SYSTEM.
   a. NON-EMERGENCY POWER - YELLOW.
   b. SECURITY & CLOSED CIRCUIT TELEVISION (SURVEILLANCE) CABLE - PURPLE.
   c. COMMUNICATION - LIGHT BLUE.
   d. FIRE ALARM SYSTEM: RED.
   e. MOTOR AND OTHER CONTROL SYSTEMS. ORANGE/BLUE.
   f. TELEPHONE SYSTEM: BLACK.
   g. EMERGENCY POWER: YELLOW/RED.
   h. CATEGORY 5/5E CABLE OR CATEGORY 6 CABLE: LIGHT GREEN.
   i. FIBER OPTIC CABLE: DARK GREEN.
   j. TELEVISION CABLE: DARK BLUE.

D. CABLE
1. CONDUCTORS SHALL BE TYPE THHN/THWN 75 DEGREE WIRE.
   a. ALL UNDERGROUND CONDUCTORS SHALL BE TYPE THW.
2. CONDUCTORS SHALL BE COPPER, UNLESS NOTED OTHERWISE.
   a. EQUIVALENT ALUMINUM WIRE (8000 ALLOY) MAY BE USED IN LIEU OF COPPER FOR SIZES #1/0 AND LARGER. USE COMPRESSION FITTINGS FOR ALL CONNECTIONS AND RESIZE CONDUIT AND CONDUCTORS AS REQUIRED. SUBMIT SIZING AND VOLTAGE DROP CALCULATIONS TO ENGINEER FOR REVIEW.
3. MINIMUM WIRE SIZE SHALL BE #12 AWG.
   a. 120V BRANCH CIRCUITS OVER 65 FEET IN LENGTH FROM THE CENTER OF THE LOAD TO THE PANEL SHALL BE #10 AWG AND BRANCH CIRCUITS OVER 130 FEET SHALL BE #8 AWG. INCREASE CONDUIT AND WIRE SIZES AS REQUIRED AT NO ADDITIONAL COST TO THE PROJECT.
4. UNLESS OTHERWISE REQUIRED BY LOCAL ORDINANCES, ALL WIRING THROUGHOUT SHALL BE COLOR CODED AS FOLLOWS.

480 VOLT SYSTEM		208 VOLT SYSTEM
A PHASE	BROWN	BLACK
B PHASE	ORANGE	RED
C PHASE	YELLOW	BLUE
NEUTRAL	GRAY	WHITE
GROUND	GREEN	GREEN
ISOLATED	----------	GREEN WITH YELLOW STRIPE

E. WIRING DEVICES
1. WIRING DEVICES SHALL BE AS FOLLOWS:
   a. RECEPTACLES - 120V, 20A NEMA 5-20R, SPECIFICATION GRADE, SIDE AND BACK WIRED WITH CLAMP TYPE TERMINALS, NYLON, WHITE, 2 POLE, 3 WIRE GROUNDING. MOUNT AT 18" A.F.F. TO CENTER UNLESS NOTED OTHERWISE.
      1) PROVIDE RED COLOR FOR EMERGENCY OUTLETS.
   b. SWITCHES - 120V/277V, 20A, WHITE , HEAVY DUTY, SILENT TYPE SPECIFICATION GRADE. MOUNT AT 48" A.F.F. TO CENTER UNLESS NOTED OTHERWISE.
   c. DIMMERS - PER DRAWINGS. MOUNT AT 48" A.F.F. TO CENTER UNLESS NOTED OTHERWISE.
   d. ISOLATED GROUND RECEPTACLES SHALL BE EQUAL TO PASS & SEYMOUR, CAT. #IG9300-HG, COLOR ORANGE. MOUNT AT 18" A.F.F. TO CENTER UNLESS NOTED OTHERWISE.
2. DEVICE PLATES SHALL BE NYLON, COLOR SHALL MATCH DEVICE WITH MATCHING SCREWS.
   a. RECEPTACLES IN WET LOCATIONS SHALL BE INSTALLED WITH A HEAVY DUTY, CAST ALUMINUM, HINGED OUTLET COVER/ENCLOSURE CLEARLY MARKED SUITABLE FOR WET LOCATIONS WHILE-IN-USE AND UL LISTED EQUAL TO:
      1) TAY MAC - ML400G AND SINGLE GANG 5881-0.
      2) INERMATIC - WP1000RC.

F. SAFETY SWITCHES SHALL BE GENERAL DUTY TYPE, NEMA 1 INDOOR AND NEMA 3R OUTDOOR.

G. OVERCURRENT PROTECTION DEVICES:
6. CIRCUIT BREAKERS SHALL BE OF THE SAME MANUFACTURERS AS PANELBOARDS AND SWITCHBOARDS. PROVIDE BREAKERS AS NOTED ON THE SCHEDULE.
7. FUSES USED TO PROTECT MOTORS SHALL BE BUSSMAN TYPE FRN-R. ALL FUSES INSTALLED IN FUSED DISCONNECTS SHALL BE CLASS R UNLESS NOTED OTHERWISE.
8. PROVIDE HACR RATED BREAKERS FOR MECHANICAL EQUIPMENT.
9. CIRCUIT BREAKERS 100AMPS AND LARGER SHALL BE 100% RATED.
10. CIRCUIT BREAKERS SHALL BE BOLT ON TYPE.

I. PROVIDE GROUNDING FOR ALL BRANCH CIRCUITS. CONDUIT, LISTED FOR USE, MAY BE USED FOR GROUNDING 20A BRANCH CIRCUITS ONLY WHEN APPROVED FOR SUCH USE. ALL FMC AND NON-METALLIC CONDUIT SHALL HAVE A SEPARATE GROUND WIRE.

J. OUTLET, PULL AND JUNCTION BOXES
1. EACH SWITCH, LIGHT, RECEPTACLE OR OTHER OUTLET SHALL BE PROVIDED WITH A CODE GAUGE, GALVANIZED STEEL OUTLET BOX. JUNCTION AND PULLBOXES SHALL BE CODE GAUGE, GALVANIZED STEEL. OUTLET BOXES SHALL BE OF THE ONE PIECE. KNOCKOUT TYPE. IN GENERAL 4" SQUARE WITH PLASTER RING. PLASTER RINGS SHALL BE SET TO PROVIDE NOT MORE THAN 1/8" FROM WALL SURFACE TO RING. IN NO CASE SHALL PLASTER RING PROJECT BEYOND SURFACE OR WALL. SINGLE GANG RINGS SIMILAR TO STEEL CITY 52-C-50 SHALL BE USED FOR 4" BOXES IN UNFINISHED BRICK. RACO 3180 BOXES MAY BE USED FOR UNFINISHED MASONRY FLUSH WALL OUTLETS. CENTER ALL OUTLET BOXES IN BLOCK AT OUTLET LOCATIONS.
2. BOXES INSTALLED FOR TELEPHONE, ALARM, COMPUTER AND SECURITY SYSTEMS SHALL BE PROVIDED WITH APPROPRIATE COVERPLATES.

K. TEMPERATURE CONTROL
1. UNLESS OTHERWISE INDICATED ON THE PLANS ALL WIRING, ETC. SHALL BE FURNISHED AND INSTALLED BY THE TEMPERATURE CONTROL CONTRACTOR. PROVIDE 3/4" CONDUIT FROM TEMPERATURE CONTROL DEVICES SHOWN ON MECHANICAL PLANS TO HVAC UNITS.

PART 3 - EXECUTION

3.1 INSTALLATION

A. EQUIPMENT LOCATIONS SHALL BE AS CLOSE AS PRACTICAL TO LOCATIONS SHOWN ON THE PLAN DRAWINGS AND SUBJECT TO SUCH APPROVED REVISIONS AT NO COST TO THE PROJECT AS MAY BE FOUND NECESSARY OR DESIRABLE AT THE TIME WORK IS INSTALLED.

B. CLOSE ALL OPENINGS IN WALLS, FLOORS, AND ROOFS TO THE APPROVAL OF THE ARCHITECT.

C. PAINT ALL CONDUITS AND BOXES THAT ARE REQUIRED TO BE EXPOSED TO MATCH BUILDING SURFACES. RUN ALL EXPOSED CONDUIT PARALLEL TO BUILDING LINES

D. PROVIDE ENGRAVED PHENOLIC NAMEPLATES ON ALL EQUIPMENT AND INSTALL TYPED DIRECTORY IN PANELBOARDS. FASTEN NAMEPLATES WITH SCREWS OR RIVETS, DO NOT USE ADHESIVE.

E. COORDINATE THE WORK WITH OTHER TRADES.

F. MEGGER TEST ALL FEEDER CIRCUITS AFTER INSTALLATION.

G. INSTALL NYLON PULL CORD (TINSEL STRENGTH OF 200 POUNDS MINIMUM) IN ALL EMPTY/SPARE CONDUITS. LABEL EACH END OF THE PULLCORD WITH THE LOCATION OF THE OPPOSITE END.

H. PANELBOARDS SHALL BE INSTALLED WITH THE TOP OF THE CABINET 6'-0" AFF.

I. CONDUITS AND OUTLETS SHALL BE CONCEALED WITHIN THE BUILDING STRUCTURE, EXCEPT THAT CERTAIN MOTOR AND LIGHTING FEEDER CONDUITS MAY BE RUN EXPOSED IN CERTAIN AREAS AS INDICATED ON THE DRAWINGS. CONDUIT AND OUTLETS SHOWN TO BE INSTALLED IN CABINETS, COUNTERS, AND CASEWORK SHALL BE RUN OR INSTALLED AS DIRECTED BY THE ARCHITECT.

J. PATCH AND REPAIR AREA WHERE ITEMS HAVE BEEN DEMOLISHED OR DAMAGED DURING CONSTRUCTION TO MATCH ADJACENT SURFACES TO ARCHITECT/ENGINEER APPROVAL.

K. INSTALL PULLBOXES SUCH THAT THEY ARE LOCATED AT THE HIGH POINT OF THE CONDUITS WITH 24" OF PEA GRAVEL INSTALLED BELOW.

L. COMPLETELY AND THOROUGHLY SWAB RACEWAY BEFORE INSTALLING WIRE.

M. REQUEST INSPECTIONS FROM LOCAL GOVERNING AUTHORITIES.

N. CONDUITS SHALL NOT BE INSTALLED THROUGH STRUCTURAL FOOTINGS UNO PER STRUCTURAL ENGINEER.

3.2 PROJECT COMPLETION

A. REMOVE ALL DISCARDED MATERIALS FROM DEMOLITION AND INSTALLATION FROM THE JOB SITE.

B. PROVIDE REPRODUCIBLE RECORD DRAWINGS OF ALL COMPLETED WORK.

C. GUARANTEE ALL MATERIAL FURNISHED AND ALL WORKMANSHIP PERFORMED FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK. ANY DEFECTS DEVELOPING WITHIN THIS PERIOD, TRACEABLE TO MATERIAL FURNISHED AS A PART OF THIS SECTION OR WORKMANSHIP PERFORMED HEREUNDER, SHALL BE MADE GOOD AT NO ADDITIONAL EXPENSE TO THE PROJECT.

"END OF SECTION"

CADDRAFT

No.	Description	Date

MAIN CONTRACTOR:

RED MESA BUILDERS
NEVADA CONTRACTOS B#81273
OFFICE: (702) 434-0046 FAX: (702) 434-0051
ebony@redmesabuilders.com
4023 W.OQUENDO RD.STE B
LAS VEGAS NV 89118

SUB CONTRACTOR:

RED MESA MECHANICAL
LICENSE NUMBER : NV #0086266 - & #0087531

AS-BUILT DATE: 12 September, 2023

SIGN: _____

NOTES:

UNLV SLC-A 2310 RENOVATION

1001 SHADOW LANE
NORTH LAS VEGAS,
NV 89106

SPECIFICATIONS

Project Number	23033
Date	12 September, 2023
Drawn By	SA
Checked By	SM

E0.02

Scale 1/4" = 1'-0"

12 September, 2023

AS-BUILT DRAWING

GENERAL SHEET NOTES:

A. PROVIDE POWER CONTINUATION TO DOWN STREAM DEVICES.

B WIRING SHALL NOT BE ABANDONED IN INACCESSIBLE CONDUITS.

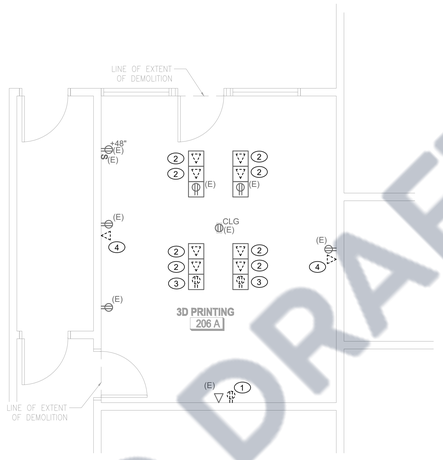
C . PROVIDE UPDATED, TYPED PANEL DIRECTORIES FOR ALL PANEL BOARDS WITH CIRCUITS MODIFIED, ADDED, OR REMOVED.

D . EXISTING SHOWN LIGHT. DEMO SHOWN DASHED.

E PERFORMING ALL WORK WILL NEED TO BE COORDINATED WITH THE OWNER AS THE WORK WILL NEED TO BE PERFORMED DURING OFF HOURS.

KEYNOTES:

1. EXISTING RECEPTACLE TO BE DISCONNECTED AND REMOVED. RECONNECT WITH GFI RECEPTACLE. REFER TO SHEET E2.01.
2. EXISTING DATA OUTLET TO BE DISCONNECTED AND REMOVED BACK TO SOURCE. EXISTING FLOOR BOX TO REMAIN IN PLACE.
3. EXISTING ELECTRICAL DEVICE IN FLOOR BOX TO BE DISCONNECTED AND REMOVED. RECONNECT WITH GFI RECEPTACLE. FLOOR BOX TO REMAIN. REFER TO SHEET E2.01.
4. EXISTING DATA OUTLET TO BE DISCONNECTED AND REMOVED. PATCH ANY HOLES IN THE WALL FROM DEMOLITION. ROUTE CONDUCTORS TO NEW DATA OUTLET LOCATION. REFER TO SHEET E2.01.



1 DEMOLITION PLAN
SCALE:1/4" = 1'-0"

CADDRAFTER

No.	Description	Date

MAIN CONTRACTOR:

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OFFICE: (702) 434-0046 FAX: (702) 434-0051
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SIGN: _____

NOTES:

UNLV SLC-A 2310 RENOVATION

1001 SHADOW LANE
NORTH LAS VEGAS,
NV 89106

DEMOLITION PLAN

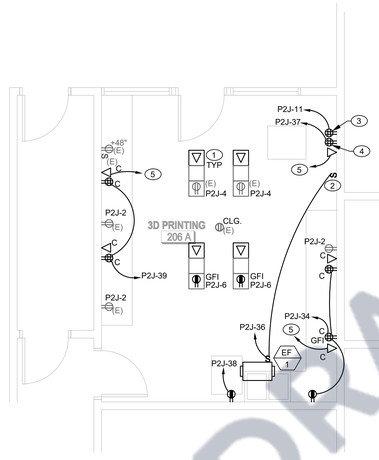
Project Number	23033
Date	12 September, 2023
Drawn By	SA
Checked By	SM

E0.21

Scale 1/4" = 1'-0"

12 September, 2023

AS-BUILT DRAWING



1 POWER PLAN
SCALE: 1/4" = 1'-0"

CAD DRAFTER

GENERAL SHEET NOTES:

A. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EQUIPMENT LOCATION AND REQUIREMENTS.

B. ELECTRICAL CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL CONNECTION POINTS WITH THE EQUIPMENT INSTALLER PRIOR TO ROUGH-IN

C. EXISTING SHOWN LIGHT. NEW WORK SHOWN BOLD.

D. THIS DOCUMENT IS NOT ALL INCLUSIVE AND CONTRACTOR IS REQUIRED TO FOLLOW THE CURRENT UNLV CAMPUS WIRING DESIGN GUIDELINES: https://it.unlv.edu/cwdg

E THE CONTRACTOR SHAL TEST ALL DATA CABLING AND PROVIDE TEST RESULTS PER THE CURRENT UNLV CAMPUS WIRING DESIGN GUIDELINES: https://it.unlv.edu/cwdg

F. THE CONTRACTOR SHALL PROVIDE WARRANTY FOR ALL FIBER AND DATA CABLING PER UNLV'S CAMPUS WIRING SPECIFICATION

G. THE CONTRACTOR SHALL UPDATE THE MASTER AS-BUILT CAD FILE PROVIDED BY UNLV PLANNING AND CONSTRUCTION TO DOCUMENT THE NEW CABLE RUNS INCLUDING BUT NOT LIMITED TO THE CABLE PATH, CONDUIT, CABLE TRAY, JUNCTION BOXES, ETC. AN EXAMPLE OF THE AS-BUILT IS PROVIDED IN UNLV'S CAMPUS WIRING DESIGN GUIDELINES FOUND AT: https://it.unlv.edu/cwdg

H PERFORMING ALL WORK WILL NEED TO BE COORDINATED WITH THE OWNER AS WORK WILL NEED TO BE PERFORMED DURING OFF HOURS.

KEYNOTES:

1. PROVIDE 4-PORT DATA OUTLET WITH 2 BLANKS. ROUTE 2 DATA CABLES IN 1" CONDUIT TO EXISTING CABLETRAY. ROUTE CABLE TO ELECTRICAL ROOM 200A 'TBB'.
2. WALL SWITCH TO CONTROL EXHAUST FAN.
3. PROVIDE RECEPTACLE FOR 3D PRINTER
4. PROVIDE RECEPTACLE FOR UPS.
5. PROVIDE 4-PORT DATA OUTLET WITH 2 BLANKS. ROUTE 2 DATA CABLES IN 1" CONDUIT TO EXISTING CABLE TRAY. ROUTE CABLE TO ELECTRICAL ROOM 200A 'TBB'.

No.	Description	Date

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NOTES:

UNLV SLC-A 2310 RENOVATION

1001 SHADOW LANE
NORTH LAS VEGAS,
NV 89106

POWER PLAN

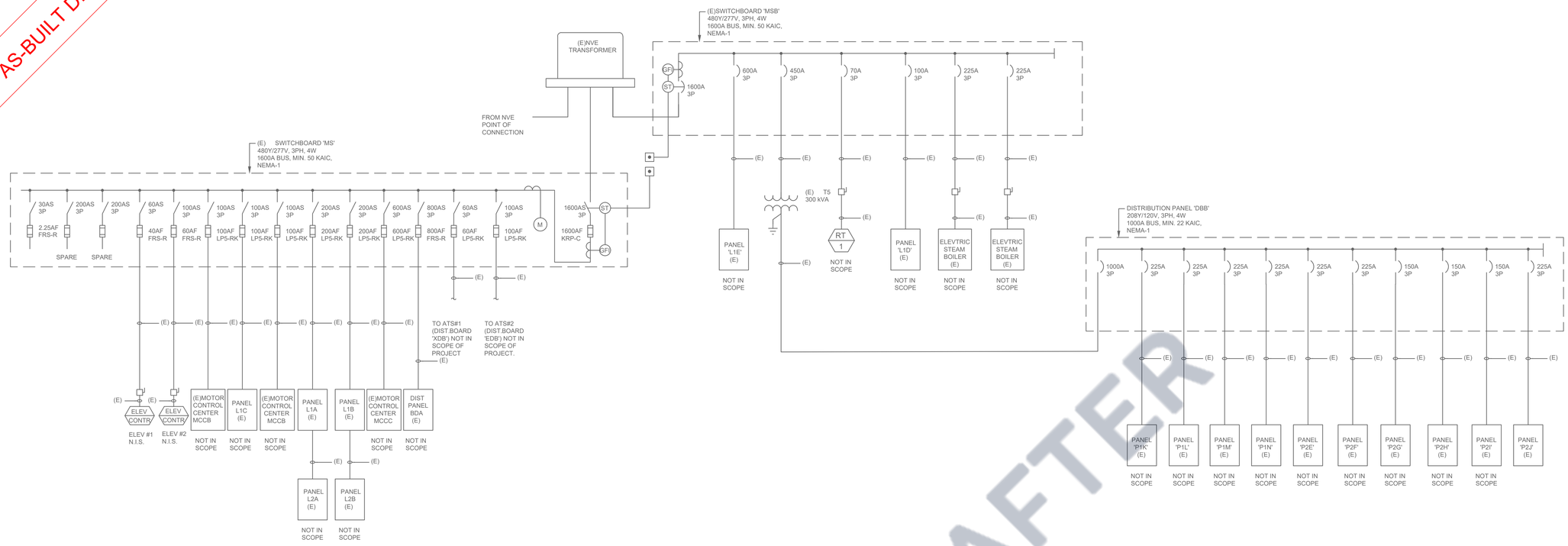
Project Number	23033
Date	12 September, 2023
Drawn By	SA
Checked By	SM

E2.01

Scale 1/4" = 1'-0"

12 September, 2023

AS-BUILT DRAWING



1 PARTIAL EXISTING ONE LINE DIAGRAM

SCALE: NTS

CAD DRAFTER

#N/A

LOCATION:	MECH 212	VOLTAGE	208Y/120V	ENCLOSURE TYPE:	NEMA 1
SUPPLY FROM:	DBB	PHASES:	THREE	MOUNTING:	SURFACE
MIN. BUS CAPACITY (A):	225	WIRES:	FOUR	AIC RATING (A):	22000.00
NEUTRAL BUS:	100%	FUSIBLE PNL:	NO	INTEGRAL SPD:	NO
BUS MATERIAL:	COPPER	GROUND BUS:	NORMAL		
MAIN BREAKER:	NO	NOTES:			

NOTES	CKTS	LOAD	LOAD DESCRIPTION	CKT BRK TRIP	CONNECTED LOAD (VA)			CKT BRK TRIP	LOAD DESCRIPTION	LOAD	CKTS	NOTES
	1	M	(E) CU-3A	20/2	1660	A	**540**	20	(E) RECEPTS ROOM 206, 204A	R	2	7
	3	M			1660	B	1260	20	(E) RECEPTS ROOM 206, 206A	R	4	
	5	R	(E) RECEPTS ROOF	20	1260	C	1260	20	(E) RECEPTS ROOM 206, 206A	R	6	
	7	M	(E) EF-4 - EXHAUST 0397	20	1260	A	1260	20	(E) RECEPTS ROOM 206, 206A	R	8	
	9	R	(E) RECETPS ROOM 206, 206A	20	1260	B	1260	20	(E) RECEPTS ROOM 206, 206A	R	10	
1	11	**R**	**RCPT - 3D PRINTER**	20	**1800**	C	1260	20	(E) RECEPTS ROOM 206, 206A	R	12	
	13	R	(E) RECEPTS ROOM 208C	20	1260	A	1260	20	(E) RECEPTS ROOM 208C	R	14	
	15	R	(E) RECEPTS ROOM 208C	20	1260	B	1260	20	(E) RECEPTS ROOM 208C	R	16	
	17	R	(E) RECEPTS ROOM 208C	20	1260	C	1260	20	(E) RECEPTS ROOM 208C	R	18	
	19	R	(E) RECEPTS ROOM 208C	20	1260	A	1260	20	(E) RECEPTS ROOM 208C	R	20	
	21	R	(E) RECEPTS ROOM 208C	20	1260	B	1260	20	(E) RECEPTS ROOM 208C	R	22	
	23	R	(E) RECEPTS ROOM 208C	20	1260	C	1260	20	(E) RECEPTS ROOM 208C	R	24	
	25	R	(E) RECEPTS ROOM 208C	20	1260	A	1260	20	(E) RECEPTS ROOM 208C	R	26	
	27	R	(E) RECEPTS ROOM 208C	20	1260	B	1260	20	(E) RECEPTS ROOM 208C	R	28	
	29	R	(E) RECEPTS ROOM 208C	20	1260	C	1260	20	(E) RECEPTS ROOM 208C	R	30	
	31	R	(E) RECEPTS ROOM 208C	20	1260	A	1260	20	(E) RECEPTS ROOM 208C	R	32	
	33	R	(E) RECEPTS ROOM 208C	20	1260	B	**900**	20	**RCPT - 3D PRINTING 306A**	**R**	34	1
	35	R	(E) RECEPTS ROOM 208C	20	1260	C	**500**	20	**EF-1**	**M**	36	1
1	37	**R**	**RCPT - UPS**	20	**1818**	A	**1800**	20	**RCPT - WATER JET**	**R**	38	1
1	39	**R**	**RCPT - 3D PRINTING 306A**	20	**720**	B	1260	20	(E) RECEPTS ROOM 210	R	40	
	41		(E) SPACE	20	0	C	0	20	(E) SPACE		42	

	CONNECTED VA		DEMAND VA
TOTAL RECEPTACLE (R)	45,378	61%	27,689
TOTAL MOTOR (M) LOAD	5,080	108%	5,495
TOTAL LIGHTING (L) LOAD @ 125%	0	0%	0
TOTAL KITCHEN (K) LOAD @100%	0	0%	0
TOTAL FIXED (F) LOAD	0	0%	0
TOTAL OTHER (O) LOAD	0	0%	0
TOTAL ELEVATOR (EL) LOAD @ 100%	0	0%	0
NOTES: TOTAL	50,458		33,184

	AMP/PHASE
CONNECT	A | 153.4 B | 142.7 C | 124.1
DEMAND	A | 106.6 B | 96 C | 80.8
TOTAL CONNECTED AMP	140
TOTAL DEMAND AMP	92
PERCENT LOADED	41%

1. EXISTING BREAKER
2. PROVIDE SHUNT TRIP DEVICE.
3. PROVIDE GFCI DEVICE.
4. PROVIDE RED CIRCUIT BREAKER.
5. PROVIDE SUB-FEED BREAKER.
6. CONTROLLED VIA RELAY.
7. EXISTING LOAD MODIFIED. REUSE EXISTING BREAKER.
8. CIRCUIT BREAKER CONTROLLED BY OTHER EQUIPMENT.
9. PROVIDE NEW BREAKER, MOUNTING HARDWARE, MATCH TYPE AND AIC RATING.

*CONNECTED PANEL (S) LOADS INCLUDED ABOVE

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TJK CONSULTING ENGINEERS
ELECTRICAL LOAD CALCULATION

DATE:	5/3/2023	**SERVICE VOLTAGE:**	208/120V
JOB:	23035	**PHASE & WIRE:**	3Ø 4W

LOAD	CALCULATION			TOTAL LOAD (VA)	TOTAL DEMAND (VA)
EXISTING LOAD ON P2J	29255 VA		29255	29,255	29,255
REMOVED LOAD	180 VA		180	180	180
ADDED LOAD	7,720 VA	50% LOAD	3860	3,860	3,860
TOTAL LOAD	33 kVA				

No.	Description	Date

MAIN CONTRACTOR:

RED MESA BUILDERS

NEVADA CONTRACTOS B#81273
OFFICE: (702) 434-0046 FAX: (702) 434-0051

ebony@redmesabuilders.com

4023 W.OQUENDO RD.STE B
LAS VEGAS NV 89118

SUB CONTRACTOR:

RED MESA MECHANICAL

LICENSE NUMBER : NV #0086266 - & #0087531

AS-BUILT DATE: 12 September, 2023

SIGN: _____

NOTES:

UNLV SLC-A 2310 RENOVATION

1001 SHADOW LANE
NORTH LAS VEGAS,
NV 89106

ONE LINE DIAGRAM & SCHEDULES

Project Number	23033
Date	12 September, 2023
Drawn By	SA
Checked By	SM

E5.01

Scale 1/4" = 1'-0"

12 September, 2023

AS-BUILT DRAWING

ABBREVIATIONS:

AC	AIR CONDITIONING UNIT
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AH	AIR HANDLER
AHU	AIR HANDLING UNIT
AL	ACOUSTICAL LINING
AP	ACCESS PANEL
BB	ELECTRIC BASEBOARD RADIATION
B	BOILER
BDD	BACK DRAFT DAMPER
BFC	BELOW FINISHED CEILING
BOB	BOTTOM OF BEAM
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
C	CHILLER
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CHWP	CHILLED WATER PUMP
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CO	CLEAN OUT
CP	CONDENSATE PUMP
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
CT	COOLING TOWER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CVB	CONSTANT VOLUME BOX
CWP	CONDENSER WATER PUMP
DB	DRY BULB
DS	DUCT SILENCER
DWP	DOMESTIC WATER PUMP
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EJ	EXPANSION JOINT
ER	EXHAUST REGISTER
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EWT	ENTERING WATER TEMPERATURE
EWC	ELECTRIC WATER COOLER
FA	FREE AREA
FX	FLEXIBLE CONNECTION
FC	FAN COIL UNIT
FD	FIRE DAMPER
FLR	FLOOR
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FOP	FUEL OIL PUMP
FP	FIRE PUMP
FPM	FEET PER MINUTE
FTR	FINNED TUBE RADIATION
GC	GENERAL CONTRACTOR
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HD	HAND DAMPER
HP	HEAT PUMP
HV	HEATING AND VENTILATING UNIT
HWC	HOT WATER CONVERTER
HWP	HOT WATER PUMP
HWR	HEATING HOT WATER RETURN
HWS	HEATING HOT WATER SUPPLY
HX	HEAT EXCHANGER
HZ	HERTZ
ID	INSIDE DIAMETER
LAT	LEAVING AIR TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
LD	LINEAR DIFFUSER
LF	LINEAR FEET
MAU	MAKE-UP AIR UNIT
MC	MECHANICAL CONTRACTOR
MTD	MOUNTED
MOD	MOTOR OPERATED DAMPER
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NIC	NOT IN CONTRACT
NK	NECK
OA	OUTSIDE AIR
OAI	OUTSIDE AIR INTAKE
OAT	OUTSIDE AIR TEMPERATURE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OBD	OPPOSED BLADE DAMPER
PBD	PARALLEL BLADE DAMPER
PRV	PRESSURE REDUCING VALVE
PTAC	PACKAGED TERMINAL AIR CONDITIONER
RA	RETURN AIR
RAG	RETURN AIR GRILLE
RAR	RETURN AIR REGISTER
RCP	REFLECTED CEILING PLAN
RHC	REHEAT COIL
RF	RETURN FAN
SA	SUPPLY AIR
SAR	SUPPLY AIR REGISTER
SCG	SMOKE CONTROL GRILLE
SD	SMOKE DAMPER
SEF	SMOKE EXHAUST FAN
SF	SUPPLY FAN
SP	STATIC PRESSURE
TG	TRANSFER GRILLE
TYP	TYPICAL
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
VAV	VARIABLE AIR VOLUME UNIT
VD	VOLUME DAMPER
VTR	VENT THRU ROOF
WB	WET BULB
WMS	WIRE MESH SCREEN

LEGEND: (NOTE: NOT ALL SYMBOLS MAY BE USED.)

- ELBOW UP — DIMENSION DESCRIPTION: 14"Ø = ROUND DUCT 24x12 FO = FLAT OVAL DUCT
- ELBOW DOWN
- LONG RADIUS ELBOW RADIUS (R) = 1.5 TIMES DIAMETER OF DUCT — DIMENSION DESCRIPTION: 1ST FIGURE = SIDE SHOWN; 2ND FIGURE = SIDE NOT SHOWN
- SUPPLY AIR ELBOW UP
- SUPPLY AIR ELBOW DOWN
- EXHAUST/RETURN AIR ELBOW UP
- EXHAUST/RETURN AIR ELBOW DOWN
- DOUBLE SIDE TRANSITION TRANSITION SLOPE SPECIFICATION: MINIMUM SLOPE = 15°; MAXIMUM SLOPE = 45°
- SINGLE SIDE TRANSITION
- TOP TRANSITION (SLOPE ON TOP)
- BOTTOM TRANSITION (SLOPE ON BOTTOM)
- ACOUSTICALLY LINED SHEET METAL DUCT
- MANUAL BALANCING DAMPER
- FLEX CONNECTOR
- A.D. — ACCESS DOORS
- F/D, F/SD, S/D — FIRE DAMPER, FIRE/SMOKE DAMPER, SMOKE DAMPER
- M — MOTORIZED DAMPER
- TURNING VANE ELBOW
- 45° LOW-LOSS TAKE-OFF FITTING W/ DAMPER & FLEX DUCT
- 45° LOW-LOSS TAKE-OFF FITTING W/ DAMPER & RIGID DUCT
- 90° TEE TAKE-OFF FITTING
- CONICAL 90° TEE TAKE-OFF FITTING
- 45° TEE TAKE-OFF FITTING
- LOW LOSS TAKE-OFF FITTING
- RETURN AIR GRILLE
- EXHAUST AIR GRILLE
- SIDE WALL SUPPLY AIR REGISTER
- DIFFUSER, REGISTER OR GRILLE 4-WAY THROW PATTERN UNLESS SHOWN OTHERWISE ON DRAWINGS
- RTU-1 — THERMOSTAT - CONTROLLED EQUIPMENT NOTED
- DIFFUSER OR REGISTER CALLOUT: SA-1 | 10"Ø; CFM | --; AIRFLOW (CFM); DIFFUSER OR REGISTER NECK SIZE (INCHES); NUMBER OF TYPICAL UNITS (IF PRESENT)

GENERAL NOTES:

1. DO NOT SCALE FROM THESE DRAWINGS. DIMENSIONS SHALL BE TAKEN FROM ARCHITECTURAL DRAWINGS.
2. THESE DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED ONLY TO DEFINE THE BASIC FUNCTIONS REQUIRED. ACCESSORIES REQUIRED FOR PROPER OPERATION OF THE SYSTEMS, EVEN THOUGH NOT SPECIFICALLY INDICATED, SHALL BE INCLUDED AND INSTALLED. SUCH ACCESSORIES MAY INCLUDE, BUT ARE NOT LIMITED TO, FILTERS, CONDENSATE DRAINS, RELIEF VALVES, SERVICE VALVES, THERMOSTATS, VIBRATION ISOLATORS, MOTOR STARTERS, ETC.
3. SCOPE OF WORK CONSISTS OF FURNISHING LABOR, MATERIALS AND EQUIPMENT FOR THE INSTALLATION. IT ALSO INCLUDES PLACING INTO OPERATION COMPLETE AND OPERABLE HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS AS SPECIFIED AND SHOWN. THIS INCLUDES, BUT IS NOT LIMITED TO: HVAC UNITS, EXHAUST FANS, DUCTLESS SPLIT-SYSTEMS, DUCTWORK, AIR DISTRIBUTION, CONTROLS AND ACCESSORIES.
4. ALL REQUIRED OFFSETS, RISES AND DROPS DUE TO POSSIBLE OBSTRUCTIONS OF DUCT AND PIPE RUNS ARE NOT NECESSARILY SHOWN. MECHANICAL CONTRACTOR SHALL INCLUDE A CONTINGENCY IN HIS BID TO OFFSET ANY COST REQUIRED FOR ADDITIONAL FITTINGS AND LABOR THAT MAY BE REQUIRED.MINOR DEVIATIONS FROM THE DESIGN LAYOUT IN ROUTING OF DUCT AND/OR PIPING ARE ANTICIPATED AND SHALL BE CONSIDERED A PART OF THE WORK INCLUDED. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT IN THE AVAILABLE SPACE.
5. HVAC LAYOUT IS BASED ON ARCHITECTURAL DRAWINGS AVAILABLE AT TIME OF DESIGN. AS STRUCTURAL OR OTHER FIELD CHANGES MAY OCCUR, CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY LOCATION OF ALL HVAC EQUIPMENT AND DUCTWORK BEFORE INSTALLATION. MECHANICAL CONTRACTOR SHALL NOTIFY BUILDER OF ANY REQUIRED ALTERATIONS. EITHER CONTRACTOR OR OWNER SHALL TAKE RESPONSIBILITY FOR VERIFYING THE INTEGRITY OF THE CHANGES WITH THE HVAC DESIGN ENGINEER.
6. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF ALL APPLICABLE CODES AND REGULATIONS INCLUDING BUT NOT LIMITED TO NATIONAL, CITY, STATE AND LOCAL ORDINANCES WHICH MAY BE IN EFFECT. ALL HVAC MATERIALS, INSTALLATION PROCEDURES AND SYSTEM LAYOUTS SHALL BE APPROVED BY ALL APPLICABLE CODE ENFORCEMENT AUTHORITIES HAVING JURISDICTION. THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR NECESSARY TO COMPLY WITH THESE RULES, REGULATIONS AND ORDINANCES AT NO ADDITIONAL COST. THESE CODES REPRESENT THE MINIMUM ACCEPTABLE REQUIREMENTS, THEREFORE, WHERE DRAWINGS AND/OR SPECIFICATIONS INDICATE MATERIALS OR CONSTRUCTION IN EXCESS OF THESE CODE REQUIREMENTS, THE DRAWINGS AND/OR SPECIFICATIONS SHALL GOVERN.
7. IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO PAY FOR ALL NECESSARY PERMITS AND APPROVALS FOR THIS INSTALLATION.
8. IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO REVIEW THESE PLANS AND SPECIFICATIONS, AS WELL AS THE RELATED HVAC, FIRE PROTECTION, ELECTRICAL, STRUCTURAL, ARCHITECTURAL, INTERIOR DECOR AND SITE ENGINEERING DRAWINGS TO BECOME FAMILIAR WITH THE FULL PROJECT SCOPE. IN ADDITION, THE MECHANICAL CONTRACTOR MUST COORDINATE WITH AN OWNER REPRESENTATIVE TO FULLY UNDERSTAND ALL REQUIREMENTS WHICH MAY NOT BE SPECIFIED HEREIN AND WHICH THE OWNER MAY CONSIDER PART OF THIS CONTRACT. DURING THE COURSE OF CONSTRUCTION COORDINATION AND ACTUAL CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO WORK CLOSELY WITH ALL ACCOMPANYING CONTRACTORS AND TRADESMEN IN ORDER TO ENSURE A SMOOTH RUNNING AND CAREFULLY COORDINATED INSTALLATION.
9. ANY DISCREPANCIES OR INADEQUACIES WITHIN THESE BID DOCUMENTS OR BETWEEN THESE BID DOCUMENTS AND THE RELATED PLUMBING, FIRE PROTECTION, ELECTRICAL, STRUCTURAL, ARCHITECTURAL, INTERIOR DECOR AND SITE ENGINEERING DRAWINGS, OR BETWEEN THESE BID DOCUMENTS AND FIELD CONDITIONS MUST BE BROUGHT TO THE ATTENTION OF THE OWNER, ARCHITECT AND ENGINEER PRIOR TO BID SUBMISSION.
10. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL NEW PRODUCTS OF ESTABLISHED AND REPUTABLE MANUFACTURERS. NO EQUIPMENT SUBSTITUTIONS SHALL BE MADE THAT WOULD LEAVE INADEQUATE OPERATING OR SERVICE SPACE. EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES AND IN AN ARRANGEMENT THAT WILL GIVE THE GREATEST PRACTICAL EASE OF OPERATION AND SERVICE TO THE OWNER. MATERIALS AND EQUIPMENT SHALL BE INSTALLED SQUARELY WITH THE BUILDING LINES.
11. ANY MECHANICAL EQUIPMENT SUBMITTED BY THE CONTRACTOR THAT DEVIATES FROM THE BASIS OF DESIGN AS IDENTIFIED WITH THE SCHEDULED EQUIPMENT CATALOG NUMBERS THAT CAUSE EXTRA COORDINATION BETWEEN OTHER DISCIPLINES WILL BE COORDINATED AND PAID FOR AT THE SOLE COST OF THE CONTRACTOR. ANY DRAWING REVISIONS REQUIRED BY THE DESIGN TEAM SHALL BE PAID FOR BY THE CONTRACTOR TO THE DESIGN TEAM ON AN HOURLY BASIS.
12. CONSTRUCT AND BRACE EQUIPMENT, PIPING, ETC., SO THAT THERE WILL BE NO VIBRATION AND/OR RATTLING WHEN THE SYSTEM IS IN OPERATION.
13. SPECIFIC REFERENCE TO A MANUFACTURER'S PRODUCT IS ONLY TO ESTABLISH TYPE, QUALITY, AND PERFORMANCE REQUIRED. THESE QUALIFICATIONS ARE IN ADDITION TO THE REQUIREMENTS SHOWN ON THE PLANS.
14. FABRICATE, SUPPORT, TEST AND INSTALL ALL DUCTWORK IN STRICT ACCORDANCE WITH THE LATEST EDITION OF THE SMACNA H.V.A.C. DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE - SECOND EDITION AND ALL APPLICABLE BUILDING CODES.
15. ALL OUTSIDE AIR INTAKES SHALL BE LOCATED A MINIMUM OF 10' FROM ANY PLUMBING VENT, EXHAUST, AND FLUE OUTLETS.
16. EXHAUST DUCTS SHALL TERMINATE THREE (3) FEET FROM ANY BUILDING OPENING AND BE EQUIPPED WITH A BACKDRAFT DAMPER. SCREENS SHALL NOT BE INSTALLED AT THE DUCT TERMINATION.
17. ALLOW 24" TO 36" OF STRAIGHT RUN FROM FAN OUTLET POINT BEFORE ADDING AN ELBOW OR BEND TO EXHAUST DUCTWORK.
18. FLASH AND COUNTER FLASH ALL ROOF PENETRATIONS. COORDINATE INSTALLATION OF ALL ROOF FLASHING AT ROOF PENETRATION.
19. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR TESTING, ADJUSTING, AND BALANCING (T.A.B.). T.A.B. WORK SHALL INCLUDE THE ENTIRE AIR-SIDE SYSTEM AND BE PERFORMED IN ACCORDANCE WITH NEBB OR AABC REQUIREMENTS. TOLERANCES FOR AIR INLETS AND OUTLETS SHALL BE +/- 5% UNLESS NOTED OTHERWISE.
20. CONTRACTOR SHALL INSPECT ANY EXISTING DUCTWORK FOR DEFECTS AND REPORT TO THE ARCHITECT/ENGINEER AND THE OWNER ANY DEFICIENCIES PRIOR TO PERFORMING ANY WORK. CONTRACTOR SHALL CLEAN ALL EXISTING DUCTWORK, GRILLES, REGISTERS AND DIFFUSERS PRIOR TO INSTALLING THE NEW WORK.
21. CONTRACTOR SHALL PAINT BLACK BEHIND ALL GRILLES AND REGISTERS AND INSIDE OF DUCT WHERE VISIBLE.
22. UNLESS NOTED OTHERWISE, DUCTWORK BEYOND SA & RA PLENUMS MAY BE CONSTRUCTED OF METAL, OR FACTORY-MANUFACTURED INSULATED DUCTWORK.
23. ALL BRANCH DUCTS TO HAVE VOLUME DAMPERS WHETHER SHOWN OR NOT.
24. SMOOTH TURN RADIUS DUCTWORK OR TURNING VANES SHALL BE USED THROUGHOUT WHERE FLOW EXCEEDS 150 CFM.
25. ALL DUCT JOINTS TO BE SEALED IN ACCORDANCE WITH "SMACNA" STANDARDS AND ACCEPTED GOOD PRACTICE.
26. ALL MATERIALS OF INSULATION SHALL BE OF THE TYPE AND QUALITY AS MANUFACTURED BY ARMSTRONG, CERTAINTEED, OWENS-CORNING OR MANVILLE. ALL MATERIAL AND EQUIPMENT SPECIFIED TO BE INSULATED SHALL BE THOROUGHLY TESTED AND APPROVED PRIOR TO APPLYING THE INSULATION. THE INSTALLATION OF ALL INSULATION SHALL BE PERFORMED BY AN EXPERIENCED CRAFTSMAN IN A NEAT WORKMANSHIP-LIKE MANNER AND SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN RECOMMENDATIONS FOR SERVICE INTENDED.
27. WRAPPED INSULATION ON DUCTWORK SHALL BE 1-1/2 INCH THICK GLASS FIBER FLEXIBLE DUCT INSULATION, ONE POUND DENSITY WITH UL APPROVED FOIL SCRIM KRAFT FRJ JACKET. SECURE WITH ADHESIVE APPLIED DIRECTLY TO THE DUCT IN 4 INCH WIDE STRIPS AROUND THE DUCT ON 12 INCH CENTERS AND TAPE ALL JOINTS.
28. ACOUSTICAL DUCT LINING SHALL BE 1 INCH THICK OWENS-CORNING AEROFLEX TYPE 300 COMPLYING WITH FIRE CLASSIFICATION REQUIREMENTS OF NFPA 90A AND 90B. ADHERE LINER TO DUCT WITH FIRE RESISTANT ADHESIVE AND WELDED PIN TYPE MECHANICAL FASTENERS AS INDICATED IN SMACNA STANDARDS.
29. WRAPPED INSULATION ON ROUND DUCTWORK SHALL BE 1-1/2 INCH THICK GLASS FIBER WITH LAMINATED KRAFT-FOIL VAPOR BARRIER 2PC COMPLYING WITH FIRE CLASSIFICATION REQUIREMENTS OF NFPA 90A AND 90B.
30. DUCTWORK DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE CLEAR DIMENSIONS. DIMENSIONS SHALL BE INCREASED TO ACCOMMODATE LINING THICKNESS. ALL DUCT DIMENSIONS SHOWN ARE NET INSIDE VALUES. DIMENSIONS MAY BE CHANGED SO LONG AS THE NET FREE FACE AREA IS MAINTAINED.
31. CONTRACTOR SHALL PROVIDE ALL AIR TEMPERATURE CONTROLS INCLUDING WIRING, TUBING AND THERMOSTATS (WITH LOCKING COVERS)AND ALL MISCELLANEOUS APPURTENANCES TO MEET THE INTENT OF THESE DOCUMENTS.
32. CONTRACTOR SHALL FURNISH AND INSTALL UL LISTED DUCT SMOKE DETECTORS AS SHOWN ON DRAWINGS WITH AUXILIARY CONTACTS FOR CONNECTION TO THE FIRE ALARM SYSTEM. DETECTORS SHALL DE-ENERGIZE AIR HANDLING UNIT UPON ACTIVATION.
33. VIBRATION ISOLATORS FOR HANGING EQUIPMENT SHALL BE EQUAL TO MASON INDUSTRIES MODEL 30N, COMBINATION SPRING AND DOUBLE DEFLECTION NEOPRENE HANGER, OR DEFLECTION AS RECOMMENDED BY MANUFACTURER.
34. VIBRATION ISOLATORS FOR BASE MOUNTED EQUIPMENT SHALL BE EQUAL TO MASON INDUSTRIES MODEL SLF, DEFLECTION AS RECOMMENDED BY MANUFACTURER.
35. CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL DIMENSIONS IN THE FIELD, AND SHALL ADVISE THE ARCHITECT/ENGINEER AND THE OWNER OF ANY DISCREPANCIES BEFORE PERFORMING THE WORK.
36. CONTRACTOR SHALL SCHEDULE ALL SHUTDOWNS THAT AFFECT UTILITIES AND PORTIONS OF THE BUILDING THAT MUST REMAIN IN OPERATION WITH THE OWNER.
37. WHERE CONDUIT, CABLES, DUCTWORK OR PIPING PASSES THROUGH FIRE RATED FLOORS OR WALLS, THE SLEEVES SHALL BE COMPLETELY SEALED WITH A FIRE STOP MATERIAL THAT IS UL LISTED AND ACCEPTED BY THE BUILDING DEPARTMENT AND FIRE DEPARTMENT AS BEING SUITABLE FOR THIS SERVICE SUCH AS DOW CORNING CORP., SILICONE ELASTOMER, DOW CORNING 3-6548 SILICONE RTV FOAM, OR APPROVED EQUAL. THIS MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER TO MAINTAIN THE FIRE RATING OF THE PENETRATED WALL OR FLOOR
38. CONTRACTOR SHALL PROVIDE AND INSTALL APPROVED FIRE DAMPERS AND ACCESS PANELS IN ANY AND ALL DUCTWORK WHICH PENETRATES A HORIZONTAL OR VERTICAL FIRE PARTI- TION, OR AS OTHERWISE SHOWN ON DRAWINGS.
39. THE CONTRACTOR SHALL PROVIDE MAINTENANCE INSTRUCTIONS FOR EQUIPMENT AND SYSTEM THAT REQUIRE PREVENTATIVE MAINTENANCE. INSTRUCTIONS SHALL BE CLEARLY STATED AND INCORPORATED ON A READILY ACCESSIBLE LABEL AND INCLUDE THE TITLE OR PUBLICATION NUMBER FOR THE OPERATION AND MAINTENANCE MANUAL FOR THAT PARTICULAR MODEL AND TYPE OF PRODUCT.
40. FOR ALL EQUIPMENT SPECIFIED IN THESE DRAWINGS, CONTRACTOR SHALL PROVIDE AN OVERALL MATRIX THAT INCLUDED THE FOLLOWING INFORMATION; UNIT ID, FLA, MCA, AND MOCP. THIS MATRIX SHALL BE REVIEWED BY THE ELECTRICAL ENGINEER AND COORDINATED WITH ALL OTHER TRADES BEFORE ORDERINGS EQUIPMENT.

SHEET INDEX

NUMBER	TITLE	S&S PERMIT SET 05/09/2023
M0.01	GENERAL INFORMATION	●
M0.02	SPECIFICATIONS	●
M1.01	MECHANICAL FLOOR PLAN	●

CAD DRAWING

No.	Description	Date

MAIN CONTRACTOR:

RED MESA BUILDERS
NEVADA CONTRACTOS B#81273
OFFICE: (702) 434-0046 FAX: (702) 434-0051
ebony@redmesabuilders.com
4023 W.OQUENDO RD.STE B
LAS VEGAS NV 89118

SUB CONTRACTOR:

RED MESA MECHANICAL
LICENSE NUMBER : NV #0086266 - & #0087531

AS-BUILT DATE: 12 September, 2023

SIGN: _____

NOTES:

UNLV SLC-A 2310 RENOVATION

1001 SHADOW LANE
NORTH LAS VEGAS,
NV 89106

GENERAL INFORMATION

Project Number	23033
Date	12 September, 2023
Drawn By	SA
Checked By	SM

M0.01

Scale 1/4" = 1'-0"

12 September, 2023

AS-BUILT DRAWING

SPECIFICATIONS:

PART I - GENERAL

A. CONDITIONS

1. GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS, SPECIAL CONDITIONS, AND OTHER RELATED PORTIONS OF DIVISION 1, APPLY TO THIS SECTION.

B. SUMMARY OF WORK

1. THE WORK INCLUDED CONSISTS OF FURNISHING LABOR, MATERIALS AND EQUIPMENT FOR THE INSTALLATION. IT ALSO INCLUDES PLACING INTO OPERATION A COMPLETE AND OPERABLE HEATING, VENTILATING AND AIR CONDITIONING SYSTEM AS SPECIFIED AND SHOWN. THIS INCLUDES, BUT IS NOT LIMITED TO: HVAC UNITS, EXHAUST FANS, DUCTLESS SPLIT-SYSTEMS, DUCTWORK, AIR DISTRIBUTION, CONTROLS AND ACCESSORIES, EXCEPT AS OTHERWISE NOTED.

C. REGULATIONS, CODES, PERMITS AND INSPECTIONS

1. COMPLY WITH NATIONAL, STATE, COUNTY, AND CITY CODES, ORDINANCES, ETC., HAVING JURISDICTION. THIS INCLUDES RULES AND REQUIREMENTS OF UTILITY SERVING AGENCIES.

2. INCORPORATE CODES, ORDINANCES, ETC., INTO THE BASE BID AND INSTALLATION OF WORK. NO ADDITIONAL FUNDS WILL BE ALLOCATED FOR WORK REQUIRED TO CONFORM TO REGULATIONS AND REQUIREMENTS OR TO OBTAIN APPROVAL OF WORK.

3. OBTAIN AND PAY FOR REQUIRED PERMITS AND LICENSES. WHEN REQUIRED BY CODE, WORK MUST BE INSPECTED AND APPROVED BY LOCAL AUTHORITIES. PRIOR TO FINAL APPROVAL, FURNISH ARCHITECT WITH CERTIFICATES OF INSPECTION AND APPROVALS BY LOCAL AUTHORITIES.
4. IN ADDITION, THE LATEST ADOPTED EDITION OF THE FOLLOWING CODES AND PUBLISHED STANDARDS SHALL BE ADHERED TO:
   - 4.1. INTERNATIONAL BUILDING CODE (IBC)
   - 4.2. UNIFORM MECHANICAL CODE (UMC)
   - 4.3. NFPA STANDARDS
   - 4.4. ASHRAE HANDBOOKS
   - 4.5. SMACNA DUCT CONSTRUCTION STANDARDS
   - 4.6. UNIFORM PLUMBING CODE (UPC)
   - 4.7. NATIONAL ELECTRIC CODE (NEC)
   - 4.8. SOUTHERN NEVADA CODE AMENDMENTS
   - 4.9. INTERNATIONAL ENERGY CONSERVATION CODE (IECC)

D. DESIGN DRAWINGS

1. DESIGN DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED ONLY TO DEFINE THE BASIC FUNCTIONS REQUIRED. PROVIDE LABOR, MATERIAL, ETC., NECESSARY TO ACCOMPLISH THESE REQUIREMENTS. MINOR DEVIATIONS FROM THE DESIGN LAYOUT ARE ANTICIPATED AND SHALL BE CONSIDERED A PART OF THE WORK INCLUDED. NO CHANGES THAT ALTER THE CHARACTER OF THE WORK WILL BE PERMITTED. DO NOT SCALE THE DESIGN DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS.

2. IF A CONFLICT OCCURS BETWEEN THE DESIGN DRAWINGS AND SPECIFICATIONS, PROMPTLY NOTIFY THE ARCHITECT AND/OR ENGINEER. AT THAT POINT, AN INTERPRETATION WILL BE MADE BY THE ARCHITECT AND/OR ENGINEER AND SAID DECISION SHALL BE CONSIDERED PART OF THE CONTRACT DOCUMENTS.

E. QUALIFICATIONS OF CONTRACTOR AND WORKMEN

1. CONTRACTOR SHALL BE PROPERLY LICENSED TO PERFORM THE WORK.

F. BASE BID

1. BASE BID SHALL INCLUDE MATERIALS AND EQUIPMENT SPECIFIED OR SCHEDULED ON THE DRAWINGS. REQUESTS FOR SUBSTITUTION OF MATERIALS AND EQUIPMENT SHALL BE BY ADDITIVE OR DEDUCTIVE ALTERNATE BID ONLY. THE FOLLOWING DATA MUST BE CLEARLY WRITTEN AT THE BEGINNING OF THE ALTERNATE PROPOSAL:
   - 1.1. ADDITIVE OR DEDUCTIVE AMOUNT CLEARLY WRITTEN IN WORDS AND NUMERALS.
   - 1.2. INCREASED OR REDUCED CONSTRUCTION TIME IN DAYS.
   - 1.3. OTHER DEMONSTRABLE BENEFIT, FOR WHICH THE SUBSTITUTION OF SUCH ITEM WILL BE IN THE OWNER'S INTEREST.

2. ONLY THOSE MATERIALS AND EQUIPMENT WHICH ARE SUBMITTED AS AN ALTERNATE BID, WHICH ARE ACCOMPANIED BY THE SUPPORTING DATA INDICATED BELOW WILL BE REVIEWED AND CONSIDERED.

G. SUBSTITUTIONS

1. MATERIALS AND EQUIPMENT THAT ARE A SUBSTITUTE FROM THE LISTED MANUFACTURER MAY BE CONSIDERED. PRIOR TO PROPOSING ANY SUBSTITUTE ITEM, CONTRACTOR SHALL SATISFY HIMSELF THAT THE ITEM PROPOSED IS, IN FACT, EQUAL TO THAT SPECIFIED, THAT SUCH ITEM WILL FIT INTO THE SPACE ALLOCATED, THAT SUCH ITEM AFFORDS COMPARABLE EASE FOR OPERATION, MAINTENANCE AND SERVICE, THAT THE APPEARANCE, LONGEVITY, CAPACITY, SUITABILITY, AND ELECTRICAL CHARACTERISTICS ARE COMPARABLE, THAT BY REASON OF COST SAVINGS, REDUCED CONSTRUCTION TIME, OR SIMILAR DEMONSTRABLE BENEFIT, THE SUBSTITUTION OF SUCH ITEM WILL BE IN THE OWNER'S INTEREST.

2. THE BURDEN OF PROOF OF EQUALITY OF A PROPOSED SUBSTITUTION FOR A SPECIFIED ITEM SHALL BE UPON THE CONTRACTOR. CONTRACTOR SHALL SUPPORT HIS REQUEST WITH SUFFICIENT TEST DATA AND OTHER MEANS TO PERMIT THE ENGINEER TO MAKE A FAIR AND EQUITABLE DECISION ON THE MERITS OF THE PROPOSED SUBSTITUTION. INSUFFICIENT SUBMITTAL DATA WILL RESULT IN REJECTION OF THE PROPOSED SUBSTITUTION. ANY ITEM BY A MANUFACTURER OTHER THAN THOSE SPECIFIED, OR OF BRAND NAME, MODEL NUMBER, OR OF GENERIC SPECIES OTHER THAN THOSE SPECIFIED, WILL BE CONSIDERED A SUBSTITUTION. ENGINEER WILL BE THE SOLE JUDGE OF WHETHER OR NOT THE SUBSTITUTION IS EQUAL IN QUALITY, UTILITY AND ECONOMY TO THAT SPECIFIED.

3. APPROVAL OF A SUBSTITUTION SHALL NOT RELIEVE CONTRACTOR FROM RESPONSIBILITY FOR COMPLIANCE WITH ALL REQUIREMENTS OF THE CONTRACT. CONTRACTOR SHALL BEAR THE EXPENSE FOR ANY CHANGES IN OTHER PARTS OF THIS WORK OR OTHER WORK CAUSED BY THE PROPOSED SUBSTITUTION, INCLUDING BUT NOT LIMITED TO STRUCTURAL, ELECTRICAL, PLUMBING, AND ACCESS REQUIREMENTS.

4. IF ENGINEER REJECTS CONTRACTOR'S SUBSTITUTE ITEM ON THE FIRST SUBMITTAL, CONTRACTOR MAY MAKE ONLY ONE ADDITIONAL REQUEST FOR SUBSTITUTION IN THE SAME CATEGORY.

5. ANY EQUIPMENT SUBSTITUTED WITHOUT THE ENGINEER'S WRITTEN APPROVAL WILL BE REMOVED AND REPLACED WITH THE SPECIFIED EQUIPMENT AT THE CONTRACTOR'S EXPENSE AND AT NO ADDITIONAL COST TO THE OWNER.

H. SUBMITTALS

1. EQUIPMENT AND MATERIALS:
   - 1.1. CONTRACTOR SHALL HAVE APPROVED SUBMITTALS PRIOR TO FABRICATION OR DELIVERY OF ANY MATERIAL AND/OR EQUIPMENT TO THE JOB SITE. SUBMIT AN ELECTRONIC COMPREHENSIVELY INDEXED SUBMITTAL, COMPLETELY DESCRIBING EACH MAJOR SYSTEM, MATERIAL AND EQUIPMENT PROPOSED TO BE USED. ANY PIECE OF EQUIPMENT PLACED ON THE JOB WITHOUT PRIOR APPROVAL WILL BE SUBJECT TO REMOVAL AT THE SOLE EXPENSE OF THE CONTRACTOR.
   - 1.2. ANY MECHANICAL EQUIPMENT SUBMITTED BY THE CONTRACTOR THAT DEVIATES FROM THE BASIS OF DESIGN SHALL HAVE ALL INFORMATION GATHERED INTO A SCHEDULE THAT MATCHES THE FORMAT AND LAYOUT OF THE SCHEDULE ON THE DRAWINGS. THIS SHALL INCLUDE ANY EQUIPMENT THAT IS AN APPROVED ALTERNATIVE MANUFACTURER. ANY SUCH SUBMITTAL THAT CAUSES EXTRA COORDINATION BETWEEN OTHER DISCIPLINES WILL BE COORDINATED AND PAID FOR AT THE SOLE COST OF THE CONTRACTOR. ANY DRAWING REVISIONS REQUIRED BY THE DESIGN TEAM SHALL BE PAID FOR BY THE CONTRACTOR TO THE DESIGN TEAM ON AN HOURLY BASIS.
   - 1.3. SUBMITTALS ARE FOR INFORMATION AND COORDINATION ONLY. REVIEW OF MATERIAL AND/OR EQUIPMENT SUBMITTALS SHALL IN NO WAY RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO COMPLY WITH PLANS AND SPECIFICATIONS REQUIREMENTS. POINTS OF NON-COMPLIANCE WHICH ARE NOT NOTED SHALL NOT BE CONSTRUED TO BE AN APPROVAL OF THE NON-COMPLIANCE. SUBMITTALS SHALL CLEARLY STATE WHERE EQUIPMENT DOES NOT AGREE WITH THE CONTRACT DOCUMENTS.
   - 1.4. SUBMITTALS SHALL INCLUDE MANUFACTURER'S SPECIFICATIONS, PHYSICAL DIMENSIONS, WEIGHTS AND RATINGS OF EQUIPMENT SUBMITTED. INDICATE EQUIPMENT LAYOUTS, ELECTRICAL CHARACTERISTICS, WIRING AND CONTROL DIAGRAMS, SIZES AND LOCATIONS OF PIPING, DUCT, CONDUITS, AND OTHER CONNECTION SIZES AND LOCATIONS.

2. SHOP DRAWINGS:
   - 2.1. CONTRACTOR SHALL PREPARE AND SUBMIT DETAILED 1/4"=1'-0" SCALE DRAWINGS THAT HAVE BEEN PROPERLY COORDINATED WITH OTHER TRADES. INDICATE LOCATION AND SIZES OF ACCESS PANELS IN HARD CEILINGS FOR EQUIPMENT AND DAMPER ACCESS.

3. AS BUILT DRAWINGS:
   - 3.1. MAINTAIN ACCURATE RECORDS OF ANY CHANGES FROM THE CONTRACT DOCUMENTS AND SHOP DRAWINGS. UPON COMPLETION OF THE PROJECT, DELIVER TO THE ENGINEER ONE (1) SET OF LEGIBLE REPRODUCIBLES AND (3) BLUELINE SETS OF THESE RECORD DRAWINGS.

4. WARRANTY:
   - 4.1. UNLESS SPECIFIED OTHERWISE BY ARCHITECT, ENGINEER, OWNER OR OWNER'S REPRESENTATIVE, UPON COMPLETION OF THE PROJECT, DELIVER TO THE OWNER A WRITTEN ONE (1) YEAR WARRANTY ON THE SYSTEMS, MATERIALS AND ALL WORK PERFORMED. THIS INCLUDES THE ENTIRE COST, INCLUDING MATERIALS AND/OR LABOR, OF CORRECTIVE WORK REQUIRED AND NECESSITATED BY DEFECTS IN MATERIALS AND/OR WORKMANSHIP. CONTRACTOR SHALL ALSO PRESENT THE OWNER WITH A COPY OF ALL MANUFACTURER'S WARRANTIES THAT EXCEED THE WARRANTY PERIOD, SUCH AS AC UNIT COMPRESSORS.

5. OPERATION AND MAINTENANCE INSTRUCTIONS:
   - 5.1. UPON THE COMPLETION OF THE PROJECT, DELIVER TO THE OWNER THE REQUIRED NUMBER OF COPIES OF HARD BOUND O & M MANUALS. INCLUDE IN THE MANUAL INSTRUCTIONS PREPARED SPECIFICALLY FOR THE SYSTEMS PROVIDED, ALONG WITH DESCRIPTIONS, PARTS LIST, INSTRUCTIONS, AND WARRANTIES. START-UP REPORTS FOR ALL EQUIPMENT WILL BE DELIVERED WITH THE MATERIALS AND EQUIPMENT UTILIZED IN THE PROJECT. IDENTIFY EACH ITEM BY THE DESIGNATION APPEARING ON THE DRAWINGS.

6. OWNER TRAINING:
   - 6.1. AT A TIME DESIGNATED BY THE OWNER, PROVIDE A SUITABLE TECHNICIAN, MECHANIC OR ENGINEER TO REVIEW THE SYSTEMS WITH OWNER'S REPRESENTATIVE TO THOROUGHLY FAMILIARIZE HIM WITH THE OPERATIONS AND MAINTENANCE OF THE SYSTEMS. UP TO (8) EIGHT HOURS TOTAL TRAINING TIME SHALL BE REQUIRED WITHOUT ADDITIONAL COST TO THE OWNER. PRIOR TO TRAINING THE OWNER SHALL HAVE TAKEN POSSESSION OF THE O & M MANUALS, AND SHALL HAVE HAD A REASONABLE AMOUNT OF TIME FOR THE PERSONNEL TO FAMILIARIZE THEMSELVES WITH THE CONTENTS OF THE MANUALS.

PART II - PRODUCTS

A. GENERAL PRODUCTS

1. SEISMIC RESTRAINTS:
   - 1.1. WHERE REQUIRED BY THE BUILDING OFFICIALS/BUILDING CODES, FURNISH AND INSTALL SEISMIC RESTRAINTS FOR DUCTWORK, PIPING, AND EQUIPMENT. SEISMIC RESTRAINTS SHALL BE DESIGNED TO RESIST SEISMIC FORCES PRESCRIBED IN THE BUILDING CODES FOR THE PROJECT LOCATION.
   - 1.2. WHERE REQUIRED BY THE BUILDING OFFICIAL, PROVIDE STRUCTURAL CALCULATIONS SEALED AND SIGNED BY A LICENSED STRUCTURAL ENGINEER.
   - 1.3. REFERENCE THE LATEST EDITION OF THE SMACNA SEISMIC RESTRAINT MANUAL FOR GUIDELINES.

2. FURNISH AND INSTALL NEW PRODUCTS OF ESTABLISHED AND REPUTABLE MANUFACTURERS. SEE LIST OF ACCEPTABLE MANUFACTURERS ELSEWHERE IN THESE SPECIFICATIONS. MAKE NO EQUIPMENT SUBSTITUTIONS THAT WOULD LEAVE INADEQUATE OPERATING OR SERVICING SPACE. REFER TO 'SUBSTITUTIONS' SECTION OF THE SPECIFICATION.

3. ACCESSORIES REQUIRED FOR PROPER OPERATION OF THE SYSTEMS, EVEN THOUGH NOT SPECIFICALLY INDICATED, SHALL BE INCLUDED AND INSTALLED. SUCH ACCESSORIES MAY INCLUDE, BUT ARE NOT LIMITED TO, FILTERS, CONDENSATE DRAINS, RELIEF VALVES, SERVICE VALVES, THERMOSTATS, VIBRATION ISOLATORS, ETC. MOTOR STARTERS FOR PREWIRED EQUIPMENT AND OTHER PROTECTION AND CONTROL DEVICES ARE TO BE FURNISHED UNDER THE MECHANICAL CONTRACTOR'S SCOPE OF WORK. STARTERS FOR NON-PREWIRED EQUIPMENT, I.E., FANS, PUMPS ETC., ARE UNDER THE ELECTRICAL CONTRACTOR'S SCOPE OF WORK, UNLESS NOTED OTHERWISE.

4. SPECIFIC REFERENCE TO A MANUFACTURER'S PRODUCT IS ONLY TO ESTABLISH TYPE, QUALITY, AND PERFORMANCE REQUIRED. THESE QUALIFICATIONS ARE IN ADDITION TO THE REQUIREMENTS SHOWN ON THE PLANS AND ELSEWHERE IN THESE SPECIFICATIONS. LISTING OF ALTERNATE EQUIPMENT MANUFACTURERS SHALL NOT BE CONSTRUED AS AN UNCONDITIONAL APPROVAL OF THE PRODUCTS OF THOSE MANUFACTURERS.

B. EXHAUST FAN AND VENT UNITS

1. FURNISH AND INSTALL DIRECT DRIVE CEILING EXHAUST FANS WITH CAPACITIES AS SCHEDULED. UNITS SHALL BE COMPLETE WITH ALUMINUM HOUSING, BACKWARD INCLINED WHEEL, BALL BEARING MOTORS, SLEEVE BEARING MOTORS, MOTOR ISOLATED ON SHOCK MOUNTS, ETC.

2. UNITS SHALL BE COMPLETELY FACTORY WIRED AND INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS, COMPLETE WITH ALL SCHEDULED AND NECESSARY ACCESSORIES FOR EFFICIENT AND PROPER OPERATION.

D. DUCTWORK

1. PROVIDE A COMPLETE SYSTEM OF DUCTWORK FABRICATED AND INSTALLED IN STRICT ACCORDANCE WITH LATEST VERSIONS OF THE ASHRAE FUNDAMENTALS HANDBOOK AND SMACNA DUCT CONSTRUCTION STANDARDS. DUCT SYSTEM SHALL BE CONSTRUCTED AS REPRESENTED ON THESE DRAWINGS AND AS COORDINATED IN DETAIL ON THE APPROVED DUCTWORK SHOP DRAWINGS. IF ADDITIONAL CHANGES IN DUCT ARRANGEMENT OR IN DUCT SIZES ARE REQUIRED, THEY SHALL BE MADE ONLY AFTER WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER.

2. MAIN AND BRANCH DUCTS SHALL BE RECTANGULAR, ROUND, OR FLAT-OVAL, AND SHALL BE CONSTRUCTED OF GALVANIZED SHEET METAL UNLESS NOTED OTHERWISE. DUCT SIZES SHOWN ON THE DRAWINGS ARE NET OPENINGS AND SHALL BE INCREASED TO ACCOMMODATE DUCT LINING WHERE APPLICABLE.

3. FLEXIBLE DUCT SHOWN AT CONNECTION TO AIR DISTRIBUTION DEVICES SHALL BE A FABRICATED ASSEMBLY WITH AN ACOUSTICALLY-RATED CORE CONSISTING OF AN INNER SLEEVE, 2-INCH THICK FIBERGLASS INSULATION, WITH AN R-6.0 MINIMUM AND AN OUTER VAPOR BARRIER COVERING EQUAL TO THERMAFLEX M-KE.

4. WHETHER SHOWN ON PLANS OR NOT, PROVIDE MANUAL VOLUME DAMPERS IN EACH RUNOUT TO EACH SUPPLY DIFFUSER OR REGISTER, RETURN AND EXHAUST GRILLE AND ALSO AS REQUIRED FOR A PROPERLY BALANCED SYSTEM. PROVIDE ACCESS PANELS TO DAMPERS LOCATED ABOVE HARD CEILINGS.

5. VOLUME DAMPERS FOR RECTANGULAR DUCTS SHALL BE CONSTRUCTED OF 16 GAUGE GALVANIZED STEEL, BE OF THE OPPOSED BLADE TYPE AND BE FURNISHED WITH LOCKING AND INDICATING QUADRANTS. DAMPERS FOR ROUND DUCTS SHALL BE SINGLE-BLADE TYPE UP TO 30"Ø. USE CONTINUOUS ROD ON 2" W.G. CLASS DAMPERS FROM 12"Ø-28"Ø, AND RECTANGULAR DUCTS FROM 18"-48" WIDE.

6. ROUND TAPS FOR FACTORY-MADE AIR DUCTS IN SECTIONS OF ROUND SHEET METAL DUCTS SHALL BE MADE WITH ANY OF THE FITTINGS LISTED BELOW
   - 6.1. CONICAL TEE.
   - 6.2. CONICAL SADDLE TAP.
   - 6.3. ELBOW (IF LAST FITTING).
   - 6.4. 45° TEE OR SADDLE TAP.

7. ROUND TAPS FOR FACTORY-MADE AIR DUCTS IN SECTIONS OF RECTANGULAR SHEET METAL DUCTS SHALL BE MADE WITH ANY OF THE FITTINGS LISTED BELOW:
   - 7.1. COLLAR (CONICAL).
   - 7.2. COLLAR (STRAIGHT, ONLY WHEN SHOWN ON DRAWINGS).

8. DOVETAILED CUTOFFS ARE NOT ACCEPTABLE. DUCT TAPE OR OTHER PRESSURE SENSITIVE TAPES ARE NOT ACCEPTABLE.

9. TAPS IN SECTIONS OF ROUND FACTORY-MADE FLEXIBLE AIR DUCTS (WHEN ALLOWED) SHALL BE MADE BY INSERTING, IN THE FLEXIBLE DUCT SECTION, ANY OF THE SHEET METAL FITTINGS LISTED BELOW:
   - 9.1. 90 DEGREE CONICAL STRAIGHT TEE.
   - 9.2. 45 DEGREE STRAIGHT LATERAL.
   - 9.3. 45 DEGREE STRAIGHT LATERAL WITH 45 DEGREE ELBOW.
   - 9.4. 45 DEGREE STRAIGHT LATERAL CROSS.
   - 9.5. Y BRANCH WITH 45 DEGREE ELBOW.

10. BELOW GRADE DUCTWORK SHALL BE FABRICATED FROM PVS, GALVANIZED G-60 STEEL WHICH HAS BEEN HOT DIPPED AND FIRE TREATED, AND A 4 MIL. POLYVINYL CHLORIDE COATING. INSTALL AND BACKFILL AROUND DUCTWORK ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. MAXIMUM LOAD PER PIPE SIZE ARE AS FOLLOWS:
    - 10.1. 8" OR LESS - 400 (LBS./LINEAR FT.)
    - 10.2. 10" TO 12" - 600 (LBS./LINEAR FT.)
    - 10.3. 14" TO 36" - 1800 (LBS./LINEAR FT.)

E. DUCT INSULATION

1. THERMAL INSULATION:
   - 1.1. CONCEALED SUPPLY DUCTS AND RETURN DUCTS ABOVE CEILING OR IN FURRED SPACES SHALL BE THERMALLY INSULATED.
   - 1.2. THERMAL INSULATION SHALL BE FLEXIBLE BLANKET GLASS FIBER INSULATION WITH FACTORY APPLIED FLAME RETARDANT, FOIL-SCRIM-KRAFT VAPOR BARRIER (FSK), MAXIMUM K OF 0.30 AT 75 DEGREES F MEAN TEMPERATURE MINIMUM .75 POUND DENSITY. INSULATION SHALL BE 2" THICK.
   - 1.3. INSULATION SHALL BE APPLIED OVER SURFACES WHICH HAVE BEEN WIPED CLEAN AND DRY AND SHALL HAVE 3-INCH MINIMUM OVERLAP ON BOTH LONGITUDINAL AND TRANSVERSE SEAMS.
   - 1.4. SUPPLY AND RETURN DUCTS LOCATED OUTSIDE SHALL BE LINED WITH 2" ACOUSTICAL LINER AND SEALED WATER TIGHT, OR INSULATED EXTERNALLY WITH 2" RIGID BOARD AND ALUMINUM LAGGING SEALED WATER TIGHT.

G. LIST OF ACCEPTABLE MANUFACTURERS

1. FOLLOWING IS A LIST OF MANUFACTURES WHOSE EQUIPMENT IS ACCEPTABLE AS TO MANUFACTURE, SUBJECT TO CONFORMANCE WITH THE DRAWINGS AND SPECIFICATIONS. CAREFUL CHECKING MUST BE MADE TO VERIFY THAT EQUIPMENT WILL MEET CAPACITIES, REQUIREMENTS, SPACE AND WEIGHT ALLOCATIONS.
   - 1.1. FANS: GREENHECK, COOK, ACME, PENN, PRICE, BROAN
   - 1.2. AIR DEVICES: TITUS, KREUGER, METAL-AIRE, PRICE
   - 1.3. INSULATION: CERTAINTEED, OWENS-CORNING, MANVILLE, KNAUF
   - 1.4. DUCT SEALANT: DESIGN POLYMERICS, MCGILL AIRFLOW, CANVAS TAPE AND ARABOL
   - 1.5. SPRING ISOLATION RAILS: MICRO-METAL.

2. APPROVAL FOR SUBSTITUTIONS MUST BE MADE IN ACCORDANCE WITH PART 1, SECTION G "SUBSTITUTIONS" OF THESE SPECIFICATIONS.

PART III - EXECUTION

A. GENERAL

1. INSTALL MATERIALS AND EQUIPMENT IN AN ARRANGEMENT THAT WILL GIVE THE GREATEST PRACTICAL EASE OF OPERATION AND SERVICE TO THE OWNER.

2. INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES.

3. PERFORM WORK IN ACCORDANCE WITH THE BEST TRADE PRACTICES. INSTALL MATERIALS AND EQUIPMENT SQUARELY WITH THE BUILDING LINES. PROVIDE RIGID PERMANENT BASES AND SUPPORTS FOR WORK.

4. CONSTRUCT AND BRACE EQUIPMENT, PIPING, ETC., SO THAT THERE WILL BE NO VIBRATION AND/OR RATTLING WHEN THE SYSTEM IS IN OPERATION.

5. COVER AND PROTECT EQUIPMENT AND MATERIALS FROM WEATHER, THEFT, ETC., UNTIL DATE OF COMPLETION. PLUG AND/OR CAP OPEN ENDS OF INSTALLED PIPING AND/OR DUCTWORK PENDING EXTENSION OR FINAL CONNECTION.

B. DUCTWORK

1. CONSTRUCT DUCTWORK WITH MATERIAL, GAUGES, JOINTS, BRACING AND SUPPORTS IN ACCORDANCE WITH LATEST SMACNA STANDARDS.

2. DUCTWORK SHALL BE RIGIDLY CONSTRUCTED AND SUBSTANTIALLY AIR-TIGHT. SEAL ALL DUCTWORK WITH A WATER BASED DUCT SEALANT (DESIGN POLYMERICS DP-1010 OR EQUAL) OR ARABOL AND CANVAS TAPE. DO NOT UTILIZE PRESSURE SENSITIVE TAPES. SEAL DUCTWORK IN ACCORDANCE WITH TABLE 4-1 "APPLICABLE LEAKAGE CLASSES" OF THE LATEST SMACNA HVAC LEAKAGE TEST MANUAL.

3. MAKE CONNECTIONS BETWEEN FLEXIBLE DUCTS AND RIGID TRUNK DUCTS WITH FACTORY FABRICATED FITTINGS WITH DAMPER. SECURE FLEX DUCT TO FITTING WITH CLAMPS OR PANDUIT STRAPS INSTALLED TO FACTORY RECOMMENDED TENSION. INSTALL CLAMPS ON LINER AND SECOND CLAMP OVER JACKET. JOB INSPECTION MAY REQUIRE REMOVAL AND REPLACEMENT OF A RANDOM SAMPLING OF CONNECTIONS.

4. ELBOWS SHALL HAVE A THROAT RADIUS EQUAL TO 1-1/2 TIMES THE DUCT WIDTH. SQUARE ELBOWS SHALL HAVE TURNING VANES OR SPLITTER. TRANSITIONS SHALL NOT EXCEED 4 TO 1 ASPECT RATIO.

C. AUTOMATIC TEMPERATURE CONTROLS & AUTOMATIC SHUT-OFF

1. ROOFTOP AC UNITS SHALL BE TURNED ON/OFF WITH PROGRAMMABLE 7-DAY THERMOSTATS. THERMOSTATS SHALL BE SET FOR CONTINUOUS FAN OPERATION.

2. EXHAUST FANS ARE CONTROLLED AS SPECIFIED IN THE EXHAUST FAN SCHEDULE.

D. TESTING AND BALANCING

1. THE TESTS SHALL INCLUDE THOSE COMPONENTS NORMALLY INCLUDED AS PART OF THE AIR DISTRIBUTION AND TRANSMISSION SYSTEM.

2. A COMPLETE BALANCING REPORT SHALL BE SUBMITTED TO THE ENGINEER UPON COMPLETION. THE BALANCING REPORT SHALL INCLUDE DESIGN QUANTITIES AND ACTUAL (MEASURED) QUANTITIES FOLLOWING BALANCING. BALANCING SHALL BE COMPLETED TO THE SATISFACTION OF THE ENGINEER. T.A.B. CONTRACTOR SHALL BE A.A.B.C. OR N.E.E.B. CERTIFIED, OR COMPANY APPROVED BY ENGINEER.

3. INCLUDE IN BID, AS PART OF THE WORK IN THIS CONTRACT, ANY ADJUSTMENTS TO OR REPLACEMENT OF PULLEYS, BELTS, MOTORS, DAMPERS, ETC., REQUIRED FOR CORRECT BALANCING OF SYSTEMS. CONTRACTOR OR EQUIPMENT SUPPLIER TO FURNISH THE ABOVE LISTED ITEMS TO T.A.B. CONTRACTOR TO INSTALL.

4. TEST AND ADJUST AIR DEVICES TO WITHIN PLUS OR MINUS 5 PERCENT OF DESIGN REQUIREMENTS.

5. T.A.B. CONTRACTOR SHALL ADJUST THE DEFLECTION OF ALL APPLICABLE SUPPLY AIR DISTRIBUTION FOR PROPER AIR FLOW DIRECTION AND CHARACTERISTICS AS RECOMMENDED BY THE MANUFACTURER AND/OR TO THE SATISFACTION OF THE ENGINEER AND OWNER.

CADDRAFTER

No.	Description	Date

MAIN CONTRACTOR:

RED MESA BUILDERS

NEVADA CONTRACTOS B#81273

OFFICE: (702) 434-0046 FAX: (702) 434-0051

ebony@redmesabuilders.com

4023 W.OQUENDO RD.STE B
LAS VEGAS NV 89118

SUB CONTRACTOR:

RED MESA MECHANICAL

LICENSE NUMBER : NV #0086266 - & #0087531

AS-BUILT DATE: 12 September, 2023

SIGN: ______________________________

NOTES:

UNLV SLC-A 2310 RENOVATION

1001 SHADOW LANE
NORTH LAS VEGAS,
NV 89106

SPECIFICATIONS

Project Number	23033
Date	12 September, 2023
Drawn By	SA
Checked By	SM
	M0.02
Scale	1/4" = 1'-0"

12 September, 2023

AS-BUILT DRAWING

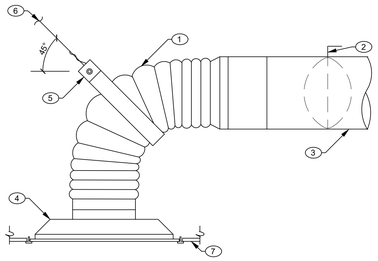


DIAGRAM KEY NOTES (#)

1. ACOUSTICAL FLEX. DUCT 8'-0" MAXIMUM LENGTH
2. MANUAL VOLUME DAMPER WITH LOCKING QUADRANT AT BRANCH TAKE OFF
3. INSULATED PRE-FAB, SPIRAL ROUND DUCT. REFER TO FLOOR PLANS FOR SIZES
4. DIFFUSER, SEE PLANS FOR TYPE
5. 1-1/2" WIDE SHEET METAL STRAP
6. SECURE WIRE TO STRUCTURE ABOVE
7. CEILING

2 CEILING EXHAUST GRILLE

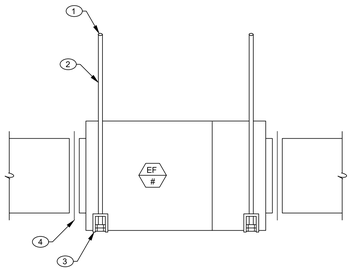
SCALE: NOT TO SCALE

GENERAL DIAGRAM NOTES

A. COORDINATE HANGER LOCATIONS AND ADJACENT WORK ABOVE CEILING TO ALLOW MFR'S. REQUIRED MAINTENANCE CLEARANCES.

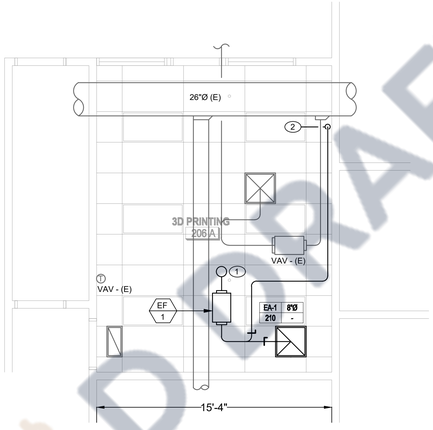
DIAGRAM KEY NOTES

1. ATTACH TO STRUCTURE ABOVE PER STRUCTURE REQUIREMENTS
2. 3/8" THREADED ROD (MIN) (4-REQUIRED)
3. FACTORY HANGER VIBRATION ISOLATOR
4. FLEX CONNECTION (TYP.)



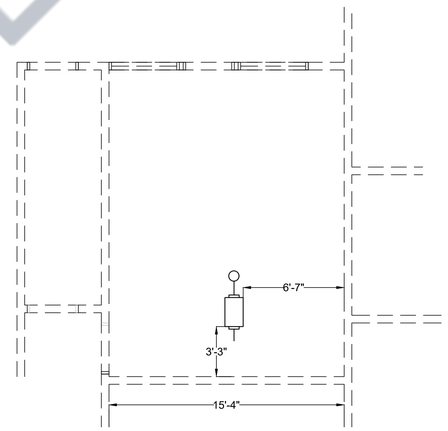
3 IN-LINE EXHAUST FAN

SCALE: NOT TO SCALE



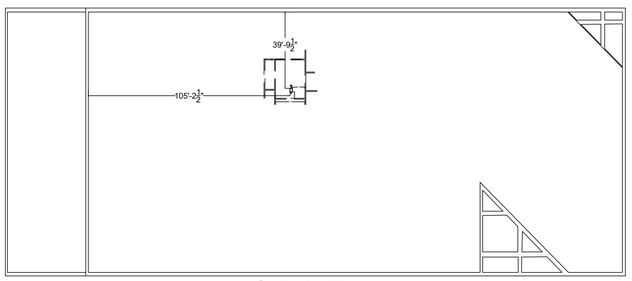
1 MECHANICAL FLOOR PLAN

SCALE: 1/4" = 1'-0"



1 MECHANICAL ROOF PLAN

SCALE:1/4" = 1'-0"



1 MECHANICAL ROOF PLAN

SCALE:1/8" = 1'-0"

CADDRAFTER

No.	Description	Date

MAIN CONTRACTOR:

RED MESA BUILDERS
NEVADA CONTRACTOS B#81273
OFFICE: (702) 434-0046 FAX: (702) 434-0051
ebony@redmesabuilders.com
4023 W.OQUENDO RD.STE B
LAS VEGAS NV 89118

SUB CONTRACTOR:

RED MESA MECHANICAL
LICENSE NUMBER : NV #0086266 - & #0087531

AS-BUILT DATE: 12 September, 2023

SIGN: _____

NOTES:

UNLV SLC-A 2310 RENOVATION

1001 SHADOW LANE
NORTH LAS VEGAS,
NV 89106

MECHANICAL FLOOR PLAN & ROOF PLAN

Project Number	23033
Date	12 September, 2023
Drawn By	SA
Checked By	SM

M1.01

Scale	1/4" = 1'-0"

12 September, 2023

AS-BUILT DRAWING

ABBREVIATIONS:

#	NUMBER
%	PERCENT
∅	DIAMETER
@	AT
(E)	EXISTING
(F)	FUTURE
(N)	NEW
(R)	RELOCATE
(X)	DEMOLISH
2#G	NATURAL GAS @ 2 PSI
5#G	NATURAL GAS @ 5 PSI
ABS	ACRYLONTRILE-BUTADIENE-STYRENE
AD	AREA DRAIN
ADA	AMERICAN WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AMPS	AMPERAGE
ARCH	ARCHITECTURAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BLDG	BUILDING
BP	BOOSTER PUMP
BT	BATH TUB
°C	DEGREES CENTIGRADE
CD	CONDENSATE DRAIN
CFF	CAP FOR FUTURE
CFH	CUBIC FEET PER HOUR
CO	CLEANOUT
CONT	CONTINUATION
CP	CIRCULATION PUMP
CS	CLINICAL SINK
CW	COLD WATER
CWFU	COLD WATER FIXTURE UNIT
D	DRAIN
DF	DRINKING FOUNTAIN
DFU	DRAINAGE FIXTURE UNIT
DN	DOWN
DSN	DOWNSPOUT NOZZLE
DWG	DRAWING
DWV	DRAINAGE WASTE AND VENT
EA	EACH
EEW	EMERGENCY EYE WASH
ELEC	ELECTRICAL
EQ	EQUAL
EQUIP	EQUIPMENT
ESH	EMERGENCY SHOWER
ETC	AND SO FORTH
EWC	ELECTRIC WATER COOLER
°F	DEGREES FAHRENHEIT
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FFE	FINISHED FLOOR ELEVATION
FP-DOM-W	COMBINATION FIRE AND DOMESTIC WATER
FS	FLOOR SINK
FT	FEET
FW	FILTERED WATER
G	NATURAL GAS
GAL	GALLON
GC	GENERAL CONTRACTOR
GCO	GRADE CLEANOUT
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GV	GREASE VENT
GW	GREASE WASTE
HB	HOSE BIBB
HD	HEAD, HUB DRAIN
HP	HORSE POWER
HR	HOUR
HT	HEIGHT, HEAT TRACE
HW	HOT WATER
HWR	HOT WATER RETURN
HWFU	HOT WATER FIXTURE UNITS
Hz	HERTZ
IE	INVERT ELEVATION
IMC	INTERNATIONAL MECHANICAL CODE
IN."	INCH
IPC	INTERNATIONAL PLUMBING CODE
L	LAVATORY, LENGTH
LB	POUND
LPG	LIQUID PETROLEUM GAS
M	METER
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MECH	MECHANICAL
MIN	MINIMUM
MISC	MISCELLANEOUS
MS	MOP SINK
MV	MIXING VALVE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NPW	NON-POTABLE WATER
OD	OVERFLOW ROOF DRAIN
ODL	OVERFLOW ROOF DRAIN LEADER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OSA	OUTSIDE AIR
OW	OIL WASTE
OZ	OUNCE
P	PUMP, PLUMBING
PLBG	PLUMBING
PC	PLUMBING CONTRACTOR
PEX	CROSS-LINKED POLYETHYLENE
PH	PHASE
POC	POINT OF CONNECTION
POD	POINT OF DISCONNECT
PSI	POUNDS PER SQUARE INCH
PT	PNEUMATIC TANK
QTY	QUANTITY
RCW	RAW COLD WATER
RD	ROOF DRAIN
RDL	ROOF DRAIN LEADER
REQ	REQUIRED
REV	REVISION
RH	ROOF HYDRANT
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RPZ	REDUCED PRESSURE ZONE
S	SINK, SLOPE
SD	STORM DRAIN
SF	SQUARE FEET
SH	SHOWER
SOV	SHUTOFF VALVE
SP	SUMP PUMP
SPEC	SPECIFICATION
STD	STANDARD
TD	TRENCH DRAIN
TDL	TOTAL DEVELOPED LENGTH
TEMP	TEMPERATURE
TP	TRAP PRIMER
TPL	TRAP PRIMER LINE
TYP	TYPICAL
U	URINAL
UB	UTILITY BOX
UMC	UNIFORM MECHANICAL CODE
UPC	UNIFORM PLUMBING CODE
V	VENT, VOLTAGE
VS	VENT STACK
VTR	VENT THRU ROOF
W	WIDTH, WASTE
W/O	WITHOUT
WC	WATER CLOSET, WATER COLUMN
WCO	WALL CLEANOUT
WF	WASH FOUNTAIN
WH	WATER HEATER
WHA	WATER HAMMER ARRESTOR
WS	WASTE STACK, WATER SOFTENER
WSFU	WATER SUPPLY FIXTURE UNITS
YH	YARD HYDRANT

LEGEND:

NOTE: NOT ALL SYMBOLS MAY BE USED.

SYMBOL	DESCRIPTION
F-DOM-W	COMBINATION FIRE AND DOMESTIC
CD	CONDENSATE DRAIN
D	DRAIN
	DOMESTIC COLD WATER
RCW	DOMESTIC RAW COLD WATER
FW	DOMESTIC FILTERED WATER
TPL TPL	TRAP PRIMER LINE
NPW	NON-POTABLE WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RETURN
140°	DOMESTIC HOT WATER 140°
140°	DOMESTIC HOT WATER RETURN 140°
F F	FIRE PROTECTION WET
GV GV	GREASE VENT
GW	GREASE WASTE
G	NATURAL GAS
2#G	NATURAL GAS (2#)
5#G	NATURAL GAS (5#)
OW OW	OIL WASTE BELOW GRADE
OW OW	OIL WASTE ABOVE GRADE
PD PD	PUMPED DISCHARGE
	WASTE BELOW GRADE
	WASTE ABOVE GRADE
	VENT
RDL	ROOF DRAIN LEADER
ODL	OVERFLOW DRAIN LEADER
SD	STORM DRAIN

PHASE	DESCRIPTION
(E)	EXISTING WORK
(X)	DEMO WORK
(N)	NEW WORK
(N)	FUTURE WORK
	POINT OF CONNECTION
	POINT OF DISCONNECT

DRAIN	DESCRIPTION
	FLOOR DRAIN
	FLOOR SINK
	TRENCH DRAIN
	AREA DRAIN
	HUB DRAIN
	ROOF DRAIN
	OVERFLOW DRAIN
	DOWNSPOUT NOZZLE

CLEANOUT	DESCRIPTION
2-WAY GCO	2-WAY GRADE CLEANOUT
FCO	FLOOR CLEANOUT
GCO	GRADE CLEANOUT
WCO	WALL CLEANOUT
CO	WALL CLEANOUT

SYMBOL	DESCRIPTION
	SHUTOFF VALVE
	GAS SHUTOFF VALVE
	SOLENOID VALVE
	MIXING VALVE
	PRESSURE REDUCING VALVE
	SAFETY RELIEF VALVE
	SHUTOFF VALVE IN RISER
	CHECK VALVE
	BACKFLOW PREVENTER
	CIRCUIT SOLVER
	THERMOMETER
	PRESSURE GAUGE
	STRAINER
	FLEX CONNECTOR
	TEST TEE
	UNION

FIXTURE/EQUIP	DESCRIPTION
	HOSE BIBB OR ROOF/YARD HYDRANT
	WATER HAMMER ARRESTER
TPL	TRAP PRIMER
M	WATER METER
M	GAS METER
	SUMP PUMP/SEWAGE EJECTOR
	PUMP

ROUTING	DESCRIPTION
	PIPE CAP
	TEE UP
	TEE DOWN
	ELBOW UP
	ELBOW DOWN
	PIPE CONTINUATION
	FLOW INDICATOR
S = X%	PIPE SLOPE
VTR	VENT THRU ROOF WITH REQUIRED OSA CLEARANCE

TAG	DESCRIPTION
	KEYNOTE TAG
TYPE #	EQUIPMENT TAG
XX-X	PLUMBING FIXTURE TAG
# PAGE	DIAGRAM TAG CALLOUT
	DIAGRAM TAG
REV #	REVISION TAG
	KITCHEN EQUIPMENT TAG

GENERAL NOTES:

1. DO NOT SCALE FROM THESE DRAWINGS. DIMENSIONS SHALL BE TAKEN FROM ARCHITECTURAL DRAWINGS.
2. THESE DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED ONLY TO DEFINE THE BASIC FUNCTIONS REQUIRED.
3. THE SCOPE OF INCLUDED WORK CONSISTS OF FURNISHING LABOR, MATERIALS, AND EQUIPMENT FOR THE INSTALLATION. IT ALSO INCLUDES PLACING INTO OPERATION COMPLETE AND OPERABLE SYSTEMS AS SPECIFIED AND SHOWN. ACCESSORIES REQUIRED FOR PROPER OPERATION OF THE SYSTEMS, EVEN THOUGH NOT SPECIFICALLY INDICATED, SHALL BE INCLUDED AND INSTALLED. SUCH ACCESSORIES MAY INCLUDE, BUT ARE NOT LIMITED TO, VALVES, FITTINGS, PIPING SUPPORTS, ETC.
4. ALL REQUIRED OFFSETS, RISES AND DROPS DUE TO POSSIBLE OBSTRUCTIONS OF PIPE RUNS ARE NOT NECESSARILY SHOWN. PLUMBING CONTRACTOR SHALL INCLUDE A CONTINGENCY IN HIS BID TO OFFSET ANY COST REQUIRED FOR ADDITIONAL FITTINGS AND LABOR THAT MAY BE REQUIRED.
5. PLUMBING LAYOUT REPRESENTED IN THESE DRAWINGS IS BASED ON ARCHITECTURAL DRAWINGS AVAILABLE AT TIME OF DESIGN. AS STRUCTURAL OR OTHER FIELD CHANGES MAY OCCUR, PLUMBING CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY LOCATION OF ALL PLUMBING EQUIPMENT AND PIPING BEFORE INSTALLATION. PLUMBING CONTRACTOR SHALL NOTIFY BUILDER OF ANY REQUIRED ALTERATIONS. EITHER CONTRACTOR OR OWNER SHALL TAKE RESPONSIBILITY FOR VERIFYING THE INTEGRITY OF THE CHANGES WITH THE PLUMBING DESIGN ENGINEER.
6. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF ALL APPLICABLE CODES AND REGULATIONS INCLUDING BUT NOT LIMITED TO NATIONAL, CITY, STATE AND LOCAL ORDINANCES WHICH MAY BE IN EFFECT. ALL PLUMBING MATERIALS, INSTALLATION PROCEDURES AND SYSTEM LAYOUTS SHALL BE APPROVED BY ALL APPLICABLE CODE ENFORCEMENT AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR NECESSARY TO COMPLY WITH THESE RULES, REGULATIONS AND ORDINANCES AT NO ADDITIONAL COST. THESE CODES REPRESENT THE MINIMUM ACCEPTABLE REQUIREMENTS, THEREFORE, WHERE DRAWINGS AND/OR SPECIFICATIONS INDICATE MATERIALS OR CONSTRUCTION IN EXCESS OF THESE CODE REQUIREMENTS, THE DRAWINGS AND/OR SPECIFICATIONS SHALL GOVERN.
7. IT IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO PAY FOR ALL NECESSARY PERMITS AND APPROVALS FOR THIS INSTALLATION.
8. IT IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO REVIEW THESE PLANS AND SPECIFICATIONS, AS WELL AS THE RELATED HVAC, FIRE PROTECTION, ELECTRICAL, STRUCTURAL, ARCHITECTURAL, INTERIOR DECOR AND SITE ENGINEERING DRAWINGS TO BECOME FAMILIAR WITH THE FULL PROJECT SCOPE. IN ADDITION, THIS CONTRACTOR MUST COORDINATE WITH AN OWNER REPRESENTATIVE TO FULLY UNDERSTAND ALL REQUIREMENTS WHICH MAY NOT BE SPECIFIED HEREIN AND WHICH THE OWNER MAY CONSIDER PART OF THIS CONTRACT. DURING THE COURSE OF CONSTRUCTION COORDINATION AND ACTUAL CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO WORK CLOSELY WITH ALL ACCOMPANYING CONTRACTORS AND TRADESMEN IN ORDER TO ENSURE A SMOOTH RUNNING AND CAREFULLY COORDINATED INSTALLATION.
9. ANY DISCREPANCIES OR INADEQUACIES WITHIN THESE BID DOCUMENTS OR BETWEEN THESE BID DOCUMENTS AND THE RELATED HVAC, FIRE PROTECTION, ELECTRICAL, STRUCTURAL, ARCHITECTURAL, INTERIOR DECOR AND SITE ENGINEERING DRAWINGS, OR BETWEEN THESE BID DOCUMENTS AND FIELD CONDITIONS MUST BE BROUGHT TO THE ATTENTION OF THE OWNER, ARCHITECT AND ENGINEER PRIOR TO BID SUBMISSION.
10. ANY PLUMBING EQUIPMENT SUBMITTED BY THE CONTRACTOR THAT DEVIATES FROM THE BASIS OF DESIGN AS IDENTIFIED WITH THE SCHEDULED EQUIPMENT CATALOG NUMBERS THAT CAUSE EXTRA COORDINATION BETWEEN OTHER DISCIPLINES WILL BE COORDINATED AND PAID FOR AT THE SOLE COST OF THE CONTRACTOR. ANY DRAWING REVISIONS REQUIRED BY THE DESIGN TEAM SHALL BE PAID FOR BY THE CONTRACTOR TO THE DESIGN TEAM ON AN HOURLY BASIS.
11. THE PLUMBING CONTRACTOR SHALL RUN OUT ALL BUILDING DRAINAGE AND WASTE LINES WHERE SHOWN ON THE DRAWINGS AND MAKE ALL CONNECTIONS TO SITE LEVEL SYSTEMS. THE PLUMBING CONTRACTOR SHALL FIELD VERIFY ALL EXISTING INVERT ELEVATIONS PRIOR TO BID SUBMISSION. IF ANY CONFLICTS EXIST BETWEEN THE NEW PLUMBING SYSTEMS AND THE EXISTING SITE LEVEL SYSTEMS, THEY SHOULD BE BROUGHT TO THE ATTENTION OF AN OWNER'S REPRESENTATIVE AND THE ENGINEER PRIOR TO BID SUBMISSION. EXTRA COMPENSATION WILL NOT BE GRANTED FOR ANY EXTRA WORK OR MATERIAL WHICH RESULTS FROM AN INABILITY TO MEET THE INVERTS OF THE EXISTING SITE LEVEL PIPING SYSTEMS.
12. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL NEW PRODUCTS OF ESTABLISHED AND REPUTABLE MANUFACTURERS. DO NOT MAKE EQUIPMENT SUBSTITUTIONS THAT WOULD LEAVE INADEQUATE OPERATING OR SERVICE SPACE. PLUMBING CONTRACTOR SHALL INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES AND IN AN ARRANGEMENT THAT WILL GIVE THE GREATEST PRACTICAL EASE OF OPERATION AND SERVICE TO THE OWNER. INSTALL MATERIALS AND EQUIPMENT SQUARELY WITH THE BUILDING LINES WHEREVER POSSIBLE.
13. THE PLUMBING CONTRACTOR SHALL RUN ALL DOMESTIC WATER, WASTE, VENT AND GAS PIPING AS HIGH AS POSSIBLE THROUGHOUT THE ENTIRE BUILDING. INSTALL LONG RUNS OF PIPING WITHIN STEEL JOIST SPACE AND OTHER PIPING TIGHT TO BOTTOM OF STEEL. COORDINATE AND VERIFY WITH OTHER CONTRACTORS AS NOT TO INTERFERE WITH DUCTWORK, FIRE PROTECTION PIPING, LIGHTING SYSTEMS, ETC.
14. ALL EXPOSED HORIZONTAL AND VERTICAL PIPING SHALL BE INSTALLED IN A NEAT ARRANGEMENT IN LOCATIONS WHICH ARE THE MOST INCONSPICUOUS. VERTICAL DROPS SHALL BE KEPT TO AN ABSOLUTE MINIMUM AND THEIR FINAL LOCATIONS SHALL BE COORDINATED AND RUN WITHIN CHASES, WALLS, SOFFITS WITH OTHER MECHANICAL/ ELECTRICAL FEEDS. ALL SUCH LOCATIONS ARE TO BE REVIEWED WITH AN OWNER REPRESENTATIVE AND ARCHITECT PRIOR TO INSTALLATION.
15. FINAL CONNECTIONS TO ALL GAS FIRED EQUIPMENT TO BE BY THE PLUMBING CONTRACTOR, REGARDLESS OF WHO PROVIDES EQUIPMENT. THIS SHALL INCLUDE BUT NOT BE LIMITED TO HVAC EQUIPMENT, WATER HEATERS, ETC.. EACH PIECE OF EQUIPMENT SHALL BE PROVIDED WITH A DIRT LEG, LUBRICATED PLUG VALVE, UNION AND GAS SHUT-OFF VALVE.
16. ALL PLUMBING FIXTURES / APPLIANCES SHALL HAVE THEIR OWN INDEPENDENT SHUTOFF VALVES, INSTALLED IN AN EASILY ACCESSIBLE AND CONVENIENT LOCATION.
17. ALL DOMESTIC WATER BRANCH LINES SHALL HAVE THEIR OWN RESPECTIVE SHUTOFF VALVES WHETHER OR NOT SHOWN ON THE DRAWINGS.
18. WHERE APPLICABLE, DO NOT RUN VENTS THROUGH ROOF AT PRE-FINISH METAL ROOFING SYSTEMS. OFFSET VENT PIPING BELOW ROOF TO RISE THROUGH FLAT MEMBRANE ROOF. VENTS THROUGH ROOF SHALL NOT BE VISIBLE FROM GRADE. ALL VENT PIPING SHALL BE SLOPED TO DRAIN BACK TO FIXTURES.
19. PLUMBING CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO START OF CONSTRUCTION.
20. ALL NON-DRAINAGE PIPING SHALL BE RUN LEVEL AND GENERALLY FREE OF TRAPS AND UNNECESSARY BENDS; ARRANGED TO CONFORM TO THE BUILDING REQUIREMENTS AND TO SUIT THE NECESSITIES OF CLEARANCES FOR OTHER MECHANICAL WORK. PROVIDE VALVED DRAINAGE OUTLETS IN AREAS OF PIPING WHICH WOULD BE UNDRAINABLE DURING MAINTENANCE OR REPAIRS.
21. ALL PIPING SHALL BE PROPERLY LABELED AS TO THE TYPE OF SYSTEM AND DIRECTION OF FLOW.
22. LOCATE ACCESS PANELS IN NON ACCESSIBLE CEILINGS AND WALLS FOR ALL VALVES, WATER HAMMER ARRESTORS, CLEANOUTS AND ALL OTHER ITEMS THAT REQUIRE ACCESS TO PROPERLY MAINTAIN OR SERVICE THE BUILDING.
23. PROVIDE ALL NECESSARY FLASHING AND COUNTERFLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THIS BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF PIPES, DUCTS, CONDUIT AND EQUIPMENT.
24. ALL VENT THRU ROOF PENETRATIONS INDICATED ON PLANS ARE PRELIMINARY. FINAL LOCATIONS SHALL BE COORDINATED WITH ALL TRADES. ALL VTR'S SHALL BE A MINIMUM OF 10'-0" FROM ALL FRESH AIR INTAKE OPENINGS.
25. COMPLY WITH ALL LOCAL AND STATE CODES FOR SEISMIC ISOLATION. THE DRAWINGS DO NOT SHOW ALL SEISMIC ISOLATION POINTS, THEREFORE ALLOW FOR SEISMIC ISOLATION IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION.
26. PLUMBING CONTRACTOR SHALL CONSTRUCT AND BRACE EQUIPMENT, PIPING, ETC., SO THAT THERE WILL BE NO VIBRATION AND/OR RATTLING WHEN THE SYSTEM IS IN OPERATION.
27. SIZE OF SHUTOFF VALVES, BALANCING DEVICES, UNIONS, ETC., SHALL BE FULL LINE SIZE.
28. CLEAN OUTS SHALL BE INSTALLED AS SHOWN AND AS REQUIRED BY CODE.
29. ALL DOMESTIC WATER PIPING SHALL CONFORM TO THE REQUIREMENTS OF THE ANSI SAFETY CODE AND BE FREE FROM ALL DEFECTS AND BE PROPERLY IDENTIFIED.
30. STERILIZE THE ENTIRE WATER DISTRIBUTION SYSTEM PER THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
31. DOMESTIC WATER SYSTEM, WASTE, SOIL AND VENT SYSTEM SHALL ALL BE TESTED PER LOCAL AUTHORITY HAVING JURISDICTION. TEST AND OBTAIN APPROVAL ON ALL UNDERGROUND PIPING FROM ADMINISTRATIVE AUTHORITY HAVING JURISDICTION PRIOR TO COVERING WORK.
32. PLUMBING CONTRACTOR SHALL PROVIDE INITIAL START UP OF ALL SYSTEMS INCLUDED IN THE PLUMBING WORK.
33. REFER TO ARCHITECTURAL DRAWINGS TO DETERMINE WHERE FIRERATED WALLS OCCUR AND PROVIDE APPROPRIATED FIRE STOPPING.
34. THE PLUMBING CONTRACTOR SHALL PROVIDE A COMPLETE SET OF RECORD "AS-BUILT" DRAWINGS INDICATING THE PRECISE LOCATION OF ALL SYSTEMS, EQUIPMENT CONCEALED OR EMBEDDED PIPING, PIPING CONNECTIONS AND ACCESS DOORS. THESE DRAWINGS SHALL ALSO INCLUDE ALL CHANGES AND DEVIATIONS FROM THE BID DOCUMENTS.
35. THE PLUMBING CONTRACTOR SHALL PROVIDE MAINTENANCE INSTRUCTIONS FOR EQUIPMENT AND SYSTEMS THAT REQUIRE PREVENTATIVE MAINTENANCE. INSTRUCTIONS SHALL BE CLEARLY STATED AND INCORPORATED ON A READILY ACCESSIBLE LABEL AND INCLUDE THE TITLE OR PUBLICATION NUMBER FOR THE OPERATION AND MAINTENANCE MANUAL FOR THAT PARTICULAR MODEL AND TYPE OF PRODUCT.
36. ALL PLUMBING FIXTURES SHALL BE WATER CONSERVATION TYPE AS MANDATED BY LOCAL BUILDING DEPARTMENT.
37. ALL PLUMBING FIXTURES SHALL HAVE A TRAP INSTALLED AND SHALL BE PROPERLY VENTED IN ORDER TO MAINTAIN THE TRAP SEAL.
38. PLUMBING CONTRACTOR SHALL CONNECT NEW WORK TO ANY EXISTING WORK IN A NEAT AND APPROVED MANNER.
39. ANY EXISTING PIPING INDICATED ON THESE PLANS SHALL BE VERIFIED IN THE FIELD FOR EXACT LOCATIONS, QUANTITY, AND PIPE SIZES.
40. UNLESS OTHERWISE NOTED ALL EXISTING PLUMBING EQUIPMENT SHALL REMAIN.
41. FOR ALL EQUIPMENT SPECIFIED IN THESE DRAWINGS, CONTRACTOR SHALL PROVIDE AN OVERALL MATRIX THAT INCLUDED THE FOLLOWING INFORMATION; UNIT ID, FLA, MCA, AND MOCP. THIS MATRIX SHALL BE REVIEWED BY THE ELECTRICAL ENGINEER AND COORDINATED WITH ALL OTHER TRADES BEFORE ORDERINGS EQUIPMENT.

SHEET INDEX

NUMBER	TITLE	S&S PERMIT SET 05/09/2023
P0.01	GENERAL INFORMATION	●
P0.02	SPECIFICATIONS	●
P1.01	PLUMBING PLAN	●

No.	Description	Date

MAIN CONTRACTOR:

RED MESA BUILDERS

NEVADA CONTRACTOS B#81273

OFFICE: (702) 434-0046 FAX: (702) 434-0051

ebony@redmesabuilders.com

4023 W.OQUENDO RD.STE B
LAS VEGAS NV 89118

SUB CONTRACTOR:

RED MESA MECHANICAL

LICENSE NUMBER : NV #0086266 - & #0087531

AS-BUILT DATE: 12 September, 2023

SIGN: _____

NOTES:

UNLV SLC-A 2310 RENOVATION

1001 SHADOW LANE
NORTH LAS VEGAS,
NV 89106

GENERAL INFORMATION

Project Number	23033
Date	12 September, 2023
Drawn By	SA
Checked By	SM

P0.01

Scale 1/4" = 1'-0"

12 September, 2023

CADDRAFT

AS-BUILT DRAWING

SPECIFICATIONS:

PART I - GENERAL

A. CONDITIONS
1. GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS, SPECIAL CONDITIONS, AND OTHER RELATED PORTIONS OF DIVISION 1 APPLY TO THIS SECTION.

B. SUMMARY OF WORK
1. THE WORK INCLUDED IN THIS SECTION CONSISTS OF LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE PLUMBING SYSTEM AS INDICATED ON THE DRAWINGS AND AS DESCRIBED HEREIN. INSTALL SYSTEM IN PERFECT WORKING ORDER AND IN FULL ACCORDANCE WITH THE INTENT AND MEANING OF THE DRAWINGS AND SPECIFICATIONS. THE WORK IN GENERAL CONSISTS OF FURNISHING AND INSTALLING NEW PLUMBING FIXTURES AND TRIM INCLUDING CONNECTION OF NEW WASTE, VENT AND WATER PIPING TO EXISTING SERVICES AS REQUIRED TO PUT NEW FIXTURES INTO SERVICE.

C. REGULATIONS, CODES, PERMITS AND INSPECTIONS
1. COMPLY WITH NATIONAL, STATE, COUNTY, AND CITY CODES, ORDINANCES, ETC., HAVING JURISDICTION, INCLUDING RULES AND REQUIREMENTS OF UTILITY SERVING AGENCIES.

2. INCORPORATE CODES, ORDINANCES, ETC., INTO THE BASE BID AND INSTALLATION OF WORK. NO ADDITIONAL FUNDS WILL BE ALLOCATED FOR WORK REQUIRED TO CONFORM TO REGULATIONS AND REQUIREMENTS OR TO OBTAIN APPROVAL OF WORK.

3. OBTAIN AND PAY FOR REQUIRED PERMITS AND LICENSES. WHEN REQUIRED BY CODE, WORK MUST BE INSPECTED AND APPROVED BY LOCAL AUTHORITIES. PRIOR TO FINAL APPROVAL, FURNISH ARCHITECT WITH CERTIFICATES OF INSPECTION AND APPROVALS BY LOCAL AUTHORITIES.

4. IN ADDITION, THE LATEST ADOPTED EDITION OF THE FOLLOWING CODES AND PUBLISHED STANDARDS SHALL BE ADHERED TO:
4.1. INTERNATIONAL BUILDING CODE (IBC)
4.2. UNIFORM MECHANICAL CODE (UMC)
4.3. NFPA STANDARDS
4.4. ASHRAE HANDBOOKS
4.5. UNIFORM PLUMBING CODE (UPC)
4.6. NATIONAL ELECTRIC CODE (NEC)
4.7. SOUTHERN NEVADA CODE AMENDMENTS
4.8. INTERNATIONAL ENERGY CONSERVATION CODE (IECC)

D. DESIGN DRAWINGS
1. DESIGN DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED ONLY TO DEFINE THE BASIC FUNCTIONS REQUIRED. PROVIDE LABOR, MATERIAL, ETC., NECESSARY TO ACCOMPLISH THESE REQUIREMENTS. MINOR DEVIATIONS FROM THE DESIGN LAYOUT ARE ANTICIPATED AND SHALL BE CONSIDERED A PART OF THE WORK INCLUDED. NO CHANGES THAT ALTER THE CHARACTER OF THE WORK WILL BE PERMITTED. DO NOT SCALE THE DESIGN DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS.
2. IF A CONFLICT OCCURS BETWEEN THE DESIGN DRAWINGS AND SPECIFICATIONS, PROMPTLY NOTIFY THE ARCHITECT AND/OR ENGINEER. AT THAT POINT, AN INTERPRETATION WILL BE MADE BY THE ARCHITECT AND/OR ENGINEER AND SAID DECISION SHALL BE CONSIDERED PART OF THE CONTRACT DOCUMENTS.

E. QUALIFICATIONS OF CONTRACTOR AND WORKMEN
1. CONTRACTOR SHALL BE PROPERLY LICENSED TO PERFORM THE WORK.

2. USE SUFFICIENT JOURNEYMEN, CRAFTSMEN AND SUPERVISORS TO ENSURE PROMPT, PROPER, AND SAFE EXECUTION OF THE WORK.

F. BASE BID
1. BASE BID SHALL INCLUDE MATERIALS AND EQUIPMENT SPECIFIED OR SCHEDULED ON THE DRAWINGS. REQUESTS FOR SUBSTITUTION OF MATERIALS AND EQUIPMENT SHALL BE BY ADDITIVE OR DEDUCTIVE ALTERNATE BID ONLY, WITH THE FOLLOWING DATA CLEARLY WRITTEN AT THE BEGINNING OF THE ALTERNATE PROPOSAL:
1.1. ADDITIVE OR DEDUCTIVE AMOUNT CLEARLY WRITTEN IN WORDS AND NUMERALS.
1.2. INCREASED OR REDUCED CONSTRUCTION TIME IN DAYS.
1.3. OTHER DEMONSTRABLE BENEFIT, FOR WHICH THE SUBSTITUTION OF SUCH ITEM WILL BE IN THE OWNER'S INTEREST.

2. ONLY THOSE MATERIALS AND EQUIPMENT WHICH ARE SUBMITTED AS AN ALTERNATE BID AND WHICH ARE ACCOMPANIED BY THE SUPPORTING DATA INDICATED BELOW WILL BE REVIEWED AND CONSIDERED.

G. SUBSTITUTIONS
1. MATERIALS AND EQUIPMENT THAT ARE A SUBSTITUTE FROM THE LISTED MANUFACTURES MAY BE CONSIDERED. PRIOR TO PROPOSING ANY SUBSTITUTE ITEM, CONTRACTOR SHALL SATISFY HIMSELF THAT THE ITEM PROPOSED IS, IN FACT, EQUAL TO THAT SPECIFIED, THAT SUCH ITEM WILL FIT INTO THE SPACE ALLOCATED, THAT SUCH ITEM AFFORDS COMPARABLE EASE OF OPERATION, MAINTENANCE AND SERVICE, THAT THE APPEARANCE, LONGEVITY, CAPACITY, SUITABILITY, AND ELECTRICAL CHARACTERISTICS ARE COMPARABLE, AND THAT BY REASON OF COST SAVINGS, REDUCED CONSTRUCTION TIME, OR SIMILAR DEMONSTRABLE BENEFIT, THE SUBSTITUTION OF SUCH ITEM WILL BE IN THE OWNER'S INTEREST.

2. THE BURDEN OF PROOF OF EQUALITY OF A PROPOSED SUBSTITUTION FOR A SPECIFIED ITEM SHALL BE UPON THE CONTRACTOR. CONTRACTOR SHALL SUPPORT HIS REQUEST WITH SUFFICIENT TEST DATA AND OTHER MEANS TO PERMIT THE ENGINEER TO MAKE A FAIR AND EQUITABLE DECISION ON THE MERITS OF THE PROPOSED SUBSTITUTION. INSUFFICIENT SUBMITTAL DATA WILL RESULT IN REJECTION OF THE PROPOSED SUBSTITUTION. ANY ITEM BY A MANUFACTURER OTHER THAN THOSE SPECIFIED, OR OF BRAND NAME OR MODEL NUMBER, OR OF GENERIC SPECIES OTHER THAN THOSE SPECIFIED, WILL BE CONSIDERED A SUBSTITUTION. ENGINEER WILL BE THE SOLE JUDGE OF WHETHER OR NOT THE SUBSTITUTION IS EQUAL IN QUALITY, UTILITY AND ECONOMY TO THAT SPECIFIED.

3. APPROVAL OF A SUBSTITUTION SHALL NOT RELIEVE CONTRACTOR FROM RESPONSIBILITY FOR COMPLIANCE WITH ALL REQUIREMENTS OF THE CONTRACT. CONTRACTOR SHALL BEAR THE EXPENSE FOR ANY CHANGES IN OTHER PARTS OF THIS WORK OR OTHER WORK CAUSED BY THE PROPOSED SUBSTITUTION, INCLUDING BUT NOT LIMITED TO STRUCTURAL, ELECTRICAL, PLUMBING, AND ACCESS REQUIREMENTS.IF ENGINEER REJECTS CONTRACTOR'S SUBSTITUTE ITEM ON THE FIRST SUBMITTAL, CONTRACTOR MAY MAKE ONLY ONE ADDITIONAL REQUEST FOR SUBSTITUTION IN THE SAME CATEGORY.

4. IF ENGINEER REJECTS CONTRACTOR'S SUBSTITUTE ITEM ON THE FIRST SUBMITTAL, CONTRACTOR MAY MAKE ONLY ONE ADDITIONAL REQUEST FOR SUBSTITUTION IN THE SAME CATEGORY.

H. SUBMITTALS
1. EQUIPMENT AND MATERIALS:
1.1. CONTRACTOR SHALL HAVE APPROVED SUBMITTALS PRIOR TO FABRICATION OR DELIVERY OF ANY MATERIAL AND/OR EQUIPMENT TO THE JOB SITE. SUBMIT 1 (ONE) ELECTRICAL, COMPREHENSIVELY INDEXED SUBMITTAL COMPLETELY DESCRIBING EACH MAJOR SYSTEM, MATERIAL AND EQUIPMENT PROPOSED TO BE USED. ANY PIECE OF EQUIPMENT PLACED ON THE JOB WITHOUT PRIOR APPROVAL WILL BE SUBJECT TO REMOVAL AT THE SOLE EXPENSE OF THE CONTRACTOR.
1.2. ANY PLUMBING EQUIPMENT SUBMITTED BY THE CONTRACTOR THAT DEVIATES FROM THE BASIS OF DESIGN SHALL HAVE ALL INFORMATION GATHERED INTO A SCHEDULE THAT MATCHES THE FORMAT AND LAYOUT OF THE SCHEDULE ON THE DRAWINGS. THIS SHALL INCLUDE ANY EQUIPMENT THAT IS AN APPROVED ALTERNATIVE MANUFACTURER. ANY SUCH SUBMITTAL THAT CAUSES EXTRA COORDINATION BETWEEN OTHER DISCIPLINES WILL BE COORDINATED AND PAID FOR AT THE SOLE COST OF THE CONTRACTOR. ANY DRAWING REVISIONS REQUIRED BY THE DESIGN TEAM SHALL BE PAID FOR BY THE CONTRACTOR TO THE DESIGN TEAM ON AN HOURLY BASIS.
1.3. SUBMITTALS ARE FOR INFORMATION AND COORDINATION ONLY. REVIEW OF MATERIAL AND/OR EQUIPMENT SUBMITTALS SHALL IN NO WAY RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO COMPLY WITH PLANS AND SPECIFICATIONS REQUIREMENTS. POINTS OF NON-COMPLIANCE WHICH ARE NOT NOTED SHALL NOT BE CONSTRUED TO BE AN APPROVAL OF THE NON-COMPLIANCE. SUBMITTALS SHALL CLEARLY STATE WHERE EQUIPMENT DOES NOT AGREE WITH THE CONTRACT DOCUMENTS.
1.4. ARCHITECTURAL PLANS AND SPECIFICATIONS SHALL BE REVIEWED FOR ADDITIONAL SUBMITTAL REQUIREMENTS.

2. SHOP DRAWINGS:
2.1. INCLUDE DETAILED DRAWINGS WHERE REQUIRED FOR PROPER COORDINATION WITH OTHER TRADES. INDICATE EQUIPMENT LAYOUTS, ELECTRICAL CHARACTERISTICS, WIRING AND CONTROL DIAGRAMS, SIZES AND LOCATIONS OF PIPING, DUCTS, CONDUITS, AND OTHER ITEMS WHICH EFFECT THE SPACE AVAILABLE. SUBMIT ITEMS AT ONE TIME IN A NEAT AND ORDERLY MANNER WITHIN 15 DAYS OF AWARD OF CONTRACT. PARTIAL LIST WILL NOT BE ACCEPTABLE. SUBMITTALS SHALL INCLUDE MANUFACTURER'S SPECIFICATIONS, PHYSICAL DIMENSIONS, WEIGHTS AND RATINGS OF EQUIPMENT SUBMITTED. SUBMITTALS SHALL BE INDEXED AND SECURELY BOUND IN A SUITABLE MANNER. SUBMIT THE FOLLOWING ITEMS FOR APPROVAL: 1) CLEANOUTS 2) PIPING AND FITTINGS 3) VALVES.

3. RECORD DRAWINGS:
3.1. MAINTAIN ACCURATE RECORDS OF ANY CHANGES FROM THE CONTRACT DOCUMENTS AND SHOP DRAWINGS. UPON COMPLETION OF THE PROJECT, DELIVER TO THE OWNER ONE (1) SET OF LEGIBLE AND REPRODUCIBLE COPIES OF THESE RECORD DRAWINGS.

4. WARRANTY:
4.1. UNLESS SPECIFIED OTHERWISE BY ARCHITECT, ENGINEER, OWNER OR OWNER'S REPRESENTATIVE, UPON COMPLETION OF THE PROJECT, DELIVER TO THE OWNER A WRITTEN ONE (1) YEAR WARRANTY ON THE SYSTEMS, MATERIALS AND ALL WORK PERFORMED, WHICH INCLUDES THE ENTIRE COST, INCLUDING MATERIALS AND/OR LABOR, OF CORRECTIVE WORK REQUIRED AND NECESSITATED BY DEFECTS IN MATERIALS AND/OR WORKMANSHIP. CONTRACTOR SHALL ALSO PRESENT THE OWNER W/ A COPY OF ALL MANUFACTURER'S WARRANTIES THAT EXCEED THE WARRANTY PERIOD, SUCH AS WATER HEATERS.

5. OWNER TRAINING:
5.1. AT A TIME DESIGNATED BY THE OWNER, PROVIDE A SUITABLE TECHNICIAN, MECHANIC OR ENGINEER TO REVIEW THE SYSTEMS WITH OWNER'S REPRESENTATIVE TO THOROUGHLY FAMILIARIZE HIM WITH THE OPERATIONS AND MAINTENANCE OF THE SYSTEMS. UP TO (8) EIGHT HOURS TOTAL TRAINING TIME SHALL BE REQUIRED WITHOUT ADDITIONAL COST TO THE OWNER. PRIOR TO TRAINING THE OWNER SHALL HAVE TAKEN POSSESSION OF THE O & M MANUALS, AND SHALL HAVE HAD A REASONABLE AMOUNT OF TIME FOR HIS PERSONNEL TO FAMILIARIZE THEMSELVES WITH THE CONTENTS OF THE MANUAL.

PART II - PRODUCTS

A. GENERAL PRODUCTS
1. SEISMIC RESTRAINTS:
1.1. WHERE REQUIRED BY THE BUILDING OFFICIALS/BUILDING CODES, FURNISH AND INSTALL SEISMIC RESTRAINTS FOR PIPING, AND EQUIPMENT. SEISMIC RESTRAINTS SHALL BE DESIGNED TO RESIST SEISMIC FORCES PRESCRIBED IN THE BUILDING CODES FOR THE PROJECT LOCATION.
1.2. WHERE REQUIRED BY THE BUILDING OFFICIAL, PROVIDE STRUCTURAL CALCULATIONS SEALED AND SIGNED BY A LICENSED STRUCTURAL ENGINEER.

2. FURNISH AND INSTALL NEW PRODUCTS OF ESTABLISHED AND REPUTABLE MANUFACTURERS. SEE LIST OF ACCEPTABLE MANUFACTURERS ELSEWHERE IN THIS SPECIFICATION. MAKE NO EQUIPMENT SUBSTITUTIONS THAT WOULD LEAVE INADEQUATE OPERATING OR SERVICING SPACE. REFER TO SUBSTITUTION SECTION OF THE SPECIFICATIONS.

3. ACCESSORIES REQUIRED FOR PROPER OPERATION OF THE SYSTEMS, EVEN THOUGH NOT SPECIFICALLY INDICATED, SHALL BE INCLUDED AND INSTALLED. SUCH ACCESSORIES MAY INCLUDE, BUT ARE NOT LIMITED TO, FILTERS, CONDENSATE DRAINS, RELIEF VALVES, SERVICE VALVES, AQUASTATS, VIBRATION ISOLATORS, ETC. STARTERS FOR NON-PREWIRED EQUIPMENT, I.E., FANS, PUMPS ETC., ARE UNDER THE ELECTRICAL CONTRACTOR'S SCOPE OF WORK, UNLESS NOTED OTHERWISE.
4. SPECIFIC REFERENCE TO A MANUFACTURER'S PRODUCT IS ONLY TO ESTABLISH TYPE, QUALITY, AND PERFORMANCE REQUIRED. THESE QUALIFICATIONS ARE IN ADDITION TO THE REQUIREMENTS SHOWN ON THE PLANS AND ELSEWHERE IN THESE SPECIFICATIONS. LISTING OF ALTERNATE EQUIPMENT MANUFACTURERS SHALL NOT BE CONSTRUED AS AN UNCONDITIONAL APPROVAL OF THE PRODUCTS OF THOSE MANUFACTURERS.

B. PIPING MATERIALS
1. SOIL, WASTE, AND VENT PIPING AND FITTINGS SHALL BE:
1.1. CAST IRON, NO HUB.
1.2. PLASTIC PIPE (WHERE ALLOWED BY THE CODE):
1.2.1. PVC ASTM D2665-82. JOINTS: SOLVENT WELD ASTM D2564-80.
1.2.2. PENETRATION OF FIRE RESISTIVE CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF ALL APPLICABLE BUILDING CODES AND LOCAL AMENDMENTS ADOPTED BY THE BUILDING DEPT.. HAVING JURISDICTION.

2. WATER PIPING ABOVE GRADE:
2.1. COPPER TUBING: ASTM B88, TYPE L, HARD DRAWN.
2.2. FITTINGS: ANSI/ASME B16.23, CAST BRASS, OR ANSI/ASME B16.29, WROUGHT COPPER.
2.3. JOINTS: SOLDER AND FLUXES SHALL HAVE A LEAD CONTENT OF LESS THAN 0.2 OF 1 PERCENT.

3. COOLING COIL CONDENSATE DRAIN PIPING:
3.1. COPPER TUBING, ASTM B306, DWV.
3.2. FITTINGS: ASME 16.23, CAST BRONZE, OR ASME B16.29, WROUGHT COPPER
3.3. JOINTS: ASTM B32, SOLDER, GRADE 50B. WHERE BRANCH DRAINS ARE SMALLER THAN AVAILABLE SIZES IN DWV, USE ASTM B88, TYPE M COPPER TUBING.

4. WATER VALVES:
4.1. SHALL BE BY THE SAME MANUFACTURER WITH MANUFACTURER'S NAME AND PRESSURE RATING CLEARLY MARKED ON OUTSIDE OF BODY. PROVIDE VALVES SUITABLE TO OPERATE INTO ADJOINING PIPE AS SPECIFIED FOR PIPE JOINTS. USE PIPE SIZE GATE VALVES WITH RISING STEM OR BALL VALVES. VALVES SHALL BE 125 # CLASS.

C. PIPE SUPPORTS
1. SEISMIC RESTRAINTS:
1.1. ATTACHMENTS FOR PIPING AND EQUIPMENT SUPPORTED BY THE BUILDING STRUCTURE SHALL BE DESIGNED TO RESIST SEISMIC FORCES PRESCRIBED IN ALL APPLICABLE BUILDING CODES AND LOCAL AMENDMENTS ADOPTED BY THE BUILDING DEPT . HAVING JURISDICTION.
1.2. WHERE REQUIRED BY THE BUILDING OFFICIAL, PROVIDE STRUCTURAL CALCULATIONS SIGNED BY A LICENSED STRUCTURAL ENGINEER.

2. SOIL, WASTE, AND VENT PIPING: AS REQUIRED BY LOCAL BUILDING CODE HAVING JURISDICTION.

3. WATER PIPING: AS REQUIRED BY LOCAL BUILDING CODE HAVE JURISDICTION.

D. CLEANOUTS
1. INTERIOR FINISHED FLOOR AREAS (FCO): TWO PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WEEP HOLES, REVERSIBLE CLAMPING COLLAR, AND ADJUSTABLE NICKEL-BRONZE, ROUND SCORIATED COVER IN SERVICE AREAS AND ROUND OR SQUARE WITH DEPRESSED COVER TO ACCEPT FLOOR FINISH IN FINISHED FLOOR AREAS. (MATERIALS SPECIFIED UNDER PART 2, PARAGRAPH B.)

PART III EXECUTION

A. GENERAL
1. INSTALL MATERIALS AND EQUIPMENT IN AN ARRANGEMENT THAT WILL GIVE THE GREATEST PRACTICAL EASE OF OPERATION AND SERVICE TO THE OWNER.

2. INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES.

3. PERFORM WORK IN ACCORDANCE WITH THE BEST TRADE PRACTICES. INSTALL MATERIALS AND EQUIPMENT SQUARELY WITH THE BUILDING LINES. PROVIDE RIGID PERMANENT BASES AND SUPPORTS FOR WORK. CONSTRUCT AND BRACE EQUIPMENT, PIPING, ETC, SO THAT THERE WILL BE NO VIBRATION AND/ OR RATTLING WHEN THE SYSTEM IS IN OPERATION.

4. COVER AND PROTECT EQUIPMENT AND MATERIALS FROM WEATHER, THEFT, ETC., UNTIL DATE OF COMPLETION. PLUG AND/OR CAP OPEN ENDS OF INSTALLED PIPING.

B. INSTALLATION
1. CONCEAL PIPING IN WALLS, FURRED SPACES, PIPE SPACES, OR ABOVE SUSPENDED CEILINGS, AS SHOWN ON THE DRAWINGS. GROUP PIPING WHEREVER PRACTICAL AND INSTALL UNIFORMLY IN STRAIGHT PARALLEL LINES, SQUARELY WITH BUILDING LINES.

2. SUPPORT HORIZONTAL PIPING WITH PIPE HANGERS. DO NOT USE PERFORATED METAL TAPE. ARRANGE PIPING SO THAT THERMAL EXPANSION DOES NOT CAUSE STRESS. INSTALL AND SECURE PIPING SO THAT HOT AND COLD LINES, AND LINES OF DISSIMILAR METALS, ARE NOT IN CONTACT.

3. VERIFY EQUIPMENT DIMENSIONS AND REQUIREMENTS FOR ROUGH-IN WORK. BENDING OR OFFSETTING OF FINISHED PIPING CONNECTIONS AND "COCKING" OF FITTINGS OR TRIM WILL NOT BE ACCEPTABLE. DO NOT SUPPORT ANY PIPING WEIGHT FROM EQUIPMENT.

4. SANITARY: LAY PIPING AT A UNIFORM GRADE. MAKE JOINTS CLOSE AND SQUARE. USE FITTINGS FOR TURNS AND OFFSETS. UNIFORMLY GRADE AND COMPACT TRENCHES PRIOR TO LAYING PIPING. PROVIDE CONTINUOUS SUPPORT FOR PIPING.

5. PIPING CONNECTIONS TO PLUMBING FIXTURES, EXPOSED PIPING AND FITTINGS SHALL BE CHROME PLATED.

6. CUTTING AND PATCHING SHALL BE APPROVED BY THE ARCHITECT PRIOR TO PERFORMING THE WORK.

7. INSULATE ALL PIPING CONVEYING FLUIDS ABOVE OR BELOW AMBIENT TEMPERATURES, ALL CONDENSATE PIPING AND THE UNDERSIDE OF ROOF DRAINS/OVERFLOW ROOF DRAINS AND THE UNDERSIDE OF HORIZONTAL RAINWATER PIPING. WHERE EXPOSED, COVER INSULATION WITH ALUMINUM JACKET.

C. TESTING REQUIREMENTS
1. TEST SYSTEMS IN ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, ORDINANCES, ETC. MINIMUM REQUIREMENTS ARE AS FOLLOWS:
1.1. SANITARY: STATIC WATER PRESSURE FOR ONE (1) HOUR.
1.2. POTABLE WATER: AVAILABLE PRESSURE FOR ONE (1) HOUR.
1.3. GAS PIPING: PRESSURE 14-INCH WATER COLUMN OR LESS, 10 PSI FOR ONE (1) HOUR.
1.4. GAS PIPING: OVER 14-INCH WATER COLUMN, 60 PSI FOR ONE (1) HOUR.

2. IF ANY TEST SHOWS THE WORK TO BE DEFECTIVE IN ANY WAY OR AT VARIANCE WITH SPECIFICATION REQUIREMENTS, MAKE NECESSARY CHANGES AND REMEDY DEFECTS.

3. TEST PIPING SYSTEMS AFTER INSTALLATION AND PRIOR TO BEING PUT INTO USE, COVERED OR CONCEALED BY INSULATION, BACKFILLING OR BUILDING CONSTRUCTION.

D. DISINFECTION OF DOMESTIC WATER PIPING SYSTEM
1. DISINFECT WATER PIPING IN STRICT CONFORMANCE WITH THE REQUIREMENTS OF THE STATE OF NEVADA "WATER SUPPLY REGULATIONS", SECTION 3 AND IN ACCORDANCE TO ALL APPLICABLE PLUMBING CODES AND LOCAL AMENDMENTS ADOPTED BY THE BUILDING DEPT. HAVING JURISDICTION.

CADD

No.	Description	Date

MAIN CONTRACTOR:

RED MESA BUILDERS

NEVADA CONTRACTOS B#81273
OFFICE: (702) 434-0046 FAX: (702) 434-0051

ebony@redmesabuilders.com

4023 W.OQUENDO RD.STE B
LAS VEGAS NV 89118

SUB CONTRACTOR:

RED MESA MECHANICAL

LICENSE NUMBER : NV #0086266 - & #0087531

AS-BUILT DATE: 12 September, 2023

SIGN: _____

NOTES:

UNLV SLC-A 2310 RENOVATION

1001 SHADOW LANE
NORTH LAS VEGAS,
NV 89106

SPECIFICATIONS

Project Number	23033
Date	12 September, 2023
Drawn By	SA
Checked By	SM

P0.02

Scale	1/4" = 1'-0"

12 September, 2023

AS-BUILT DRAWING

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	DESCRIPTION	CONNECTIONS				MANUFACTURER	MODEL
			COLD	HOT	WASTE	VENT		
CT-1	CLAY TRAP	TOP ACCESS ACID RESISTANT COATED FABRICATED STEEL SOLIDS INTERCEPTOR IN LIEU OF FIXTURE P-TRAP, FOR SUSPENDED INSTALLATION. COORDINATE LOCATION IN SINK CABINET PRIOR TO CONSTRUCTION. FURNISH WITH FABRICATED STEEL REMOVABLE BASKET AND STAINLESS STEEL REMOVABLE SCREENS. PROVIDE COMPLETE WITH GASKETED SECURED COVER. PROVIDE WITH 1-1/2" LOW INLET AND HIGH OUTLET.	-	-	1-1/2"	-	ZURN	Z1180
EEW-1	EMERGENCY EYEWASH	STAINLESS STEEL FAUCET MOUNTED SWIVEL EYE/FACE WASH WITH DUCT COVERS, COMPLETE WITH REQUIRED SIGNAGE.	-	-	-	-	HAWS	7620
FS-1	FLOOR SINK (STAINLESS)	12"X12"X8" FLOOR SINK, STAINLESS STEEL BODY AND GRATE COMPLETE WITH STAINLESS STEEL DOME STRAINER. PROVIDE GRATE PER PLANS. (PROVIDE WITH JOSAM 88240 TRAP SEAL.)	-	-	2"	1-1/2"	JOSAM	49340
S-1	SINK (SINGLE) (COUNTER MOUNT)	15-1/2"x15-1/2"x6-1/8" COUNTER MOUNT SINGLE COMPARTMENT STAINLESS STEEL SINK. PROVIDE WITH ELKAY LKB7216 FAUCET AND ELKAY STRAINER. COORDINATE FAUCET HOLES PRIOR TO ORDERING. PROVIDE WITH STOP, EEW-1 & CT-1	-	-	2"	1-1/2"	JOSAM	49340
WCO	WALL CLEANOUT	ROUND STAINLESS STEEL WALL ACCESS COVER COMPLETE WITH SECURING SCREW AND BRONZE RAISED HEX HEAD PLUG COMPLETE WITH VANDAL PROOF SCREWS. COORDINATE HEIGHT WITH FLOOR BASE.	-	-	SEE PLANS	-	JOSAM	58600-PLG-VP
RPZ-1	BACKFLOW PREVENTOR	REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTOR COMPLETE WITH FULL PORT QUARTER TURN BALL VALVES. PROVIDE WITH Y-TYPE STRAINER AND AIR GAP FITTING. ROUTE DISCHARGE TO NEAREST APPROVED RECEPTOR.	1/2"	-	-	-	WATTS	SERIES LF009

PIPING MATERIAL SCHEDULE

SERVICE	LOCATION	SIZES	PIPE MATERIAL	JOINTS	FITTINGS	NOTES
DOMESTIC COLD AND HOT WATER	ABOVE GRADE	2" AND SMALLER	HARD DRAWN TYPE L COPPER PIPE	LEAD FREE SOLDER	WROUGHT COPPER	-
DOMESTIC COLD AND HOT WATER	ABOVE GRADE	2" AND SMALLER	PEX-A	EXPANSION	MATCH PIPE	INSTALL PER UMC IN PLENUM SPACES.
COMPRESSED AIR	ALL	ALL	HARD DRAWN TYPE L COPPER PIPE	LEAD FREE SOLDER	WROUGHT COPPER	-
COMPRESSED AIR	ALL	ALL	SCHEDULE 40 PVC	SOLVENT WELD	MATCH PIPE	-
DRAIN	ALL	ALL	HARD DRAWN TYPE M COPPER PIPE	LEAD FREE SOLDER	WROUGHT COPPER	PROVIDE AIR GAP AS REQUIRED BY UPC AT TERMINATION ABOVE RECEPTOR.
DRAIN	ALL	ALL	SCHEDULE 40 PVC	SOLVENT WELD	MATCH PIPE	PROVIDE AIR GAP AS REQUIRED BY UPC AT TERMINATION ABOVE RECEPTOR.
SANITARY WASTE AND VENT	ALL	ALL	CAST IRON	NO-HUB	MATCH PIPE	DOMESTIC MANUFACTURED CAST IRON PRODUCTS ONLY.
SANITARY WASTE AND VENT	ALL	ALL	SCHEDULE 40 PVC	SOLVENT WELD	MATCH PIPE	INSTALL PER UMC IN PLENUM SPACES.
SANITARY WASTE AND VENT	ALL	ALL	SCHEDULE 40 OR 80 CPVC	SOLVENT WELD	MATCH PIPE	INSTALL PER UMC IN PLENUM SPACES.

NOTES:
1. SEE SPECIFICATION FOR ADDITIONAL INFORMATION.
2. CONFIRM ALL PIPING MATERIALS ARE ACCEPTABLE WITH LOCAL AUTHORITY HAVING JURISDICTION PRIOR TO CONSTRUCTION.

GENERAL SHEET NOTES:

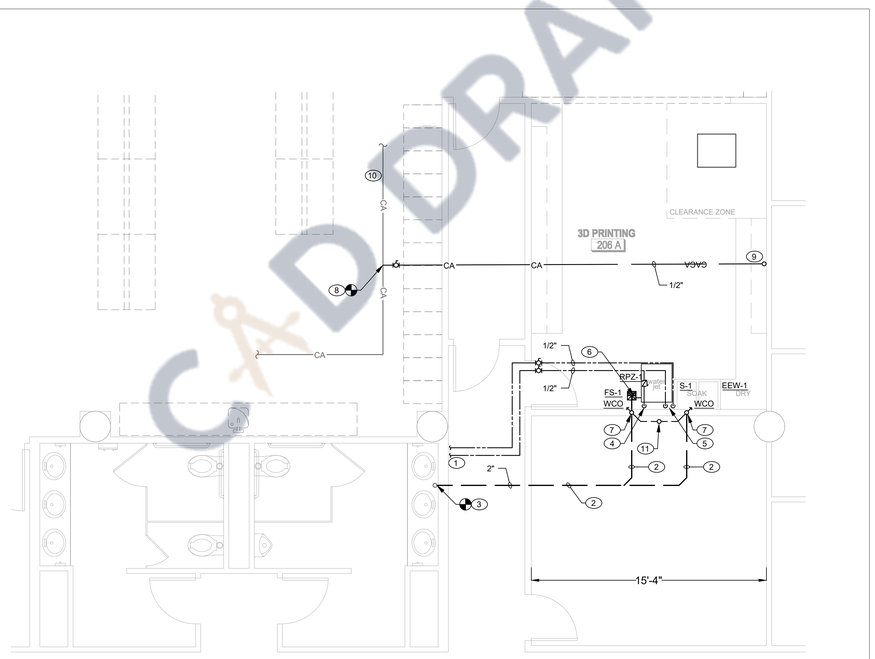
A. EXISTING PLUMBING LAYOUT IS BASED ON DRAWINGS AND INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXISTING CONDITIONS MAY BE DIFFERENT THAN WHAT IS SHOWN. IF EXISTING CONDITIONS VARY SIGNIFICANTLY, AS TO ADD OR DIMINISH FROM THE INTENT OF THESE DRAWINGS, CONTRACTOR SHALL NOTIFY ENGINEER AND/OR OWNER.

B. ALL DENOTED "(E)" EXISTING ITEMS ARE DEPICTED FOR REFERENCE AND ARE FROM EXISTING RECORD DOCUMENTS. THESE MAY NOT DEPICT EXACT EXISTING ITEM LOCATIONS. CONTRACTOR SHALL USE THESE ITEMS AS A REFERENCE AND SHALL FIELD VERIFY THE EXACT LOCATION OF ALL EXISTING SERVICES PRIOR TO START OF CONSTRUCTION.

C. CONTRACTOR TO COORDINATE WITH THE OWNER FOR CARRYING OUT THE WORK FOR TYING IN NEW SERVICES INTO EXISTING SERVICES, SINCE THIS WORK WILL NEED TO BE PERFORMED DURING UNOCCUPIED HOURS OF OPERATION.

KEYNOTES:

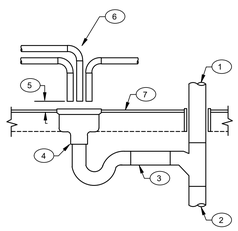
1. ROUTE NEW 1/2" DOMESTIC HOT AND COLD WATER LINE IN CEILING SPACE FROM EXISTING HOT AND COLD WATER LINE ABOVE RESTROOMS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION THESE CONDITIONS SHALL INCLUDE BUT NOT BE LIMITED TO EXACT LOCATION, PIPE SIZE, AND CAPACITY FOR ADDED FIXTURE LOAD.
2. ROUTE NEW 2" WASTE LINE IN THE CEILING SPACE OF THE FLOOR BELOW TO TIE INTO THE EXISTING WASTE LINE.
3. POINT OF CONNECTION OF NEW 2" WASTE LINE INTO EXISTING VERTICAL 2" WASTE LINE IN CEILING SPACE OF THE FLOOR BELOW. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION THESE CONDITIONS SHALL INCLUDE BUT NOT BE LIMITED TO EXACT LOCATION, PIPE SIZE, AND CAPACITY FOR ADDED FIXTURE LOAD.
4. ROUTE 1/2" DOMESTIC COLD WATER LINE DOWN WALL TO WATER JET SYSTEM.
5. ROUTE 1/2" DOMESTIC HOT AND COLD WATER LINES DOWN WALL TO SINK.
6. WATER JET DRAIN LINE DOWN TO DISCHARGE TO FLOOR SINK, WITH MINIMUM 1" AIR GAP.
7. WASTE/VENT TO/FROM FIXTURE. SIZE PER FIXTURE SCHEDULE.
8. POINT OF CONNECTION IN CEILING SPACE BELOW OF NEW 1/2" COMPRESSED AIR TO EXISTING COMPRESSED AIR SYSTEM.
9. 1/2" COMPRESSED AIR RISE TO NEW DENTAL WORK STATION. PROVIDE WITH QUICK DISCONNECT FITTING FOR FUTURE FIXTURE.
10. EXISTING COMPRESSED AIR LOOP IN CEILING SPACE OF FLOOR BELOW.
11. 1-1/2" VTR.



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

DIAGRAM KEYNOTES

1. VENT PIPE, SEE PLANS FOR SIZE AND CONTINUATION
2. WASTE, SEE PLANS FOR SIZE AND CONTINUATION
3. TRAP ARM
4. INDIRECT WASTE RECEPTOR PER PLANS
5. 2" AIR GAP
6. INDIRECT DRAIN PIPES, CLUSTER CLOSELY TOGETHER, AND SUPPORT PER CODE.
7. FLOOR



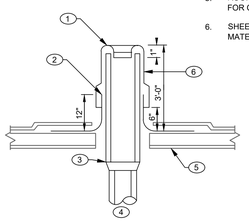
2 INDIRECT WASTE DRAIN
SCALE: NOT TO SCALE

GENERAL DIAGRAM NOTES

A. THIS DIAGRAM SHOULD BE USED FOR REFERENCE ONLY. REFER TO ARCHITECTURAL FOR ALL PENETRATION DETAILS.

DIAGRAM KEY NOTES (#)

1. CRIMP EDGE OVER PIPE IN NEAT MANNER TO PREVENT REDUCTION OF EFFECTIVE VENT AREA
2. BASE FLASHING
3. PROVIDE INCREASER FITTING AS REQUIRED FOR FROST CLOSURE
4. SEE PLANS FOR CONTINUATION AND SIZE
5. ROOF, REFER TO ARCHITECTURAL FOR CONSTRUCTION DETAILS
6. SHEET COUNTER FLASHING, MATERIAL TO MATCH BASE FLASHING



3 VENT THROUGH ROOF
SCALE: NOT TO SCALE

No.	Description	Date

MAIN CONTRACTOR:

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SUB CONTRACTOR:

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LICENSE NUMBER : NV #0086266 - & #0087531

AS-BUILT DATE: 12 September, 2023

SIGN: _____

NOTES:

UNLV SLC-A 2310 RENOVATION

1001 SHADOW LANE
NORTH LAS VEGAS,
NV 89106

PLUMBING PLAN

Project Number	23033
Date	12 September, 2023
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Checked By	SM

P1.01

Scale 1/4" = 1'-0"

12 September, 2023

CADDRAFTER