

OWNER P 702.895.2500 F 702.895.3850

aptus ARCHITECT

aptus 1200 South 4th Street Suite 206 Las Vegas, Nevada 89104 P 702.839.1200 F 702.839.1213

MECHANICAL ENGINEER DG Koch Associates LLC 2000 S. Jones Blvd Suite 110 Las Vegas, Nevada 89146 P 702.221.5160 F 702.221.5165

Suite 100



STRUCTURAL ENGINEER Kordt Engineering Group 633 South 4th Street, Suite 2 & 3 Las Vegas, Nevada 89101 P 702.483.6666 F 702.522.9888

CODE CONSULTANT PCNA Consulting Group Inc. 7935 Badura Ave., Ste. 1045 Las Vegas, Nevada 87113 P 702.834.3200



DG KOCH

Associates LLC







PCNA GROUP **INSULTING ENGINEERS**

UNLV FAB Shell Upgrade

University of Nevada, Las Vegas 4505 South Maryland Parkway Las Vegas, Nevada 89154

ELECTRICAL ENGINEER TJK Consulting Engineers, Inc.

5459 Durango Drive

Las Vegas, Nevada 89113 P 702.871.3621 F 702.871.8353



1325 East Flamingo Road Las Vegas, Nevada 89119

AM	/ING	IND)EX

			11.18.16 SF Plancheck					
	NO.	SHEET TITLE		\square	\square	\square	\square	\wedge
-	HELLO	PROJECT TEAM, VICINITY MAP & INDEX	•					
	G000	SITE PLAN, CODE ANALYSIS	•					
	G001	SYMBOLS LIST, ABBREVIATIONS AND STD. MTG. HEIGHTS	•					
	G002	SPECIFICATIONS	•					
	G003	SPECIFICATIONS	•					
	G004	UL U415 & IBC TABLE 721.1(2)						
RAL	S100	COVER SHEET	•					
	S101	GENERAL NOTES	•					
	S200	GROUND FLOOR FRAMING PLAN	•					
	S600	SECTION AND DETAILS	•					
	A100	OVERALL FLOOR PLAN						
CTURAL	A101	DEMO PLAN, FLOOR PLAN	•					
	A102	DOOR SCHEDULE, DETAILS, AND WALL TYPES	•					
ICAL /	M0.00	LEGEND, INDEX, SPECIFICATIONS CALCULATIONS	•					
G	M1.00	FLOOR PLANS - DEMO, HVAC	•					
AL	E0.01	GENERAL INFORMATION	•					
	E0.02	ELECTRICAL SPECIFICATIONS	•					
	EO.21	DEMOLITION PLAN	•					
	E1.01	LIGHTING PLAN	•					
	E5.01	ONE LINE DIAGRAM	•					
								I

SCOPE OF WORK

SCOPE OF WORK TO BE TWO NEW FIRE PARTITIONS IN EXISTING STORAGE SPACE.

BUILDING CODE DATA

JURISDICTION: NEVADA STATE FIRE MARSHALL & STATE PUBLIC WORKS DIVISION

- 2012 IBC
- 2012 IFC
- 2012 UMC
- 2012 UPC
- 2011 NEC
- 2012 IECC
- ANSI A117.1-2009 & 2010 ADA
- NOTE: SEE G000 FOR BUILDING CODE ANALYSIS





INDEX





CODE ANALYSIS

DESCRIPTION:	UNLV FAB SHELL UPGRADE
JURISDICTION:	Nevada State Public Works Division & Nevada State Fire Marshall
CODE:	2012 INTERNATIONAL BUILDING CODE, 2012 IFC, 2012 UMC, 2011 NEC, 2012 UPC, 2012 IECC, 2010 ADA, 2009 ANSI
OCCUPANCY TYPE:	(SEE ZONE BREAKDOWN BELOW)
CONSTRUCTION TYPE:	VB
FIRE SPRINKLERS:	YES
STORIES:	1
ALLOWABLE AREA (BY ZONE)	
ZONE 1 (NORTH) OCCUPANCY TYPE PERIMETER OF BUILDING (P) BUILDING PERIMETER W/ FRONTAGE (F) WIDTH OF FRONTAGE (W) TABULAR ALLOWABLE AREA (A) SPRINKLER INCREASE (Is)	B, M, S 836 FT 657 FT 30 + FT 9,000 SF 3
lr = [F/P - 0.25] W/30 = 0.53 ALLOWABLE BUILDING AREA (A + [A x lr] 9,000 + (9,000 x 3) + (9,000	+ [A _t x I _s] (x 0.53) 40,823 SF
ACTUAL AREA	38,755 SF
ZONE 2 (CENTER) OCCUPANCY TYPE PERIMETER OF BUILDING (P) BUILDING PERIMETER W/ FRONTAGE (F) WIDTH OF FRONTAGE (W) TABULAR ALLOWABLE AREA (A) SPRINKLER INCREASE (Is)	S-1 489 FT 255 FT 30 + FT 9,000 SF 3
If= [F/P - 0.25] W/30 = 0.27 ALLOWABLE BUILDING AREA (A + [A x Ir] 9,000 + (9,000 x 3) + (9,000	+ [A _t x I _s] x 0.27) 38,430 SF
ACTUALAREA	10,935 SF
ZONE 3 (SOUTH) OCCUPANCY TYPE PERIMETER OF BUILDING (P) BUILDING PERIMETER W/ FRONTAGE (F) WIDTH OF FRONTAGE (W) TABULAR ALLOWABLE AREA (A) SPRINKLER INCREASE (Is)	A-3 5112 FT 457 FT 30 + FT 6,000 SF 3
lr = [F/P - 0.25] W/30 = 0.64 ALLOWABLE BUILDING AREA (A + [A x lr] 6,000 + (6,000 x 3) + (6,000	+ [A _t x I _s] x 0.64) 27,840 SF
ACTUAL AREA	14,646 SF
SECTION 1004.1: OCCUPANT LOAD - BAS NOT INCORPORATING	SED ON OVERALL SQUARE FOOTAGE, ACTUAL TENANT LAYOUTS
ZONE 1 (B, S, M)	844
ZONE 2 (S)	22
ZONE 3 (A-3)	293
SPECIAL INSPECTIONS	YES, SEE S101

IECC SYNOPSIS

NO PORTIONS OF THE ENVELOPE ARE BEING MODIFIED.



ARCH	HITECTURAL ABBR	REVIATIO	<u>ons list</u>
Α		G	
ABV	ABOVE	GA	GAGE, GAUGE
A/C		GALV	GALVANIZED
ACI ADA	ACOUSTICAL TILE	GE	GLASS FIBERGLASS
, CD/ (DISABILITIES ACT		REINFORCED
ADJ		GFRC	GLASS FIBERGLASS
AFF AIT	ABOVE FINISHED FLOOR ALTERNATE	GL	GLASS, GLAZING
ALUM	ALUMINUM	GYP	GYPSUM
AP	ACCESS PANEL		
APPROX	APPROXIMATE ARCHITECT(URAL)	Н	
AUTO	AUTOMATIC	<u>н</u>	НСН
A/V		HB	HOSE BIBB
AVG	AVERAGE	HC	HANDICAP
<u> </u>		HDW HM	HARDWARE HOLLOW METAL
BO	BOTTOM OF	HORIZ	HORIZONTAL
BD bei	BOARD	HP	HORSE POWER
BTWN	BETWEEN	H.P. HR	HOUR
BLKG	BLOCK(ING)	HT	HEIGHT
BLDG BM	BUILDING BEAM	HVAC	HEATING/VENTILATION/
BOT	BOTTOM	HW	HOT WATER
BS	BOTH SIDES		
C			
		ID	INSIDE DIAMETER
CAR	CENTER	IN	INCH(ES)
CAB	CERAMIC	INCL	INCLUDE(D), (ING) INFORMATION
CFT	CUBIC FOOT (FEET)	INSUL	INSULATE(D), (ATION)
CFCI		INT	INTERIOR
	CONTRACTOR INSTALLED		
CFOI	CONTRACTOR	<u> </u>	
	FURNISHED OWNER	JAN	JANITOR
CIR	CIRCLE	JCT	JUNCTION
CIRC	CIRCUMFERENCE	JT	JOINT
CI	CONTROL JOINT CENTER LINE		
CLG	CEILING	K	
CLO	CLOSET	KIT	KITCHEN
CLR CMU	CLEARANCE/CLEAR CONCRETE MASONRY		
	UNIT	1	
		<u> </u>	
CONF	CONFERENCE	LAM LAV	LAMINAIE(D) LAVATORY
CONT	CONTINUOUS OR	LB	POUND(S)
COPP		LH	
CPT	CARPET(ED)	LIN I P	LINEAR LOW POINT
CT		LT	LIGHT
CW CY	COLD WATER CUBIC YARDS	LTG	
<u> </u>		LVL	LEVEL
D	DEPTH	Μ	
DBL	DOUBLE	MAT'I	MATERIAL (S)
DEG	DEGREE(S)	MAX	MAXIMUM
DEPT		MECH	MECHANIC(AL)
DEI DF	DRINKING FOUNTAIN	MED MEMB	MEDIUM MEMBRANE
DIA	DIAMETER	MTL	METAL
	DIAGONAL	MEZZ	
DIV	DIVISION	MIN	MINIMUM
DN	DOWN	MISC	MISCELLANEOUS
DEPT DR	DOOR	MO	MASONRY OPENING
DS	DOWNSPOUT		
DWG	DRAWING	<u>N</u>	
<u> </u>		Ν	NORTH
(e)	EXISTING		
Ē	EAST	NOM	NOTIN CONTRACT
EA Fl	EACH FLEVATION	NRC	NOISE REDUCTION
ELEC	ELECTRIC(AL)		IENT
ELEV	ELEVATOR	1113	NOT TO SCALE
ej FQ	EXPANSION JOINT FQUAL	\bigcirc	
EQUIP	EQUIPMENT		
EST	ESTIMATE	OC	ON CENTER
EXF	EXHAUST	OD	OUTSIDE DIAMETER
EXIST	EXISTING		OFFICE OWNER FURNISHED
EXP FXT	EXPANSION EXTERIOR		CONTRACTOR INSTALLED
		OH	
<u> </u>		U.H. OPNG	OPPOSITE HAND OPENING
FD FF	FLOOR DRAIN	OPP	OPPOSITE
FEC	FIRE EXTINGUISHER		
CLOSET			
ffl FhC	FINISH FLOOR LINE FIRE HOSE CABINET		
FIN	FINISH(ED)		
FT	FOOT (FEET)		
FUT	FUTURE		
FV	FIELD VERIFY		

e, gauge Anized Eral Contract(Or) S Fiberglass Forced
S FIBERGLASS ORCED CONCRETE S, GLAZING
)WARF
OW MFTAI
ZONTAL
SE POWER
POINT
C
Λ
Υ ΗΤ

PERFORATE(D) PERF PERIM PERIMETER PERP PERPENDICULAR PKG PARKING PLATE ΡL PROPERTY LINE P.L. PLASTIC LAMINATE Plam PlbG Plumbing PR PAIR PREFAB PREFABRICATE(D) POUNDS PER SQUARE PSI INCH PT POINT PARTITION PTN PVC POLYVINYL CHLORIDE PWD PLYWOOD PWR POWER QTY QUANTITY RISER R RAD RADIUS RUBBER BASE RB **ROOF DRAIN** RD REV REVISION, REVISE(D) REF REFERENCE REG REGISTER reqd REQUIRED RET RETURN **RIGHT HAND** RH RM ROOM ROUGH OPENING RO South Sanitary SAN SC SOLID CORE SCHEDULE SCHED SERV SERVICE SQUARE FOOT SAFETY GLASS SGL SINGLE HUNG SH SHT SHEET SIM SIMILAR SKETCH SK S.J. SEALANT JOINT Specification(s) SPEC SQ SQUARE STAINLESS STEEL SS STD Standard STOR STORAGE STRUCT STRUCTURE, (AL) TREAD TOP OF TO T&B top & Bottom TEL TELEPHONE TEMPERATURE TEMP T&G THK TOL TONGUE & GROOVE THICK(NESS) TOLERANCE TYP TYPICAL UC UNDERCUT UL UNDERWRITERS LABORATORY UNO UNLESS NOTED OTHERWISE VINYL BASE VB VCT VINYL COMPOSITE TILE VERT VERTICAL VIF VERIFY IN FIELD VT VINYL TILE W W/ WITH WC WATER CLOSET WD WH WOOD WATER HEATER WIN WINDOW W/O WITHOUT WP WATERPROOFING WPT WORKING POINT WEIGHT WT

YD YARD

MATERIAL DESIGNATIONS



ARCHITECTURAL SYMBOLS LIST







WINDOW TARGET

DOOR TARGET

A MATERIALS TARGET



PLYWOOD

A1 A200

ROOM

NAME 101

FIRST FLOOP

A

BATT INSULATION

RIGID INSULATION

KEYNOTE TARGET

KEYNOTE NUMBER, SEE KEYNOTE SCHEDULE

ACCESSIBILITY SYMBOLS

HANDICAP TURNING RADIUS

_ _ _ WHEELCHAIR AREA OF REFUGE RA _ _ _ HANDICAP CLEAR FLOOR AREA

ACCESSIBLE ITEM

FIRE RATED WALL SYMBOLS

_____ 1-HR RATED WALL _____ 2-HR RATED WALL

<u>REVISION TARGET</u>

L _ _

- REVISION DESIGNATION $\bigvee \bigvee$)// - REVISION AREA BUBBLED

DOOR NUMBER, SEE DOOR SCHEDULE

- BUILDING ELEVATION

_ FLOOR OR LEVEL DESIGNATION

PARTITION TYPE,

SEE PARTITION SCHEDULE

WINDOW TYPE, SEE WINDOW TYPE SCHEDULE

MATERIALS TARGET, SEE MATERIALS SCHEDULE

 \bigcirc \bigcirc \supset 6 - J _____ σο Φ 0 00 \sim οσ S $\overline{}$ ΩО $\subset O$ Ω ·-- > E 0 +---ΩZ a st --- 00 S ШΦ \square ح ۲ Ζ \bigcirc S 2 13 La \bigcirc

 \mathbb{O}

σ

Ο

S

+--

eet 206 206 104 200 200 SN 12 20 4 2 702. 702. 0 டட 1200 Ο





TITLE SYMBOLS LIST, ABBREVIATIONS AND STD. MTG. HEIGHTS

DRAWING NO.



ENERGY NOTES

- 1. ALL EXTERIOR DOORS SHALL LIMIT AIR INFILTRATION AROUND THEIR PERIMETER IN A CLOSED POSITION.
- 2. PROVIDE SEAL AT HEAD SILL AND JAMB.
- 3. OPEN EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES, BETWEEN WALLS AND FOUNDATIONS, BETWEEN WALLS AND ROOF, BETWEEN WALL PANELS, AT PENETRATIONS OF UTILITIES THROUGH THE ENVELOPE, SHALL BE SEALED, CAULKED, OR WEATHER-STRIPPED TO LIMIT AIR LEAKAGE.

FIRE DEPARTMENT NOTES

- 1. PROVIDE FIRE EXTINGUISHERS AS REQUIRED BY THE AUTHORITY HAVING JUSRISDICTION'S FIRE DEPT. FIELD INSPECTOR.
- 2. ALL EXIT DOORS SHALL SWING IN THE DIRECTION OF TRAVEL
- 3. ALL EXIT DOORS SHALL BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT.
- 4. PROVIDE EXIT SIGNS ABOVE EXITS WITHIN MIN. ³/⁴ X 6" LETTERS ON CONTRASTING BACKGROUND.
- 5. PROVIDE ROOM CAPACITY SIGN AS REQUIRED BY FIRE DEPT.
- 6. MAINTAIN A MIN. OF 44" AISLES TO EXIT OR PUBLIC WAY.
- 7. ANY DECORATIONS USED SHALL BE NON-COMBUSTIBLE OR FLAME PROOFED IN AN APPROVED MANNER.
- 8. SUBMIT PLANS FOR FIXED FIRE EXTINGUISHING SYSTEM FOR APPROVAL OF INSTALLATION AND OPERATION PRIOR TO INSTALLATION TO THE AUTHORITY HAVING JURISDICTION'S FIRE DEPT.
- 9. PROVIDE OUTSIDE GAS SHUT OFF VALVE CONSPICUOUSLY MARKED.
- 10. PROVIDE FIRE DAMPERS WHERE AIR DUCTS PENETRATE FIRE RATED WALLS OR CEILINGS.
- 11. QUANTITIES OF HAZARDOUS MATERIALS STORED OR USED IN THIS BUILDING SHALL NOT EXCEED THE QUANTITIES LISTED IN THE CURRENT EDITION OF THE IBC

ACCESSIBILITY NOTES

- 1. ACCESS TO THESE FACILITIES SHALL BE PROVIDED AT PRIMARY ENTRANCES.
- 2. THE SLOPE OF PUBLIC WALKS SHALL NOT EXCEED 5%.
- 3. WALKING SURFACE SLOPING LESS THAT 6% SHALL BE SLIP RESISTANT.
- 4. PROVIDE A 60" X 60" MIN. LANDING ON STRIKE SIDE OF DOOR W/ 44" MIN. LENGTH IN DIRECTION OF TRAVEL.
- 5. WALKS SHALL EXTEND 24" TO THE SIDE OF THE STRIKE EDGE OF A DOOR OR GATE THAT SWINGS TOWARD THE WALK.
- 6. THE SLOPE OF RAMPS SHALL NOT EXCEED 8.33%.
- 7. RAMPS SHALL HAVE A NON-SLIP SURFACE
- 8. RAMPS SHALL BE 48" WIDE MIN.
- 9. EVERY REQUIRED EXIT DOORWAY SHALL BE SIZED FOR A DOOR NOT LESS THAN 3 FT. WIDE BY NOT LESS THAT 6"-8" HIGH CAPABLE OF OPENING 90' AND MOUNTED SO THAT THE CLEAR WIDTH OF THE EXIT WAY IS 32" MIN.
- 10. THRESHOLD SHOULD BE A MAX 1/2" ABOVE THE ADJACENT FLOOR OR MAX 1/2" WITHA 1/4" BEVEL AT 2:1.
- 11. MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 5 LBS. FOR INTERIOR DOORS OR 8.5 LB. FOR EXTERIOR DOORS WHEN FIRE DOORS ARE REQUIRED THE MAXIMUM EFFORT CAN BE INCREASED BUT NOT TO EXCEED 15 LBS.
- 12. THE BOTTOM 10" OF ALL DOORS EXCEPT AUTOMATIC AND SLIDING SHALL HAVE A SMOOTH UNINTERRUPTED SURFACE.
- 13. PROVIDE LEVER TYPE HARDWARE PANIC BARS, PUSH-PULL ACTIVATING BARS, OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE OPENING HARDWARE. (30" TO 44" A.F.F.)
- 14. ALL DOORWAYS LEADING TO SANITARY FACILITIES SHALL HAVE 32" CLEAR UNOBSTRUCTED OPENINGS.
- 15. PROVIDE 1.1/4"Ø GRAB BARS AT 33" A.F.F. AT REAR AND SIDE OF W.C. GRAB BAR AT SIDE TO BE 42" LONG AND EXTEND 24" BEYOND FRONT OF TOILET. GRAB BAR TO BE 36" LONG AT BACK W/ 1.1/2" CLR. FROM WALL. BAR FASTENERS AND MOUNTING SUPPORTS TO WITHSTAND 250 LBS. PER FT. IN BENDING, SHEAR AND STRESS.
- 17. WATER CLOSETS SHALL HAVE A SEAT HEIGHT OF 17" TO 19" FLUSH VALVES TO HAVE MAX. 5 LBS. OPERATING FORCE, AND 29" CLEAR FROM FLOOR TO BOTTOM OF APRON WITH KNEE. MTD. ON WIDE SIDE OF TOILET @ 44" A.F.F.
- 18. URINAL TO HAVE A CLEAR SPACE OF 30" X 48" IN FRONT. FLUSH VALVES TO HAVE MAX. 5 LBS. OPERATING FORCE.
- 19. PROVIDE 30" X 48" CLEAR SPACE IN FRONT OF LAVATORY.
- 20. PROVIDE CLEARANCE OF 29", 8" DEPTH AT THE TOP AND A TOE CLEARANCE OF 9" FROM THE FLOOR AND 17" DEEP FROM THE FRONT OF THE LAVATORY.
- 21. INSULATE HOT WATER AND DRAIN PIPES.
- 22. FAUCET CONTROLS SHALL BE OPERABLE WITH ONE HAND AND NOT REQUIRED GRASPING, PINCHING, OR TWISTING. FAUCET TO HAVE MAX. 5 LBS. OPERATING FORCE.
- 23. LOCATE TOWEL, SANITARY NAPKIN, AND WASTE RECEPTACLES WITH ALL OPERABLE PARTS WITHIN 40" FROM FLOOR
- 24. LOCATED TISSUE DISPENSERS ON THE WALL WITHIN 12" OF THE FRONT EDGE OF THE TOILET SEAT.
- 25. SELF CLOSING VALVES TO REMAIN OPEN FOR MIN. 10 SEC.

- DOCUMENTS PREPARED BY: APTUS 1200 S. 4TH STREET, SUITE 206

- PREPARATION OF SCHEDULES. DELIVERY AND PROCESSING OF SUBMITTALS. PROGRESS MEETINGS. PROJECT CLOSE-OUT ACTIVITIES.
- NUMBERS.

- DECISION

- RESUBMITTALS.
- DIMENSIONS COMPLIANCE WITH SPECIFIED STANDARDS. NOTATION OF COORDINATION REQUIREMENTS.
- AND CORRECTED AS DIRECTED.

DIVISION 1 - GENERAL DATA

1. THE PROJECT CONSISTS OF ADDITION OF FIRE-RATED PARTITIONS & NEW DOOR. THE PROJECT IS LOCATED ON 1325 E. FLAMINGO ROAD, LAS VEGAS, NV, 89119 AS SHOWN ON CONTRACT

LAS VEGAS, NEVADA 89104

2. DURING THE CONSTRUCTION PERIOD THE CONTRACTOR SHALL HAVE FULL USE OF THE PREMISES FOR CONSTRUCTION OPERATIONS, INCLUDING USE OF THE SITE. THE CONTRACTORS USE OF THE PREMISES IS LIMITED ONLY BY THE OWNERS RIGHT TO PERFORM CONSTRUCTION OPERATIONS WITH ITS OWN FORCES OR TO EMPLOY SEPARATE CONTRACTORS ON PORTIONS OF THE PROJECT. CONFINE OPERATIONS TO AREAS WITHIN THE CONTRACT LIMITS INDICATED. PORTIONS OF THE SITE BEYOND AREAS IN WHICH CONSTRUCTION OPERATIONS ARE INDICATED ARE NOT TO BE DISTURBED. KEEP DRIVEWAYS AND ENTRANCES SERVING THE PREMISES CLEAR AND AVAILABLE TO THE OWNER AND OWNER'S EMPLOYEES AT ALL TIMES. DO NOT USE THESE AREAS FOR PARKING OR STORAGE OF MATERIALS.

3. THE OWNER RESERVES THE RIGHT TO OCCUPY AND TO PLACE AND INSTALL EQUIPMENT IN COMPLETED AREAS OF THE BUILDING, PRIOR TO SUBSTANTIAL COMPLETION PROVIDED THAT SUCH OCCUPANCY DOES NOT INTERFERE WITH COMPLETION OF THE WORK.

I. COORDINATE CONSTRUCTION ACTIVITIES INCLUDED UNDER VARIOUS SECTIONS OF THESE CONSTRUCTION DOCUMENTS TO ASSURE EFFICIENT AND ORDERLY INSTALLATION OF EACH PART OF THE WORK. WHERE INSTALLATION OF ONE PART OF THE WORK IS DEPENDENT ON INSTALLATION OF OTHER COMPONENTS, EITHER BEFORE OR AFTER ITS OWN INSTALLATION, SCHEDULE CONSTRUCTION ACTIVITIES IN THE SEQUENCE REQUIRED TO OBTAIN BEST RESULTS. WHERE AVAILABILITY OF SPACE IS LIMITED, COORDINATE INSTALLATION OF DIFFERENT COMPONENTS TO ASSURE MAXIMUM ACCESSIBILITY FOR REQUIRED MAINTENANCE, SERVICE AND REPAIR. MAKE ADEQUATE PROVISIONS TO ACCOMMODATE ITEMS SCHEDULED FOR LATER INSTALLATION.

. COORDINATE SCHEDULING AND TIMING OF REQUIRED ADMINISTRATIVE PROCEDURES WITH OTHER CONSTRUCTION ACTIVITIES TO AVOID CONFLICTS AND ENSURE ORDERLY PROGRESS OF THE WORK. SUCH ADMINISTRATIVE ACTIVITIES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

INSTALLATION AND REMOVAL OF TEMPORARY FACILITIES.

WITHIN 15 DAYS OF NOTICE TO PROCEED, SUBMIT A LIST OF THE CONTRACTOR'S PRINCIPLE STAFF ASSIGNMENTS, INCLUDING THE SUPERINTENDENT AND OTHER PERSONNEL IN ATTENDANCE AT THE SITE; IDENTIFY INDIVIDUALS, THEIR DUTIES AND RESPONSIBILITIES; LIST THEIR ADDRESSES AND TELEPHONE

7. REQUIRE THE INSTALLER OF EACH MAJOR COMPONENT TO INSPECT BOTH THE SUBSTRATE AND CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED. DO NOT PROCEED UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN AN ACCEPTABLE MANNER.

8. COMPLY WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS, TO THE EXTENT THAT THOSE INSTRUCTIONS AND RECOMMENDATIONS ARE MORE EXPLICIT OR STRINGENT THAN REQUIREMENTS CONTAINED IN THE CONTRACT DOCUMENTS.

INSPECT MATERIALS OR EQUIPMENT IMMEDIATELY UPON DELIVERY AND AGAIN PRIOR TO INSTALLATION. REJECT DAMAGED AND DEFECTIVE ITEMS

10. PROVIDE ATTACHMENT AND CONNECTION DEVICES AND METHODS NECESSARY FOR SECURING WORK. SECURE WORK TRUE TO LINE AND LEVEL. ALLOW FOR EXPANSION AND BUILDING MOVEMENT.

11. PROVIDE UNIFORM JOINT WIDTHS IN EXPOSED WORK. ARRANGE JOINTS IN EXPOSED WORK TO OBTAIN THE BEST VISUAL EFFECT. REFER QUESTIONABLE CHOICES TO THE ARCHITECT FOR FINAL

12. RECHECK MEASUREMENTS AND DIMENSIONS, BEFORE STARTING EACH INSTALLATION.

13. INSTALL EACH COMPONENT DURING WEATHER CONDITIONS AND PROJECT STATUS THAT WILL ENSURE THE BEST POSSIBLE RESULTS. ISOLATE EACH PART OF THE COMPLETED CONSTRUCTION FROM INCOMPATIBLE MATERIAL AS NECESSARY TO PREVENT DETERIORATION.

14. WHERE MOUNTING HEIGHTS ARE NOT INDICATED, INSTALL INDIVIDUAL COMPONENTS AT STANDARD MOUNTING HEIGHTS RECOGNIZED WITHIN THE INDUSTRY FOR THE PARTICULAR APPLICATION INDICATED. REFER QUESTIONABLE MOUNTING HEIGHT DECISIONS TO THE ARCHITECT FOR FINAL DECISION.

15. COORDINATE PREPARATION AND PROCESSING OF SUBMITTALS WITH PERFORMANCE OF CONSTRUCTION ACTIVITIES. ALLOW SUFFICIENT REVIEW TIME SO THAT INSTALLATION WILL NOT BE DELAYED AS A RESULT OF THE TIME REQUIRED TO PROCESS SUBMITTALS, INCLUDING TIME FOR

16. SHOP DRAWINGS: SUBMIT NEWLY PREPARED INFORMATION, DRAWN TO ACCURATE SCALE. HIGHLIGHT, ENCIRCLE, OR OTHERWISE INDICATE DEVIATIONS FROM THE CONTRACT DOCUMENTS. SHOP DRAWINGS INCLUDE FABRICATION AND INSTALLATION DRAWINGS, SETTING DIAGRAMS, SCHEDULES, PATTERNS, TEMPLATES AND SIMILAR DRAWINGS. INCLUDE THE FOLLOWING INFORMATION:

IDENTIFICATION OF PRODUCTS AND MATERIALS INCLUDED.

NOTATION OF DIMENSIONS ESTABLISHED BY FIELD MEASUREMENT.

COPIES OF ARCHITECTS/ENGINEERS DRAWINGS WILL NOT BE ACCEPTED.

17. SUBMIT FULL-SIZE, FULLY FABRICATED SAMPLES CURED AND FINISHED AS SPECIFIED AND PHYSICALLY IDENTICAL WITH THE MATERIAL OR PRODUCT PROPOSED. SAMPLES INCLUDE PARTIAL SECTIONS OF MANUFACTURED OR FABRICATED COMPONENTS, CUTS OR CONTAINERS OF MATERIALS, COLOR RANGE SETS, AND SWATCHES SHOWING COLOR, TEXTURE AND PATTERN.

18. USE SKILLED CRAFTSMEN. WORKMEN WHO DO NOT KNOW AND FOLLOW BASIC REQUIREMENTS FOR HIGH QUALITY WORK OF THE TYPE THEY ARE PERFORMING SHALL BE REMOVED FROM THE JOB. WHERE FINISH OPERATIONS DO NOT PRODUCE FINISH SURFACES AS SPECIFIED, THE WORK SHALL BE REMOVED

19. EMPLOY EXPERIENCED WORKERS OR PROFESSIONAL CLEANERS FOR FINAL CLEANING. CLEAN EACH SURFACE OR UNIT TO THE CONDITION EXPECTED IN A NORMAL, COMMERCIAL BUILDING CLEANING AND MAINTENANCE PROGRAM. COMPLY WITH MANUFACTURER'S INSTRUCTIONS.

20. COMPLETE THE FOLLOWING CLEANING OPERATIONS. REMOVE LABELS THAT ARE NOT PERMANENT. CLEAN TRANSPARENT MATERIALS, INCLUDING MIRRORS AND GLASS IN DOORS AND WINDOWS. REMOVE GLAZING COMPOUND AND OTHER SUBSTANCES THAT ARE NOTICEABLE VISION-OBSCURING MATERIALS. REPLACE CHIPPED OR BROKEN GLASS AND OTHER DAMAGED TRANSPARENT MATERIALS. CLEAN EXPOSED EXTERIOR AND INTERIOR HARD-SURFACED FINISHES TO A DUST-FREE CONDITION, FREE OF STAINS, FILMS AND SIMILAR FOREIGN SUBSTANCES. RESTORE REFLECTIVE SURFACES TO THEIR ORIGINAL REFLECTIVE CONDITION. LEAVE CONCRETE FLOORS BROOM CLEAN. VACUUM CARPETED SURFACES. WIPE SURFACES OF MECHANICAL AND ELECTRICAL EQUIPMENT. REMOVE EXCESS LUBRICATION AND OTHER SUBSTANCES. CLEAN LIGHT FIXTURES AND LAMPS. CLEAN THE SITE, INCLUDING LANDSCAPE DEVELOPMENT AREAS, OF RUBBISH, LITTER AND OTHER FOREIGN SUBSTANCES. SWEEP PAVED AREAS BROOM CLEAN; REMOVE STAINS, SPILLS AND OTHER FOREIGN DEPOSITS. RAKE GROUNDS THAT ARE NEITHER PAVED NOR PLANTED, TO A SMOOTH EVEN-TEXTURED SURFACE.

21. REFER TO THE GENERAL CONDITIONS FOR THE TERMS OF THE CONTRACTORS SPECIAL WARRANTY OF WORKMANSHIP AND MATERIALS. MANUFACTURER'S DISCLAIMERS AND LIMITATIONS ON PRODUCT WARRANTIES DO NOT RELIEVE THE CONTRACTOR OF THE WARRANTY ON THE WORK THAT INCORPORATES THE PRODUCTS, NOR DOES IT RELIEVE SUPPLIERS, MANUFACTURERS, AND SUBCONTRACTORS REQUIRED TO COUNTERSIGN SPECIAL WARRANTIES WITH THE CONTRACTOR.

22. WHEN CORRECTING WARRANTED WORK THAT HAS FAILED, REMOVE AND REPLACE OTHER WORK THAT HAS BEEN DAMAGED AS A RESULT OF SUCH FAILURE OR THAT MUST BE REMOVED AND REPLACED TO PROVIDE ACCESS FOR CORRECTION OF WARRANTED WORK.

23. WHEN WORK COVERED BY A WARRANTY HAS FAILED AND BEEN CORRECTED BY REPLACEMENT OR REBUILDING, REINSTATE THE WARRANTY BY WRITTEN ENDORSEMENT. THE REINSTATED WARRANTY SHALL BE EQUAL TO THE ORIGINAL WARRANTY WITH AN EQUITABLE ADJUSTMENT FOR DEPRECIATION.

DIVISION 1 - GENERAL DATA - (CONT'D)

24. UPON DETERMINATION THAT THE WORK COVERED BY A WARRANTY HAS FAILED, REPLACE OR REBUILD THE WORK TO AN ACCEPTABLE CONDITION COMPLYING WITH REQUIREMENT OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF REPLACING OR REBUILDING DEFECTIVE WORK REGARDLESS OF WHETHER THE OWNER HAS BENEFITED FROM THE USE OF THE WORK THROUGH A PORTION OF ITS ANTICIPATED USEFUL SERVICE LIFE.

25. THE OWNER RESERVES THE RIGHT TO REJECT WARRANTIES AND TO LIMIT SELECTIONS TO PRODUCTS WITH WARRANTIES NOT IN CONFLICT WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE OWNER RESERVES THE RIGHT TO REFUSE TO ACCEPT WORK FOR THE PROJECT WHERE A SPECIAL WARRANTY, CERTIFICATION, OR SIMILAR COMMITMENT IS REQUIRED ON SUCH WORK OR PART OF THE WORK, UNTIL EVIDENCE IS PRESENTED THAT ENTITIES REQUIRED TO COUNTERSIGN SUCH COMMITMENT ARE WILLING to do so.

DIVISION 2 - SITEWORK NOT USED

DIVISION 3 - CONCRETE

DIVISION 4 - MASONRY NOT USED

DIVISION 5 - METALS NOT USED

DIVISION 6 - WOOD & PLASTICS

DIVISION 7 - THERMAL/MOISTURE PROTECTION NOT USED

DIVISION 8 - DOORS & WINDOWS

4. HOLLOW METAL DOORS AND FRAMES

- 1.1 SUBMITTALS A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED. INCLUDE CONSTRUCTION DETAILS, MATERIAL DESCRIPTIONS, CORE DESCRIPTIONS, HARDWARE REINFORCEMENTS, PROFILES, ANCHORS, FIRE-RESISTANCE RATING, AND FINISHES.
- B. DOOR HARDWARE SUPPLIER IS TO FURNISH TEMPLATES, TEMPLATE REFERENCE NUMBER AND/OR PHYSICAL HARDWARE TO THE STEEL DOOR AND FRAME SUPPLIER IN ORDER TO PREPARE THE DOORS AND FRAMES TO RECEIVE THE FINISH HARDWARE ITEMS.
- C. SHOP DRAWINGS: INCLUDE THE FOLLOWING:
- 1. ELEVATIONS OF EACH DOOR DESIGN.
- 2. DETAILS OF DOORS, INCLUDING VERTICAL AND HORIZONTAL EDGE DETAILS AND METAL THICKNESSES.
- 3. FRAME DETAILS FOR EACH FRAME TYPE, INCLUDING DIMENSIONED PROFILES AND METAL
- THICKNESSES. 4. LOCATIONS OF REINFORCEMENT AND PREPARATIONS FOR HARDWARE
- 5. DETAILS OF ANCHORAGES, JOINTS, FIELD SPLICES, AND CONNECTIONS.
- 6. DETAILS OF ACCESSORIES. 7. DETAILS OF MOLDINGS, REMOVABLE STOPS, AND GLAZING.
- 8. DETAILS OF CONDUIT AND PREPARATIONS FOR POWER, SIGNAL, AND CONTROL SYSTEMS D. SAMPLES FOR VERIFICATION:
- 1. SAMPLES ARE ONLY REQUIRED BY REQUEST OF THE ARCHITECT AND FOR MANUFACTURES THAT ARE NOT CURRENT MEMBERS OF THE STEEL DOOR INSTITUTE. E. INFORMATIONAL SUBMITTALS:
- 1.2 QUALITY ASSURANCE
- A. SOURCE LIMITATIONS: OBTAIN HOLLOW METAL DOORS AND FRAMES THROUGH ONE SOURCE FROM A SINGLE MANUFACTURER WHEREVER POSSIBLE.
- B. QUALITY STANDARD: IN ADDITION TO REQUIREMENTS SPECIFIED, COMPLY WITH ANSI/SDI A250.8, LATEST EDITION, "RECOMMENDED SPECIFICATIONS FOR STANDARD STEEL DOORS AND FRAMES".
- C. PRE-SUBMITTAL CONFERENCE: CONDUCT CONFERENCE IN COMPLIANCE WITH REQUIREMENTS IN DIVISION 01 SECTION "PROJECT MEETINGS" WITH ATTENDANCE BY REPRESENTATIVES OF SUPPLIER, INSTALLER, AND CONTRACTOR TO REVIEW PROPER METHODS AND PROCEDURES FOR INSTALLING HOLLOW METAL DOORS AND FRAMES AND TO VERIFY INSTALLATION OF ELECTRICAL KNOCKOUT BOXES AND CONDUIT AT FRAMES WITH ELECTRIFIED OR ACCESS CONTROL HARDWARE. 1.3 DELIVERY, STORAGE, AND HANDLING
- A. DELIVER HOLLOW METAL WORK PALLETIZED, WRAPPED, OR CRATED TO PROVIDE PROTECTION DURING TRANSIT AND PROJECT SITE STORAGE. DO NOT USE NON-VENTED PLASTIC. B. DELIVER WELDED FRAMES WITH TWO REMOVABLE SPREADER BARS ACROSS BOTTOM OF FRAMES,
- TACK WELDED TO JAMBS AND MULLIONS.
- C. STORE HOLLOW METAL WORK UNDER COVER AT PROJECT SITE. PLACE IN STACKS OF FIVE UNITS MAXIMUM IN A VERTICAL POSITION WITH HEADS UP, SPACED BY BLOCKING, ON MINIMUM 4-INCH HIGH WOOD BLOCKING. DO NOT STORE IN A MANNER THAT TRAPS EXCESS HUMIDITY. 1. PROVIDE MINIMUM 1/4-INCH SPACE BETWEEN EACH STACKED DOOR TO PERMIT AIR CIRCULATION. DOOR AND FRAMES TO BE STACKED IN A VERTICAL UPRIGHT POSITION.
- **1.4 PROJECT CONDITIONS** A. FIELD MEASUREMENTS: VERIFY ACTUAL DIMENSIONS OF OPENINGS BY FIELD MEASUREMENTS BEFORE FABRICATION.
- 1.5 COORDINATION
- A. COORDINATE INSTALLATION OF ANCHORAGES FOR HOLLOW METAL FRAMES. FURNISH SETTING DRAWINGS, TEMPLATES, AND DIRECTIONS FOR INSTALLING ANCHORAGES, INCLUDING SLEEVES, CONCRETE INSERTS, ANCHOR BOLTS, AND ITEMS WITH INTEGRAL ANCHORS. DELIVER SUCH ITEMS TO PROJECT SITE IN TIME FOR INSTALLATION.
- 1.6 WARRANTY A. SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE DOORS THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.
- B. WARRANTY INCLUDES INSTALLATION AND FINISHING THAT MAY BE REQUIRED DUE TO REPAIR OR REPLACEMENT OF DEFECTIVE DOORS.

DIVISION 8 - (CONT'D)

4. HOLLOW METAL DOORS AND FRAMES (CONTINUED)

PART 2 - PRODUCTS 2.1 MANUFACTURERS

- A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE (THE FOLLOWING:
- 1. CECO DOOR PRODUCTS. 2. CURRIES COMPANY.
- 3. SECURITY METAL PRODUCTS
- 2.2 materials
- A. COLD-ROLLED STEEL SHEET: ASTM A 1008/A 1008M, COMMERCIAL STEEL (CS), TYPE B; SUITABLE FOF EXPOSED APPLICATIONS.
- B. METALLIC-COATED STEEL SHEET: ASTM A 653/A 653M, COMMERCIAL STEEL (CS), TYPE B; WITH MINIMUM G60 (Z180) OR A60 (ZF180) METALLIC COATING.
- C. FRAME ANCHORS: ASTM A 653/A 653M, COMMERCIAL STEEL (CS), COMMERCIAL STEEL (CS), TYPE WITH MINIMUM G60 (Z180) OR A60 (ZF180) METALLIC COATING.
- 2.3 STANDARD HOLLOW METAL DOORS A. GENERAL: PROVIDE 1-3/4 INCH DOORS OF DESIGN INDICATED, NOT LESS THAN THICKNESS INDICATED; FABRICATED WITH SMOOTH SURFACES, WITHOUT VISIBLE JOINTS OR SEAMS ON EXPOSE
- FACES UNLESS OTHERWISE INDICATED. COMPLY WITH ANSI/SDI A250.8. B. EXTERIOR DOORS: FACE SHEETS FABRICATED OF COMMERCIAL QUALITY HOT-DIPPED ZINC COATEL STEEL THAT COMPLIES WITH ASTM A 653/A 653M, COATING DESIGNATION A60. PROVIDE DOORS COMPLYING WITH REQUIREMENTS INDICATED BELOW BY REFERENCING ANSI/SDI A250.8 FOR LEVEL AND MODEL AND ANSI/SDI A250.4 FOR PHYSICAL PERFORMANCE LEVELS
- 1. DESIGN: FLUSH PANEL. 2. CORE CONSTRUCTION: MANUFACTURER'S STANDARD POLYSTYRENE, POLYURETHANE, MINERAL CORE, OR VERTICAL STEEL-STIFFENER CORE.
- 2.4 STANDARD HOLLOW METAL FRAMES
- A. GENERAL: COMPLY WITH ANSI/SDI A250.8 AND WITH DETAILS INDICATED FOR TYPE AND PROFILE. B. EXTERIOR MASONRY FRAMES: FABRICATED OF HOT-DIPPED ZINC COATED STEEL THAT COMPLIES WI ASTM A 653/A 653M, COATING DESIGNATION A60.
- 1. FABRICATE FRAMES WITH MITERED OR COPED CORNERS 2. FABRICATE FRAMES, WITH THE EXCEPTION OF KNOCK DOWN TYPES, WITH "CLOSED AND TIGHT" MITER SEAMS CONTINUOUSLY WELDED ON FACE, FINISHED SMOOTH WITH NO VISIBLE SEAM UNLESS OTHERWISE INDICATED.
- 3. FRAMES FOR LEVEL 3 STEEL DOORS (UP TO 48 INCHES IN WIDTH): MINIMUM 14 GAUGE (0.067-INCH -1.7-MM) THICK STEEL SHEET
- 4. FRAMES FOR LEVEL 3 STEEL DOORS (48 INCHES AND UP IN WIDTH): MINIMUM 12 GAUGE (0.081 INCH -2.7-MM) THICK STEEL SHEET.
- 5. FRAMES FOR LEVEL 2 STEEL DOORS: MINIMUM 16 GAUGE (0.053-INCH -1.3-MM) THICK STEEL SHFFT. 6. MANUFACTURERS BASIS OF DESIGN:
- A. CECO DOOR PRODUCTS (C) SU SERIES.
- B. CURRIES COMPANY (CU) M SERIES.
- C. SECURITY METAL PRODUCTS C. FIRE RATED FRAMES: FABRICATE FRAMES IN ACCORDANCE WITH NFPA 80, LISTED AND LABELED BY QUALIFIED TESTING AGENCY, FOR FIRE-PROTECTION RATINGS INDICATED.
- D. HARDWARE REINFORCEMENT: FABRICATE ACCORDING TO ANSI/SDI A250.6 TABLE 4 WITH
- REINFORCEMENT PLATES FROM SAME MATERIAL AS FRAMES.
- 2.5 FRAME ANCHORS A. JAMB ANCHORS:
 - MASONRY TYPE: ADJUSTABLE STRAP-AND-STIRRUP OR T-SHAPED ANCHORS TO SUIT FRAME SIZE, FORMED FROM A60 METALLIC COATED MATERIAL, NOT LESS THAN 0.042 INCH THICK, WITH CORRUGATED OR PERFORATED STRAPS NOT LESS THAN 2 INCHES WIDE BY 10 INCHES LONG; O WIRE ANCHORS NOT LESS THAN 0.177 INCH THICK.
- 2. STUD WALL TYPE: DESIGNED TO ENGAUGE STUD AND NOT LESS THAN 0.042 INCH THICK. B. FLOOR ANCHORS: FLOOR ANCHORS TO BE PROVIDED AT EACH JAMB, FORMED FROM A60
- METALLIC COATED MATERIAL, NOT LESS THAN 0.042 INCHES THICK. C. MORTAR GUARDS: FORMED FROM SAME MATERIAL AS FRAMES, NOT LESS THAN 0.016 INCHES THIC



 \mathbb{O}

 \bigcirc







DRAWING NO

DIVISION 8 - (CONT'D)

- 2.6 LIGHT OPENINGS AND GLAZING
- MINIMUM 20 GAUGE THICK, FABRICATED FROM SAME MATERIAL AS DOOR FACE SHEET IN WHICH THEY ARE INSTALLED.
- C. FIXED FRAME MOLDINGS: FORMED INTEGRAL WITH HOLLOW METAL FRAMES, A MINIMUM OF 5/8 INCH (16 MM) HIGH UNLESS OTHERWISE INDICATED. PROVIDE FIXED FRAME MOLDINGS AND STOPS ON OUTSIDE OF EXTERIOR AND ON SECURE SIDE OF INTERIOR DOORS AND FRAMES D. PREFORMED METAL FRAMES FOR LIGHT OPENINGS: MANUFACTURER'S STANDARD FRAME
- FORMED OF 0.048-INCH-THICK, COLD ROLLED STEEL SHEET; WITH BAKED ENAMEL OR POWDER COATED FINISH; AND APPROVED FOR USE IN DOORS OF FIRE PROTECTION RATING INDICATED. MATCH PRE-FINISHED DOOR PAINT COLOR WHERE APPLICABLE E. GLAZING: COMPLY WITH REQUIREMENTS IN DIVISION 08 SECTION "GLAZING" AND WITH THE
- HOLLOW METAL DOOR MANUFACTURER'S WRITTEN INSTRUCTIONS. 1. FACTORY GLAZING: FACTORY INSTALL GLAZING IN DOORS AS INDICATED. DOORS WITH FACTORY INSTALLED GLASS TO INCLUDE ALL OF THE REQUIRED GLAZING MATERIAL 2.7 ACCESSORIES
- A. MULLIONS AND TRANSOM BARS: JOIN TO ADJACENT MEMBERS BY WELDING OR RIGID MECHANICAL ANCHORS. B. GROUT GUARDS: FORMED FROM SAME MATERIAL AS FRAMES, NOT LESS THAN 0.016 INCHES THICK.
- 2.8 FABRICATION A. FABRICATE HOLLOW METAL WORK TO BE RIGID AND FREE OF DEFECTS, WARP, OR BUCKLE. ACCURATELY FORM METAL TO REQUIRED SIZES AND PROFILES, WITH MINIMUM RADIUS FOR THICKNESS OF METAL. WHERE PRACTICAL, FIT AND ASSEMBLE UNITS IN MANUFACTURER'S PLANT. WHEN SHIPPING LIMITATIONS SO DICTATE, FRAMES FOR LARGE OPENINGS ARE TO BE FABRICATED IN
- SECTIONS FOR SPLICING OR SPLINING IN THE FIELD BY OTHERS. B. TOLERANCES: FABRICATE HOLLOW METAL WORK TO TOLERANCES INDICATED IN ANSI/SDI A250.8. C. HOLLOW METAL DOORS: 1. EXTERIOR DOORS: PROVIDE OPTIONAL WEEP-HOLE OPENINGS IN BOTTOM
- OF EXTERIOR DOORS TO PERMIT MOISTURE TO ESCAPE WHERE SPECIFIED. 2. GLAZED LITES: FACTORY CUT OPENINGS IN DOORS WITH APPLIED TRIM OR KITS TO FIT. FACTORY INSTALL GLAZING WHERE INDICTED.
- 3. LOUVERS: FACTORY CUT OPENINGS IN DOOR AND INSTALL LOUVERS INTO PREPARED OPENINGS WHERE INDICATED. 4. ASTRAGALS: PROVIDE OVERLAPPING ASTRAGALS AS NOTED IN DOOR
- HARDWARE SETS IN DIVISION 08 SECTION "DOOR HARDWARE" ON ONE LEAF OF PAIRS OF DOORS WHERE REQUIRED BY NFPA 80 FOR FIRE-PERFORMANCE RATING OR WHERE INDICATED. EXTEND MINIMUM 3/4 INCH BEYOND EDGE OF DOOR ON WHICH ASTRAGAL IS MOUNTED. CONTINUOUS HINGE REINFORCEMENT: PROVIDE WELDED CONTINUOUS 12 GAUGE STRAP FOR CONTINUOUS HINGES SPECIFIED IN HARDWARE SETS IN DIVISION 08 SECTION
- "DOOR HARDWARE" D. HOLLOW METAL FRAMES: 1. SHIPPING LIMITATIONS: WHERE FRAMES ARE FABRICATED IN SECTIONS DUE TO
- SHIPPING OR HANDLING LIMITATIONS, PROVIDE ALIGNMENT PLATES OR ANGLES AT EACH JOINT, FABRICATED OF SAME THICKNESS METAL AS FRAMES. 2. WELDED FRAMES: WELD FLUSH FACE JOINTS CONTINUOUSLY; GRIND, FILL, DRESS, AND MAKE SMOOTH, FLUSH, AND INVISIBLE.
- A. WELDED FRAMES ARE TO BE PROVIDED WITH TWO STEEL SPREADERS TEMPORARILY ATTACHED TO THE BOTTOM OF BOTH JAMBS TO SERVE AS A BRACE DURING SHIPPING AND HANDLING. SPREADER BARS ARE FOR BRACING ONLY AND ARE NOT
- TO BE USED TO SIZE THE FRAME OPENING. SIDELIGHT AND TRANSOM BAR FRAMES: PROVIDE CLOSED TUBULAR MEMBERS WITH NO VISIBLE FACE SEAMS OR JOINTS, FABRICATED FROM SAME MATERIAL AS DOOR FRAME. FASTEN MEMBERS AT CROSSINGS AND TO JAMBS BY BUTT WELDING. 4. EQUAL RABBET FRAMES: PROVIDE FRAMES WITH EQUAL RABBET DIMENSIONS
- UNLESS GLAZING AND REMOVABLE STOPS REQUIRE WIDER DIMENSIONS ON GLASS SIDE OF FRAME HIGH FREQUENCY HINGE REINFORCEMENT: PROVIDE HIGH FREQUENCY HINGE REINFORCEMENTS AT DOOR OPENINGS 48-INCHES AND WIDER WITH MORTISE BUTT TYPE
- HINGES AT TOP HINGE LOCATIONS.
- SECTION "DOOR HARDWARE".
- 7. PROVIDE COUNTERSUNK, FLAT- OR OVAL-HEAD EXPOSED SCREWS AND BOLTS FOR EXPOSED FASTENERS UNLESS OTHERWISE INDICATED FOR REMOVABLE STOPS,
- PROVIDE SECURITY SCREWS AT EXTERIOR LOCATIONS. 8. MORTAR GUARDS: PROVIDE GUARD BOXES AT BACK OF HARDWARE MORTISES IN FRAMES AT ALL HINGES AND STRIKE PREPS REGARDLESS OF GROUTING
- REQUIREMENTS. 9. FLOOR ANCHORS: WELD ANCHORS TO BOTTOM OF JAMBS AND MULLIONS WITH AT LEAST

- FOUR SPOT WELDS PER ANCHOR. 10. JAMB ANCHORS: PROVIDE NUMBER AND SPACING OF ANCHORS AS FOLLOWS: A. MASONRY TYPE: LOCATE ANCHORS NOT MORE THAN 18 INCHES FROM TOP AND BOTTOM OF FRAME. SPACE ANCHORS NOT MORE THAN 32 INCHES O.C. AND AS FOLLOWS:
- HIGH
- 4) FOUR ANCHORS PER JAMB PLUS 1 ADDITIONAL ANCHOR PER JAMB FOR EACH 24 INCHES OR FRACTION THEREOF ABOVE 120 INCHES
- B. STUD WALL TYPE: LOCATE ANCHORS NOT MORE THAN 18 INCHES FROM TOP AND BOTTOM OF FRAME. SPACE ANCHORS NOT MORE THAN 32 INCHES O.C. AND AS FOLLOWS: 1) THREE ANCHORS PER JAMB UP TO 60 INCHES HIGH.
- 2) FOUR ANCHORS PER JAMB FROM 60 TO 90 INCHES HIGH.
- 3) FIVE ANCHORS PER JAMB FROM 90 TO 96 INCHES HIGH.
- 4) FIVE ANCHORS PER JAMB PLUS 1 ADDITIONAL ANCHOR PER JAMB FOR EACH 24 INCHES OR FRACTION THEREOF ABOVE 96 INCHES HIGH.
- 5) TWO ANCHORS PER HEAD FOR FRAMES ABOVE 42 INCHES WIDE AND MOUNTED IN METAL STUD PARTITIONS.
- . SEVERE STORM SHELTER OPENINGS: PROVIDE JAMB, HEAD, AND SILL ANCHORS IN ACCORDANCE WITH MANUFACTURER'S TESTED AND APPROVED ASSEMBLIES. 11. DOOR SILENCERS: EXCEPT ON WEATHERSTRIPPED OR GASKETED DOORS, DRILL STOPS
- TO RECEIVE DOOR SILENCERS. SILENCERS TO BE SUPPLIED BY FRAME MANUFACTURER REGARDLESS IF SPECIFIED IN DIVISION 08 SECTION "DOOR HARDWARE". 12. BITUMINOUS COATING: WHERE FRAMES ARE FULLY GROUTED WITH AN APPROVED
- PORTLAND CEMENT BASED GROUT OR MORTAR, COAT INSIDE OF FRAME THROAT WITH A WATER BASED BITUMINOUS OR ASPHALTIC EMULSION COATING TO A MINIMUM THICKNESS OF 3 MILS DFT, TESTED IN ACCORDANCE WITH UL 10C AND APPLIED TO THE FRAME UNDER A 3RD PARTY INDEPENDENT FOLLOW-UP SERVICE PROCEDURE.
- HARDWARE PREPARATION: FACTORY PREPARE HOLLOW METAL WORK TO RECEIVE TEMPLATE MORTISED HARDWARE; INCLUDE CUTOUTS, REINFORCEMENT, MORTISING, DRILLING, AND TAPPING ACCORDING TO THE DOOR HARDWARE SCHEDULE AND TEMPLATES FURNISHED AS SPECIFIED IN DIVISION 08 SECTION "DOOR HARDWARE."
- 1. LOCATE HARDWARE AS INDICATED, OR IF NOT INDICATED, ACCORDING TO ANSI/SDI A250.8.
- 2. REINFORCE DOORS AND FRAMES TO RECEIVE NON-TEMPLATE, MORTISED AND SURFACE MOUNTED DOOR HARDWARE
- 3. COMPLY WITH APPLICABLE REQUIREMENTS IN ANSI/SDI A250.6 AND ANSI/DHI A115 SERIES SPECIFICATIONS FOR PREPARATION OF HOLLOW METAL WORK FOR HARDWARE. 4. COORDINATE LOCATIONS OF CONDUIT AND WIRING BOXES FOR ELECTRICAL CONNECTIONS WITH DIVISION 26 SECTIONS.

A. STOPS AND MOLDINGS: PROVIDE STOPS AND MOLDINGS AROUND GLAZED LITES WHERE INDICATED. FORM CORNERS OF STOPS AND MOLDINGS WITH BUTTED OR MITERED HAIRLINE JOINTS AT FABRICATORS SHOP. FIXED AND REMOVABLE STOPS TO ALLOW MULTIPLE GLAZED LITES EACH TO BE REMOVED INDEPENDENTLY. COORDINATE FRAME RABBET WIDTHS BETWEEN FIXED AND REMOVABLE STOPS WITH THE TYPE OF GLAZING AND INSTALLATION INDICATED. MOLDINGS FOR GLAZED LITES IN DOORS AND LOOSE STOPS FOR GLAZED LITES IN FRAMES:

- 6. CONTINUOUS HINGE REINFORCEMENT: PROVIDE WELDED CONTINUOUS 12 GAUGE STRAPS FOR CONTINUOUS HINGES SPECIFIED IN HARDWARE SETS IN DIVISION 08
 - 1) TWO ANCHORS PER JAMB UP TO 60 INCHES HIGH. 2) THREE ANCHORS PER JAMB FROM 60 TO 90 INCHES
 - 3) FOUR ANCHORS PER JAMB FROM 90 TO 120 INCHES

DIVISION 8 - (CONT'D) 2.9 STEEL FINISHES

- A. PRIME FINISHES: DOORS AND FRAMES TO BE CLEANED, AND CHEMICALLY TREATED TO INSURE MAXIMUM FINISH PAINT ADHESION. SURFACES OF THE DOOR AND FRAME EXPOSED TO VIEW TO RECEIVE A FACTORY APPLIED COAT OF RUST INHIBITING SHOP PRIMER.
- 1. SHOP PRIMER: MANUFACTURER'S STANDARD, FAST-CURING, LEAD AND CHROMATE FREE PRIMER COMPLYING WITH ANSI/SDI A250.10 ACCEPTANCE CRITERIA; RECOMMENDED BY PRIMER MANUFACTURER FOR SUBSTRATE; AND COMPATIBLE WITH SUBSTRATE AND FIELD-APPLIED COATINGS.
- B. FACTORY PRE-FINISHES: FACTORY APPLY ELECTROSTATIC PAINT FINISH TO DOORS AND FRAMES IN ACCORDANCE WITH ANSI A250.3 TEST PROCEDURE ACCEPTANCE CRITERIA FOR STEEL
- DOORS AND FRAMES WITH FACTORY APPLIED FINISHED COATINGS. PART 3 - EXECUTION
- 3.1 EXAMINATION
- A. EXAMINE SUBSTRATES, AREAS, AND CONDITIONS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK.
- B. GENERAL CONTRACTOR TO VERIFY THE ACCURACY OF DIMENSIONS GIVEN TO THE STEEL DOOR AND FRAME MANUFACTURER FOR EXISTING OPENINGS OR EXISTING FRAMES (STRIKE HEIGHT, HINGE SPACING, HINGE BACK SET, ETC.).
- C. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED
- 3.2 PREPARATION A. REMOVE WELDED IN SHIPPING SPREADERS INSTALLED AT FACTORY. RESTORE EXPOSED FINISH BY GRINDING, FILLING, AND DRESSING, AS REQUIRED TO MAKE REPAIRED AREA SMOOTH, FLUSH, AND INVISIBLE ON EXPOSED FACES.
- B. PRIOR TO INSTALLATION, ADJUST AND SECURELY BRACE WELDED HOLLOW METAL FRAMES
- FOR SQUARENESS, ALIGNMENT, TWIST, AND PLUMBNESS. C. TOLERANCES SHALL COMPLY WITH SDI-117 "MANUFACTURING TOLERANCES STANDARD STEEL
- DOORS AND FRAMES.' D. DRILL AND TAP DOORS AND FRAMES TO RECEIVE NON-TEMPLATE, MORTISED, AND SURFACE-MOUNTED DOOR HARDWARE.
- 3.3 INSTALLATION
- A. GENERAL: INSTALL HOLLOW METAL WORK PLUMB, RIGID, PROPERLY ALIGNED, AND SECURELY FASTENED IN PLACE; COMPLY WITH DRAWINGS AND MANUFACTURER'S WRITTEN INSTRUCTIONS.
- B. HOLLOW METAL FRAMES: INSTALL HOLLOW METAL FRAMES OF SIZE AND PROFILE INDICATED. COMPLY WITH ANSI/SDI A250.11 AND NFPA 80 AT FIRE RATED OPENINGS
- 1. SET FRAMES ACCURATELY IN POSITION, PLUMBED, ALIGNED, AND BRACED SECURELY UNTIL PERMANENT ANCHORS ARE SET. AFTER WALL CONSTRUCTION IS COMPLETE AND FRAMES PROPERLY SET AND SECURED, REMOVE TEMPORARY BRACES, LEAVING SURFACES SMOOTH AND UNDAMAGED. SHIM AS NECESSARY TO COMPLY WITH INSTALLATION TOLERANCES.
- 2. FLOOR ANCHORS: PROVIDE FLOOR ANCHORS FOR EACH JAMB AND MULLION THAT EXTENDS TO FLOOR, AND SECURE WITH POST-INSTALLED EXPANSION ANCHORS.
- 3. MASONRY WALLS: COORDINATE INSTALLATION OF FRAMES TO ALLOW FOR SOLIDLY
- FILLING SPACE BETWEEN FRAMES AND MASONRY WITH MORTAR. 4. GROUT REQUIREMENTS: DO NOT GROUT HEAD OF FRAMES UNLESS REINFORCING
- HAS BEEN INSTALLED IN HEAD OF FRAME. DO NOT GROUT VERTICAL OR HORIZONTAL CLOSED MULLION MEMBERS. C. HOLLOW METAL DOORS: FIT HOLLOW METAL DOORS ACCURATELY IN FRAMES, WITHIN
- CLEARANCES SPECIFIED BELOW. SHIM AS NECESSARY. 1. NON-FIRE-RATED STANDARD STEEL DOORS:
- A. JAMBS AND HEAD: 1/8-INCH PLUS OR MINUS 1/16 INCH.
- B. BETWEEN EDGES OF PAIRS OF DOORS: 1/8-INCH PLUS OR MINUS 1/16 INCH.
- C. BETWEEN BOTTOM OF DOOR AND TOP OF THRESHOLD: MAXIMUM
- 3/8 INCH. D. BETWEEN BOTTOM OF DOOR AND TOP OF FINISH FLOOR (NO
- THRESHOLD): MAXIMUM 3/4 INCH.
- 2. FIRE-RATED DOORS: INSTALL DOORS WITH CLEARANCES ACCORDING TO NFPA 80. D. FIELD GLAZING: COMPLY WITH INSTALLATION REQUIREMENTS IN DIVISION 08 SECTION "GLAZING" AND WITH HOLLOW METAL MANUFACTURER'S WRITTEN INSTRUCTIONS. 3.4 ADJUSTING AND CLEANING
- A. FINAL ADJUSTMENTS: CHECK AND READJUST OPERATING HARDWARE ITEMS IMMEDIATELY BEFORE FINAL INSPECTION. LEAVE WORK IN COMPLETE AND PROPER OPERATING CONDITION. REMOVE AND REPLACE DEFECTIVE WORK, INCLUDING HOLLOW METAL WORK THAT IS WARPED, BOWED, OR OTHERWISE UNACCEPTABLE.
- B. REMOVE GROUT AND OTHER BONDING MATERIAL FROM HOLLOW METAL WORK IMMEDIATELY AFTER INSTALLATION.
- C. PRIME-COAT AND PAINTED FINISH TOUCHUP: IMMEDIATELY AFTER ERECTION, SAND SMOOTH RUSTED OR DAMAGED AREAS OF PRIME COAT, OR PAINTED FINISHES, AND APPLY TOUCHUP OF COMPATIBLE AIR DRYING, RUST-INHIBITIVE PRIMER, ZINC RICH PRIMER (EXTERIOR AND GALVANIZED OPENINGS) OR FINISH PAINT.

DIVISION 9 - FINISHES

GYPSUM DRYWALL SYSTEMS: SHALL CONSIST OF METAL FRAMING SUPPORT MEMBERS (STUDS AND/ OR FURRING CHANNELS) AND SHALL INCLUDE INSTALLATION OF SYSTEMS, ANCHORING, TAPING, BEDDING, AND TEXTURING. ALL MEMBERS SHALL COMPLY WITH THICKNESSES AND SPACINGS AS SHOWN ON THE DRAWINGS. FURNISH ALL MATERIALS REQUIRED FOR COMPLETE INSTALLATION. FURNISH AND INSTALL METAL CORNER BEADS AT ALL EXTERIOR CORNERS AND J-MOLDINGS AT ALL LOCATIONS WHERE GYPSUM BOARD ABUTTS A DISSIMILAR MATERIAL.FURNISH AND INSTALL WATERPROOF DRYWALL WHERE SHOWN ON THE DRAWINGS AND, SPECIFICALLY, ON ALL WALLS OF TOILET ROOMS. ATTACH ALL WALLBOARD WITH DRYWALL SCREWS SPECIFICALLY DESIGNED AND SIZED FOR THE PURPOSE OF THE INSTALLATION. ISOLATE STEEL FRAMING FROM BUILDING STRUCTURE TO PREVENT TRANSFER OF LOADING IMPOSED BY STRUCTURAL MOVEMENTS; PROVIDE SLIP JOINTS WHERE PARTITIONS AND WALL FRAMING ABUTTS OVERHEAD STRUCTURE. FINISH ALL DRYWALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, BUT IN NO CASE SHALL FINISH TREATMENT BE LESS THAN 3 COAT FINISH WORK. TEXTURE OF DRYWALL TO BE LIGHT "ORANGE PEEL" TEXTURE.

- RESILIENT BASE: FURNISH AND INSTALL 4" RESILIENT BASE, SEE SCHEDULE FOR COLORS. ALL ADHESIVES SHALL BE WATERPROOF. USE ONLY PRODUCTS ACCEPTABLE TO AND/OR RECOMMENDED BY MANUFACTURER OF BASE MATERIALS. ALL JOINTS SHALL BE TIGHT AND CAREFULLY ALIGNED; ALL BASE SHALL BE NEATLY LEVELED. REPLACE ANY MATERIALS DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER. USE PREMOLDED INSIDE AND OUTSIDE CORNERS.
- PAINTING: INCLUDES FIELD PAINTING OF ALL EXPOSED BARE DUCTWORK, PIPES, HANGERS, EXPOSED STEEL AND IRON WORK, AS WELL AS PRIMED METAL SURFACES OF MECHANICAL AND ELECTRICAL EQUIPMENT, GYPSUM DRYWALL, FERROUS METALS, WOOD DOORS (WHERE SCHEDULED). IN GENERAL, ALL MATERIALS EXPOSED TO VIEW AND NOT FACTORY PREFINISHED SCHEDULEDJ. IN GENERAL, ALL MATERIALS EAL OUED TO THE ALL BE NEW, DELIVERED TO PROJECT SITE SHALL BE PREPARED AND PAINTED. ALL PAINT MATERIALS SHALL BE NEW, DELIVERED TO PROJECT SITE DIVISION 31 - EARTHWORK IN UN-OPENED CONTAINERS. DO NOT APPLY PAINT TO DAMP OR WET SURFACES. RE-PRIME SURFACES PRIOR TO PAINTING IF FACTORY PRIME IS SCRATCHED OR MARRED DURING DELIVERY OR SEE DIVISION 2 INSTALLATION. CLEAN ALL SURFACES THOROUGHLY PRIOR TO PAINTING, INCLUDING THE REMOVAL OF OIL OR GREASE. SCHEDULE PAINTING SO THAT DUST AND OTHER CONTAMINANTS FROM THE CLEANING PROCESS WILL NOT FALL ON NEWLY PAINTED SURFACES. PROVIDE BARRIER COATS OVER INCOMPATIBLE PRIMERS OR REMOVE AND RE-PRIME. USE NON-PETROLEUM BASED SOLVENTS TO CLEAN GALVANIZED SURFACES PRIOR TO PAINTING. DO NOT PAINT OVER DIRT, RUST, SCALE, GREASE, MOISTURE, SCUFFED SURFACES OR OTHER CONDITIONS DETRIMENTAL TO FORMATION OF A DIVISION 33 - UTILITIES HARD, DURABLE, SMOOTH PAINT FILM. SEE DRAWINGS FOR PAINT COLORS.

EXTERIOR & INTERIOR PAINT SCHEDULE - "LOW VOC"

THE FOLLOWING PRODUCTS ARE BASED ON FRAZEE PAINT. OTHER PRODUCTS ARE ACCEPTABLE UPON APPROVAL BY THE ARCHITECT.

INTERIOR SURFACES GYPSUM DRYWALL SYSTEMS

- 1st COAT: C152 ULTRA TECH PRIMER/SEALER 2nd COAT: ENDURABLE SHEEN AS SELECTED BY OWNER
- 3rd COAT: ENDURABLE SHEEN AS SELECTED BY OWNER

NOT APPLICABLE NOT APPLICABLE NOT APPLICABLE NOT APPLICABLE

- **DIVISION 32 EXTERIOR IMPROVEMENTS** NOT USED NOT USED

DIVISION 9 - (CONT'D)

- WOOD PAINTED 1ST COAT: C312 ULTRA TECH INT/EXT ACRYLIC WOOD PRIMER 2nd COAT: 124 MIRRO GLIDE SG 3rd COAT: 124 MIRRO GLIDE SG
- WOOD CLEAR FINISH -WATER BASED POLYURETHANE 3 COATS: VARATHANE DIAMOND POLYURETHANE SATIN OR SEMIGLOSS FINISH
- WOOD SEMI-TRANSPARENT STAIN FINISH 1st COAT: OLD MASTERS SEMI-TRANSPARENT STAIN 3 COATS: VARATHANE DIAMOND POLYURETHANE SATIN OR SEMIGLOSS FINISH
- FERROUS METAL 1st COAT: C309 ULTRA TECH UNIVERSAL PRIMER 2nd COAT: 520 ACRYLIC DTM SG 3rd COAT: 520 ACRYLIC DTM SG
- METAL GALVANIZED / ALUMINUM (ENAMEL FINISH) PRETREATMENT: KRUD KUTTER METAL ETCH 1st COAT: C309 ULTRA TECH UNIVERSAL PRIMER 2nd COAT: 520 ACRYLIC DTM SG 3rd COAT: 520 ACRYLIC DTM SG
- ENAMEL FINISHES:
- GLOSS: 144 ENDURABLE ACRYLIC LATEX ENAMEL 143 MIRRO GLIDE 100% ACRYLIC ENAMEL SEMIGLOSS: 124 MIRRO GLIDE 100% ACRYLIC ENAMEL EGGSHELL: 126 MIRRO GLIDE 100% ACRYLIC ENAMEL LOW SHEEN: 022 LOW GLO ACRYLIC LOW SHEEN FLAT FINISH: 015 MAJESTIC FLAT FINISH
- 5. A. PAINTING OF EXISTING MASONRY: REMOVE DIRT, GREASE, MILDEW, ALGEA, EFFLORESCENCE AND LOOSE, PEELING PAINT. PRESSURE WASH ALL MASONRY AND STUCCO TO ENSURE A CLEAN, CHALK AND DIRT FREE SURFACE. FOLLOW ALL MANUFACTURER'S INSTRUCTIONS AND RINSE WELL. FILL ALL GAPS AND CRACKS LARGER THAN 1/16" WITH CONCRETE PATCH.
- B. ALL EXTERIOR PAINTING SHALL BE ROLLED, NO SPRAYING. C. PAINT SHALL COMPLETELY COVER EXISTING SPLITFACE BLOCK. NO SHADOWING WILL BE ACCEPTED.
- 6. EXISTING WOOD TRUSS CLEANING, PREP. & STAINING: ALL SURFACES MUST BE SANDED SMOOTH WITH THE GRAIN. SURFACE BLEMISHES MUST BE CORRECTED AND THE AREA CLEANED OF DUST BEFORE COATING. PATCH ALL NAIL HOLES AND IMPERFECTIONS WITH A WOOD FILLER OR PUTTY AND SAND SMOOTH. FINISH PER SPECS ABOVE
- **DIVISION 10 SPECIALTIES**
- DIVISION 11 EQUIPMENT
- **DIVISION 12 FURNISHINGS**
- **DIVISION 13 SPECIAL CONSTRUCTION**
- **DIVISION 14 CONVEYING SYSTEMS**
- **DIVISION 15 20**

NOT APPLICABLE

- **DIVISION 21 FIRE SUPPRESSION** DESIGN BUILD BY FIRE SPRINKLER SUBCONTRACTOR
- DIVISION 22 PLUMBING SEE PLUMBING DRAWINGS
- **DIVISION 23 HVAC**
- DIVISION 24 AND 25
- DIVISION 26 ELECTRICAI SEE ELECTRICAL DRAWINGS
- **DIVISION 27 COMMUNICATIONS** NOT USED
- **DIVISION 28 ELECTRONIC SAFETY AND SECURITY**
- DIVISION 29 AND 30
- **DIVISION 34 49** NOT USED

C S ----- \bigcirc - J <u>0</u>0 $\circ \infty$ \sim S 0 0 D D $\subset \mathcal{O}$ \mathbf{m} σΖ S OS шΟ < 2 S N m D

 \mathbb{O}

Q













11/14/2016	BXUV.U415 - Fire Resistance Ratings - ANSI/UL 263 UNITED STATES GYPSUM CO — Types IP-X3 or ULTRACODE
	USG BORAL ZAWAWI DRYWALL LLC SFZ - TVD# ULTRACODE
	USG MEXICO S A DE C V - Types IP-X3 or ULTRACODE
	System D — 2 Hr
	Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached directly to studs with 1 in. long Type S steel screws spaced 24 in. when installed vertically or 16 in. OC when installed horizontally. Horizontal joints need not be backed by steel framing. Requires face layer of 1/2 or 5/8 in. thick cementitious backer units per Item 7 and min 1-1/2 in. thick mineral wool batts per Item 6.
	CGC INC - Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX
	UNITED STATES GYPSUM CO - Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, USGX, WRC, WRX.
	USG BORAL ZAWAWI DRYWALL L L C SFZ - Types C, SCX
	USG MEXICO S A DE C V - Types AR, C, IF-AR, IF-X1, IF-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX
	System E – 2 Hr
	Gypsum panels, with beveled, square or tapered edges, nom 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached to studs with 1 in. long Type 5 steel screws spaced 12 in. OC when installed vertically or 8 in. when installed horizontally. Horizontal joints need not be backed by steel framing.
	CGC INC — 1/2 in. Types C, IP-X2, IPC-AR; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX
	UNITED STATES GYPSUM CO - 1/2 in. Types C, IP-X2, IPC-AR; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, USGX, WRC, WRX.
	USG BORAL ZAWAWI DRYWALL L L C SFZ - 1/2 in . Type C; 5/8 in. Types C, SCX
	USG MEXICO S A DE C V - 1/2 in: Types C, IP-X2, IPC-AR; 5/8 in: Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX
	System F – 2 Hr
	Gypsum panels, with beveled, square or tapered edges, nom 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically in two layers. Inner or base layer attached to resilient furring channels (Item 2B) with 1 in. long Type S steel screws spaced 24 in. Outer or face layer attached to resilient furring channels (Item 2B) with 1-5/8 in. long Type S steel screws spaced 12 in. OC and staggered 12 in. from base layer screws. Joints between inner and outer layers staggered 24 in.
	CGC INC — 1/2 in. Type C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX
	UNITED STATES GYPSUM CO — 1/2 in. Type C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, USGX, WRC, WRX.
	USG BORAL ZAWAWI DRYWALL L L C SFZ - 1/2 in. Type C; 5/6 in. Types C, SCX
	USG MEXICO S A DE C V - 1/2 in. Types C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

System I – 4 Hr Gypsum panels, with beveled, square or tapered edges, nom 3/4 in. thick, 4 ft wide (or 1200 mm for metric spacing) wallboard with square or tapered edges. Total of four layers to be used. First and second (inner) layers applied vertically or horizontally over the steel studs. Horizontal joints need not be backed by steel framing. When applied vertically, joints centered over studs and staggered min 24 in., otherwise all joints staggered min 12 in. First layer secured to studs with 1-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 24 in. OC. Second layer secured to studs with 2-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. Third layer applied vertically over the furring channels (Item 2C) with a 1-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. Fourth layer applied vertically or horizontally with 2-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. When applied vertically, joints to be staggered min 24 in. from third layer, otherwise all joints staggered min 12 in. CGC INC - Types IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO - Types IP-X3 or ULTRACODE

USG BORAL ZAWAWI DRYWALL L L C SFZ - TYPE ULTRACODE

USG MEXICO S A DE C V - Types IP-X3 or ULTRACODE

6. Batts and Blankets* -Systems A, B, E, F, G, H, I

(Optional) — Mineral wool or glass fiber batts partially or completely filling stud cavity. Any mineral wool or glass fiber batt mineral bearing the UL Classification Marking as to Fire Resistance. System A With Type ULIX Gypsum Boards

Placed in stud cavities, any min. 3-1/2 in, thick glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies. Systems C & D

Min 3 in. (System C) and min 1-1/2 in. (System D) thick mineral wool batts, friction fitted between the studs and floor ROXUL INC - Type AFB

http://database.ul.com/egi.bin/XYV/template/LISEXT/IFRAME/showpage.html?name=BXUV.U415&coenshorttitle=Fire+Resistance+Ralings-++ANSI/0L+263&obj.____8/9

THERMAFIBER INC - Type SAFB

Questions?

Print this page

11/14/2016	BXUV.U415 - Fire Resistance Ratings ANSUUL 263	(1)
	joints in liner panels are staggered min 36 in. Butt joints backed with 6 in. by 22 in. strips of 3/4 in. thick gypsum wallboard (Item 4). Wallboard strips centered over butt joints and secured to liner panels with six 1-1/2 in. long Type G steel screws, three screws along the 22 in. dimension at the top and bottom of the strips.	
	CGC INC - Type SLX	O
	UNITED STATES GYPSUM CO - Type SLX	
	USG BORAL ZAWAWI DRYWALL L L C SFZ - Type SLX	-
	USG MEXICO S A DE C V - Type SLX	
	4, Gypsum Beard* —	
	System A – 1 Hr	\cap
	Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached to studs with 1 in. long Type S steel screws spaced 12 in, when installed vertically or 8 in OC when installed horizontally. Horizontal joints need not be backed by steel framing.	
	CGC INC - Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX	
	UNITED STATES GYPSUM CO — Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, WRC, WRX, USGX. When ULIX is used insulation, Item 6, Batts and Blankets* is required and minimum stud depth is 4 in.	
	USG BORAL ZAWAWI DRYWALL L L C SFZ - Types C, SCM	
	USG MEXICO S A DE C V - Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX	\square
	System B – 2 Hr	
	Gypsum panels, with beveled, square or tapered edges, nom 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally in two layers. Inner or base layer attached to studs with 1 in. Jong Type S steel screws spaced 24 in. OC when installed vertically or nor 12 in. Or when installed vertically or 15 in. OC when installed vertically or 12 in. Tom base layer studs with 1 in. Jong Type S steel screws spaced 12 in. OC when installed vertically and staggered 12 in. from base layer screws or 8 in. OC when installed vertically and staggered 12 in. Tom base layer screws or 8 in. OC when installed horizontally in two for the staggered 12 in. To when installed vertically and staggered 8 in. From base layer screws. Horizontal joints between inner and outer layers staggered a min of 12 in. Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in.	S ⊂ C
	CGC INC — 1/2 in. Type C, IP-X2, IPC-AR of WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX	
	UNITED STATES GYPSUM CO - 1/2 in. Types C, IP-X2, IPC-AR, or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, USGX, WRC, WRX	

USG BORAL ZAWAWI DRYWALL L C SFZ - 1/2 III. Type C; 5/8 III. Types C, SCX

USG MEXICO S A DE C V - 1/2 in. Types C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, IF-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

Gypsum panels, with beveled, square or tapered edges, nom 3/4 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, secured with 1-1/4 in. long Type S steel screws spaced 8 in. OC along vertical edges and 12 in. OC in the field when installed vertically or 8 in. OC along the vertical edges and in the field when installed horizontally. Horizontal joints need not be backed by steel framing. Screws along side joints offset 4 in. Requires min 4 in. deep framing per Items 1, 2 and 3, Requires min 3 in. thick mineral wool batts per Item 6. CGC INC - Types IP-X3 or ULTRACODE

System C - 2 Hr

BXUV,U415 - Fire Resistance Ratings - ANSI/UL 263 7. Cementitious Backer Units* - (System D) - Nom 1/2 or 5/8 in thick panels, square edge, attached to studs over gypsum wallboard with 1-5/8 in. long, Type S-12, corrosion resistant steel screws spaced 8 in. OC and staggered 8 in. from gypsum wall board screws. Joints covered with glass fiber mesh tape. Vertical joints staggered one stud cavity from gypsum wallboard joints. Horizontal joints staggered a min of 12 in. from the gypsum wallboard joints. UNITED STATES GYPSUM CO - Type DCB

8. Laminating Adhesive* – (Optional, Not Shown) – Used to bond outer layer of Cementitious Backer Units (Item 7) to inner layers of Gypsum Board (Item 4) in System D. ANSI A136.1 Type 1 organic adhesive applied with 1/4 in square notched trowel. See Adhesives (BYWR) in the Fire Resistance Directory or Adhesives (BJLZ) in the Building Materials Directory for names of Classified companies.

9. Lead Batten Strips - (Not Shown, For Use With Item 4A) - Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type 5-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4A) and optional at remaining stud locations. Required behind vertical joints. 9A. Lead Batten Strips — (Not Shown, for use with Item 4C) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type 5-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead battern strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D".. Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 6) and optional at remaining stud locations. 10. Lead Discs or Tabs — (Not Shown, For Use With Item 4A) — Used in lieu of or in addition to the lead batten strips (Item 9) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards

(Item 4A) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a punty of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". 10A. Lead Discs - (Not Shown, for use with Item 4C) - Max 5/16 in, diam by max 0.140 in, thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D". 11. Lead Batten Strips — (Not Shown, For Use With Item 4B) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.142 in. Strips placed on the face of studs and attached to the stud with two min. 1 ln. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the top to the strip. Lead batten strips to have a purity of 99.9% meeting the Federal

pecification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4B) and optional at remaining stud locations. 12. Lead Tabs - (Not Shown, For Use With Item 4B) - 2 in, wide, 5 in, long with a max thickness of 0.142 in, Tabs friction-fit around front face of stud, the stud folded back flange, and the back face of the stud. Tabs required at each location where a screw (that secures the gypsum boards, Item 48) will penetrate the steel stud. Lead tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary.

Terms of Use

© 2016 UL LLC The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL's Follow-Up Service. Only those products bearing the UL Mark should be considered to be Certified and covered under UL's Follow-Up Service, Always look for the Mark on the product. UL permits the reproduction of the material contained in the Online Certification Directory subject to the following conditions: 1. The Guide Information, Assemblies, Constructions, Designs, Systems, and/or Certifications (files) must be presented in their entirety and in a non-misleading manner, without any manipulation of the data (or drawings). 2. The statement "Reprinted from the Online Certifications Directory with permission from UL" must appear adjacent to the extracted material. In addition, the reprinted material must include a copyright notice in the following format: "© 2016 UL LLC".

Page Top

com/egi bin/XYV/template/LIS	EXT/IFRAME	/showpage.html?name=BXUV.U415&coenshorttitle=Fire+Resistance+Ratings++ANSI/UL+263&obj9/9				
	П	TABLE 721.1(2) —continued ATED FIRE-RESISTANCE PERIODS FOR VARIOUS WALLS AND PARTITIONS ^{a, o, p}	MIN THIC	IIMUM KNESS	FINISH	IED E-TO-
MATERIAL	NUMBER	CONSTRUCTION	4 hours	3 hours	2 hours	1 hour
13. Noncombusti- ble studs-interior partition with evp-	13-1.1	0.018" (No. 25 carbon sheet steel gage) channel-shaped studs 24" on center with one full-length layer of ${}^{5}\!/_{8}$ " Type X gypsum wallboard ^e applied vertically attached with 1" long No. 6 drywall screws to each stud. Screws are 8" on center around the perimeter and 12" on center on the intermediate stud. The wallboard may be applied horizontally when attached to $3^{5}\!/_{8}$ " studs and the horizontal joints are staggered with those on the opposite side. Screws for the horizontal application shall be 8" on center at vertical edges and 12" on center at intermediate studs.		-		2 ⁷ /8
sum wallboard each side		0.018" (No. 25 carbon sheet steel gage) channel-shaped studs 25" on center with two full-length layers of $1/2$ " Type X gypsum wallboard ^e applied vertically each side. First layer attached with 1"-long, No. 6 drywall screws, 8" on center around the perimeter and				

13-1.2 12" on center on the intermediate stud. Second layer applied with vertical joints offset

bottom runners.

one stud space from first layer using 1⁵/₈" long, No. 6 drywall screws spaced 9" on center along vertical joints, 12" on center at intermediate studs and 24" on center along top and

6 - J $\Box \phi$ 0 00 R Ο D D $\subset \mathcal{O}$ • _____ •— +--- \Box Φ σ Ζ S σΟ S ШΦ < 2 S N ကပ

S

Φ

00 Ο 2





UL U415 & IBC TABLE 721.1(2)



1:1 1:1

ABBREVIATIONS

ABOVE FINISHED FLOOR			LAM. LCTH
AGGREGATE	AGGR.	LIGHT	LUT.
AIR CONDITION	A/C	LONG	LG.
ALTERNATE	AĹT.	LONGITUDINAL	LONGIT.
ALUMINUM	AL.	LONG LEG BACK TO BACK	LLBB
AMERICAN CUNCRETE INSTITUTE	ACI		
AMERICAN INSTITUTE OF ARCHITECTS		LONG LEG VERTICAL	LLV I SH
AMERICAN IRON AND STEEL INSTITUTE		LONG SECTIED HOLES	I HF
AMERICAN SOCIETY FOR TESTING AND MATERIALS	ASTM		
AMERICAN NATIONAL STANDARDS INSTITUTE	ANSI	MACHINE BOLT	MB
AMERICAN WELDING SOCIETY	AWS	MANUFACTURER	MFR.
ANCHOR	ANC.	MARK	MK.
ANCHOR BOLT	AB	MATERIAL	MATL.
ANGLE	L	MAXIMUM	MAX.
	APPROX.		MECH.
ARCHITECT OR ARCHITECTORAL		MEDIUM METAI	MED. MET
ASSEMBLY		METAL	MET. MF77
AVERAGE		MINIMUM	MIN.
	AVG.	MISCELLANEOUS	MISC.
BASE PLATE	BP	MIXTURE	MIX.
BEAM	BM.	MULTIPLE	MULT.
BEARING	BRG.		
BLOCKING	BLKG.	NEAR FACE	NF
BUARD		NEAR SIDE NOMINAL	NS
BOTTOM OF DECK			NOM. N
BOTTOM OF STEEL	B/S	NOT TO SCALE	NTS
BUILDING	BLDG	NUMBER	NO.
	DEDO.		
CARRIED COLUMN	CC	ON CENTER	OC
CAST IN PLACE	CIP	OPENING	OPNG.
CAST IRON	CI	OPPOSITE	OPP.
	CLG.		ORIG.
	CEN.	OUTSIDE DIAMETER	
CENTER OF GRAVITY			0F OH
CENTER TO CENTER		OVERSIZED HOLL	OII
CHANNEL	C	PAIR	PR.
CLEAR	ČLR.	PANEL	PNL.
COLUMN	COL.	PARTIAL JOINT PENETRATION	PJP
COMPLETE JOINT PENETRATION	CJP	PARTITION	PTN.
CONCRETE	CONC.	PENNY WEIGHT (NAILS, ECT.)	d
CUNCRETE MASONRY UNITS	CMU	PERMANENT	PERM.
	CUNN.		FEKF. Pr
CONTRUCTION	CUNSI.		FC. PI
CONTRACTOR	CONTR		PLYWD.
CONTROL OR CONSTRUCTION JOINT	CJ	POST_TENSIONED	PT
CUBIC FOOT	CF	POINT	PT.
CUBIC YARD	CY	POUND	LB
		POUNDS PER CUBIC FOOT	PCF
DETAIL	DET.	POUNDS PER SQUARE FOOT	PSF
DIAGONAL	DIAG.	POUNDS PER SQUARE INCH	PSI
	DIA.	POWDER ACTUATED FASTENER	
DIMENSIONS		PROJECT	FINUD.
	21	OLIARTER	
DOUGLAS FIR	DF		QIN.
DOWEL	DWL.	RADIUS	R
DOWELS	DWLS.	REFERENCE	REF.
DRAWINGS	DWG.	REINFORCE, REINFORCED,	REINF.
54011	F 1	REINFORCEMENT, OR REINFORCING	
	EA.	REQUIRED	REQD.
ΕΑCΗ ΓΑΟΕ ΓΔΛΗ ΜΔΥ	LF FW	REVISE OR REVISION	REV.
FAST	F	ROOM	KF.
ELECTRIC OR ELECTRICAL	ELECT.	Keom	KM.
ELEVATION	ELEV.	SLIP CRITICAL	S C
EMBEDMENT	EMBED.	SCHEDULE	SCHED.
ENGINEER	ENGR.	SECTION	SECT.
ENGINEERING	ENGRG.	SHEET	SHT.
	EQ.	SHEET METAL	SM
		SHORT SLOTTED HOLE	SSH
ESUALATUR ESTIMATE	ESU. FST	SIMILAR	SIM.
FXCAVATE	EST. FXCAV		SK.
EXISTING	EXIST OR (F)	SPECIFICATIONS	S SDEUS
EXPANSION JOINT	FJ	SPIRAL	SPEUS. SP
EXTERIOR	ËXT.	SQUARE	SQ.
EXTRA HEAVY	X-HVY	STAGGERED	STAGG.
EXTRA STRONG	X-STG	STANDARD	STD.
DOUBLE EXTRA STRONG	XX–STG	STIFFENER	STIFF.
	FAR	STIRKUP	STIR.
FAR FACE	FAD. FF	SIEEL	STL.
FAR SIDE	FS	STRONG	SIK.
FEET OR FOOT	FT.	STRUCTURAL	SIG. STRIICT
FIGURE	FIG.	STRUT FORCE	SF
FINISH	FIN.	SYMMETRICAL	SYMM.
FLOOR	FLR.		.
FLOOR DRAIN	FD	TANGENT	TAN.
FUOTING	FTG.	THICK	THK.
	FUN.	THROUGH	THRU
r RAMING	FKMG.		THRU-OUT
		IULERANUE TONCHE AND CROOVE	IOL.
	GA	· · · · · · · · · · · · · · · · · · ·	
GALVANIZE	GA. GALV.	TOP AND BOTTOM	T AND G
GAGE OR GAUGE GALVANIZE GALVANIZED IRON	GA. GALV. GI	TOP AND BOTTOM TOP OF	T AND G T AND B T /
GAGE OK GAUGE GALVANIZE GALVANIZED IRON GENERAL	GA. GALV. GI GEN.	TOP AND BOTTOM TOP OF TOP OF CONCRETE FOUNDATION	T AND G T AND B T/ T/
GAGE OR GAUGE GALVANIZE GALVANIZED IRON GENERAL GLUED LAMINATED BEAM	GA. GALV. GI GEN. GLB	TOP AND BOTTOM TOP OF TOP OF CONCRETE FOUNDATION TOP OF STEEL	T AND G T AND B T/ T/F T/S
GAGE OR GAUGE GALVANIZE GALVANIZED IRON GENERAL GLUED LAMINATED BEAM GRADE	GA. GALV. GI GEN. GLB GR.	TOP AND BOTTOM TOP OF TOP OF CONCRETE FOUNDATION TOP OF STEEL TOP OF WALL	T AND G T AND B T/ T/F T/S T/W
GAGE OR GAUGE GALVANIZE GALVANIZED IRON GENERAL GLUED LAMINATED BEAM GRADE GROUND	GA. GALV. GI GEN. GLB GR. GRND.	TOP AND BOTTOM TOP OF TOP OF CONCRETE FOUNDATION TOP OF STEEL TOP OF WALL TOTAL	T AND G T AND B T/ T/F T/S T/W TOT
GAGE OK GAUGE GALVANIZE GALVANIZED IRON GENERAL GLUED LAMINATED BEAM GRADE GROUND	GA. GALV. GI GEN. GLB GR. GRND.	TOP AND BOTTOM TOP OF TOP OF CONCRETE FOUNDATION TOP OF STEEL TOP OF WALL TOTAL TRANSVERSE	T AND G T AND B T/ T/F T/S T/W TOT. TRANS
GAGE OK GAUGE GALVANIZE GALVANIZED IRON GENERAL GLUED LAMINATED BEAM GRADE GROUND HEIGHT HEYACON	GA. GALV. GI GEN. GLB GR. GRND. HGT.	TOP AND BOTTOM TOP OF TOP OF CONCRETE FOUNDATION TOP OF STEEL TOP OF WALL TOTAL TRANSVERSE TYPICAL	T AND G T AND B T/ T/F T/S T/W TOT. TRANS. TYP.
GAGE OK GAUGE GALVANIZE GALVANIZED IRON GENERAL GLUED LAMINATED BEAM GRADE GROUND HEIGHT HEXAGON HORIZONTAI	GA. GALV. GI GEN. GLB GR. GRND. HGT. HEX. HORIZ	TOP AND BOTTOM TOP OF TOP OF CONCRETE FOUNDATION TOP OF STEEL TOP OF WALL TOTAL TRANSVERSE TYPICAL	T AND G T AND B T/ T/F T/S T/W TOT. TRANS. TYP.
GAGE OK GAUGE GALVANIZE GALVANIZED IRON GENERAL GLUED LAMINATED BEAM GRADE GROUND HEIGHT HEXAGON HORIZONTAL	GA. GALV. GI GEN. GLB GR. GRND. HGT. HEX. HORIZ. S	TOP AND BOTTOM TOP OF TOP OF CONCRETE FOUNDATION TOP OF STEEL TOP OF WALL TOTAL TRANSVERSE TYPICAL UNLESS NOTED UNLESS NOTED	T AND G T AND B T/ T/F T/S T/W TOT. TRANS. TYP. UN
GAGE OR GAUGE GALVANIZE GALVANIZED IRON GENERAL GLUED LAMINATED BEAM GRADE GROUND HEIGHT HEXAGON HORIZONTAL STANDARD I BEAM	GA. GALV. GI GEN. GLB GR. GRND. HGT. HEX. HORIZ. S IN.	TOP AND BOTTOM TOP OF TOP OF CONCRETE FOUNDATION TOP OF STEEL TOP OF WALL TOTAL TRANSVERSE TYPICAL UNLESS NOTED UNLESS NOTED OTHERWISE	T AND G T AND B T/ T/F T/S T/W TOT. TRANS. TYP. UN UNO
GAGE OR GAUGE GALVANIZE GALVANIZED IRON GENERAL GLUED LAMINATED BEAM GRADE GROUND HEIGHT HEXAGON HORIZONTAL STANDARD I BEAM INCHES	GA. GALV. GI GEN. GLB GR. GRND. HGT. HEX. HORIZ. S IN. INCL.	TOP AND BOTTOM TOP OF TOP OF CONCRETE FOUNDATION TOP OF STEEL TOP OF WALL TOTAL TRANSVERSE TYPICAL UNLESS NOTED UNLESS NOTED OTHERWISE VERIEY IN THE FIELD	T AND G T AND B T/ T/F T/S T/W TOT. TRANS. TYP. UN UN UNO
GAGE OK GAUGE GALVANIZE GALVANIZED IRON GENERAL GLUED LAMINATED BEAM GRADE GROUND HEIGHT HEXAGON HORIZONTAL STANDARD I BEAM INCHES INCLUDE OR INCLUDED	GA. GALV. GI GEN. GLB GR. GRND. HGT. HGT. HORIZ. S IN. INCL. INFO.	TOP AND BOTTOM TOP OF TOP OF CONCRETE FOUNDATION TOP OF STEEL TOP OF WALL TOTAL TRANSVERSE TYPICAL UNLESS NOTED UNLESS NOTED OTHERWISE VERIFY IN THE FIELD VERIFY IN THE FIELD VERTICAL	T AND G T AND B T/ T/F T/S T/W TOT. TRANS. TYP. UN UNO VIF VFRT
GAGE OK GAUGE GALVANIZE GALVANIZED IRON GENERAL GLUED LAMINATED BEAM GRADE GROUND HEIGHT HEXAGON HORIZONTAL STANDARD I BEAM INCHES INCLUDE OR INCLUDED INFORMATION	GA. GALV. GI GEN. GLB GR. GRND. HGT. HEX. HORIZ. S IN. INCL. INFO. ID	TOP AND BOTTOM TOP OF TOP OF CONCRETE FOUNDATION TOP OF STEEL TOP OF WALL TOTAL TRANSVERSE TYPICAL UNLESS NOTED UNLESS NOTED OTHERWISE VERIFY IN THE FIELD VERIFY IN THE FIELD VERTICAL VOLUME	T AND G T AND B T/ T/F T/S T/W TOT. TRANS. TYP. UN UNO VIF VERT. VOI
GAGE OK GAUGE GALVANIZE GALVANIZED IRON GENERAL GLUED LAMINATED BEAM GRADE GROUND HEIGHT HEXAGON HORIZONTAL STANDARD I BEAM INCHES INCLUDE OR INCLUDED INFORMATION INSIDE DIAMETER	GA. GALV. GI GEN. GLB GR. GRND. HGT. HEX. HORIZ. S IN. INCL. INFO. ID IF	TOP AND BOTTOM TOP OF TOP OF CONCRETE FOUNDATION TOP OF STEEL TOP OF WALL TOTAL TRANSVERSE TYPICAL UNLESS NOTED UNLESS NOTED UNLESS NOTED VERIFY IN THE FIELD VERIFY IN THE FIELD VERTICAL VOLUME	T AND G T AND B T/ T/F T/S T/W TOT. TRANS. TYP. UN UN UNO VIF VERT. VOL.
GAGE OR GAUGE GALVANIZE GALVANIZED IRON GENERAL GLUED LAMINATED BEAM GRADE GROUND HEIGHT HEXAGON HORIZONTAL STANDARD I BEAM INCHES INCLUDE OR INCLUDED INFORMATION INSIDE DIAMETER INSIDE FACE	GA. GALV. GI GEN. GLB GR. GRND. HGT. HEX. HORIZ. S IN. INCL. INFO. ID IF	TOP AND BOTTOM TOP OF TOP OF CONCRETE FOUNDATION TOP OF STEEL TOP OF WALL TOTAL TRANSVERSE TYPICAL UNLESS NOTED UNLESS NOTED OTHERWISE VERIFY IN THE FIELD VERTICAL VOLUME	T AND G T AND B T/ T/F T/S T/W TOT. TRANS. TYP. UN UNO VIF VERT. VOL. WT.
GAGE OK GAUGE GALVANIZE GALVANIZED IRON GENERAL GLUED LAMINATED BEAM GRADE GROUND HEIGHT HEXAGON HORIZONTAL STANDARD I BEAM INCHES INCLUDE OR INCLUDED INFORMATION INSIDE DIAMETER INSIDE FACE	GA. GALV. GI GEN. GLB GR. GRND. HGT. HGT. HGT. HORIZ. S IN. INCL. INFO. ID IF	TOP AND BOTTOM TOP OF TOP OF CONCRETE FOUNDATION TOP OF STEEL TOP OF WALL TOTAL TRANSVERSE TYPICAL UNLESS NOTED UNLESS NOTED OTHERWISE VERIFY IN THE FIELD VERTICAL VOLUME WEIGHT WELDED WIRE FABRIC	T AND G T AND B T/ T/F T/S T/W TOT. TRANS. TYP. UN UNO VIF VERT. VOL. WT. WWF
GAGE OR GAUGE GALVANIZE GALVANIZED IRON GENERAL GLUED LAMINATED BEAM GRADE GROUND HEIGHT HEXAGON HORIZONTAL STANDARD I BEAM INCHES INCLUDE OR INCLUDED INFORMATION INSIDE DIAMETER INSIDE FACE JOINT	GA. GALV. GI GEN. GLB GR. GRND. HGT. HEX. HORIZ. S IN. INCL. INFO. ID IF	TOP AND BOTTOM TOP OF TOP OF CONCRETE FOUNDATION TOP OF STEEL TOP OF WALL TOTAL TRANSVERSE TYPICAL UNLESS NOTED UNLESS NOTED OTHERWISE VERIFY IN THE FIELD VERIFY IN THE FIELD VERTICAL VOLUME WEIGHT WELDED WIRE FABRIC WEST	T AND G T AND B T/ T/F T/S T/W TOT. TRANS. TYP. UN UNO VIF VERT. VOL. WT. WWF W
GAGE OK GAUGE GALVANIZE GALVANIZED IRON GENERAL GLUED LAMINATED BEAM GRADE GROUND HEIGHT HEXAGON HORIZONTAL STANDARD I BEAM INCHES INCLUDE OR INCLUDED INFORMATION INSIDE DIAMETER INSIDE FACE JOINT	GA. GALV. GI GEN. GLB GR. GRND. HGT. HEX. HORIZ. S IN. INCL. INFO. ID IF JT.	TOP AND BOTTOM TOP OF TOP OF CONCRETE FOUNDATION TOP OF STEEL TOP OF WALL TOTAL TRANSVERSE TYPICAL UNLESS NOTED UNLESS NOTED OTHERWISE VERIFY IN THE FIELD VERIFY IN THE FIELD VERIFY IN THE FIELD VERICAL VOLUME WEIGHT WELDED WIRE FABRIC WEST WIDE FLANGE	T AND G T AND B T/ T/F T/S T/W TOT. TRANS. TYP. UN UNO VIF VERT. VOL. WT. WWF W WF
GAGE OK GAUGE GALVANIZE GALVANIZED IRON GENERAL GLUED LAMINATED BEAM GRADE GROUND HEIGHT HEXAGON HORIZONTAL STANDARD I BEAM INCHES INCLUDE OR INCLUDED INFORMATION INSIDE DIAMETER INSIDE FACE JOINT KIP (1,000 LBS.)	GA. GALV. GI GEN. GLB GR. GRND. HGT. HEX. HORIZ. S IN. INCL. INFO. ID IF JT. K	TOP AND BOTTOM TOP OF TOP OF CONCRETE FOUNDATION TOP OF STEEL TOP OF WALL TOTAL TRANSVERSE TYPICAL UNLESS NOTED UNLESS NOTED OTHERWISE VERIFY IN THE FIELD VERTICAL VOLUME WEIGHT WELDED WIRE FABRIC WEST WIDE FLANGE WITH	T AND G T AND B T/ T/F T/S T/W TOT. TRANS. TYP. UN UNO VIF VERT. VOL. WT. WWF W WF W
GAGE OK GAUGE GALVANIZE GALVANIZED IRON GENERAL GLUED LAMINATED BEAM GRADE GROUND HEIGHT HEXAGON HORIZONTAL STANDARD I BEAM INCHES INCLUDE OR INCLUDED INFORMATION INSIDE DIAMETER INSIDE TACE JOINT KIP (1,000 LBS.) KNOCKOUT	GA. GALV. GI GEN. GLB GR. GRND. HGT. HEX. HORIZ. S IN. HORIZ. S IN. INCL. INFO. ID IF JT. K K	TOP AND BOTTOM TOP OF TOP OF CONCRETE FOUNDATION TOP OF STEEL TOP OF WALL TOTAL TRANSVERSE TYPICAL UNLESS NOTED UNLESS NOTED OTHERWISE VERIFY IN THE FIELD VERTICAL VOLUME WEIGHT WELDED WIRE FABRIC WEST WIDE FLANGE WITH WITHOUT WOOD	T AND G T AND B T/ T/F T/S T/W TOT. TRANS. TYP. UN UNO VIF VERT. VOL. WT. WWF W WF W/ W/O
GAGE OK GAUGE GALVANIZE GALVANIZED IRON GENERAL GLUED LAMINATED BEAM GRADE GROUND HEIGHT HEXAGON HORIZONTAL STANDARD I BEAM INCHES INCLUDE OR INCLUDED INFORMATION INSIDE DIAMETER INSIDE FACE JOINT KIP (1,000 LBS.) KNOCKOUT	GA. GALV. GI GEN. GLB GR. GRND. HGT. HGT. HGT. HORIZ. S IN. HORIZ. S IN. INCL. INFO. ID IF JT. K KO.	TOP AND BOTTOM TOP OF TOP OF CONCRETE FOUNDATION TOP OF STEEL TOP OF WALL TOTAL TRANSVERSE TYPICAL UNLESS NOTED UNLESS NOTED OTHERWISE VERIFY IN THE FIELD VERTICAL VOLUME WEIGHT WELDED WIRE FABRIC WEST WIDE FLANGE WITH WITHOUT WOOD WOOD SCREW	T AND G T AND B T/ T/F T/S T/W TOT. TRANS. TYP. UN UNO VIF VERT. VOL. WT. WWF W WF W WF W/ W/O WD.
GAGE OK GAUGE GALVANIZE GALVANIZED IRON GENERAL GLUED LAMINATED BEAM GRADE GROUND HEIGHT HEXAGON HORIZONTAL STANDARD I BEAM INCHES INCLUDE OR INCLUDED INFORMATION INSIDE DIAMETER INSIDE FACE JOINT KIP (1,000 LBS.) KNOCKOUT	GA. GALV. GI GEN. GLB GR. GRND. HGT. HEX. HORIZ. S IN. HORIZ. S IN. INCL. INFO. ID IF JT. K KO.	TOP AND BOTTOM TOP OF TOP OF CONCRETE FOUNDATION TOP OF STEEL TOP OF WALL TOTAL TRANSVERSE TYPICAL UNLESS NOTED UNLESS NOTED OTHERWISE VERIFY IN THE FIELD VERIFY IN THE FIELD VERICAL VOLUME WEIGHT WELDED WIRE FABRIC WEST WIDE FLANGE WITH WITHOUT WOOD WOOD SCREW WORK POINT	T AND G T AND B T/ T/F T/S T/W TOT. TRANS. TYP. UN UNO VIF VERT. VOL. WT. WWF W WF W WF W/ W/O WD. WD. SCR. WP

YARD

YD.

SYMBOL LEGEND

>	SLOPE DIRECTION UP OR DOWN
<u> </u>	SPAN DIRECTION
$\Phi^{XXX'-X''}$	ELEVATION INDICATOR
►	RIGID CONNECTION
s	STEP IN CONTINOUS FOOTING INDICATOR
	CHANGE (STEP) IN ELEVATION INDICATOR
(00'-0")	STEEL ELEVATION
00'-0"	MISCELLANEOUS ELEVATION
[00]	REQUIRED NUMBER OF HEADED SHEAR STUDS
C=0"	CAMBER UP

<u>GENERAL</u>

WELDING STEEL CONCRETE MASONRY WOOD AWS AISC AND SEE ARCHITECTURAL SYMBOLS ACI AND SEE ARCHITECTURAL SYMBOLS SEE ARCHITECTURAL SYMBOLS SEE ARCHITECTURAL SYMBOLS

SYMBOLS AND ABBREVIATIONS FOR CONCRETE (AS PER ACI)

O @ OR AT

> S100 S101

TO INDICATE SIZE OF DEFORMED BAR PLAIN ROUNDS, AS SPIRALS SPACING CENTER TO CENTER DIRECTION IN WHICH BARS EXTEND LIMITS OF AREA COVERED BY BARS

DRAWING LIST

COVER SHEET GENERAL NOTES

S200GROUND FLOOR FRAMING PLANS600SECTIONS AND DETAILS



S100 16-501 UNLV FAB Shell Upgrade

1:1

GENERAL NOTES

А	GENERAL	С
1	THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING FABRICATION. THE ENGINEER OF RECORD AND ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.	1
2	DO NOT SCALE THE DRAWINGS.	
3	NOTES AND DETAILS ON THE STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER THESE GENERAL NOTES AND THE TYPICAL DETAILS. ANY CONFLICT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD.	
4	ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE FOLLOWING CODES: THE 2012 EDITION OF THE INTERNATIONAL BUILDING CODE, AND OTHER REGULATING AGENCIES WHICH HAVE AUTHORITY OVER ANY PORTION OF THE WORK, AND THOSE CODES AND STANDARDS LISTED IN THESE NOTES AND IN THE PROJECT SPECIFICATIONS.	2
5	SEE THE ARCHITECTURAL DRAWINGS FOR THE FOLLOWING: A. SIZES AND LOCATIONS OF INTERIOR NON-BEARING PARTITIONS. B. DIMENSIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS.	3
6	THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS AND METHODS OF CONSTRUCTION.	4
7	THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING AND SHORING FOR LOADS DUE TO HYDROSTATIC, EARTH, WIND OR SEISMIC FORCES, CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.	5
8	NOTIFY THE STRUCTURAL ENGINEER WHEN DRAWINGS BY OTHERS INDICATE OPENINGS, POCKETS, ETC., NOT SHOWN ON THE STRUCTURAL DRAWINGS, BUT WHICH ARE LOCATED IN THE STRUCTURAL MEMBERS.	6
9	SHOP DRAWINGS SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW SHALL CONSIST OF 2 BOND SETS.	7
10	DESIGN LOADS:	8
	$\begin{array}{llllllllllllllllllllllllllllllllllll$	D
11	WIND LOAD CRITERIA:	1
10	WIND LOAD = 5 PSF (INTERIOR PRESSURE)	2
١Z	TO SUPPORT THE IMPOSED CEILING LOADS AS THE CEILING IS REPLACING AN EXISTING CEILING OF EQUAL OR GREATER WEIGHT.	3
В	STRUCTURAL STEEL	
1	STRUCTURAL STEEL SHALL BE DESIGNED, DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC 'SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS' AND 'CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES' (LATEST EDITION AND SUPPLEMENTS).	4
2	STRUCTURAL STEEL SHALL CONFORM TO THE ASTM DESIGNATION A992 GRADE 50, EXCEPT ANGLES, CHANNELS, PLATES AND BARS WHICH SHALL CONFORM TO ASTM A36, UNLESS NOTED OTHERWISE.	5
3	PIPE SHALL CONFORM TO ASTM DESIGNATION A53 GRADE 'B'. ALL HOLLOW STRUCTURAL SECTIONS (HSS) SHALL CONFORM TO ASTM A500 GRADE 'B' COLD FORMED WITH FY = 46 KSI FOR RECTANGULAR SHAPES AND FY = 42 KSI FOR ROUND SHAPES.	6
4	BOLTS SHALL CONFORM TO ASTM A325N, EXCEPT ANCHOR BOLTS WHICH SHALL CONFORM TO ASTM F1554 GRADE 36, UNLESS NOTED OTHERWISE.	7
5	THE STRUCTURAL STEEL FABRICATOR AND STEEL DECK FABRICATOR SHALL FURNISH SHOP DRAWINGS OF ALL STRUCTURAL STEEL AND STEEL DECK, RESPECTIVELY, FOR REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER AND ARCHITECT PRIOR TO FABRICATION.	8 9
6	BOLT HOLES IN STEEL SHALL BE 1/16 INCH LARGER THAN NOMINAL SIZE OF BOLT USED, EXCEPT ANCHOR BOLT HOLES.	
7	STRUCTURAL STEEL SURFACES THAT ARE NOT EXPOSED TO WEATHER SHALL BE LEFT UNPAINTED. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ANY ADDITIONAL REQUIREMENTS.	10
8	CHARPY V-NOTCH TESTING IS REQUIRED FOR ALL ASTM A6 GROUP 4 AND 5 ROLLED SHAPES AND CONNECTION PLATES AS SPECIFIED IN SECTION A3.1.C OF THE AISC MANUAL.	11
9	WELDED JOINTS SHALL CONFORM TO THE PREQUALIFIED JOINT DETAILS AS INDICATED IN THE STRUCTURAL WELDING CODE (AWS D1.1) BY THE AMERICAN WELDING SOCIETY. WELDS SHALL BE MADE USING A FILLER METAL HAVING 70 KSI MINIMUM TENSILE STRENGTH. FILLER METAL SHALL HAVE A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT-LBS. AT 0 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE. SMAW OR FCAW PROCESSES ARE ACCEPTABLE PROVIDED ALL POWER, CURRENT, AND FEED RATES ARE SET IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.	12
10	WELD LENGTHS CALLED FOR ON PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED. WELD SIZE SHALL BE AISC MINIMUM UNLESS A LARGER SIZE IS NOTED.	14
11	WELDING TESTS AND INSPECTIONS, SEE THE SPECIAL INSPECTION SECTION OF THE GENERAL NOTES AND PROJECT SPECIFICATIONS.	15
12	EXCEPT AS SUBSEQUENTLY NOTED, HIGH STRENGTH BOLTS NEED NOT BE TIGHTENED BEYOND THE SNUG-TIGHT CONDITION, AS DEFINED IN SECTION 8.1	16
	OF THE 'SPECIFICATIONS FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS'. FOR CONNECTIONS SUBJECT TO DIRECT TENSION, CONNECTIONS FOR BRACED FRAMES, AND OTHER CONNECTIONS INDICATED OR NOTED ON THE PLANS AS SC (SLIP CRITICAL) OR FULLY TENSIONED, BOLTS SHALL BE TIGHTENED BY ONE OF THE METHODS DESCRIBED IN SECTION 8(b) AND TO THE MINIMUM TENSION SPECIFIED IN SECTION 8.2, TABLE 8.1.	17
13	THE APPLICATION OF THE FIREPROOFING TO THE STEEL MEMBERS AND STEEL DECK IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MUST ENFORCE THE REQUIREMENTS OF THE MANUFACTURER AND NOT IMPOSE ANY ADDITIONAL LOADS, INCLUDING CONSTRUCTION LIVE LOADS, DURING THE APPLICATION AND CURING OF THE FIREPROOFING.	19

COLD-FORMED STEEL STRUCTURAL MEM

- STEEL STRUCTURAL MEMBERS SHALL BE OF THE SIZE AND GA ON THE STRUCTURAL DRAWINGS. ALL STUDS JOISTS AND TRAC TO THE STEEL STUD MANUFACTURERS ASSOCIATION (SSMA) SPI SHALL BE MARKED "CERTIFIED" UNDER THE SSMA CODE COMP CERTIFICATION PROGRAM. 25 GAUGE THROUGH 18 GAUGE MEM FORMED FROM STEEL HAVING A MINIMUM 33,000 PSI YIELD S 16 GAUGE THROUGH 12 GAUGE MEMBERS SHALL BE FORMED HAVING A MINIMUM 50,000 PSI YIELD STRENGTH. STEEL STRUC MEMBERS SHALL BE COLD-FORMED TO SHAPE FROM SHEET S COMPLYING WITH THE REQUIREMENTS OF ASTM A1003, TYPE H
- WELDING OF STEEL STRUCTURAL MEMBER CONNECTIONS SHALL USING FILLET, PLUG, BUTT OR SEAM WELDS WITH A MINIMUM TYPE 6013 WELDING RODS. ALL WORK SHALL BE COMPLETED QUALIFIED IN WELDING OF SHEET STEEL IN ACCORDANCE WITH WELDING SOCIETY (AWS) D1.3 STANDARDS. WELD AREAS SHOU RE-TOUCHED WITH THE APPROPRIATE PAINT OR COLD-GALVAN CORROSION RESISTANCE.
- WELDED OR SCREWED SPLICES SHALL BE USED FOR ALL CON TRACKS. WIRE TYING OF STUD FRAMING COMPONENTS SHALL PERMITTED.
- WEB PUNCH-OUTS SHOULD BE COORDINATED WITH BRACING A REQUIREMENTS. WEB PUNCH-OUTS OR WEB OPENINGS SHALL MINIMUM OF 6" OR MEMBER DEPTH (THE GREATER) FROM STU BEARING POINTS.
- STEEL STRUCTURAL STUD TRACK OF THE SAME GAUGE AS THE BE USED AT THE TOP AND BOTTOM OF ALL STUD WALLS. STU FLAT AGAINST THE WEB OF THE STUD TRACK AND BE ATTACHE X 5/8" SCREW EACH SIDE OF EACH STUD.
- SCREWS SHALL BE SELF-DRILLING AND OF TYPE S-12, ASTM C954, EXCEPT THAT TYPE S, ASTM C1002, MAY BE USED FOR 22 GAUGE MATERIAL ONLY. SCREWS SHALL BE 3/8" TO 1/2" TOTAL MATERIAL THICKNESS.
- SHEATHING MATERIALS FOR SHEAR WALLS MUST EXTEND AND TO THE TOP AND BOTTOM TRACKS.
- ALL 20 GA. FRAMING SHALL BE 33 MIL.
- CONCRETE
- CONCRETE: CONFORM TO THE MINIMUM REQUIREMENTS OF ACI 301, LATEST EDITIONS.
- MINIMUM CONCRETE COMPRESSIVE STRENGTH SHALL BE 4500 DAYS.
- PORTLAND CEMENT SHALL CONFORM TO ASTM C150, TYPE V I WITH SOIL AND TYPE II ELSEWHERE. CONCRETE EXPOSED TO S CONTAINING SULFATES SHALL COMPLY WITH IBC SECTION 1904
- CONCRETE MIXES MAY CONTAIN FLY ASH. THE FLY ASH SHALL ASTM C618 CLASS F AND THE LOSS OF IGNITION SHALL BE I THE ADDITION RATE SHALL NOT EXCEED 15% OF THE CEMENT CONTRACTOR SHALL SUBMIT ALL CERTIFICATES SHOWING THE F CONFORMS TO THE ABOVE CRITERIA.
- AGGREGATE FOR HARD ROCK CONCRETE SHALL CONFORM TO REQUIREMENTS AND TESTS OF ASTM C33 AND PROJECT SPECI EXCEPTIONS MAY BE USED ONLY WITH PERMISSION OF THE ST ENGINEER.
- AGGREGATE FOR LIGHTWEIGHT CONCRETE SHALL CONFORM TO AND PROJECT SPECIFICATIONS. LIGHTWEIGHT CONCRETE MIX DE TESTED, PRIOR TO APPROVAL, FOR SHRINKAGE IN ACCORDANCE C157. SHRINKAGE SHALL NOT EXCEED 0.0005 INCHES/INCH.
- DRY PACK OR GROUT UNDER BASEPLATES, SILL PLATES, ETC., 7000 PSI MIN.
- CONCRETE MIXING OPERATIONS, ETC., SHALL CONFORM TO ASTI
- PLACEMENT OF CONCRETE SHALL CONFORM TO ACI STANDARD PROJECT SPECIFICATIONS. SANDBLAST ALL CONCRETE SURFACES WHICH CONCRETE IS TO BE PLACED
- WHEN SUPERPLASTICIZED FLOWING CONCRETE IS USED, THE S THE ADDITION OF THE SUPERPLASTICIZING ADMIXTURES SHALL SPECIFIED, OR LOWER, AND AFTER THE ADDITION OF THE SUP ADMIXTURE SHALL REMAIN BELOW THE POINT AT WHICH SEGRE OCCUR.
- WHERE WALLS ARE INTEGRAL WITH COLUMNS, CAST WALLS AND WITH CONCRETE OF THE HIGHER SPECIFIED STRENGTH.
- ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN WITH THE 'BUILDING CODE REQUIREMENTS FOR STRUCTURAL C 318) AND THE 'MANUAL OF STANDARD PRACTICE FOR REINFOR CONSTRUCTION' BY CRSI AND WCRSI, AS MODIFIED BY THE PR DRAWINGS AND SPECIFICATIONS.
- DEFORMED REINFORCING BARS SHALL CONFORM TO THE REQU ASTM A615 GRADE 60, EXCEPT TIES, STIRRUPS AND STRUCTU NON-STRUCTURAL CONCRETE SUCH AS SLABS ON GRADE, WHI GRADE 40, UNLESS NOTED OTHERWISE.
- WELDING OF REINFORCING SHALL NOT BE PERMITTED WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER.
- ALL REINFORCING BAR BENDS SHALL BE MADE COLD.
- WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 AND A4
- MINIMUM LAP OF WELDED WIRE FABRIC SHALL BE 6 INCHES (ONE HALF FULL MESH, WHICHEVER IS GREATER.
- ALL BARS SHALL BE MARKED SO THEIR IDENTIFICATION CAN B THE FINAL IN-PLACE INSPECTION OCCURS.
- POST INSTALLED ANCHORS SHALL BE SIMPSON STRONG-BOLT BOLT TZ.

IBERS	E MASONRY
AUGE INDICATED CKS CONFORMING PECIFICATIONS PLIANCE IBERS SHALL BE TRENGTH AND FROM STEEL CTURAI	1 IT SHALL BE THE RESPONSIBILITY OF THE MASONRY CONTRACTOR TO UTILIZE COMPONENTS (MASONRY UNITS, MORTAR AND GROUT) NECESSARY TO ACHIEVE THE SPECIFIED F'm (1500 PSI UNO) AS INDICATED IN THE DRAWINGS. IN NO CASE SHALL ANY OF THE COMPONENTS HAVE A COMPRESSIVE STRENGTH LESS THAN THE SPECIFIED F'M NOR SHALL THE GROUT HAVE A COMPRESSIVE STRENGTH LESS THAN 2000 PSI. STRENGTHS OF COMPONENTS MAY BE DETERMINED ACCORDING TO IBC SECTION 2105.2.2.1.2 AND 2105.2.2.2 AND BE IN COMPLIANCE WITH SECTION 1708 1 FOR MASONRY STRENGTH VERIFICATION
STEEL H. J. BE DONE 3/32 IN. AWS BY WELDERS I AMERICAN JLD BE IIZING TO RETAIN	 MASONRY SUBMITTAL SHALL INCLUDE A LETTER FROM THE MASON STATING: A. THE F'M TO BE ACHIEVED. B. THE TYPE AND STRENGTH OF THE BLOCK TO BE USED. C. THE TYPE AND STRENGTH OF THE MORTAR, WITH ANY ADMIXTURES TO BE USED. D. THE TYPE AND STRENGTH OF THE GROUT, WITH ANY ADMIXTURES TO BE USED. E. THE METHOD BEING RELIED UPON TO ACHIEVE THE F'M.
ITINUOUS NOT BE AND UTILITY	 F. SPECIFIED STRENGTH OF COMPONENTS OR PRISM TESTING. THE FOLLOWING SHALL BE ATTACHED TO THE MASONS LETTER: A. CERTIFICATES FROM THE BLOCK MANUFACTURER STATING STRENGTH AND CEMENT TYPE USED. B. MIX DESIGNS FOR THE MORTAR OR PRODUCT INFORMATION FOR PREMIXED MORTAR.
BE LOCATED A UD OR JOIST	 C. MIX DESIGNS FOR THE GROUT. D. PRODUCT DATA SHEETS FOR ALL ADMIXTURES TO BE USED. 3 ALL MIX DESIGNS SHALL BE PREPARED BY A QUALIFIED ENGINEER LICENSED
E STUDS SHALL JDS SHALL SIT ED WITH 1—#8	IN THE STATE IN WHICH THE PROJECT IS LOCATED AND BEAR HIS WET SEAL AND SIGNATURE. THE DESIGNS FOR EACH TYPE OF MASONRY STRENGTH SPECIFIED SHALL STATE THE PROJECT NAME AND LOCATION OF USAGE.
C1513 AND	4 CEMENT SHALL BE AS SPECIFIED FOR CONCRETE.
R 20 GAUGE OR LONGER THAN	 5 GROUT SHALL NOT CONTAIN FLY ASH FOR F'M GREATER THAN 2500 PSI. 6 REINFORCING BARS – SEE NOTES UNDER 'REINFORCING STEEL' FOR REQUIREMENTS. BARS SHALL BE ASTM A615 GRADE 60, UNLESS NOTED
BE CONNECTED	OTHERWISE. 7 PROVIDE A MINIMUM OF 1/2 INCH GROUT BETWEEN MAIN REINFORCING AND
	8 FOR GROUT LIFT CONSTRUCTION, REFER TO ACI 530.1, PART 3, SECTION
I 318 AND ACI	3.5D.
	UNLESS NOTED OTHERWISE IN THE DRAWINGS.
PSI AI 28	POURING AND AGAIN ABOUT 5 MINUTES LATER.
IN CONTACT SOILS 4.3.	11 CELLS SHALL BE IN VERTICAL ALIGNMENT. DOWELS IN FOOTINGS SHALL BE SET TO ALIGN WITH CORES CONTAINING REINFORCING STEEL.
CONFORM TO	12 REFER TO ARCHITECTURAL DRAWINGS FOR SURFACE AND HEIGHT OF UNITS, LAYING PATTERN AND JOINT TYPE.
LIMITED TO 2%. * WEIGHT. THE FLY ASH ALL IFICATIONS. TRUCTURAL	13 MECHANICAL PIPES AND ELECTRICAL CONDUITS WHICH PASS THROUGH MASONRY WALLS DO NOT REQUIRE SLEEVES, UNLESS OTHERWISE INDICATED IN THE PROJECT SPECIFICATIONS, MECHANICAL OR ELECTRICAL DRAWINGS. IF SLEEVES ARE REQUIRED, INSTALL SLEEVES BEFORE GROUTING. DO NOT CUT ANY REINFORCING WHICH MAY INTERFERE WITH SLEEVE PLACEMENT. CORING OPENINGS IN GROUTED MASONRY SHALL NOT BE PERMITTED. NOTIFY THE STRUCTURAL ENGINEER IN ADVANCE OF CONDITIONS NOT INDICATED ON THE STRUCTURAL DRAWINGS. NO PIPES OR ELECTRICAL CONDUIT SHALL PASS
ASTM C330 ESIGN SHALL BE E WITH ASTM	THROUGH MASONRY LINTELS UNLESS SPECIFICALLY DETAILED. 14 THE CONTRACTOR SHALL PROVIDE CONSOLIDATED SHOP DRAWINGS OF ALL PENETRATIONS THROUGH MASONRY WALLS PRIOR TO PLACEMENT FOR ENGINEER OF RECORD REVIEW AND COMMENT.
, SHALL BE	
TM C94.	F SPECIAL INSPECTION 1 SPECIAL INSPECTION SHALL BE REQUIRED FOR THE FOLLOWING TYPES OF
304 AND ES AGAINST	 WORK AND SHALL BE IN COMPLIANCE WITH THE IBC: A. CONCRETE WORK WITH STRENGTHS GREATER THAN 2500 PSI, EXCEPT FOR NONSTRUCTURAL CONCRETE SUCH AS SLAB ON GRADE. B. FIELD WELDING (EXCEPT FURRING CHANNELS, ETC.). C. SHOP WELDING PROCEDURES AND MULTIPLE PASS WELDS
BE AS PERPLASTICIZING EGATION WILL	 STRENGTH WELDING THROUGHOURS AND MOUTH LE THOS WELDS. D. HIGH STRENGTH BOLTING. THE OWNER SHALL RETAIN THE SERVICES OF AN APPROVED SPECIAL INSPECTION AGENCY OR FIRM TO COMPLETE THE SPECIAL INSPECTIONS AS DECUMPED ADOVE THE ACENCY OF FIRM SHALL PROVIDE OUALITY ASSURANCE
D COLUMNS	AND TESTING PROGRAMS AS REQUIRED BY THE IBC.
CONFORMANCE CONCRETE' (ACI	3 THE TYPE AND FREQUENCY OF TESTING SHALL BE AS INDICATED IN THE IBC.4 THE TYPE AND FREQUENCY OF INSPECTIONS SHALL BE AS INDICATED IN THE IBC.
IREMENTS OF	5 THE REPORTS OF TESTING AND SPECIAL INSPECTION SHALL BE IN A WRITTEN FORMAT DELIVERED TO THE STRUCTURAL ENGINEER OF RECORD, ARCHITECT OF RECORD AND LOCAL BUILDING OFFICIAL WITHIN 5 BUSINESS DAYS OF COMPLETION OF THE REPORT OR TESTING RESULTS.
EXPRESS	
107	
497. OR ONE AND	
BE MADE WHEN	
or hilti kwik	

 \bigcirc S **_** \mathbf{O} Ο C \bigcirc \bigcirc 0 σ _ ΔĠ Οῶ \oplus \sim Ο 0 õ õ S σ ._ • $\mathbf{\Omega}$ ----- ∇ σΖ \checkmark _____ Ш Ш S -----S \mathcal{O} S σ U Ш S Ζ N N 0 0 S 702 702 O പെല ഗ് 1200 O KORD' KORD' KORD' KORD' KORD' Fax: 702 Fax: 702







\\pcid9378\Project Files\16-501 - (UNLV FAB Code Upgrades)\Structural\16-501-S200.dwg, 11/17/2016 8:53:08 AM, Ad 1:1







MAXIMUM HEIGHT (h MAX.) AND SPACING FOR INTERIOR STEEL STUD PARTITIONS, UNO									
STUD	STUD	CALLOUT	DEFLECTION	MAX. STUD SPACING (OC)			MAX. BRIDGING		
SIZE	GA. (SSMA OR CT) LIMIT		24"	16"	12"	SPACING "Lu" ³			
21⁄2" CT	20	CTE2	L/240	12'–11"	_	_	_		
2½" CT	18	250CT-43	L/240	14'-6"	-	-	-		
3%"	20	362S137-33	L/240	14'-0"	16'-0"	17'-7"	34"		
3%"	18	362S137-43	L/240	15'–3"	17'–5"	19'–2"	34"		
4" CT	20	CTN4	L/240	18'-7"	-	-	-		
6"	20	600S137-33	L/240	21'-9"	24'–11"	27'-6"	33"		
6"	18	600S162-43	L/240	24'-9"	28'-4"	31'–2"	39"		



(1A)

1

NOTES: 1. SEE TYP. DETAILS FOR "h" MAX. DEFINITION AND BLOCKING REQUIREMENTS.

2. DEFECTION LIMIT BASED UPON NOMINAL 5 PSF INTERIOR LOAD, Fy=33 KSI UNO. 3. IF WALL SHEATHING IS APPLIED TO ONLY (1) SIDE, LOCATE BRIDGING AT

SPACING PROVIDED. IF BOTH SIDES ARE SHEATHED, Lu = 4'-0'' OC MAX.

MAY BE USED INSTEAD. 4. DO NOT CUT OR DAMAGE (E) REINFORCING.











TYPICAL TRACK SPLICE

Scale: NTS









TYPICAL HEADER TO JAMB CONN.



MARK

J

HEADER

MARK

Η1

COMBINATION

HEADER SCHEDULE

HEADER

COMBINATION

6"x18 GA. TRACK BOTH

SIDES (600T150-43) TYP.

-(8)-#10 SCREWS AT 6" OC

6"x16 GA. TRACK TOP AND

-(8)-#10 SCREWS AT 6" OC

_____ВОТТОМ (600Т150-54) ТҮР.

6"x18 GA. STUDS

(600S162-43) TYP.

6"x18 GA. STUDS

(600S162-43) TYP.

TYP. BLOCKING OR BRIDGING AT (SSMA) STUD WALL Scale: NTS



HEADER AND JAMB SCHEDULE

Scale: NTS



<u>NOTE:</u> DO NOT CUT OR DAMAGE (E) WALL REINFORCING.

Scale: NTS

8



 \bigcirc O0 σ D O _____ Οõ Φ \sim 0 σ \mathbb{O} S • _____ \square Ο Ш S +---Ο S \bigcirc S Ο Φ Ш Ь N N σσ **U** O டப 200 0 KORD' KORD' 633 Sou 633 Sou Las Veg Fax: 702 Fax

 \mathbb{O}

C

Ο

S **---**

U









GENERAL NOTES

A. REFER TO A102 FOR WALL TYPES



DEMOLITION GENERAL CONDITIONS

- 1. COORDINATE CONSTRUCTION ACTIVITIES INCLUDED UNDER VARIOUS SECTIONS OF THESE CONSTRUCTION DOCUMENTS TO ASSURE EFFICIENT AND ORDERLY INSTALLATION OF EACH PART OF THE WORK. WHERE INSTALLATION OF ONE PART OF THE WORK IS DEPENDENT ON INSTALLATION OF OTHER COMPONENTS, EITHER BEFORE OR AFTER ITS OWN INSTALLATION, SCHEDULE CONSTRUCTION ACTIVITIES IN THE SEQUENCE REQUIRED TO OBTAIN BEST RESULTS. WHERE AVAILABILITY OF SPACE IS LIMITED, COORDINATE INSTALLATION OF DIFFERENT COMPONENTS TO ASSURE MAXIMUM ACCESSIBILITY FOR REQUIRED MAINTENANCE, SERVICE AND REPAIR. MAKE ADEQUATE PROVISIONS TO ACCOMMODATE ITEMS SCHEDULED FOR LATER INSTALLATION.
- 2. SCHEDULE DEMOLITION DURING WEATHER CONDITIONS AND PROJECT STATUS THAT WILL ENSURE THE BEST POSSIBLE RESULTS.
- 3. DUST PERMIT FEES ARE BY CONTRACTOR.
- 4. CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY FENCING, MAINTAINING TEMPORARY FENCING AND SECURING THE PROPERTY AND BUILDING ACCESS DURING CONSTRUCTION.
- 5. DO NOT ALLOW MATERIALS AND DEBRIS GENERATED BY DEMOLITION ACTIVITIES TO ACCUMULATE ON THE JOB SITE, REMOVE DAILY AND DISPOSE OF IN A LEGAL MANNER.
- 6. THE CONTRACTOR MUST TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THE SAFETY OF THE PUBLIC AND/OR WORKMEN ON THE SITE TO PREVENT ACCIDENTS OR INJURY TO ANY PERSON ON, ABOUT OR ADJACENT TO THE PREMISES. THE CONTRACTOR SHALL COMPLY WITH ALL LAWS, ORDINANCES, CODES AND REGULATIONS PERTAINING TO SAFETY AND THE PREVENTION OF ACCIDENTS.
- 7. THE CONTRACTOR MUST MAINTAIN ADEQUATE SUPPORT, INSULATION, WATERPROOFING, EMERGENCY LIGHTING, SECURITY, ALARMS, ETC. FOR ALL OR PART OF ITEMS WHICH ARE TO REMAIN.
- 8. PROPERLY DISPOSE OF EXISTING FLOOR FIXTURES AND WALL FIXTURES TO BE REMOVED. EXISTING ELECTRICAL WIRING TO BE REMOVED BACK TO THE SOURCE.
- 9. REMOVE EXISTING FLOOR FINISHES WHERE INDICATED, PATCH AND REPAIR SUB-FLOOR AS REQUIRED FOR NEW FLOOR FINISHES.
- 10. WHERE EQUIPMENT IS BEING REMOVED, REMOVE THE CONDUCTORS FEEDING THE EQUIPMENT BACK TO THE POINT OF POWER (CIRCUIT BREAKER OR BRANCH CIRCUIT TAP).
- 11. REMOVAL ALL DEMOLISHED EQUIPMENT FROM THE PROPERTY AND DISPOSE OF IT PROPERLY (IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL ENVIRONMENTAL REGULATIONS).

 \circ - J $\Omega \mathcal{O}$ 0 00 \sim οσ ΩФ $\subset O$ •— ----- \neg (1) σZ 11 S S **___** σΟ S ШΦ < 2 S 2 6 N \smile

 \mathbb{O}

C

Ο

 \bigcirc

Q

 \square

 \mathbb{O}

S

Μ

S

+---

Copyright 2016 © by aptus copyright 2016 © by aptus 1200 South 4th Street Suite 206 Las Vegas, Nevada 89104 P 702.839.1200 F 702.839.1213









DOOK SCHEDOLE									
	DOOR				FRA	ME			
LOCATION	W	Н	TYPE	HARDWARE	TYPE	MATL/FINISH	U.L. KAIING	REMARKS	
STORAGE	3'-0''	7'-0''	Α	03	WELDED H.M.	-			
STORAGE	3'-0''	7'-0''	В	02	WELDED H.M.		90 MIN.		
STORAGE	3'-0''	7'-0''	(e)	01	(e)	(e)		VERIFY OR PROVIDE SINGLE ACTION LEVER, ALWAYS UNLOCKED ON THE INSIDE ALLOWING FREE EGRESS, PROVIDE TACTILE EXIT SIGN	
res:									
1. DOORS SHALL BE HOLLOW METAL, PAINT GRADE DOORS. FRAMES TO BE WELDED HOLLOW METAL, PAINTED, UNO.									
	LOCATION STORAGE STORAGE STORAGE TES: ALL BE HOLLOW N	LOCATION W STORAGE 3'-0'' STORAGE 3'-0'' STORAGE 3'-0'' TES: ALL BE HOLLOW METAL, PA	LOCATION W H STORAGE 3'-0" 7'-0" STORAGE 3'-0" 7'-0" STORAGE 3'-0" 7'-0" TES: ALL BE HOLLOW METAL, PAINT GRA	LOCATION W H TYPE STORAGE 3'-0" 7'-0" A STORAGE 3'-0" 7'-0" B STORAGE 3'-0" 7'-0" (e) TES: ALL BE HOLLOW METAL, PAINT GRADE DOC	DOORDOORWHTYPEHARDWARESTORAGE3'-0"7'-0"A03STORAGE3'-0"7'-0"B02STORAGE3'-0"7'-0"(e)01TES:ALL BE HOLLOW METAL, PAINT GRADE DOORS. FRAMES TO	LOCATIONFRAWHTYPEHARDWARETYPESTORAGE3'-0"7'-0"A03WELDED H.M.STORAGE3'-0"7'-0"B02WELDED H.M.STORAGE3'-0"7'-0"(e)01(e)TES:ALL BE HOLLOW METAL, PAINT GRADE DOORS. FRAMES TO BE WELDED HO	DOOR FRAME LOCATION W H TYPE HARDWARE TYPE MATL/FINISH STORAGE 3'-0" 7'-0" A 03 WELDED H.M. - STORAGE 3'-0" 7'-0" B 02 WELDED H.M. - STORAGE 3'-0" 7'-0" B 02 WELDED H.M. - STORAGE 3'-0" 7'-0" (e) 01 (e) (e) TES: ALL BE HOLLOW METAL, PAINT GRADE DOORS. FRAMES TO BE WELDED HOLLOW METAL, PAINT	DOOR FRAMELOCATIONWHTYPEHARDWARETYPEMATL/FINISHU.L. RATINGSTORAGE3'-0"7'-0"A03WELDED H.MSTORAGE3'-0"7'-0"B02WELDED H.M.90 MIN.STORAGE3'-0"7'-0"(e)01(e)(e)STORAGE3'-0"7'-0"(e)STORAGE1000000000000000000000000000000000000	

DOOR HARDWARE NOTES:

ALL HARDWARE TO BE LEVER TYPE PER IBC AND ICC/ANSI REQUIREMENTS. FINISH EQ. TO BRUSHED ALUMINUM. HARDWARE TO MEET REQUIREMENTS OF IBC SECTION 1008.18.2 AND ICC/ANSI A117.1-2010 SECTION 404.2.7. MOUNTING HEIGHT SHALL BE BETWEEN 34" AND 48".

HW SET 01

VERIFY CONDITION AND FUNCTION OF EXISTING HARDWARE AND REPLACE AS NECESSARY. CONTACT ARCHITECT IF NEW HARDWARE REQUIRED

For use on mark/door #(s): 302 HW SET 02 For use on mark/door #(s):

1 EA DOOR SWEEP

1 EA THRESHOLD

Qty	Description	Catalog Number	Finish	Mfi
EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
ΕA	STOREROOM LOCK	L9080BDC 06A	626	SC
ΕA	SFIC PERMANENT CORE	KEYMARK-VERIFY KWY W UNLV LOCKSHOP CORF0-BIT w/2 keyblanks	626	ME
ΕA	SURFACE CLOSER	4040XP RW/PA TBWMS	689	LC
ΕA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
ΕA	WALL STOP	WS406/407CCV	630	IVE
EA	GASKETING	429A -AT HEAD AND JAMBS - INSTALL SEAL BEFORE CLOSER	А	ZER
EA	RAIN DRIP	142A	А	ZER
W SET	03 on mark/door #(s):			
01				
01				
Qty	Description	Catalog Number	Finish	Mfr
ΕA	HINGE	5BB1 4.5 X 4.5	652	IVE
ΕA	STOREROOM LOCK	L9080BDC 06A	626	SC
ΕA	SFIC PERMANENT CORE	KEYMARK-VERIFY KWY W UNLV	626	ME
F۵			689	
FA		8400 10" X 2" I DW B-CS	630	IVF
FA	WALL STOP	WS406/407CCV	630	IVF
EA	GASKETING	188S-BK	S-Bk	ZER

39A

546A-MSLA-10 -OR PER SILL DETAIL

Α

<u>→ 3^{3/4"}</u> (7¹/₄" @ H & H1) LINE OF STRUCTURE HEAD 1 JTRACK – CONTINUOUS ACOUSTICAL SEALANT ON EACH SIDE – 1" TYPE X GYP. BD. $\neg \iota$ 2 1/2" 'C-H' STUDS @ 24" O.C. (U.N.O) AND 4" PER STRUCT. PLAN (2) LAYERS OF 5/8" TYPE X GYP. BD. - CONTINUOUS STEEL RUNNER CONTINUOUS ACOUSTICAL SEALANT ON EACH SIDE JTRACK -LINE OF STRUCTURE BASE 2 HOUR RATED WALL (@ SHAFTS) 1 1/2" = 1'-0" SEE UL U415, SYSTEM 'B', SHEET GOO4

DOOR SCHEDULE





 \mathbb{O} \mathcal{O} Ο S ----- \bigcirc O \supset \circ _ - J Φ $\Omega \mathcal{O}$ 0 00 \sim ΟO S ΩО $\subset O$ \square Ο 7 S 00 S ШΦ ر > S 2 0 M S



1200

 \mathbf{O}

σ

TITLE DOOR SCHEDULE, DETAILS, AND WALL TYPES

DRAWING NO.

A 102

MECHANICAL SPECIFICATIONS

COMPLY WITH THE INTERNATIONAL BUILDING CODE, THE UNIFORM MECHANICAL AND PLUMBING CODES, THE INTERNATIONAL ENERGY CONSERVATION CODE AND ANY AMENDMENTS ADOPTED BY THE NEVADA STATE FIRE MARSHAL. COMPLY WITH THE LOCAL AIR QUALITY REGULATIONS AND THE STATE DIVISION OF INDUSTRIAL RELATIONS REQUIREMENTS FOR BOILERS, ELEVATORS AND PRESSURE VESSELS. CONTRACTOR SHALL PAY FOR ALL PERMITS AND FEES AND SHALL OBTAIN ALL NECESSARY PERMITS, INSPECTIONS AND APPROVALS.

CONFORM WITH ASCE 7 FOR SEISMIC BRACING FOR MECHANICAL SYSTEMS. PROVIDE SEISMIC ATTACHMENTS AND RESTRAINTS FOR DUCTWORK, PIPING, AND EQUIPMENT. REFER TO THE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR SEISMIC FACTORS AND ADDITIONAL REQUIREMENTS. SEISMIC ATTACHMENTS, RESTRAINTS AND SUPPORTS SHALL BE AS MANUFACTURED BY MASON INDUSTRIES OR AN APPROVED EQUAL. PROVIDE SHOP DRAWINGS AS A DEFERRED SUBMITTAL, SIGNED BY A CALIFORNIA LICENSED STRUCTURAL ENGINEER. SUBMIT SHOP DRAWINGS AND OBTAIN ARCHITECTS APPROVAL FOR SEISMIC ATTACHMENTS, RESTRAINTS AND SUPPORTS PRIOR TO BEGINNING WORK.

DEMOLITION WORK (WHERE REQUIRED): REVIEW THE ARCHITECTURAL DRAWINGS FOR THE SCOPE AND AREA OF DEMOLITION WORK. MECHANICAL WORK SHALL INCLUDE DEMOLITION AND REMOVAL OF EXISTING MECHANICAL DUCTWORK, PIPING AND EQUIPMENT REQUIRED. DELIVER EXISTING MATERIALS REMOVED UNDER THIS CONTRACT TO OWNERS STORAGE LOCATION. COORDINATE REQUIREMENTS WITH OWNERS REPRESENTATIVE. LEGALLY DISPOSE OF MATERIALS REFUSED BY THE OWNER. EXISTING MECHANICAL DUCTWORK, PIPING AND EQUIPMENT TO REMAIN IS SHOWN LIGHT, NEW IS SHOWN BOLD, AND EXISTING TO BE REMOVED DASHED.

SUBMITTALS:

- PRIOR TO BEGINNING WORK COORDINATE THE CHASE, SLEEVE, SLAB, ROOF AND WALL OPENINGS REQUIRED BEFORE CONCRETE IS POURED OR BLOCK IS LAID. WHERE CUTTING NEW OPENINGS THOUGH EXISTING CONSTRUCTION IS REQUIRED, PREPARE A SHOP DRAWING SHOWING NEW OPENINGS REQUIRED FOR REVIEW BY THE ARCHITECT. DO NOT CUT ANY STRUCTURAL (LOAD BEARING) MEMBERS WITHOUT OBTAINING WRITTEN PERMISSION OF THE ARCHITECT.
- PROVIDE A SUBMITTAL FOR THE EQUIPMENT AND CONTROLLER LABELS DESCRIBED BELOW.
- 3. PROVIDE A SUBMITTAL FOR FIRE RATED PENETRATION SYSTEMS PROPOSED FOR THE PROJECT.
- 4. PROVIDE A SUBMITTAL OF TEMPERATURE CONTROL WIRING DIAGRAMS FOR MECHANICAL EQUIPMENT AND DEVICES TO BE INSTALLED BY OTHER TRADES; INCLUDING, BUT NOT LIMITED TO; PACKAGE UNIT THERMOSTATS, DUCT SMOKE DETECTORS, EXHAUST FAN AND INTERLOCKS.
- 5. PROVIDE SUBMITTAL OF ALL SCHEDULED EQUIPMENT AS A SINGLE PACKAGE FOR REVIEW BY THE ARCHITECT.
- 6. PROVIDE A SUBMITTAL OF THE TEST AND BALANCE AGENCY QUALIFICATIONS.

EQUIPMENT SHALL BE SECURED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS. VERIFY "FIT" OF DUCTWORK, PIPING, PLUMBING AND ELECTRICAL SYSTEMS PRIOR TO FABRICATION. COORDINATE EQUIPMENT, DIFFUSER AND REGISTER LOCATIONS WITH THE ARCHITECTURAL REFLECTED CEILING PLAN, LIGHTING PLANS, AND THE FIRE SPRINKLER AND FIRE ALARM SHOP DRAWINGS. CONFORM TO THE CLEARANCES REQUIRED BY THE ELECTRICAL AND FIRE ALARM CODES AND ABIDE BY THE MANUFACTURER'S RECOMMENDATIONS. BRING ANY CONFLICTS NOT RESOLVABLE IN THE FIELD TO THE ATTENTION OF THE ARCHITECT FOR RESOLUTION PRIOR TO INSTALLATION. NOTIFY OWNER'S REPRESENTATIVE AND ARCHITECT OF ANY UTILITY SHUTDOWN REQUIRED BY THE EXECUTION OF THIS CONTRACT IN WRITING AT LEAST 48 HOURS PRIOR TO THE DESIRED OUTAGE.

ELECTRICAL POWER REQUIREMENTS FOR THE MECHANICAL EQUIPMENT SHALL BE ERIFIED WITH THE ELECTRICAL DRAWINGS AND FIELD CONDITIONS PRIOR TO RELEASING THE EQUIPMENT ORDER. CONTRACTOR SHALL CONFIRM THAT VOLTAGE AND AMPERAGE REQUIRED BY PROPOSED MECHANICAL EQUIPMENT IS COMPATIBLE WITH ELECTRICAL SYSTEM DESIGNED WITH NO CHANGES TO THE THE ELECTRICAL SYSTEM. ADDITIONAL ELECTRICAL WORK RESULTING FROM EQUIPMENT SUBSTITUTION IS THE CONTRACTOR'S RESPONSIBILITY.

IN ADDITION TO THE STATUARY WARRANTY REQUIREMENTS, WORK SHALL BE GUARANTEED FOR ONE YEAR AFTER ACCEPTANCE BY THE OWNER. MATERIALS AND EQUIPMENT SHALL BE AS SPECIFIED AND/OR SCHEDULED OR AN APPROVED EQUAL. PROVIDE SUBMITTALS FOR MATERIALS AND EQUIPMENT TO THE ARCHITECT FOR APPROVAL PRIOR TO ORDER RELEASE. UPON COMPLETION OF THE WORK, PRIOR TO SUBMISSION OF THE FINAL REQUEST FOR PAYMENT, SUBMIT RECORD DRAWINGS, OPERATION AND MAINTENANCE MANUALS FOR REVIEW. DELIVER SPECIAL TOOLS TO THE OWNER'S REPRESENTATIVE AND OBTAIN A DELIVERY RECEIPT. OWNER'S MANUALS SHALL INCLUDE A COMPLETE LIST OF THE CONTRACTORS, SUBCONTRACTORS AND VENDORS AND THEIR CONTACT INFORMATION, COPIES OF THE WARRANTIES, THE MANUFACTURER'S INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS. REFER TO THE ARCHITECTURAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

UPON COMPLETION OF THE WORK. PRIOR TO SUBMISSION OF THE FINAL REQUEST FOR PAYMENT, SUBMIT RECORD DRAWINGS. OPERATION AND MAINTENANCE MANUALS FOR REVIEW. DELIVER SPECIAL TOOLS TO THE OWNER'S REPRESENTATIVE AND OBTAIN A DELIVERY RECEIPT. OWNER'S MANUALS SHALL INCLUDE A COMPLETE LIST OF THE CONTRACTORS, SUBCONTRACTORS AND VENDORS AND THEIR CONTACT INFORMATION. COPIES OF THE WARRANTIES. THE MANUFACTURER'S INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS AND A COPY OF ALL PERMITS AND INSPECTIONS. REFER TO THE ARCHITECTURAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED STEEL PER THE 2005 SMACNA THIRD EDITION HVAC DUCT CONSTRUCTION STANDARDS, NFPA 90A AND NFPA 96. UNLESS NOTED OTHERWISE, DUCTS SHALL BE CONSTRUCTED FOR 2" WATER COLUMN STATIC PRESSURE, SEAL CLASS B. SPIRAL LOCK-FORMED ROUND DUCT WITH RADIUSED ELBOWS OR RECTANGULAR DUCTWORK WITH MITERED ELBOWS WITH TURNING VANES SHALL BE USED WHERE THE DRAWINGS INDICATE ROUND DUCTWORK. TURNING VANE RUNNERS SHALL HAVE A VANE IN EVERY SLOT PER THE SMACNA STANDARDS. THE CONTRACTOR MAY REVISE DUCT SIZES TO ALTERNATE SIZES OF EQUIVALENT CROSS SECTIONAL AREA.

INSULATION THICKNESS SHALL CONFORM TO THE IECC REQUIREMENTS AS AMENDED BY THE SOUTHERN NEVADA ENERGY CONSERVATION CODE ORDINANCE.

SCHEDULED EQUIPMENT, LOUVERS, DIFFUSERS, REGISTERS, GRILLES, ETC. SHALL BE AS SCHEDULED OR AN APPROVED EQUAL. EXPOSED SCREWS SHALL BE THE FINISHING TYPE AND PAINTED TO MATCH THE AIR DEVICE. SQUARE TO ROUND ADAPTORS SHALL BE PROVIDED WHERE REQUIRED FOR AIR DEVICES IN CEILINGS, AIR DEVICES SHALL BE FINISHED WITH WHITE BAKED ENAMEL FINISH UNLESS NOTED OTHERWISE, CONFIRM COLORS AND FINISHES FOR ALL HVAC WORK VISIBLE FROM THE FINISHED SPACES WITH THE ARCHITECT PRIOR TO ORDER RELEASE. PROVIDE SUBMITTAL WITH MANUFACTURER'S STANDARD COLOR CHART TO ARCHITECT FOR EXPOSED EQUIPMENT, LOUVERS AND DEVICES FOR COLOR SELECTION BY ARCHITECT.

EQUIPMENT AND CONDENSATE DRAIN PIPING SHALL BE TYPE M COPPER WITH WROUGHT COPPER FITTINGS AND 95-5 TIN-ANTIMONY SOLDERED JOINTS. SCHEDULE 40 PVC PIPE WITH SOLVENT WELDED JOINTS MAY BE USED FOR COMBUSTIBLE CONSTRUCTION OUTSIDE OF RETURN AIR PLENUMS. PVC PIPE EXPOSED TO THE EXTERIOR SHALL BE PAINTED WITH UV RESISTANT PAINT, COLOR TO BE SELECTED BY THE ARCHITECT. DRAINS SHALL BE CONNECTED WITH A VENTED P TRAP AND SHALL BE ROUTED TO NOT CREATE A TRIPPING HAZARD, PROVIDE OVERFLOW CONDENSATE DRAIN SYSTEM WITH DRIP PANS AND SECONDARY PIPING SYSTEM.

CONDENSATE DRAINS, REFRIGERANT PIPE AND COLD WATER PIPING INSTALLED OUTDOORS SHALL BE INSULATED WITH ARMSTRONG, ARMAFLEX 25/50 FLAME SPREAD SMOKE DEVELOPED RATED ELASTOMERIC INSULATION. LIQUID AND SUCTION LINES SHALL BE INSULATED CONTINUOUSLY FROM THE OUTDOOR UNIT. COPPER TUBING SHALL BE FREE OF EXTRANEOUS CHEMICALS OR MATERIALS PRIOR TO INSTALLATION OF THE INSULATION. A MANUFACTURER RECOMMENDED ADHESIVE SHALL BE APPLIED AT ALL SEAMS AND TERMINATIONS. INSULATION INSTALLED OUTDOORS SHALL BE UV LIGHT RESISTANT WITH AN ALUMINUM JACKET.

PROVIDE PERMANENT EQUIPMENT TAGS FOR HVAC EQUIPMENT. TAGS SHALL BE FORMED OF BAKELITE WITH MINIMUM $\frac{1}{4}$ " LETTERING. HVAC EQUIPMENT TAGS SHALL INCLUDE EQUIPMENT NAME, FILTER SIZES AND QUANTITIES, BELT SIZE AND QUANTITY, LOCATION OF THE CONTROLLER. PROVIDE ENGRAVED PLASTIC (BAKELITE) NAMETAGS FOR THERMOSTATS AND CONTROLLERS STATING EQUIPMENT SERVED.

PENETRATIONS OF FIRE RATED WALLS, FLOORS OR ROOF CEILING ASSEMBLIES BY PIPE OR DUCT SHALL BE SEALED BY A UL LISTED FIRE STOPPING SYSTEM APPROVED FOR THAT SPECIFIC APPLICATION. REFER TO ARCHITECTURAL DETAILS AND THE SPECIFICATION SECTION "FIRE STOPPING". INSTALL PENETRATION SEAL MATERIALS IN ACCORDANCE WITH PRINTED INSTRUCTIONS OF THE UL FIRE RESISTANCE DIRECTORY AND MANUFACTURER'S INSTRUCTIONS. PROVIDE SUBMITTAL OF PROPOSED SYSTEM.

THE TEMPERATURE CONTROL SYSTEM SHALL BE DESIGNED AND FURNISHED BY THE A/C UNIT MANUFACTURER. PROVIDE SUPERVISION, CHECKOUT; LOW AND LINE VOLTAGE CONDUIT, WIRING AND TERMINATIONS; SENSORS, CONTROLLERS AND MISCELLANEOUS APPURTENANCES NECESSARY FOR A COMPLETE AND OPERATING SYSTEM IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. REFER TO THE ELECTRICAL ONTRACT DOCUMENTS FOR CONDUIT, WIRE, AND TERMINATIONS INCLUDED WITH THE ELECTRICAL WORK, PROVIDE SUBMITTALS FOR REVIEW.

AN INDEPENDENT AABC OR NEBB TEST AND BALANCE AGENCY SHALL BE RETAINED FOR TESTING AND BALANCING OF AIR AND WATER SYSTEMS. THE TEST REPORT SHALL BE IN A FORMAT APPROVED BY AABC FOR SYSTEMS OF THIS TYPE AND COMPLEXITY. QUALIFICATIONS OF INDEPENDENT TEST AND BALANCE FIRM SHALL BE SUBMITTED FOR REVIEW. TEST AND BALANCING WORK SHALL INCLUDE VERIFICATION (BUT NOT CALIBRATION) OF AUTOMATIC CONTROL OPERATION. FINAL BALANCE SHALL CONFORM TO THE REQUIREMENTS OF THE AABC.

GENERAL NOTES:

- 1. DO NOT SCALE THE DRAWINGS.

PLUMBING SPECIFICATIONS

COMPLY WITH INTERNATIONAL BUILDING CODE, UNIFORM PLUMBING CODE, 2012 IECC AND THE CODE AMENDMENTS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION. COMPLY WITH THE STATE OF NEVADA BOILER, ELEVATOR AND PRESSURE VESSELS REGULATIONS, COMPLY WITH THE CLARK COUNTY HEALTH DEPARTMENT AIR POLLUTION CONTROL REGULATIONS, PAY FOR AND OBTAIN ALL PERMITS, INSPECTIONS AND APPROVALS. CONFORM TO THE AMERICANS WITH DISABILITIES ACT (ADA). REFER TO THE ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE STANDARD AND ADA MOUNTING HEIGHTS.PROVIDE FACTORY FABRICATED INSULATING BOOTS FOR TRAPS AND HOT WATER PIPING AT ADA ACCESSIBLE FIXTURES. LOCATE FLUSH VALVE OR LEVER ON RIGHT OR LEFT HAND SIDE OF FIXTURE AS REQUIRED BY ADA REQUIREMENTS. VERIFY ACCESSIBLE FIXTURE LOCATIONS WITH THE ARCHITECT.

MATERIALS AND EQUIPMENT SHALL BE NEW, AS SPECIFIED, SCHEDULED AND/OR OTHERWISE INDICATED ON THE DRAWINGS OR AN APPROVED EQUAL. PROVIDE SUBMITTALS FOR MATERIALS AND EQUIPMENT IN ACCORDANCE WITH THE ARCHITECTURAL REQUIREMENTS. OBTAIN APPROVAL FOR MATERIAL USED ON PROJECT PRIOR TO ORDER RELEASE. SUBMIT SHOP DRAWINGS FOR PROPOSED ATTACHMENTS AND SEISMIC RESTRAINTS PRIOR TO BEGINNING WORK. DO NOT PENETRATE STRUCTURAL BEAMS, FLOORS OR WALLS UNLESS WRITTEN APPROVAL IS FIRST OBTAINED FROM THE ARCHITECT.

COORDINATE THE PLUMBING WORK WITH THE OTHER TRADES. ROUTE PLUMBING PIPING AROUND ELECTRICAL PANELS, EQUIPMENT AND DEDICATED ELECTRICAL SPACES IN ACCORDANCE WITH THE ELECTRICAL CODE REQUIREMENTS. COORDINATE PIPING MAIN LOCATIONS WITH THE STRUCTURAL, CEILINGS, MECHANICAL, FIRE SPRINKLER, ELECTRICAL AND OTHER TRADES. PREPARE SHOP DRAWINGS SHOWING PIPE ROUTING FOR CONGESTED SPACES, PENETRATIONS THROUGH FLOOR SLABS, AND FIRE RATED PARTITIONS AND FLOORS. COORDINATE ACCESS DOOR REQUIREMENTS WITH THE ARCHITECTURAL AND INTERIOR SPECS, REFLECTED CEILING PLANS AND ELEVATIONS. PREPARE A SHOP DRAWING SHOWING THE ACCESS DOOR LOCATIONS REQUIRED, AND SUBMIT FOR APPROVAL. CONFORM REQUIREMENTS FOR TRENCHING AND BACKFILL, CONCRETE CUTTING, CORE DRILLING, AND FIRE STOPPING WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS AND SPECIFICATIONS. PROVIDE SUBMITTALS SHOWING THE FIRE STOPPING METHOD TO BE USED FOR EACH TYPICAL WALL AND FLOOR PENETRATION, FOR EACH TYPE OF PIPING AND INSULATION PRODUCT TO BE USED ON THE PROJECT.

PRIOR TO BEGINNING WORK, VERIFY THE LOCATION, ELEVATION AND SIZE OF THE UTILITY POINTS OF CONNECTION, INCLUDING, BUT NOT LIMITED TO, THE SANITARY DRAIN-WASTE-VENT AND STORM SEWER TYPE, LOCATION, SIZE AND INVERT; DOMESTIC COLD WATER LOCATION, SIZE AND PRESSURE; GAS TYPE, LOCATION, SIZE AND PRESSURE, AND UTILITY POINTS OF CONNECTION INDICATED ON THE CIVIL SITE UTILITY PLAN. IF FIELD CONDITIONS VARY FROM THE DRAWINGS, GENERATE A REQUEST FOR INFORMATION AND OBTAIN DIRECTION FROM THE ARCHITECT PRIOR TO BEGINNING WORK. NOTIFY OWNER IN WRITING WITH A MINIMUM OF 48 HOURS IN ADVANCE OF ANY UTILITY SHUT DOWNS REQUIRED BY THE EXECUTION OF THIS CONTRACT.

DEMOLITION WORK (WHERE REQUIRED): REVIEW THE ARCHITECTURAL DRAWINGS FOR THE SCOPE AND AREA OF DEMOLITION WORK. PLUMBING WORK SHALL INCLUDE DEMOLITION AND REMOVAL OF EXISTING PLUMBING FIXTURES, PIPING AND EQUIPMENT REQUIRED. PLUMBING IN EXISTING WALLS TO BE REMOVED OR UNDER GROUND TO BE REMOVED SHALL BE REMOVED AND CAPPED AS REQUIRED. DIMENSION LOCATIONS AND SIZES OF EXISTING ABANDONED AND LIVE MAINS ON THE FIELD DRAWINGS; SUBMIT WITH RECORD DRAWINGS. DELIVER EXISTING MATERIALS REMOVED UNDER THIS CONTRACT TO OWNERS STORAGE LOCATION. COORDINATE REQUIREMENTS WITH OWNERS REPRESENTATIVE. LEGALLY DISPOSE OF MATERIALS REFUSED BY THE OWNER. EXISTING PLUMBING PIPING AND EQUIPMENT TO REMAIN IS SHOWN LIGHT, NEW IS SHOWN BOLD, AND EXISTING TO BE REMOVED DASHED.

SUBMITTALS: AS A MINIMUM, PROVIDE SUBMITTALS FOR THE FOLLOWING EQUIPMENT, SYSTEMS AND PIPING;

- 1. PLUMBING EQUIPMENT.
- 2. PLUMBING APPURTENANCES NOT SCHEDULED, BUT CALLED OUT ON THE DRAWINGS.
- 3. PLUMBING PIPING, HANGERS AND VALVES.
- 4. FIRE WALL PENETRATION SYSTEMS.
- 5. CLOSE OUT DOCUMENTATION: INCLUDING AS BUILT DRAWINGS, OPERATION AND MAINTENANCE MANUALS, LIST OF VENDORS, REPAIR PARTS, INTERCEPTOR SERVICE RECOMMENDATIONS, SERVICE AGENCIES, AND A COPY OF THE TEST REPORTS. PERMITS AND APPROVALS ISSUED BY THE VARIOUS AGENCIES HAVING JURISDICTION.

WATER PIPING ABOVE GRADE SHALL BE TYPE L, HARD DRAWN COPPER WITH WROUGHT COPPER FITTINGS. FITTINGS SHALL BE SOLDERED WITH 95-5TIN-ANTIMONY SOLDER OR BRAZED WITH SILVER BASED FILLER METAL SUCH AS SIL-FOS. WATER PIPING BELOW GRADE SHALL BE TYPE K SOFT COPPER WITH NO JOINTS PERMITTED BELOW GRADE. PIPING SHALL BE ENCASED IN A 6 MIL POLYETHYLENE SLEEVE EQUAL TO IPS WATER-TITE. CONNECTIONS TO ABOVE GRADE PIPING SHALL BE MADE WITH WROT COPPER FITTINGS AND SIL FOS JOINTS. PIPING SHALL BE TESTED WITH WATER AT 125 PSIG, UNLESS NOTED OTHERWISE. TEST PRESSURE SHALL BE MAINTAINED FOR A MINIMUM OF 30 MINUTES WITH NO LOSS. DOMESTIC WATER PIPING SHALL BE DISINFECTED IN ACCORDANCE WITH THE REQUIREMENTS OF NEVADA ADMINISTRATIVE CODE. PROVIDE A TEST AND INSPECTION REPORT AND INCLUDE A COPY IN THE OWNERS MANUALS. WATER VALVES SHALL BE TWO PIECE BRONZE BALL VALVES, APOLLO 70-100 OR APPROVED EQUAL FOR SIZED 1/2" TO 4". REFER TO DRAWINGS FOR REQUIREMENTS FOR VALVES LARGER THAN 4".

SOIL, WASTE, VENT AND STORM DRAIN PIPING SHALL BE NO-HUB, CAST IRON. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. SCHEDULE 40 PVC DWV PIPE AND FITTINGS MAY BE USED WHEN SCHEDULED AND APPROVED BY LOCAL AUTHORITY HAVING JURISDICTION, HOWEVER PLASTIC PIPING SHALL NOT BE INSTALLED IN RETURN AIR PLENUMS . WASTE PIPING FROM CORROSIVE DRAINS SUCH AS BAR AND SODA DRAINS SHALL BE STAINLESS STEEL IN ACCORDANCE WITH THE UNIFORM PLUMBING CODE FOR ABOVE GRADE INSTALLATIONS AND SCHEDULE 40 PVC FOR INSTALLATIONS BELOW GRADE SOIL, WASTE AND STORM DRAIN PIPING SHALL BE SLOPED 1/4" PER FOOT UNLESS NOTED OTHERWISE. WALL CLEANOUTS FOR WASTE PIPING SHALL BE FURNISHED AND INSTALLED FOR SINKS, LAVATORIES AND URINALS. SOIL, WASTE, VENT AND STORM DRAIN PIPING SHALL BE TESTED WITH WATER UNDER PRESSURE EQUIVALENT TO THE HIGHEST POINT AND 10'-0" MINIMUM. THE SYSTEM OR PORTION THEREOF SHALL BE UNDER PRESSURE FOR A MINIMUM OF 15 MINUTES BEFORE INSPECTION.

EQUIPMENT AND CONDENSATE DRAINS SHALL BE TYPE M HARD DRAWN COPPER TUBING WITH WROUGHT COPPER FITTINGS. COPPER TUBING SHALL BE SOLDERED WITH 95-5 TIN-ANTIMONY SOLDER OR BRAZED WITH SILVER BASED FILLER MATERIAL. SCHEDULE 40 PVC MAY BE USED FOR DRAIN PIPING IN COMBUSTIBLE CONSTRUCTION AND BELOW GRADE. CONDENSATE DRAINS SHALL BE TERMINATED ABOVE AN APPROVED INDIRECT WASTE RECEPTOR OR OUTDOORS IN THE LANDSCAPING.

DOMESTIC HOT WATER PIPING SHALL BE INSULATED WITH NONCOMBUSTIBLE. PREFORMED. FIBERGLASS. PIPE INSULATION WITH ALL SERVICE JACKET AND 25/50 PVC PLASTIC FITTING COVERS. INSULATED PIPING EXPOSED TO VIEW SHALL BE COVERED AND FINISHED WITH A 30 MIL THICK PVC JACKET. FITTINGS, VALVES AND ACCESSORIES SHALL ALSO BE JACKETED. INSULATION THICKNESS SHALL CONFORM TO 2012 IECC REQUIREMENTS.

CONDENSATE DRAIN PIPING SHALL BE INSULATED WITH 1/2" THICK UNICELLULAR INSULATION EQUAL TO ARMSTRONG AP 2000. WITH25/50 FLAME SPREAD SMOKE DEVELOPED RATING.

PIPING SHALL BE IDENTIFIED WITH PLASTIC PIPE MARKERS IN CLEAR VIEW AND ALIGNED WITH AXIS OF PIPING. SERVICE AND FLOW DIRECTION SHALL BE INDICATED. DISTANCE BETWEEN IDENTIFICATION LOCATIONS SHALL NOT EXCEED 20'-0". IDENTIFICATION SHALL BE LOCATED AT EACH VALVE, RUN OUT AND ON BOTH SIDES OF AN OBSTRUCTION.

VENT FLASHING AND COUNTER FLASHING SHALL BE EQUAL TO STONEMAN S1100-4 WITH AN 8" SKIRT. VENTS TERMINATED ABOVE ROOF SHALL BE 10'-0" MINIMUM FROM OUTSIDE AIR INTAKES OR OPERABLE WINDOWS. GENERAL NOTES:

1. DO NOT SCALE THE DRAWINGS.

- COMPLIANT SYSTEM.

2. EXISTING HVAC UNITS AND DUCT MAINS ARE PRESUMED TO REMAIN, UNLESS NOTED OTHERWISE.

3. MECHANICAL EQUIPMENT ON THE ROOF SHALL BE SUPPORTED WITH PRE FABRICATED CURBS, RAILS OR OTHER MEANS AS APPROVED BY THE ARCHITECT. PROVIDE SUBMITTAL FOR ROOF CURBS, RAILS OR OTHER MEANS FOR APPROVAL.

CUTTING AND PATCHING NECESSARY FOR THE INSTALLATION OF THE MECHANICAL SYSTEM SHALL BE PERFORMED BY THE TRADE NORMALLY PERFORMING THAT WORK, AND PAID FOR BY THE MECHANICAL CONTRACTOR. NO CUTTING OF THE BUILDING STRUCTURAL SYSTEM SHALL BE PERMITTED WITHOUT WRITTEN CONSENT OF THE ARCHITECT.

PROVIDE EQUIPMENT SCHEDULED, NOTED OR OTHERWISE INDICATED ON THE DRAWINGS. BUT NOT INCLUDED IN THE SPECIFICATIONS. INSTALLATION SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDATIONS AND APPLICABLE CODES. PROVIDE SUBMITTALS TO THE ARCHITECT FOR REVIEW.

6. FLEXIBLE DUCTWORK TO CEILING DIFFUSERS AND REGISTERS SHALL BE LIMITED TO 5'-0" MAXIMUM HORIZONTAL RUN WITH ONLY ONE 90 DEGREE ELBOW PERMITTED. SECURE FLEXIBLE DUCTWORK WITH SHEET METAL SCREWS, DRAW BANDS AND FINISH WITH FOIL DUCT TAPE FOR A PROFESSIONAL APPEARANCE.

AIR CONDITIONING CONDENSATE DRAIN TRAPS SHALL BE A MINIMUM OF 4" DEEP WITH A VENT ON THE DISCHARGE SIDE. CONDENSATE DRAINS SHALL BE EXTENDED FROM THE COOLING COILS TO TERMINATE ABOVE AN APPROVED FIXTURE WITH AN INDIRECT WASTE OR OUTDOORS IN THE LANDSCAPING. INSTALL DRAIN PIPING TO MINIMIZE SPLASHING AND TRIPPING HAZARD.

PROVIDE 18" x 18" ACCESS DOORS IN INACCESSIBLE CEILINGS AND WALLS FOR EQUIPMENT REQUIRING ACCESS OR ADJUSTMENT. COORDINATE DOOR SPECIFICATION REQUIREMENT WITH THE ARCHITECT. PROVIDE SUBMITTALS FOR REVIEW.

2. REFER TO THE ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE LOCATIONS AND MOUNTING HEIGHTS.

3. PROVIDE SHUTOFF VALVES FOR DOMESTIC WATER PIPING BRANCH PIPING TO EACH PLUMBING FIXTURE.

4. MAKE FINAL CONNECTIONS TO PLUMBING FIXTURES, INCLUDING FIXTURES FURNISHED PROVIDED BY OTHERS. PROVIDE TRANSITION FITTINGS, SHUTOFF VALVES, TRAPS, BACK FLOW PREVENTERS, ETC. AS REQUIRED FOR A COMPLETE, CODE

CONTRACTOR SHALL TAG/LABEL ALL VALVES AND SHALL PROVIDE A VALVE CHART INDICATING THE LOCATION, FUNCTION AND EQUIPMENT SERVED. VALVE CHART SHALL BE FRAMED IN A SUITABLE FRAME AND MOUNTED IN THE FIRE SPRINKLER RISER ROOM. NEXT TO THE WATER SERVICE ENTRANCE MAIN SHUTOFF VALVE.

SYMBOL	DESCRIPTION	SYMBOL	
X	SUPPLY AIR GRILLE - REGISTER	GPF	GAI
DD	DUCT DETECTOR	HTG	HEA
T	PROGRAMMABLE THERMOSTAT	WPD	WA
Γ	MANUAL VOLUME DAMPER	PSI	PO
		MBH	1,00
SCH	SCHEDULE	BTU	BRI
SS	STAINLESS STEEL	NO	NUI
ABV	ABOVE	TYP	TYF
BLW	BELOW	MAX	MA
SP	STATIC PRESSURE	MIN	MIN
RPM	REVOLUTIONS PER MINUTE	V-PH	VOI
CFM	CUBIC FEET PER MINUTE	HP	HO
SA	SUPPLY AIR	KW	KIL
RA	RETURN AIR	MCA	MIN
EA	EXHAUST AIR	MOCP	MA
ENT	ENTERING	ESP	EXT

	LEG	GEND	
SYMBOL	DESCRIPTION	SYMBOL DESCRIPTION	
	SUPPLY AIR GRILLE - REGISTER	GPF GALLONS PER FLUSH	
(T)	PROGRAMMABLE THERMOSTAT	WPD WATER PRESSURE DROP	
Г	MANUAL VOLUME DAMPER	PSI POUNDS PER SQUARE INCH	
0.011		MBH 1,000 BTU PER HOUR	
SCH	SCHEDULE STAINI ESS STEEL	NO NUMBER	7
ABV	ABOVE	TYP TYPICAL	$\tilde{\tau}$
BLW	BELOW	MAX MAXIMUM	
SP	STATIC PRESSURE		- T
CFM		V-PH VOLTAGE-PHASE HP HORSE POWER	5
SA	SUPPLY AIR	KW KILOWATT	
RA	RETURN AIR	MCA MINIMUM CIRCUIT AMPS	-
EA	EXHAUST AIR	MOCP MAXIMUM OVERCURRENT PROTECTION	
ENT		ESP EXTERNAL STATIC PRESSURE	
	SHEET	T INDEX	2
	JUNE SYMBOL J-18-2016 PLAN CHECK		
	M0.00 LEC	GEND, INDEX, SPECIFICATIONS, CALCULATIONS	
	● M1.00 FLC	OOR PLANS - DEMO, HVAC	_
	VENTILATION (CALCULATIONS	
	2012 UMC OUTDOOR AIR CALCULATION- 4 SINGLE ZONE VENTION	403.3 SINGLE ZONE RECIRCULATING SYSTEMS	
Room	Room Name Area Sg Ft PPL / 1000 PPL Rp Ra	ZN AIR Voz= DIST EFF Vbz/Ez HVAC UNT Supply Air OSA OSA % Pass(P) Fail	
140 Stora	SqFt SqFt rage area 11100 2 22 5 0.06	(Ez) Vot=Voz CFM Scheduled (F) 0 0.8 971 Existing 10 ton A/C unit 4000 971 24 Pass	
			- C
	FIRE SPRINKLER	RSPECIFICATIONS	
PROVIDE A (COMPLETE FIRE SUPPRESSION SYSTEM OF FIRE SPRIN	INKLERS FOR THE REMODELED AREAS INDICATED ON THE	
ARCHITECTU COMPLIANT	URAL DRAWINGS. WORK SHALL INCLUDE DESIGN, CON SYSTEM.	NSTRUCTION, TESTING AND APPROVALS FOR A COMPLETE, CODE	
COMPLY WIT	TH NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)	STANDARDS 13; THE NEVADA STATE FIRE MARSHAL REGULATIONS	
AND REQUIE	REMENTS OF THE LOCAL AUTHORITY HAVING JURISDIC AMENDMENTS. CONFORM TO THE REQUIREMENTS OF	CTION (AHJ). COMPLY WITH THE INTERNATIONAL BUILDING CODE OF ASCE 7-05 FOR SEISMIC BRACING.	
THE FIRE SU	JPPRESSION SYSTEM SHALL BE COMPLETE WITH THE I	PIPING; PIPING, SPRINKLERS, PRESSURE REGULATORS, VALVES,	
TEST STATIC	ONS AND INTERIOR STAND PIPE CONNECTIONS, ANTI F ANCES NECESSARY OF A COMPLETE SYSTEM.	FREEZE LOOPS AND BACKFLOW PREVENTORS. PROVIDE OTHER	
THE FIRE SP	PRINKLER DESIGNER SHALL BE NICET CERTIFIED, REGI	GISTERED BY THE STATE OF NEVADA FIRE MARSHALLS OFFICE. THE	
ENGINEERIN REGULATION	NG DRAWINGS AND HYDRAULIC CALCULATIONS SHALL NS. THE DESIGNER IS RESPONSIBLE FOR THE SYSTEM	BEAR THE DESIGNERS SEAL IN ACCORDANCE WITH STATE	
CALCULATIC	ONS SHALL INCLUDE LOSSES FROM BACKFLOW PREVE IRE SPRINKLER CONTRACTORS SCOPE OF WORK. THE	ENTORS, METERS AND ON SITE PIPING NOT NORMALLY INCLUDED E FIRE SPRINKLER DESIGNER SHALL PERFORM A FIELD FLOW TEST	
TO VERIFY F	PRESSURE AND VOLUME AVAILABLE AT THE SITE PRIO	DR TO SUBMITTING HIS BID.	
PREPARE AN	ND SUBMIT ENGINEERING DRAWINGS AND HYDRAULIC	C CALCULATIONS FOR REVIEW. AHJ REVIEW SHALL BE COMPLETE SED ON OCCUPANCY HAZARD CLASSIFICATION VERIFIED AND	
) WITH AHJ AND THE OWNERS INSURANCE CARRIER. SI REMENTS OF THE AUTHORITY HAVING JURISDICTION	SUBMIT SEISMIC BRACING SHOP DRAWINGS IN ACCORDANCE WITH	
		LECTED CEILING PLANS, FOR DESIGNATED LOCATIONS FOR	
STANDPIPES	S, FIRE HOSE CABINETS, SPRINKLER HEAD LOCATIONS	S, AND OTHER PARTS OF THE FIRE SUPPRESSION SYSTEM VISIBLE	
	URAL DRAWINGS. REFER TO THE CIVIL DRAWINGS FOR ING DRAWINGS FOR DRAINS AND THE ELECTRICAL DRAWINGS	R ON SITE WORK AND SERVICE ENTRANCE LOCATIONS. REFER TO	
POWER REG	QUIREMENTS FOR THE FIRE AND JOCKEY PUMPS, MONI	NITORING PANELS AND ANY OTHER APPURTENANCES AS SOON AS	
REQUIRED, A	AND OBTAIN APPROVAL PRIOR TO BEGINNING WORK.	IT OF THE WORK. NOTIFT THE ARCHITECT OF ANT CHANGES	
MATERIALS	AND EQUIPMENT SHALL BE NEW AND GUARANTEED FO	OR ONE YEAR FROM THE DATE OF ACCEPTANCE. MANUFACTURERS	
APPURTENA	ANCES USED FOR THE FIRE SUPPRESSION SYSTEM. SU	UBMITTAL DATA SHALL INCLUDE MATERIAL, PRESSURE AND	
PROVIDE CA	APS, PLATES, ESCUTCHEONS, FLASHING, ETC. AS REQU	QUIRED TO CLOSE OPENINGS MADE FOR THE SPRINKLER SYSTEM.	
PRIOR APPR	ROVAL FROM THE ARCHITECT.	COMPONENTS SHALE NOT BE COT ON CORE DRIELED WITHOUT	
	LL BE COORDINATED WITH THE WORK OF OTHER TRAD	DES. MAINS AND BRANCHES SHALL BE ROUTED TO AVOID	
	L PANELS OR EQUIPMENT. NOTIFY ARCHITECT OF ANY	Y CONFLICTS WHICH ARISE THAT CANNOT BE RESOLVED IN THE BEEN RESOLVED	
	ILY CLEAN EXPOSED PORTIONS OF THE FIRE SPRINKLE	ER SYSTEM REMOVE LABELS AND TRACES OF FOREIGN	
SUBSTANCE	ES. CLEANING SOLUTIONS SHALL BE APPROVED BY THE URFACES SHALL BE REPAIRED IN ACCORDANCE WITH 1	THE ARCHITECTS REQUIREMENTS	
	KI ER PIPING ABOVE GRADE SHALL BE SCHEDULE 40 BI	RI ACK STEEL WITH APPROVED MALLEABLE IRON THREADED	
FITTINGS. TH	HIN-WALLED STEEL PIPE CONFORMING WITH NFPA 13 A	AND APPROVED BY THE AHJ MAY BE USED AT THE CONTRACTORS	
WELDED OR	R GROOVE JOINT COUPLINGS APPROVED FOR FIRE SPE IRERS RECOMMENDATIONS MAY BE USED, PIPE HANG	PRINKLER SERVICE INSTALLED IN ACCORDANCE WITH THE	
FIRE SPRINK	KI ER SERVICE ENTRANCE PIPING SHALL BE WELDED O	ONE PIECE STAINLESS STEEL ELBOWS EQUAL TO AMES SERIES IBR	
PIPE AND FI	TTINGS AT FOUNDATION AND FLOOR PENETRATIONS S ENE TAPE AND ENCASED WITH POLYURFTHANF INSU	SHALL BE SLEEVED AND WRAPPED WITH A DOUBLE LAYER OF LATION WITH HIGH DENSITY POLYETHYLENE JACKET.	
SPRINKLER	S IN EXPOSED AREAS SHALL BE UPRIGHT TYPF WITH (GUARD, AND WHERE APPROPRIATE. SPRINKLERS IN AREAS WITH	S
SUSPENDED	D CEILING SHALL BE RECESSED PENDANT TYPE WITH N USIBLE-SOLDER LINK TYPE TEMPERATURF RATED FOR	MATCHING CHROME PLATED ESCUTCHEON PLATE. FUSIBLE LINKS R SPECIFIC AREA HAZARD.	(
FLOW SWITC	CHES AND VALVES SHALL BE UL APPROVED. FM LISTER	ED AND SHALL BE SELECTED FOR APPROPRIATE SYSTEM OPERATING	—
PRESSURES	S.		
SPRINKLER	SYSTEMS SHALL BE TESTED IN ACCORDANCE WITH THE QUIREMENTS OF THE FIRE PROTECTION REPORT. THE	THE REQUIREMENTS OF NFPA 13, 14 AND THE AHJ. CONFORM TO THE HE OWNER, BUILDING DEPARTMENT AND OWNER'S INSURANCE	<u> </u>
REPRESENT PROVIDE A	TATIVE SHALL HAVE THE OPTION OF WITNESSING ALL T MINIMUM OF THREE DAYS NOTICE PRIOR TO TESTING	TESTS. TESTS AND INSPECTIONS SHALL BE APPROVED BY THE AHJ. . THE CONTRACTOR SHALL BEAR THE COST OF ALL REQUIRED DG Koch Associates	
TESTING.		2920 S. JONES BLVD SUITE 100 LAS VEGAS. NV 89146	
CONTRACTO	OR SHALL SUBMIT RECORD DOCUMENTS, INCLUDING F ALS, AS REQUIRED BY THE ARCHITECT. PROVIDE ELFC	FINAL APPROVED COPY OF THE SHOP DRAWINGS, SUBMITTALS, AND(702) 221-51601610CTRONIC COPY OF ALL DOCUMENTS IN PDF FORMAT.FAX 221-51651610	3
-			

	LE	GEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION		
	SUPPLY AIR GRILLE - REGISTER DUCT DETECTOR	GPF HTG	GALLONS PER FLUSH HEATING		
	PROGRAMMABLE THERMOSTAT	WPD	WATER PRESSURE DROP		
	MANUAL VOLUME DAMPER	PSI MBH	POUNDS PER SQUARE INCH		
SCH	SCHEDULE	BTU	BRITISH THERMAL UNIT		
SS	STAINLESS STEEL	NO TYP			
BLW	BELOW	MAX	MAXIMUM		
SP		MIN			5
CFM	CUBIC FEET PER MINUTE	V-PH HP	HORSE POWER		
SA	SUPPLY AIR	KW	KILOWATT		
EA	EXHAUST AIR	MCA MOCP	MINIMUM CIRCUIT AMPS MAXIMUM OVERCURRENT PROTECTION		
ENT	ENTERING	ESP	EXTERNAL STATIC PRESSURE		
	SHEE	ET INDE	X		
	SYMBOL SYMBOL 1-18-5010 PLAN CHECK 1-18-5010 PLAN CHECK SHEET NO SHEET NO		SHEET DESCRIPTION		
	• • • • • • • • • • • • • • • • • • •	LEGEND, INDEX, S	PECIFICATIONS, CALCULATIONS		
	VENTILATION		JLATIONS		
	2012 UMC OUTDOOR AIR CALCULATION	I- 403.3 SINGLE	ZONE RECIRCULATING SYSTEMS		
Room Number	Room Name Area Sq Ft PPL / 1000 PPL Rp 1	Ra DIST EFF V bz/E	z HVAC UNIT Supply Air OSA OSA % Pass(P) Fail CFM Scheduled OSA % (F)		
140 Stor	rage area 11100 2 22 5 0	.06 0.8 971	Existing 10 ton A/C unit 4000 971 24 Pass		
	FIRE SPRINKLE	R SPEC	CIFICATIONS		
PROVIDE A	COMPLETE FIRE SUPPRESSION SYSTEM OF FIRE SF	RINKLERS FOR TH	E REMODELED AREAS INDICATED ON THE		
ARCHITECT COMPLIANT	⁻ URAL DRAWINGS. WORK SHALL INCLUDE DESIGN, C ⁻ SYSTEM.	CONSTRUCTION, T	ESTING AND APPROVALS FOR A COMPLETE, CODE		
COMPLY WI	TH NATIONAL FIRE PROTECTION ASSOCIATION (NFF REMENTS OF THE LOCAL AUTHORITY HAVING JURIS	PA) STANDARDS 13 DICTION (AHJ). CO	; THE NEVADA STATE FIRE MARSHAL REGULATIONS MPLY WITH THE INTERNATIONAL BUILDING CODE		
AND LOCAL	AMENDMENTS. CONFORM TO THE REQUIREMENTS	OF ASCE 7-05 FO	R SEISMIC BRACING.		
THE FIRE SU TEST STATI	UPPRESSION SYSTEM SHALL BE COMPLETE WITH TH ONS AND INTERIOR STAND PIPE CONNECTIONS, AN ANCES NECESSARY OF A COMPLETE SYSTEM	HE PIPING; PIPING TI FREEZE LOOPS	, SPRINKLERS, PRESSURE REGULATORS, VALVES, AND BACKFLOW PREVENTORS. PROVIDE OTHER		
THE FIRE SI	RINCES NECESSART OF A COMPLETE STSTEM.	EGISTERED BY TH	E STATE OF NEVADA FIRE MARSHALLS OFFICE. THE		
ENGINEERII REGULATIO	NG DRAWINGS AND HYDRAULIC CALCULATIONS SHA NS. THE DESIGNER IS RESPONSIBLE FOR THE SYST	ALL BEAR THE DES EM FROM THE PO	IGNERS SEAL IN ACCORDANCE WITH STATE INT OF SERVICE FROM THE LOCAL WATER UTILITY.		
	ONS SHALL INCLUDE LOSSES FROM BACKFLOW PRE TRE SPRINKLER CONTRACTORS SCOPE OF WORK. T	EVENTORS, METER THE FIRE SPRINKLI	RS AND ON SITE PIPING NOT NORMALLY INCLUDED ER DESIGNER SHALL PERFORM A FIELD FLOW TEST		
PREPARE A	ND SUBMIT ENGINEERING DRAWINGS AND HYDRAU		NG HIS BID. S FOR REVIEW. AHJ REVIEW SHALL BE COMPLETE ANCY HAZARD CLASSIFICATION VERIFIED AND		
CONFIRMED	D WITH AHJ AND THE OWNERS INSURANCE CARRIER REMENTS OF THE AUTHORITY HAVING JURISDICTION	R. SUBMIT SEISMIC	BRACING SHOP DRAWINGS IN ACCORDANCE WITH		
REFER TO T	THE ARCHITECTURAL DRAWINGS, INCLUDING THE R		G PLANS, FOR DESIGNATED LOCATIONS FOR		
ROM FINIS	S, FIRE HOSE CABINETS, SPRINKLER HEAD LOCATIC HED SPACES. SPRINKLER HEADS SHALL BE LOCATI URAL DRAWINGS REFER TO THE CIVIL DRAWINGS F	ED SYMMETRICAL	ARTS OF THE FIRE SUPPRESSION SYSTEM VISIBLE LY, FOLLOWING THE PATTERN ESTABLISHED IN THE K AND SERVICE ENTRANCE LOCATIONS REFER TO		
THE PLUMB	ING DRAWINGS FOR DRAINS AND THE ELECTRICAL I QUIREMENTS FOR THE FIRE AND JOCKEY PUMPS, M	DRAWINGS FOR P ONITORING PANE	OWER SOURCES AVAILABLE. COORDINATE ACTUAL S AND ANY OTHER APPURTENANCES AS SOON AS		
POSSIBLE A REQUIRED,	AFTER THE BID AWARD, PRIOR TO THE COMMENCEM AND OBTAIN APPROVAL PRIOR TO BEGINNING WOR	IENT OF THE WOR K.	K. NOTIFY THE ARCHITECT OF ANY CHANGES		
MATERIALS PRODUCT D	AND EQUIPMENT SHALL BE NEW AND GUARANTEED DATA SHALL BE SUBMITTED TO THE ARCHITECT FOR ANCES USED FOR THE FIRE SUPPRESSION SYSTEM	FOR ONE YEAR F EQUIPMENT, VAL	ROM THE DATE OF ACCEPTANCE. MANUFACTURERS VES, PIPING, SPRINKLERS, SPECIALTIES AND		
PERFORMA	NCE RATINGS, ROUGH-IN DETAILS, WEIGHTS, SUPPO		TS, AND PIPING CONNECTIONS.		
SUBMIT A S PROVIDE CA ROOFS, SHE	HOP DRAWING OF PENETRATIONS AND SLEEVES RE APS, PLATES, ESCUTCHEONS, FLASHING, ETC. AS RI EAR WALLS, STEEL BEAMS AND OTHER STRUCTURA	EQUIRED THRU AN EQUIRED TO CLOS L COMPONENTS S	Y STRUCTURAL COMPONENTS, IF REQUIRED E OPENINGS MADE FOR THE SPRINKLER SYSTEM. HALL NOT BE CUT OR CORE DRILLED WITHOUT		
WORK SHAL	LL BE COORDINATED WITH THE WORK OF OTHER TR	ADES. MAINS AND	BRANCHES SHALL BE ROUTED TO AVOID		
NTERFERE	NCES WITH DUCTWORK, PLUMBING, ELECTRICAL CO L PANELS OR EQUIPMENT. NOTIFY ARCHITECT OF A ALLATION SHALL NOT PROCEED UNTIL CONFLICT HA	ONDUCTS AND STI ANY CONFLICTS W AS BEEN RESOLVE	RUCTURAL MEMBERS. DO NOT ROUTE PIPING OVER HICH ARISE THAT CANNOT BE RESOLVED IN THE		
THOROUGH	ILY CLEAN EXPOSED PORTIONS OF THE FIRE SPRIN ES. CLEANING SOLUTIONS SHALL BE APPROVED BY	KLER SYSTEM. RE	MOVE LABELS AND TRACES OF FOREIGN RER OF THE ITEM TO BE CLEANED. DAMAGE TO		
	URFACES SHALL BE REPAIRED IN ACCORDANCE WIT	TH THE ARCHITEC	TH APPROVED MALLEABLE IRON THREADED		
FITTINGS. T OPTION. PL WELDED OF MANUFACTI	HIN-WALLED STEEL PIPE CONFORMING WITH NFPA ASTIC PIPING IS PROHIBITED WITHOUT PRIOR APPR R GROOVE JOINT COUPLINGS APPROVED FOR FIRE S URERS RECOMMENDATIONS MAY BE USED. PIPE HA	13 AND APPROVED OVAL FROM THE A SPRINKLER SERVI NGERS SHALL CO	RCHITECT AND AHJ. WHERE APPROVED BY AHJ, CE INSTALLED IN ACCORDANCE WITH THE NFORM TO NFPA 13.		
FIRE SPRINI PIPE AND FI POLYETHYL	KLER SERVICE ENTRANCE PIPING SHALL BE WELDE ITTINGS AT FOUNDATION AND FLOOR PENETRATION ENE TAPE AND ENCASED WITH POLYURETHANE INS	D ONE PIECE STA IS SHALL BE SLEE SULATION WITH HI	NLESS STEEL ELBOWS EQUAL TO AMES SERIES IBR. VED AND WRAPPED WITH A DOUBLE LAYER OF GH DENSITY POLYETHYLENE JACKET.		
SPRINKLER SUSPENDEI SHALL BE F	S IN EXPOSED AREAS SHALL BE UPRIGHT TYPE, WIT D CEILING SHALL BE RECESSED PENDANT TYPE WIT USIBLE-SOLDER LINK TYPE TEMPERATURE RATED F	TH GUARD, AND W TH MATCHING CHR FOR SPECIFIC ARF	HERE APPROPRIATE. SPRINKLERS IN AREAS WITH OME PLATED ESCUTCHEON PLATE. FUSIBLE LINKS A HAZARD.		
	CHES AND VALVES SHALL BE UL APPROVED, FM LIS	TED AND SHALL B	E SELECTED FOR APPROPRIATE SYSTEM OPERATING		
SPRINKLER	. SYSTEMS SHALL BE TESTED IN ACCORDANCE WITH	I THE REQUIREME	NTS OF NFPA 13, 14 AND THE AHJ. CONFORM TO THE		
	EQUIREMENTS OF THE FIRE PROTECTION REPORT. TATIVE SHALL HAVE THE OPTION OF WITNESSING AL	THE OWNER, BUIL	DING DEPARTMENT AND OWNER'S INSURANCE ND INSPECTIONS SHALL BE APPROVED BY THE AHJ.		
TESTING.	WINNIWOW OF THREE DAYS NUTICE PRIOR TO TESTIN	NG. THE CONTRAC	TOR SHALL DEAR THE GUST OF ALL REQUIRED	2920 S. JONES BLVD SUITE 100 LAS VEGAS, NV 89146	
CONTRACTO	OR SHALL SUBMIT RECORD DOCUMENTS, INCLUDIN ALS, AS REQUIRED BY THE ARCHITECT. PROVIDE EL	G FINAL APPROVE	D COPY OF THE SHOP DRAWINGS, SUBMITTALS, AND OF ALL DOCUMENTS IN PDF FORMAT.	(702) 221-5160 FAX 221-5165	16106

000d 891 \simeq Flamingo Nevada • _____ -----_ С $\sim N$ က႐





TITLE

LEGEND, INDEX PECIFICATIONS CALCULATIONS





NOTICE]
EXACT SIZE AND LOCATION IN FIELD PRIOR TO START OF WORK.	
EXSITING WORK TO REMAIN SHOWN LIGHT. EXISTING WORK TO BE REMOVED SHOWN DARK AND DASHED. NEW WORK SHOWN DARK.	
S-1 — DIFFUSER CALLOUT NUMBER 100-4 — AIR THROW	
CFM	\square
UNIT KEY NOTE 2000 - SUPPLY CFM 320 - OSA CFM	
KEY NOTES 〇	
1. EXISTING UNIT ON ROOF TO REMAIN.	$\square \square \square \square \square \square$
 EXISTING EXHAUST FAN TO REMAIN. 	
3. EXISTING SUPPLY AIR GRILLE TO REMAIN.	
4. EXISTING RETURN GRILLE TO REMAIN.	
5. EXISTING EXHAUST GRILLE TO REMAIN.	
6. EXISTING THERMOSTAT TO REMAIN. ENSURE EXISTING THERMOSTAT TO BE REUSED IS IN WORKING CONDITION AND PROVIDES CONTROL TO THE ROOF TOP UNIT BEING REUSED.	Is, Nev
7. CAP DUCT AIR TIGHT, ABOVE THE TRUSSES.	
8. EXISTING ROOF TOP UNIT TO REMAIN, CLEAN AND REFURBISH TO ACCEPTABLE CONDITION. UNIT TO BE USED FOR SPACE CONDITIONING AS NEEDED.	
9. REMOVE EXISTING SUPPLY AIR GRILLE AND ASSOCIATED DUCTWORK. CAP DUCT AT MAIN.	
10. REMOVE EXISTING EXHAUST AIR GRILLE AND ASSOCIATED DUCTWORK.	•y aptus th Stree Suite 20 8910 839.121
 EXISTING PLUMBING FIXTURE TO REMAIN AS IS. REMOVE EXISTING PLUMBING FIXTURE AND 	South 4 South 4 Vegas F 702.8
ASSOCIATED PIPING. CAP WASTE PIPING BELOW FLOOR. PATCH FLOOR AS REQUIRED. CAP VENT PIPING AT VTR ABOVE CEILING.	1200 Copyright
13. REMOVE EXISTING PLUMBING FIXTURE AND ASSOCIATED CW-HW PIPING. CAP PIPING IN WALL. PATCH WALL AS REQUIRED.	
14. REMOVE EXISTING PLUMBING FIXTURE AND ASSOCIATED CW PIPING.CAP PIPING IN WALL. PATCH WALL AS REQUIRED.	
15. RELOCATE EXISTING OR PROVIDE NEW TEMPERATURE SENSOR TO HANG FROM THE RETURN DUCT.	
	and and a second
	ALL OF NEVADA
	MGIN NGIN
	WING CONSCIONANT OF THE SECOND
	ο Ι Ι Ι Ι Ι Ι Ι Ι Ι Ι Ι Ι Ι Ι Ι Ι Ι Ι Ι
	11.18.1
	L L L L L L L L L L L L L L L L L L L
	HO 7
	BLAN
	тария и стана и Стана и стана и с
E	TITLE
N S	FLOOR PLANS -
	DEMO, HVAC
W	
DG Koch Associates	MI.00

2920 S. JONES BLVD SUITE 100 LAS VEGAS, NV 89146

(702) 221-5160 FAX 221-5165

16106

PAINTBALL160

15.058.1 UNLV FAB Shell Upgrade

ELECTI	RICAL L	EGEND:	(NOT ALL SYMBOLS ARE USED)					PROJECT GENERAL NOTES:
EXT	DEMO	NEW	DEFINITION	EXT	DEMO	NEW	DEFINITION	1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOOK THROUGH ALL DRAWINGS ASSOCIATED WITH THIS PROJECT. WORK ASSOCIATED WITH THE ELECTRICAL CONTRACTOR'S TRADE MAY BE SHOWN ON OTHER
			PANEL BOARD SURFACE MOUNTED	X			CONDUIT SEALING FITTING (USED FOR CLARITY ONLY)	DRAWINGS. ANY ADDITIONAL COST RESULTING FROM THE FAILURE TO INCLUDE THESE ITEMS SHOWN ON THE
			PANELBOARD FLUSH MOUNTED				INTERRUPTER SWITCH	2 IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO ESTABLISH A STANDARD OF OUALITY. THE
			SWITCHBOARD				FUSE	ENGINEER RESERVES THE RIGHT TO ALLOW OTHER METHODS AND MATERIALS NOT REFLECTED HEREIN. THE CONTRACTOR SHALL BE RESPONSIBLE TO REQUEST THE ENGINEER WAIVE THE STANDARDS TO ALLOW
TC	ГТС]	ТС	TERMINAL CABINET				CIRCUIT BREAKER	ALTERNATE MEANS AND METHODS PRIOR TO BEGINNING THE PROJECT. CONTRACT DOCUMENT REVISIONS TO ACCOMMODATE INSTALLED CONDITIONS, WITHOUT PRIOR APPROVAL, WILL RESULT IN ADDITIONAL DESIGN
		 	TRANSFORMER	$\langle \leftarrow \rangle \rangle$	~<-´`->>	<i>≺</i> ← →>	DRAWOUT CIRCUIT BREAKER	CHARGES TO THE CONTRACTOR.
		Р	PULLBOX	$(\widehat{\mathbf{M}})$		M	METERING	3. ELECTRICAL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE NECA INSTALLATION STANDARDS TO THE SATISFACTION OF THE ARCHITECT AND ENGINEER.
			MOTOR STARTER					4. ALL WORK, MATERIALS AND EQUIPMENT SHALL CONFORM TO THE CURRENTLY ADOPTED EDITION OF ALL
		⊠J	COMBINATION MOTOR STARTER			(KWH)	KILOWATT HOUR DEMAND METER	APPLICABLE NATIONAL, STATE AND CITY CODES AND ORDINANCES.
			COMBINATION MOTOR STARTER VENDOR FURNISHED		بيايات	يىلىپ	TRANSFORMER	5. ALL ELECTRICAL SYSTEM COMPONENTS SHALL BE LISTED OR LABELED BY UL OR OTHER RECOGNIZED TESTING FACILITY AS ALLOWED BY AUTHORITY HAVING JURISDICTION.
F	E	F	DISCONNECT SWITCH "F" INDICATES FUSIBLE	(ΥΥΥ)		\sim		6. WHERE AN APPARENT DISCREPANCY EXISTS BETWEEN THE REQUIREMENTS OF THE GENERAL NOTES AND
			DISCONNECT SWITCH VENDOR FURNISHED			\mathcal{O}	MOTOR OUTLET	THE COST OF THE GREATER QUALITY OR QUANTITY.
	רא על		CONTACTOR	G	(G)/	(G)	GENERATOR	7. CONTRACTOR SHALL VISIT JOB SITE PRIOR TO BID AND VERIFY EXISTING CONDITIONS.
TTB		ТТВ	CONTACTOR VENDOR FURNISHED	()		() ()	GROUND ROD	8. CONTRACTOR SHALL INCLUDE IN BASE BID ALL COSTS REQUIRED FOR PERMITS AND INSPECTIONS.
			TELEPHONE TERMINAL BOARD 4 X 8 X 3/4" FIRE TREATED PLYWOOD	SV	(SV)	(SV)	SOLENOID VALVE	9. CONTRACTOR SHALL VERIFY, WITH OWNER'S REPRESENTATIVE PRIOR TO SUBMITTING BID, ALLOWABLE WORKING HOURS, EMPLOYEE PARKING AREAS, MATERIAL DELIVERY, STORAGE REQUIREMENTS, DEMOLITION
TTC		TTC	TELEPHONE TERMINAL CABINET			S	SPEAKER	AND REMOVAL OF CONSTRUCTION DEBRIS, AS WELL AS DAILY CLEAN UP REQUIREMENTS. INCLUDE ALL COSTS IN BID FOR DUST BARRIERS, DUMPSTERS ETC. AS REQUIRED FOR THE DURATION OF THE PROJECT.
	[]		FLUORESCENT FIXTURE - LETTER DENOTES TYPE (LOWER CASE	М		М	MOTION DETECTOR	PERFORM ALL WORK AS DIRECTED BY OWNER'S REPRESENTATIVE AND ARCHITECT.
		A	WALL MOUNTED FIXTURE (FLUORESCENT SHOWN) - LETTER		[<u>TV</u>]<]		CCTV SURVEILLANCE CAMERA OUTLET	10. ALL ELECTRICAL SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. IF TESTS SHOW THAT WORK IS DEFECTIVE, CONTRACTOR SHALL MAKE ALL NECESSARY CORRECTIONS AT NO ADDITIONAL COST TO OWNER.
A	A	A	DENOTES TYPE	TV		TV	TELEVISION ANTENNA OUTLET	11. CONTRACTOR SHALL GUARANTEE ALL WORK AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP WHICH
			HID OR INCANDESCENT FIXTURE - LETTER DENOTES TYPE	F	Ē	F	PULL STATION	SHALL BE PROMPTLY CORRECTED BY CONTRACTOR WITHOUT ADDITIONAL COST TO OWNER.
⊢ — — A	⊢+ A	A	FLUORESCENT STRIP FIXTURE - LETTER DENOTES TYPE	FS	[FS]	FS	FLOW SWITCH	12. PROVIDE AS-BUILT DRAWINGS TO ARCHITECT. DRAWINGS SHALL INCLUDE ACCURATE CONDUIT AND DEVICE
	A C C			TS	[<u>TS]</u>	TS	TAMPER SWITCH	13 DO NOT SCALE ELECTRICAL DRAWINGS VERIEV EXACT LOCATION OF ALL DEVICES JUNCTION BOXES
A	A			H			HORN	LIGHTING FIXTURES, ETC. WITH ARCHITECTURAL AND INTERIOR DESIGN DRAWINGS PRIOR TO INSTALLATION.
A	A	A	DENOTE DIRECTION - LETTER DENOTES TYPE			SK T	HORN / STROBE	REQUIRING ELECTRICAL CONNECTION PRIOR TO ROUGH-IN. EVERY OUTLET HEIGHT SHALL BE VERIFIED ON EACH WALL WITH THE INTERIOR PLANNING AND DESIGN DRAWINGS. COORDINATE WITH CABINET SHOP
			EMERGENCY OR NIGHT LIGHT CONNECTED FIXTURE (FLUORESCENT SHOWN) - LETTER DENOTES TYPE	S			STROBE	DRAWINGS TO ENSURE PROPER HEIGHT AND LOCATION WITH RESPECT TO MILLWORK, EQUIPMENT, ETC.
	A 	A		FACP_				14. THESE DRAWINGS INDICATE THE FINISHED REQUIREMENTS FOR THE ELECTRICAL SYSTEMS, EQUIPMENT, LIGHTING FIXTURES, OUTLETS AND DEVICES. DUE TO STRUCTURAL CONDITIONS, MECHANICAL DUCT, PIPING
								CONFLICTS, OR OTHER LEGITIMATE REASONS, THE CONTRACTOR MAY DESIRE TO INSTALL THE WORK INDICATED IN A MANNER DIFFERENT FROM THAT SHOWN. SUCH CHANGES SHALL BE PRESENTED TO THE
						ر الس الس		OWNER'S REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO PROCEEDING. UPON APPROVAL, THE WORK SHALL BE PERFORMED AND THE AS-BUILT DRAWINGS SHALL BE REVISED TO ACCURATELY REFLECT
	ር ርጉ	Ψ M		X	X	₩ ¹ X	D DUCT MOUNT	THE WORK AS ACTUALLY INSTALLED.
	۱۲ TDT		ELOOR MOUNTED DUPLEX RECEPTACLE				I IONIZATION P PHOTOELECTRIC	15. ANY VARIANCE OR EXCEPTIONS THE THE DRAWINGS AND SPECIFICATIONS MUST BE REQUESTED AND APPROVED IN WRITING BY THE ENGINEER. WHERE UNAUTHORIZED CHANGES ARE FOUND, THE CONTRACTOR
			QUADRUPLEX RECEPTACLE 18" AFF UNO	H	(Î)	Ĥ	HEAT DETECTOR LETTER (X) INDICATES TYPE.	COST THE THE OWNER. COST SHALL INCLUDE ANY CUTTING, PATCHING, PAINTING AND REPAIR COST TO
	•	•	ISOLATED GROUND TYPE (ORANGE) DUPLEX RECEPTACLE	X	X	×	R RATE OF RISE	INSTALLED CEILINGS, WALLS ETC. AS REQUIRED FOR CORRECTING THE DEFICIENCY.
			AT 18" AFF UNO.	F	F	F	FIREMAN PHONE	DETERMINED BY CONTRACTOR TO SUIT FIELD CONDITIONS.
Ŧ	邗	The second secon	ISOLATED GROUND TYPE (ORANGE) QUADRUPLEX RECEPTACLE AT 18" AFF UNO.	SD	(SD)	SD	SMOKE /FIRE DAMPER	17. RACEWAYS SHALL BE INSTALLED CONCEALED WHENEVER POSSIBLE. RACEWAYS INSTALLED EXPOSED (AS APPROVED BY ENGINEER IN WRITING PRIOR TO ROUGH-IN) SHALL BE ROUTED OUT OF PUBLIC VIEW AS MUCH
₽¢	₽c	Φc	COUNTER HEIGHT RECEPTACLE (VERIFY HEIGHT)	FS	[FS]	FS	CONTROL DEVICE. LETTERS INDICATE TYPE:	AS POSSIBLE. RACEWAYS SHALL BE RUN PARALLEL WITH, OR AT RIGHT ANGLE TO WALLS.
			GFI DUPLEX RECEPTACLE 18" AFF UNLESS NOTED OTHERWISE				FLS = FLOAT SWITCH, FS = FLOW SWITCH FTS = FOOT SWITCH, LS = LIMIT SWITCH	18. PROVIDE UL APPROVED EXPANSION FITTINGS WHERE RACEWAYS CROSS BUILDING EXPANSION JOINTS. PROVIDE BONDING JUMPER(S) SIZED PER CODE WHERE REQUIRED. PROVIDE ALL FITTINGS REQUIRED FOR A
C	O	•	SWITCHED DUPLEX RECEPTACLE 18" AFF UNLESS NOTED OTHERWISE				PE = PNEUMATIC SWITCH, PS = PRESSURE SWITCH TS = TEMPERATURE SWITCH	COMPLETE INSTALLATION. REFER TO ARCHITECTURAL DRAWINGS FOR EXPANSION JOINT LOCATION(S).
			ELECTRIC SHEET NOTE DESIGNATION	(\underline{T})	(\widehat{I})	\bigcirc	THERMOSTAT	19. CONTRACTOR SHALL PROVIDE ALL RACEWAY SYSTEMS INDICATED ON THE DRAWING PER NEC REQUIREMENTS AND GENERAL NOTES. ANY DEVIATION FROM THE WIRING METHODS INDICATED SHALL BE
				Ĵ	(\mathbf{j})	\bigcirc	JUNCTION BOX (USED FOR CLARITY ONLY)	ALLOWED ONLY BY SPECIFIC WRITTEN APPROVAL FROM EITHER THE ARCHITECT, ENGINEER OR OWNER. CONTRACTOR'S BID SHALL INCLUDE ALL COSTS FOR RACEWAY SYSTEMS AS SPECIFIED UNLESS SPECIFIC
$\langle \underline{AHO} \rangle$		2 2	MECHANICAL EQUIPMENT CROSS REFERENCE	(\underline{A})	(Â)	$\textcircled{\begin{tabular}{c} \hline \\ \hline $	AMMETER	WRITTEN APPROVAL FOR AN ALTERNATIVE WIRING METHOD IS OBTAINED FROM EITHER THE ARCHITECT, ENGINEER OR OWNER AND IS SUBMITTED AS PART OF CONTRACTOR'S FORMAL BID PROPOSAL.
A 2	⊗ 2	● ₂	SPECIAL PURPOSE RECEPTACLE - NUMBER REFERS TO	AS		AS	AMMETER SWITCH	20. PRIOR TO INSTALLATION, CONTRACTOR SHALL REVIEW THE COMPLETE SET OF CONSTRUCTION DOCUMENTS
-(C)	(C)	-(C)	CLOCK OUTLET		(V) r=n	\bigotimes	VOLTMETER	WITH OTHER TRADES. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL WORK WITH OTHER TRADES TO AVOID CONFLICT DURING INSTALLATION. CONTRACTOR SHALL MAKE MINOR AD JUSTMENTS IN FOLUMENT LOCATION AND POLITING AS NECESSARY AT NO ADDITIONAL COST TO THE
24	24		MULTIOUTLET ASSEMBLY - ARROW HEADS INDICATE EXTENT,			VS ◯		OWNER.
		Ι-Ψ-Ι	NUMBERS INDICATE SPACING IN INCHES	(#)	(#)	(#)	DEVICE FUNCTION	21. CONTRACTOR SHALL BE RESPONSIBLE TO PROPERLY CUT AND PATCH EXISTING CONSTRUCTION AS REQUIRED TO INSTALL NEW ELECTRICAL WORK, ALL PATCHING SHALL BE OF THE SAME MATERIALS
S	S		SINGLE POLE SWITCH 48" AFF UNO	(ST)	(ST)	ST	SHUNT TRIP	WORKMANSHIP AND FINISH AS THE EXISTING WORK AND SHALL ACCURATELY MATCH ALL SURROUNDING WORK TO THE SATISFACTION OF THE ARCHITECT.
53	53 5				(GFI)	(GFI)	GROUND FAULT INTERRUPTER	22. ALL ELECTRICAL EQUIPMENT SHALL HAVE SUFFICIENT GUTTER SPACE AND LUGS TO ACCOMMODATE
°4	°4		KEY OPERATED SWITCH			\smile		QUANTITY AND SIZE OF CONDUCTORS REQUIRED. CONTRACTORS SHALL PROVIDE EQUIPMENT WITH OVERSIZED ENCLOSURES WHERE REQUIRED.
S R	с К С С К	S ^K	DIMMER OPERATED SWITCH					
S D	S n	S-0	SWITCH WITH PILOT LIGHT					
S M	S _M	S _M	MOTION SENSING SWITCH					
۱۷۱ ۲			CONTROL STATION				1	
¥	Ŧ	Ŧ	TELEPHONE OUTLET 18" AFF UNO	ADI				
Ŧ	Ŧ		PAY TELEPHONE OUTLET 48" AFF UNO	AFF	ABOVE FI	NISHED FLOOR	J-BOX JUNCTION BOX	
	[王]		FLOOR MOUNTED TELEPHONE OUTLET	AFG	B ABOVE FI	NISHED GRADE	KVA KILOVOLT AMPS	
	\odot		COMPUTER OUTLET OR SPECIAL PURPOSE COMMUNICATIONS	AL		И	KW KILOWATT	
R		R	RADIO OUTLET	BKR	BREAKER			
(PC)		(PC)	PHOTOELECTRIC CELL	C				
TC	(TC)	ТС	TIME CLOCK	CKI				
			BRANCH CIRCUIT CONSISTING OF 2#12 IN MINIMUM SIZE CONDUIT					
	× ``	 ▲ ``	HOME KUN TO PANELBOARD OR DEVICE - NUMBER OF ARROW HEADS INDICATES NUMBER OF CIRCUITS	ELF	C ELECTRIC	AL	V VOLTS	
~! <u>!!</u>	,-+++++		BRANCH CIRCUIT - SHORT SLASHES INDICATE NUMBER OF PHASE OR SWITCH LEGS. LONG SLASHES INDICATE NUMBER OF	EXT	EXISTING		VA VOLT AMPS	
			NEUTRALS, LONG SLASH W/ A DOT INDICATES A SEPARATE ISOLATED GROUND WIRE.	GFI	GROUND	FAULT INTERRU	JPT WP WEATHER PROOF	
			CONDUIT IN SLAB OR UNDERGROUND	GNE	D GROUND		XFMR TRANSFORMER	

SF

GENERAL INFORMATION

- 23. COORDINATE ELECTRICAL REQUIREMENTS FOR ALL PLUMBING AND MECHANICAL EQUIPMENT WITH FINAL CONTRACTOR SELECTION. THE CONTRACTOR SHALL SIZE DISCONNECTS BASED UPON CIRCUIT BREAKER RATINGS AND PROVIDE FUSING AS REQUIRED PER EQUIPMENT MANUFACTURER RECOMMENDATIONS AND U.L. LISTING REQUIREMENT
- 24. SIZING OF MOTOR-RELATED ELECTRICAL COMPONENTS, INCLUDING FEEDER AND/ OR BRANCH CIRCUITS (WIRE AND CONDUIT) AND OVERCURRENT PROTECTION (BREAKER AND/ OR FUSES) IS BASED ON RATINGS INDICATED IN THE CONTRACT DOCUMENTS AS WELL AS NEC APPROXIMATED LOADS FOR A GIVEN MOTOR HORSEPOWER, VOLTAGE AND PHASE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ACTUAL MOTOR AND APPLIANCE RATING AND LOADS. CONTRACTOR TO PROVIDE CORRECTLY SIZED MOTOR OVERLOAD ELECTRICAL COMPONENTS BASED ON NAMEPLATE RATING. REFLECT ALL CHANGES IN THE AS-BUILT DRAWINGS.
- 25. THE ELECTRICAL CONTRACTOR PRIOR TO ROUGH-IN, SHALL VERIFY ALL HVAC AMPERAGES, PHASES AND VOLTAGES AGAINST PLAN REQUIREMENTS AND NOTIFY ENGINEER/ARCHITECT OF ANY DISCREPANCIES. FAILURE TO VERIFY AND NOTIFY ENGINNER/ARCHITECT PRIOR TO ROUGH-IN SHALL RESULT IN THE ELECTRICAL CONTRACTOR ASSUMING RESPONSIBILITY FOR DESIGN AND INSTALLATION REQUIREMENTS.
- 26. THE ELECTRICAL CONTRACTOR SHALL INSURE FINAL COORDINATION OF THE MANUFACTURERS RECOMMENDED FUSE SIZES FOR THE INSTALLED MECHANICAL EQUIPMENT WITH THE SIZE DISCONNECT PRIOR TO OR DURING ROUGH-IN. ADVISE ENGINEER IF CHANGES IN THE FINAL SELECTION OF MECHANICAL EQUIPMENT HAVE IMPACTED DISCONNECT SWITCH, BREAKER, OR CONDUCTOR SIZES.
- 27. CONTRACTOR SHALL ENGAGE THE SERVICES FOR A STATE LICENSED FIRE ALARM MANUFACTURER/INSTALLER TO PREPARE ALL DESIGN DRAWINGS AND CALCULATIONS REQUIRED FOR SYSTEM APPROVAL BY THE AUTHORITY HAVING JURISDICTION. SUBMIT ALL PLANS AND PROVIDE ALL PERMITS REQUIRED FOR A COMPLETE AND OPERABLE APPROVED LIFE SAFETY SYSTEM.
- 28. ALL PENETRATIONS OF FIRE RESISTIVE FLOORS OR WALLS SHALL BE PROTECTED BY MATERIALS AND INSTALLATION DIAGRAMS THAT CONFORM TO UL LISTING FOR "THROUGH-PENETRATION FIRE STOP SYSTEMS".
- 29. WHERE MOTORS ARE INSTALLED IN SUSPENDED CEILINGS, CONTRACTOR SHALL PROVIDE DISCONNECT SWITCH IN SUSPENDED CEILING WITHIN REACH FROM ACCESS POINT.
- 30. VERIFY DEVICE COLOR AND MOUNTING ORIENTATION (VERTICAL OR HORIZONTAL) WITH ARCHITECTURAL AND INTERIOR DESIGN DRAWINGS PRIOR TO ORDERING ANY EQUIPMENT AND PROVIDE DEVICES AS REQUIRED. UNLESS NOTED OTHERWISE, DEVICES AND DEVICE PLATES SHALL BE WHITE IN COLOR.
- 31. PROVIDE TYPED UPDATED PANEL DIRECTORY TO BE MOUNTED ON INSIDE OF ALL PANEL DOOR COVERS. DIRECTORY SHALL REFLECT ALL ADDITIONS OR MODIFICATIONS TO EXISTING PANELS AND SHALL REFLECT ACTUAL "AS-BUILT" CONDITIONS.
- 32. ALL NEW PANELBOARDS AND SWITCHBOARDS SHALL BE OF THE SAME MANUFACTURER AND HAVE LOCKING DOORS AND BE KEYED THE SAME U.N.O.
- 33. UPON COMPLETION OF THE INSTALLATION OF LIFE SAFETY SYSTEM WIRING AND DEVICES, A PERFORMANCE TEST OF THE ENTIRE LIFE SAFETY SHALL BE PERFORMED TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION.
- 34. ALL EQUIPMENT ELECTRICAL TERMINATIONS TO UNDERGO A TORQUE TEST. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR MANUFACTURER'S RECOMMENDED TORQUE DOCUMENTATION AND TOOLS TO PERFORM TORQUE TEST.
- 35. FLOOR MOUNTED ELECTRICAL EQUIPMENT SHALL BE MOUNTED ON A 4" HIGH CONCRETE PAD.
- 36. INSTALL TRANSFORMER FOLLOWING MANUFACTURER'S RECOMMENDATIONS FOR VENTILATION CLEARANCES.
 37. FURNISH AND INSTALL A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM IN ACCORDANCE WITH PLANS AND SPECIFICATIONS.
- 38. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER, ARCHITECT AND ENGINEER AS REQUIRED SHUT-DOWNS OR TIE-INS RELATING TO THESE SYSTEMS. REQUESTS FOR SHUTDOWNS SHALL BE SUBMITTED IN WRITING AT LEAST ONE WEEK IN ADVANCE FOR APPROVAL BY THE OWNER.
- 39. ALL EXPOSED RACEWAYS SHALL BE PAINTED TO MATCH ADJACENT SURFACES.
- 40. THE ELECTRICAL CONTRACTOR ASSUMES ALL RESPONSIBILITY AND LIABILITY FOR ANY "VALUE ENGINEERING" OF THE MATERIALS, SPECIFICATIONS AND DESIGN OF THIS PROJECT, INCLUDING ANY AND ALL COST FOR ANY REVISIONS TO THE CONTRACT DOCUMENTS REQUIRED AS A RESULT IF THE "VALUE ENGINEERING".
- 41. PROPOSED ALTERNATE LIGHT FIXTURES SHALL BE SUBMITTED WITH A PHOTOMETRIC STUDY SHOWING COMPLIANCE WITH ALL APPLICABLE LIGHTING CODES AND ORDINANCES.
- 42. AFTER COMPLETION OF THE INSTALLATION, THE ENTIRE ELECTRICAL SYSTEM SHALL BE THOROUGHLY CLEANED. REMOVE ALL FOREIGN MATERIAL, DUST, PAINT, OIL GREASE, UNNEEDED LABELS AND STICKERS FROM EQUIPMENTS. REMOVE ALL DEBRIS ACCUMULATED DURING CONSTRUCTION.
- 43. ALL 120V AND 277V DEVICES SHALL HAVE A DEDICATED NEUTRAL.

SHEET	/2016	sPWD CHECK" 16	
HEET NUMBERS	SHEET TITLE	90% 09/12	"SFM / S PLANS (11/18/20
E0.01	GENERAL INFORMATION	•	•
E0.02	ELECTRICAL SPECIFICATIONS		
E0.21	DEMOLITION PLAN		
E1.01	LIGHTING PLAN		
E5.01	ONE LINE DIAGRAM	•	



8728 Spanish Ridge Avenue Suite 100 Las Vegas, NV 89148 P: 702.871.3621 F: 702.871.8353 www.tjkengineers.com TJK # 16103



 \mathbb{O}

 \mathbf{O}

Ο

 \bigcirc

O

 \square

S

Φ

Е





November 17, 2016



TITLE





ELECTRICAL SPECIFICATIONS SECTION 16000

PROJECT NUMBER 15080

PART 1 - GENERAL REQUIREMENTS:

- 1.1 Description
- A Scope: The electrical work consists of furnishing everything 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.
 - Electrical panels, controls service, disconnects, conduits, wiring, etc. for all outlets and equipment.
- B The drawings are diagrammatic unless indicated otherwise. The drawings reflect circuiting only and are not depicting exact conduit routing unless specifically noted other wise.
 - Data presented on these drawings are as accurate as planning can determine, but field verification of all dimensions, locations, levels, etc., to suit field conditions is required. 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. Do not scale distances off the electrical drawings. Use actual building dimensions.
 - In all cases switches controlling lighting are to be located on the strike side of doors. Location indicated for switches and outlets are approximate. Owner may make minor relocations at no additional charge
- C Examine all drawings for work required by this subcontractor.
- 1.2 Codes
- A All work shall be in accordance with the NEC and local governing codes.
 - All utility work shall be in accordance with requirements of the serving Power and Telephone companies.
 All off site work shall be in accordance with the Uniform Standard Drawings for Clark County Area.
 - 3. 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 of 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. All switchgear and panelboards shall be furnished by a single manufacturer.
- B Substitutions of equal quality and of benefit to the Owner will be evaluated at the Contractor's request. Any additional cost to the owner for review of substitutions will be at the Contractor's expense.
- C After review of substitutes, 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. Lighting Fixtures
- 3. WireB Shop Drawings and Approvals
 - 1. The Contractor shall submit six (6) identically bound sets of shop drawings on the following items:
 - a. Outline drawings and data sheets of each circuit breaker, disconnect, transfer switch, generator, transformer, panel board, and switchboard.
 - 1) Highlight service conditions of equipment and the appropriate derating to meet 2.1.B.
- b. 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 at no additional cost to the Owner.
- 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 manufacture of such items. Electrical switchgear and components shall be the product of a single manufacturer. All material shall be UL listed.
- B Service Conditions
 - 2. Altitude- 2100 feet
 - 2. Alliude- 2100 leel
 - 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 conduit exposed to damage shall be type RGS.
 - 3. Exterior buried conduit shall be schedule 40 PVC with PVC coated RGS bends when penetrating through floor slabs.
 - 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 shall not be used except as noted above 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 home runs.
 - 7. Conduit fittings shall be steel or malleable iron type.
- 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.
 - a. Equivalent Aluminum wire (8000 Alloy) may be used in lieu of copper for sizes #1/0 and larger. Use compression fittings on all connections and resize conduit as required. Submit sizing 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 owner.
 - 4. Unless otherwise required by local ordinances ground wires shall be green, neutral wires shall be white (120V) or gray (277V) and phase wires shall be black (Phase A), red (Phase B), and blue (Phase C) for a 120/208 volt system and brown (Phase A), orange (Phase B), and yellow (Phase C) for a 277/480 volt system. (If system is 240v with High Leg, coordinate orange marking with 277/480 volt system.)
- 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, ivory, 2 pole, 3 wire grounding.
 - 1) Provide red color for emergency circuits.
 - 2) Provide gray color for computer outlets.
 - b. Switches 120V/277V, 20A, ivory, heavy duty, silent type specifications grade.
 - c. Dimmers Lutron Nova T 2000W.
 - d. Isolated ground receptacles shall be equal to Pass & Seymour, cat. # IG9300-HG, color orange.
 - 2. Device plates shall be nylon, color shall match device with matching screws.
 - a. Receptacles in wet locations shall be installed with a hinged outlet cover/enclosure clearly marked suitable for wet locations while in use and UL Listed equal to:
 - 1) Tay Mac ML400G.
 - 2) Intermatic WP1000RC.
 - 3) Pass & Seymour WIUFC10S.
- F Safety switches shall be General Duty type, NEMA 1 indoor and NEMA 3R outdoor.
- G Overcurrent Protection Devices:
 - 1. Circuit breakers shall be of the same manufactures as panelboards and switchboards. Provide breakers as

PAF	RT 3 -	- E)
3.1	Insta	allatior
	A	Equip revisi
	В	Close
	С	Paint and p
	D	Provi with s
	Е	Coor
	F	Megg
	G	Instal
	Н	Instal
	I	Pane
	J	Lighti
	K	Cond may I count
	L	Floor
	Μ	Patch Owne
	Ν	Instal
	0	Cond
	Р	Labe
	Q	A cor
	R	Requ
3.2	Proj	ect Co
	А	Remo
	В	Provi

ELECTRICAL SPECIFICATIONS

noted on the schedule.

 Fuses used to protect motors shall be Bussman type FRN-R. All fuses installed in fused disconnects shall be Class R unless noted otherwise.

3. Provide HACR rated breakers for mechanical equipment.

H Provide grounding for all branch circuits. Conduit, listed for use, may be used for grounding for 20A branch circuits only when approved for such use. All FMC and non-metallic conduit shall have a separate ground wire.

I Outlet, Pull and Junction Boxes

 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 of 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 course and provide a smooth finish block at outlet locations.

2. Boxes installed for telephone, alarm, computer and security systems shall be provided with appropriate

coverplates.

EXECUTION

ipment locations shall be as close as practical to locations shown on the plan drawings and subject to such approved sions at no cost to the owner as may be found necessary or desirable at the time work is installed.

se all openings in walls, floors, and roofs to the approval of the Architect.

at all conduits and boxes that are required to be exposed to match building surfaces. Run all exposed conduit parallel perpendicular to building lines.

vide engraved phenolic nameplates on all equipment and install typed directory in panelboards. Fasten nameplates screws or rivets, do not use adhesive. rdinate the work with other trades.

ger test all feeder circuits after installation.

all 200 pound test pull nylon pull cord in all signal and communication conduits.

all switches at 48" AFF and receptacles at 18" AFF unless noted otherwise.

elboards shall be installed with the top of the cabinet 6'-0" AFF.

ting fixtures shall be fastened to the structure independent of the ceiling system. duits and outlets shall be concealed within the building structure; except that certain motor and lighting feeder conduits be run exposed in certain areas as indicated on the drawings. Conduit and outlets shown to be installed in cabinets, inters, and casework shall be run or installed as directed by the Architect.

or mounted electrical equipment shall be mounted on a 4" high housekeeping pad extending 6" beyond equipment. The and repair area where items have been demolished or damaged during construction to match adjacent surfaces to

ner's approval.

all pullboxes such that they are located at the high point of the conduits with 24" of pea gravel installed below.

duits penetrating floor slabs shall be installed a minimum of 2" AFF.

I all spare conduits/pullstrings at both ends with identification of location at the opposite end.

ompletely and thoroughly swab raceway before installing wire. uest inspections from Local Governing Authorities.

completion

nove all discarded materials from demolition and installation from the job site.

vide 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 Owner.

"END OF SECTION"



"SFM / SPWD PLANS CHECK"



November 17, 2016



TITLE



DRAWING NO.





8728 Spanish Ridge Avenue Suite 100 Las Vegas, NV 89148 P: 702.871.3621 F: 702.871.8353 www.tjkengineers.com TJK # 16103





DEMOLITION GENERAL NOTES:

- 1. ALL WIRING FROM DEVICES SHALL BE REMOVED BACK TO SOURCE.
- 2. PROVIDE POWER CONTINUATION TO DOWN STREAM DEVICES.
- 3. CONDUIT IN INACCESSIBLE LOCATIONS SHALL BE CAPPED OFF AND TO REMAIN IN PLACE.
- 4. WIRING SHALL NOT BE ABANDONED IN INACCESSIBLE CONDUITS.
- 5. PROVIDE UPDATED, TYPED PANEL DIRECTORIES FOR ALL PANEL BOARDS WITH CIRCUITS MODIFIED, ADDED OR REMOVED.

DEMOLITION KEY NOTES: (#)

- 1. EXISTING LIGHT FIXTURE TO BE RELOCATED FOR USE AT DIFFERENT LOCATION WITHIN PROJECT.
- 2. EXISTING LIGHT FIXTURE AND SWITCH TO BE DEMOLISHED.

 \mathbb{O} \mathbf{O} Upgra(Jments \supset Shell \bigcirc O 1325 East Flamingo Road Las Vegas, Nevada, 89119 \frown tion Δ 4 onstru U, 702 **dD** Δц 0







TITLE









8728 Spanish Ridge Avenue Suite 100 Las Vegas, NV 89148 P: 702.871.3621 F: 702.871.8353 www.tjkengineers.com TJK # 16103











LIGHTING GENERAL NOTES:

- 1. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL LIGHTING FIXTURES.
- 2. VERIFY EXACT CEILING CONSTRUCTION WITH ARCHITECTURAL REFLECTED CEILING PLAN AND PROVIDE LIGHTING FIXTURES WITH ALL NECESSARY MOUNTING HARDWARE.
- 3. COORDINATE EXACT LIGHTING FIXTURE LOCATIONS WITH MECHANICAL EQUIPMENT AND DUCT WORK PRIOR TO ROUGH-IN.
- 4. ALL PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE PROTECTED FROM THE SPREAD OF FIRE WITH AN APPROVED FIRESTOP SYSTEM EQUAL OR GREATER THAN THE FIRE RATING OF THE WALL.
- 5. ALL ELECTRICAL EQUIPMENT LOCATED OUTDOORS SHALL BE WEATHERPROOF.
- 6. ALL WALL SWITCHES SHALL BE RECESSED IN WALLS.
- 7. ALL CONDUIT/CABLE INSTALLATION SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER.
- 8. PROVIDE UNSWITCHED CONDUCTOR FOR ALL EMERGENCY BALLAST TO MAINTAIN CHARGING CIRCUIT REGARDLESS OF ON/OFF OF RELAY.

LIGHTING KEY NOTES: (#)

2. RELOCATED LIGHT FIXTURE.

- 1. EXISTING LIGHT FIXTURE TO REMAIN. THOROUGHLY CLEAN LIGHT FIXTURE AND PROVIDE NEW LAMPS.
- 3. CONTRACTOR TO REMOVE EXISTING BALLAST FROM EXISTING FIXTURE AND PROVIDE NEW EMERGENCY BALLAST, CAPABLE OF 1400 LUMENS FOR 90 MINUTES.
- 4. REMOVE EXISTING CONDUCTORS BACK TO SOURCE. EXISTING FIXTURE TO REMAIN IN PLACE.
- 5. EXISTING ROOM CIRCUITING TO REMAIN. MAINTAIN EXISTING CIRCUITS.
- 6. CONTRACTOR TO RELOCATE EXISTING RECEPTACLES AND DATA TO NEW WALL FACE. EXTEND CONDUIT AND CONDUCTORS AS NEEDED.
- 7. CONTRACTOR TO PROVIDE EXIT SIGNS MODEL LQM S W 3 R 120/277 EL N OR EQUAL.

NOTE TO PLANS EXAMINER:

PER THE 2012 IECC SECTION 101, ARTICLE 101.4.3, EXEMPTION NUMBER 7, A COMPLIANCE CERTIFICATE SHALL NOT BE PROVIDED FOR THIS PROJECT. THE REQUIREMENTS OF ARTICLE 505.2 AND RELATED SUB-SECTIONS SHALL BE IMPLEMENTED. THE TOTAL WATTAGE FOR THE SPACE HAS BEEN REDUCED AS A RESULT OF THIS PROJECT.





8728 Spanish Ridge Avenue Suite 100 Las Vegas, NV 89148 P: 702.871.3621 F: 702.871.8353 www.tjkengineers.com TJK # 16103

O S \bigcirc +---- \mathbb{O} \bigcirc () \mathbf{O} Ο 6 5 East Flamingo Road Vegas, Nevada, 8911 $\overline{}$ \mathcal{O} $\mathbf{\Omega}$ Ο -_ **---**S Ο 32! as

 \mathbb{O}

 \mathcal{O}





TITLE



DRAWING NO.



PAINTBALL

EXISTING SWITCHGEAR

'MSA'

PANEL 'H1'



NOT TO SCALE

EXISTING H1 LOCATION: ELECTRICAL ROO SUPPLY FROM: MSA	VOLTA M PHASE WIRES	GE 480Y S: THRE FOUL	//277V EE R		ENCLOS MOUNTI AIC RAT	SURE TY PE: NG: 1NG (A):	NEMA 1 EXISTING 25	000.00	19-		
MIN BUS CAPACITY (A): 225	NOTES	NOTES:									
	CKT BRK TRIP	CONNEC	CTED LO	AD (VA)	CKT BRK TRIP	LOA	D DESCRIPTION		LOAD	CKTS	NOTES
9 1 M 9 3 M AC#14	35/3	4400 4400	A B	1500 3072 3000	20 20 20		EXISTING OF	LIGHTS LIGHTS	L	2	9
9 7 M 9 9 M AC#15 9 11 M	35/3	4400 4400 4400	A B	1000 1200 3400	20 20 20	ELE	ECTRICAL ROOM I	LIGHTS	L	8 10	999
9 13 M 9 15 M AC#16 9 17 M	35/3	4400 4400 4400	A B C	1876 3000 3000	20 20 20 20		EXISTING CH EXISTING CH	LIGHTS RCUITS RCUITS	L	14 16 18	999
9 19 M 9 21 M EXISTING CIRCUIT 9 23 M	20/3	2500 2500 2500	A B C	3000 3000 3000	20 20 20		EXISTING CH EXISTING CH EXISTING CH	RCUITS RCUITS RCUITS		20 22 24	9 9 9
9 25 M 9 27 M EXISTING CIRCUIT 9 29 M	20/3	2500 2500 2500	A B C				SPACE SPACE SPACE	ONLY ONLY ONLY		26 28 30	
9 31 M 9 33 M EXISTING ORCUIT 9 35 M	20/3	2500 2500 2500	A B C				SPACE SPACE SPACE	ONLY ONLY ONLY		32 34 36	
9 37 M 9 39 M EXISTING CIRCUIT 9 41 M	30/3	3800 3800 3800	A B C				SPACE SPACE SPACE	ONLY ONLY ONLY		38 40 42	
	CONNE	CTED VA		DEMAN	DVA	-				-	
TOTAL RECEPTACLE (R) TOTAL MOTOR (M) LOAD	73	0 3,500	0%		00	CONNECT	AMP/F A 115 B 12	PHASE 25.5 C	1:	33.1	
TOTAL LIGHTING (L) LOAD @ 125% TOTAL KITCHEN (K) LOAD @100%	12	2,048 0	125% 0%	15,0 0	60	DEMAND	A 112.2 B 1 TOTAL CONNECT	12.2 (ED AMF		12.1 10	2
TOTAL FIXED (F) LOAD TOTAL OTHER (O) LOAD		0	0%	0	TOTAL DEMAND PERCENT LOADE		TOTAL DEMAND PERCENT LOADE	AMP D		11 49	0 %
NOTES: T 1. EXISTING BREAKER 2. PROVIDE SHUNT TRIP DEVICE. 3. PROVIDE GFCI DEVICE. 4. PROVIDE RED CIRCUIT BREAKER	7. EXISTING 8. CIRCUIT	5,548 B LOAD I BREAKE		91,8 D. REUS ROLLED	60 E EXIST BY OTH	ING BREAKI ER EQUIPME	ER. INT.				
5. PROVIDE SUB-FEED BREAKER. 6. CONTROLLED VIA RELAY. *CONNECTED PANEL (S) LOA DS INCLUD	9. PROVIDE TYPE A1 DED ABOVE	E NEW B ND AIC RA	REAKER ATING.	, MOUNT	ING HAF	©2016 TJH	ATCH (CONSULTING EN	IGINEEF	RS, I	NC.	

ELECTRICAL LOAD CALC	ί
UNLV FAB UPGRADE TJK#16103 480/277	

LOAD TO TO BE REMOVED F 96^{°°} 1X4 2 L 16 1X8 2

EXISTING 225A PANEL H1 TC

ONE LINE DIAGRAM

GENERAL NOTES:

1. THE DESIGN PROFESSIONAL HAS PERFORMED ALL REQUIRED VOLTAGE DROP CALCUATIONS AND ALL BRANCH CIRCUITS AND FEEDER COMPLY WITH NEC 210.19(A)(1).

EXISTING ELECTRICAL ONELINE DIAGRAM

CULATION

FROM PANEL H1 LAMP FIXTURES LAMP FIXTURES	٦	96 VA 192 VA	1.00 1.00	-9220 -3070
			TOTAL	-12290
O REMAIN				



8728 Spanish Ridge Avenue Suite 100 Las Vegas, NV 89148 P: 702.871.3621 F: 702.871.8353 www.tjkengineers.com TJK # 16103



TITLE



