# **BUILDING CODE REVIEW**

- CITY OF AUSTIN, TEXAS
- **INTERNATIONAL BUILDING CODE, 2021** INTERNATIONAL FIRE CODE, 2021,
- **INTERNATIONAL PLUMBING CODE, 2021**
- **INTERNATIONAL FUEL GAS CODE, 2021 INTERNATIONAL MECHANICAL CODE, 2021**
- INTERNATIONAL ENERGY CONSERVATION CODE, 2021
- INTERNATIONAL ELECTRICAL CODE, 2021 NATIONAL ELECTRICAL CODE, 2020

**CHAPTER 3 - USE AND OCCUPANCY CLASSIFICATION** 

GROUP S-2 - LOW HAZARD STORAGE (SECTION 311.3

CHAPTER 4 - SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCYS-2 OCCUPANCY -NOT APPLICABLE

**CHAPTER 5 - GENERAL BUILDING HEIGHTS AND AREAS** TYPE II-B (NON-SPRINKLERED) CONSTRUCTION

-TABLE 504.3 ALLOWABLE BUILDING HEIGHT ABOVE GRADE PLANE GROUP S-2 ALLOWABLE HEIGHT = 55'-0"

PROPOSED HEIGHT = 18'-10"

-TABLE 504.4 ALLOWABLE BUILDING HEIGHT ABOVE GRADE PLANE <u>GROUP S-2</u> STORIES ALLOWED = 3

STORIES PROPOSED = 1

-TABLE 506.2 ALLOWABLE AREA FACTOR ALLOWABLE AREA (S-2 1 STORY NON-SPRINKLERED) = 26,000 S.F. PROPOSED AREA = <u>8,330 S.F.</u>

TABLE 508.4 REQUIRED SEPARATION OF OCCUPANCIES (HOURS) GROUP S-2 - BUSINESS OCCUPANCIES = NO SEPERATION REQUIRED <u>PROVIDED</u> = NO SEPERATION PROVIDED

**CHAPTER 6 - TYPES OF CONSTRUCTION** 

(SECTION 602.2) TYPE II-B (UNSPRINKLERED) TYPE I & II CONSTRUCTION ARE THOSE TYPES OF CONSTRUCTION IN WHICH THE BUILDING ELEMENTS SPECIFIED IN TABLE 601 ARE OF NONCOMBUSTABLE MATERIALS, EXCEPT AS PERMITTED IN SECTION 603 AND ELSEWHERE IN THIS CODE.

(TABLE 601) FIRE-RESISTANT RATING REQUIRED FOR BUILDING ELEMENTS BEARING WALLS (EXTERIOR - TYPE II-B) = 0HR RATING

(INTERIOR - TYPE II-B) = 0HR RATING NON-LOAD BEARING WALLS AND PARTITIONS-EXTERIOR (SEE TABLE 705.5)

NON-LOAD BEARING WALLS AND PARTITIONS-INTERIOR (0 HR RATING)

CHAPTER 7 - FIRE AND SMOKE PROTECTION FEATURES OPEN BUSINESS SPACE - NONE REQUIRED 

TABLE 705.5 FIRE RESISTANCE RATING REQUIRMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPERATION DISTANCE  $5 \le X < 10$  (IIB) = 1 HR RATED (EAST WALL = 4'-11" FROM PROPERTY LINE)  $10 \le X < 30$  (IIB) = 0 HR RATED (WEST WALL = 10'-1" FROM PROPERTY LINE)

SECTION 718.4 DRAFTSTOPING: -718.4 OTHER GROUPS. DRAFTSTORING SHALL BE INSTALLED IN ATTICS AND CONCEALED ROOF SPACES, SUCH THAT ANY HORIZONTAL AREA DOES NOT EXCEED 3,000 SQUARE FEET. (NO CONCEALED ROOF SPACES TO BE >3,000 S.F.)

**CHAPTER 8 - INTERIOR FINISHES** 

TABLE 803.13 INTERIOR WALL AND CEILING FINISH REQUIREMENTS (NON-SPRINKLERED) GROUP S-2 - LOW-HAZARD STORAGE OCCUPANCY -EXIT ENCLOSURES AND EXIT PASSAGEWAYS = CORRIDORS =

**SECTION 804 - INTERIOR FLOOR FINISH** 

ROOMS AND ENCLOSED SPACES =

804.4 INTERIOR FLOOR FINISH REQUIREMENTS -MATERIALS IN EXIT ENCLOSURES, EXIT PASSAGEWAYS, CORRIDORS AND ROOMS OR SPACES NOT SEPARATED FROM CORRIDORS BY FULL HEIGHT PARTITIONS -MINIMUM CRITICAL RADIANT FLUX = NOT LESS THAN CLASS II

MATERIALS IN ALL AREAS SHALL COMPLY WITH THE DOCFF-1 "PILL TEST" (CPSC 16 CFR, PART 1630)

**CHAPTER 9 - FIRE PROTECTION SYSTEMS** 

AUTOMATIC SPRINKLER SYSTEMS REQUIRED = NO

PROVIDED = NO

PORTABLE FIRE EXTINGUISHERS

REQUIRED = YES PROVIDED = YES

SEE EGRESS / ACCESSIBILITY PLAN FOR LOCATIONS

FIRE ALARM AND DETECTION SYSTEMS REQUIRED = YES (BETWEEN 501-2500 S.F. OF HIGH PILE STORAGE AREA) PROVIDED = YES

CHAPTER 10 - MEANS OF EGRESS SECTION 1004 OCCUPANT LOAD

GROUP S-2 - LOW-HAZARD STORAGE OCCUPANCY (WAREHOUSE) (8,330 S.F.) 1 PER 500 GROSS = 17 OCCUPANTS

SECTION 1005 MEANS OF EGRESS SIZING GROUP S-2 - LOW-HAZARD STORAGE OCCUPANCY (WAREHOUSE)

17 (.2) =3.4" (REQUIRED) >3.4" (PROVIDED)

SECTION 1006 MEANS OF EGRESS ILLUMINATION 1006.1 ILLUMINATION REQUIRED - THE MEANS OF EGRESS, INCLUDING THE EXIT DISCHARGE, SHALL BE ILLUMINATED AT ALL TIMES THE BUILDING SPACE SERVED BY THE MEANS OF EGRESS IS OCCUPIED.

SECTION 1011 EXIT SIGNS 1011.1 WHERE REQUIRED - EXITS AND EXIT ACCESS DOORS SHALL

BE MARKED BY AN APPROVED EXIT SIGN READILY VISIBLE FROM ANY DIRECTION OF EGRESS TRAVEL. ACCESS TO EXITS SHALL BE MARKED BY READILY VISIBLE EXIT SIGNS IN CASES WHERE THE EXIT OR THE PATH OF EGRESS TRAVEL IS NOT IMMEDIATELY VISIBLE TO THE OCCUPANTS. EXIT SIGN PLACEMENT SHALL BE SUCH THAT NO POINT IN AN EXIT ACCESS CORRIDOR IS MORE THAN 100 FT OR THE LISTED VIEWING DISTANCE FOR THE SIGN, WHICHEVER IS LESS, FROM THE NEAREST VISIBLE EXIT SIGN. (SEE PLAN FOR LOCATIONS)

**CHAPTER 29 - PLUMBING SYSTEMS** 

SECTION 2902.2 SEPERATE FACILITIES EXCEPTION 2: SEPERATE FACILITIES SHALL NOT BE REQUIRED IN STRUCTURES OR TENANT SPACES WITH A TOTAL OCCUPANT LOAD, INCLUDING BOTH EMPLOYEES AND CUSTOMERS, OF 15 OR FEWER <u>1 PER 100</u> = 17 OCCUPANTS 1 RESTROOM REQUIRED, 1 SINGLE USE RESTROOM PROVIDED

DRINKING FOUNTAINS: 1 PER 100

REQUIRED =1

PROVIDED = TENANT TO PROVIDE WATER BOTTLE

SERVICE SINK REQUIRED = 1

PROVIDED = 1 SEE PLAN FOR LOCATION









DON ECKOLS ARCHITECT

# GENERAL ELECTRICAL NOTES

- 1. ALL ELECTRICAL WORK SHALL COMPLY WITH 2020 NATIONAL ELECTRIC CODE (NEC), 2021 ENERGY CODE IECC, AND CITY OF AUSTIN ELECTRICAL AMENDMENTS.
- 2. ALL ELECTRIC WORK SHALL BE IN STRICT ACCORDANCE WITH MUNICIPAL AND STATE CODES, LAWS AND REGULATIONS, RULES OF NEC, OSHA, AND/OR OTHER AUTHORITIES THAT MAY HAVE JURISDICTION PERTAINING TO THE WORK.
- 3. ALL NECESSARY PERMIT, LICENSES, CERTIFICATES, TESTS, ETC. SHALL BE PROCURED AND PAID FOR BY THE CONTRACTOR.
- 4. IN CASES OF A DIFFERENCE BETWEEN THE MINIMUM REQUIREMENTS OF THE VARIOUS LAWS, CODES, AUTHORITIES, AND THE DOCUMENTS; THE WORK SHALL EXCEED THE LESSER REQUIREMENTS WHILE MEETING THE GREATER OR MORE STRINGENT REQUIREMENTS.
- 5. CONTRACTOR SHALL INDICATE ALL CHANGES FROM THE ORIGINAL PLANS MADE DURING THE INSTALLATION OF HIS WORK IN RED INK ON TWO BLUELINE PRINTS.
- 6. THE CONTRACTOR SHALL PROVIDE A TYPED PANEL BOARD DIRECTORY.
- 7. UPON COMPLETION OF HIS WORK, THE ELECTRICAL CONTRACTOR SHALL CLEAN ALL ELECTRICAL EQUIPMENT.
- 8. UPON COMPLETION OF THE WORK, ALL PARTS OF THE ELECTRICAL INSTALLATION SHALL BE TESTED AND PROVED TO BE FREE OF UNWANTED GROUNDS AND OTHER DEFECTS. FINAL TESTS SHALL BE ACCOMPLISHED BY USE OF A MEGGER.
- 9. ALL WIRING SHALL BE COPPER CONDUCTOR WITH TYPE THHN INSULATION.
- 10. MAKE ALL PENETRATIONS THROUGH WALLS AT 90 DEGREE ANGLES. SEAL ALL PENETRATIONS AT FIRE AND SMOKE PARTITIONS WITH FIRE SAFING MATERIAL. SEAL ALL PENETRATIONS AT SOUND WALLS WITH SOUND-PROOFING MATERIAL.
- 11. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION OF HVAC AND PLUMBING EQUIPMENT.
- 12. COORDINATE WITH MECHANICAL AND PLUMBING DEVICES FOR CONDUIT ROUTING AND ELECTRICAL EQUIPMENT LOCATIONS.
- 13. CONTRACTOR IS RESPONSIBLE FOR CHECKING ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS FOR ACCURACY, AND CONFIRMING THAT THE WORK IS BUILDABLE AS SHOWN AND MEETS ALL APPLICABLE CODES BEFORE PROCEEDING WITH CONSTRUCTION. IF THERE ARE ANY QUESTIONS REGARDING THESE OR OTHER COORDINATION ISSUES, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ARCHITECT BEFORE PROCEEDING WITH THE WORK IN QUESTION OR RELATED WORK.
- 14. ALL MATERIALS FURNISHED UNDER THIS CONTRACT SHALL BE NEW.
- 15. ALL WORK SHALL BE GUARANTEED AGAINST DEFECTIVE MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF SUBSTANTIAL COMPLETION OR ACCEPTANCE OF THE WORK. THE CONTRACTOR SHALL REPAIR OR REPLACE, AT HIS OWN EXPENSE WHEN ORDERED TO DO SO, ALL WORK THAT MAY DEVELOP DEFECTS IN MATERIAL OR WORKMANSHIP WITHIN SAID PERIOD OF TIME. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED RECOMMENDATIONS FOR SERVICE INTENDED, AS INTERPRETED BY THE ENGINEER. THE INSTALLATION OF ALL EQUIPMENT SHALL BE MADE BY EXPERIENCED CRAFTSMAN IN A NEAT, WORKMANLIKE MANNER. ALL MATERIALS, TOOLS, COSTS, AND SERVICES NECESSARY TO COMPLETELY INSTALL ALL ELECTRICAL WORK SHALL BE PROVIDED BY THE CONTRACTOR.
- 16. LOCATION OF ALL CEILING MOUNTED ITEMS ON THE ARCHITECTURAL DRAWINGS HAVE PRECEDENCE OVER MEP DRAWINGS. ARCHITECT SHALL BE NOTIFIED OF ANY CONFLICTS PRIOR TO CONSTRUCTION.
- 17. IT IS THE INTENT AND MEANING OF THE CONTRACT DOCUMENTS THAT THE CONTRACTOR SHALL PROVIDE AN ELECTRICAL INSTALLATION THAT IS COMPLETE. ALL ITEMS AND APPURTENANCES NECESSARY, REASONABLY INCIDENTAL, OR CUSTOMARILY INCLUDED, EVEN THOUGH EACH AND EVERY ITEM IS NOT SPECIFICALLY CALLED OUT OR SHOWN ON THE CONSTRUCTION DOCUMENTS SHALL BE PROVIDED.
- 18. CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING ALL WORK DURING CONSTRUCTION AGAINST DAMAGES, BREAKAGE, COLLAPSE, AND MISALIGNMENT ACCORDING TO APPLICABLE CODES, STANDARDS, AND GOOD CONSTRUCTION PRACTICES. CONTRACTOR SHALL TAKE PROPER PRECAUTIONS TO PROTECT ALL EXISTING OPERATIONS AND PROPERTY ADJACENT WITH WHICH WORK COMES IN CONTACT, OR OVER OR UNDER WHICH HE MAY TRANSPORT, HOIST, OR MOVE MATERIALS, EQUIPMENT, DEBRIS, ETC., AND SHALL REPAIR SATISFACTORILY ALL DAMAGE CAUSED BY HIM DURING CONSTRUCTION.
- 19. COORDINATE WITH THE ARCHITECT FOR EXACT LIGHTING FIXTURE AND OUTLET LOCATIONS. WHEN INSTRUCTED BY THE ARCHITECT, THE CONTRACTOR SHALL RELOCATE OUTLETS LOCATED AT UNACCEPTABLE LOCATIONS AT NO ADDITIONAL COST IF NEW LOCATIONS ARE LESS THAN TWO-FEET.
- 20. CONTRACTOR SHALL USE MULTI-GANG BOXES IN ALL POSSIBLE LOCATIONS.
- 21. ABOVE COUNTER OUTLETS SHALL BE MOUNTED.
- 22. PROVIDE EXPANSION FITTINGS ON ALL CONDUIT CROSSING EXPANSION JOINTS.

# POWER PLAN NOTES

- A. FURNISH AND INSTALL BOXES, CONDUIT AND CONTROL CABLE FOR ALL CONTROLS AS INDICATED ON MECHANICAL DRAWINGS. VERIFY REQUIRED LOCATIONS WITH MECHANICAL CONTRACTOR.
- B. ALL DISCONNECTS AND CONTROLS FOR MECHANICAL EQUIPMENT
   WILL BE FURNISHED WITH MECHANICAL EQUIPMENT BY MECHANICAL
   CONTRACTOR UNLESS SPECIFIED OTHERWISE ON DRAWINGS.
- C. FINAL EQUIPMENT CONNECTIONS LESS THAN 110 VOLTS SHALL BE PERFORMED BY MECHANICAL CONTRACTOR. MAKE ALL OTHER REQUIRED EQUIPMENT CONNECTIONS.
- D. COORDINATE ALL EQUIPMENT LOCATIONS AND REQUIREMENTS WITH MECHANICAL CONTRACTOR.
- E. ELECTRICAL CONTRACTOR SHALL VERIFY PLACEMENT OF DATA/PHONE OUTLETS AND DUPLEX/QUADPLEX RECEPTACLES WITH OWNER PRIOR TO CONSTRUCTION.
- F. ELECTRICAL CONTRACTOR SHALL UTILIZE A SPARE CIRCUIT AS NECESSARY FOR POWER TO PHONE BOARD.
- G. ELECTRICAL CONTRACTOR SHALL VERIFY TYPE & SIZE OF SERVICE AND FEEDERS TO BUILDING & REPORT RESULTS TO ENGINEER.
- H. ELECTRICAL CONTRACTOR SHALL INTEGRATE ANY FIRE & SMOKE DETECTION EQUIPMENT INTO HARD-WIRED SECURITY SYSTEM WITH MOTION SENSOR PER OWNER.
- I. ELECTRICAL CONTRACTOR SHALL PROVIDE CIRCUIT RECEPTACLES, GFCI RECEPTACLES & WP GFCI RECEPTACLES PER PANEL SCHEDULES AS SHOWN ON E-2.
- J. DISCONNECTING MEANS MUST BE CAPABLE OF BEING LOCKED IN THE OPEN
  - POSITION. THE DEVICE MUST HAVE PROVISIONS FOR PLACEMENT OF A LOCK
    ON IT TO SECURE THE DEVICE IN THE OFF POSITION. THE LOCK-OUT DEVICE
    MUST BE PART OF OF THE DISCONNECT ASSEMBLY AND MUST REMAIN IN
    PLACE AFTER THE PADLOCK IS REMOVED, WHETHER IT IS A FUSED DISCONNECT
    SWITCH, A SINGLE CIRCUIT BREAKER, OR A CIRCUIT BREAKER IN A PANELBOARD.

# LIGHTING PLAN NOTES

- A. LIGHTING LOCATIONS ARE A SUGGESTION TO THE CONTRACTOR. LOCATIONS MAY CHANGE SLIGHTLY ON-SITE DUE TO PLACEMENT OF AIR DEVICES.
- B. PRIOR TO INSTALLING BATHROOM LIGHT FIXTURES, ELECTRICAL
   CONTRACTOR SHALL VERIFY DIFFUSER AND BATHROOM FAN LOCATION
   WITH MECHANICAL CONTRACTOR.
- C. EMERGENCY LIGHTS AND EXIT SIGNS TO BE POWERED CONTINUOUSLY. EMERGENCY BACKUP BALLASTS SHALL BE USED FOR ALL EMERGENCY LIGHTS PER THE LIGHTING FIXTURE SCHEDULE.
- D. ANY OUTSIDE LIGHT SWITCHES TO BE PLACED BY ELECTRICAL CONTRACTOR.
- E. ALL OUTSIDE LIGHT PLACEMENT TO BE VERIFIED BY ELECTRICAL CONTRACTOR.
- F. ELECTRICAL CONTRACTOR SHALL PROVIDE FROG EYE ON MOTION SENSOR FOR PARKING AREA.
- G. EMERGENCY LIGHTS AND EXIT SIGNS TO BE CIRCUITED TO L-1 AND SHALL BE PROVIDED WITH LOCKING DEVICES.

	SYMBOL SCHEDULE	
NOTE:		
A. ALL SYN	MBOLS DO NOT NECESSARILY APPEAR ON THESE DRAWINGS	
SYMBOL	DESCRIPTION	REMARKS
<b>◄</b>	HOMERUN (REFER TO PANEL SCHEDULES FOR CONDUIT/WIRING)	
OT		
	CIRCUIT INDICATORS (HOT. NEUTRAL, GROUND, SWITCHLEG)	
(P)	PHOTOCELL	
J	JUNCTION BOX	
	JUNCTION BOX, FLOOR MOUNTED FLUSH	
J	JUNCTION BOX, FLOOR MOUNTED PEDESTAL	
нĴ	JUNCTION BOX, WALL MOUNTED	
\$ <sup>M</sup>	MANUAL STARTER WITH THERMAL TRIP	
L	DISCONNECT SWITCH, REFER TO DISCONNECT SCHEDULE	
	STARTER	
42	COMBINATION STARTER/DISCONNECT SWITCH, REFER TO SCHEDULE	
	POWER AND/OR LIGHTING PANELBOARD, REFER TO PANELBOARD SCHEDULE	
	SWITCHBOARD, REFER TO SWITCHBOARD SCHEDULE	
W		
	COMBINATION TELEPHONE/DATA OUTLET. 16"AFF UON	
	COMBINATION TELEPHONE/DATA OUTLET, FLOOR MOUNTED FLUSH	
$\diamond$	LAN SYSTEM OUTLET, 16"AFF UON	
$\triangleleft$	DATA OUTLET, 16" AFF UON	
$\Box$	DATA OUTLET, FLOOR MOUNTED PEDESTAL	
	DATA OUTLET, FLOOR MOUNTED FLUSH	
	TELEPHONE EQUIPMENT BOARD	
$\rightarrow$	SINGLE RECEPTACLE 20A/120V 16" AFF UON	
<u> </u>	DUPLEX RECEPTACLE 20A/120V 16"AFF UON	
	DUPLEX RECEPTACLE 20A/120V 16" AFF UON WITH GROUND FAULT INTERRUPTER	
	DUPLEX RECEPTACLE 20A/120V 16" AFF UON WITH ISOLATED/INSULATED GROUND	
e e	SPECIAL PURPOSE RECEPTACLE 16" AFF SEE PLANS FOR DETAILS	
<u> </u>	DUPLEX RECEPTACLE 20A/120V MOUNTED HORIZONTALLY 48" AFF UON	
WP 🗲	WEATHER-PROOF DUPLEX RECEPTACLE 20A/120V 18"AFF UON	
sg 🖵	DUPLEX RECEPTACLE W/ SURGE SUPPRESSION 20A/120V 16" AFF UON	
$\bigcirc$	DUPLEX RECEPTACLE, FLOOR MOUNTED FLUSH	
€ <sub>F</sub>	DUPLEX RECEPTACLE, FLOOR MOUNTED PEDESTAL	
	FOURPLEX RECEPTACLE, FLOOR MOUNTED PEDESTAL	
	FOURPLEX RECEPTACLE, FLOOR MOUNTED FLUSH	
€	FOURPLEX RECEPTACLE, CEILING MOUNTED	
€c	DUPLEX RECEPTACLE, CEILING MOUNTED	
€ <sub>R</sub>	DUPLEX RECEPTACLE ON ROOF	
\$	SINGLE POLE SWITCH 20A, 48"AFF UON	
\$ <sup>3</sup>	THREE-WAY SWITCH 20A, 48"AFF UON	
\$ <sup>4</sup>	FOUR-WAY SWITCH 20A, 48"AFF UON	
\$ <sup>ĸ</sup>	SINGLE POLE KEY OPERATED SWITCH 20A, 48"AFF UON	
\$ <sup>2K</sup>	DOUBLE POLE KEY OPERATED SWITCH 20A, 48" AFF UON	
\$ <sup>3</sup> ^	THREE-WAY KEY OPERATED SWITCH 20A, 48"AFF UON	
\$		
⊅ ms		
Ф 	TIMER SWITCH 48"AFE LION	
	FAN SWITCH, 48"AFF UON	

Engineer High Rise MEP Engineering 213 Watergate Way Hutto, Texas 78634 designmep@aol.com (512) 431 6702 Mechanical - Electrical Plumbing Warehouse denia Drive S Tex ustin, Gardenia 2205 Gari 5 4 High **K**ise M E Engineering F-9491 Issue Date: 09/18/23 Revisions No. Date Description  $\mathbf{X}$ NAEEM EGHANI 93963

Project Number:092303Drawn By:NEDesigned By:NEChecked By:Naeem Eghani, PESheet Title:Code & NotesSheet Number:E0

Male En

## General Notes:

- 1 All receptacles and switches shall be 20 amperes.
- 2 MC cable shall only be used for Lite Whips and in wall use only.
- 3 All home-runs shall be hard piped.
- 4 Conductors and equipment shall be approved and acceptable by 2020 national electric code.
- 5 All wiring shall be accordance with 2020 NEC.

![](_page_3_Figure_12.jpeg)

![](_page_3_Picture_17.jpeg)

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# Key Notes:

- $\langle 1 \rangle$  Install meter (M) and service disconnect switch (SDS) at outside.
- $\langle 2 \rangle$  Install Panel "L" inside of building.
- $\langle 3 \rangle$  Label all circuits identified to outlets and equipments.
- $\langle 4 \rangle$  Install power for roll-up door.
- $\left< \mathbf{5} \right>$  Install power for outside sign.

![](_page_4_Figure_12.jpeg)

![](_page_4_Figure_16.jpeg)

![](_page_4_Picture_17.jpeg)

PANEL: "	'L"			[			I	1		I						
	_	1			LOAD, VA		СКТ	PH	СКТ		LOAD, VA					
			AMPS		RECOT						RECOT		AMPS	WIDE		
	1		20/1	500	RECPT.	UTHER	1	Δ	2	400	REGPT.	UTHER	20/1		-	
FF-1	M	12	20/1	000		500	2	B	2	1200			20/1	12		
		12	20/1	700		500	5	C C	6	500			20/1	12		LIGHT
	R	12	20/1	700	1800		7	Δ	8	500	1800		20/1	12	R	GECI
WH-1	WH	12	20/2			1500	, Q	B	10		1800		20/1	12	R	GECI
	WH	12				1500	11	C	12		1800		20/1	12	R	GECI
OVERHEAD DOOR	E	12	20/1			1400	13	A	14			1400	20/1	12	E	OVERHEAD DOOR
SIGN	Е	12	20/1			1000	15	В	16			1000	20/1	12	E	SIGN
GFCI	R	12	20/1		1800		17	C	18			950	20/2	12	AC	CU-1
							19	Α	20			950		12	AC	
							21	В	22							
							23	С	24							
							25	Δ	26							
							27	В	28							
							29	C	30							
							31	Α	32							
							33	В	34							
							35	С	36							
							37	Α	38							
							39	B	40							
							41	С	42							
		1	1	1200	3600	5900		1		2100	5400	4300		1		I
		CONN.	LOAD		DESIGN L	DAD	]				-		_			
CATEGORY		KVA	-	DIV.	KVA	-	-									
LIGHTING:		3.3		1.25	4.1		-	MOUN	TING:		SURFA		NOTES			
RECEPTACLE:		9.0		1	9.0		-	VOLIS			12	0/208				
MOTORS:		0.5		1	0.5			PHASE			400	3/4 AMDS	**			
MISCELLANEOUS:		-		1	-			MAINIT			400 MI	Alvir 3				
ELECTRIC HEATING:		-		1	-			BUSS			COPE		***	***		
WATER HEATERS:		3.0		1	3.0				RMS):		22	<u> </u>				
HVAC:		1.9		1	1.9		-	BREAK	ER TYPE	:	BOL	T-ON	X			
EQUIPMENT:		4.8		1	4.8		-	NEMA	RATING:		1					
-		-		1	-		-				WIRE	WIRE	GRD.	CON	DUIT	
								F	EEDER S	SIZE:	QTY.	SIZE	SIZE	SIZE		
		22.3					-			SET:	4	# 600 Cl	J # 1/0 C	U 3		
PANEL TOTAL AMPS		65					-	REMAR	KS:							

SYMBOL SCHEDULE								
SYMBOL	DESCRIPTION	REMARKS						
J	JUNCTION BOX							
4	DISCONNECT SWITCH, REFER TO DISCONNECT SCHEDULE							
$\ominus$	DUPLEX RECEPTACLE 20A/120V 16"AFF UON							
\$	SINGLE POLE SWITCH 20A, 48"AFF UON							
	COMBINATION TELEPHONE/DATA OUTLET, 16"AFF UON							

![](_page_5_Figure_4.jpeg)

# (1) ELECTRICAL RISER DIAGRAM

![](_page_5_Figure_6.jpeg)

MARK	MANUFACTURER'S CATALOG NUMBER	LAMPS NO./TYPE	FIXTURE VOLTS/WATTS
	LITHONIA 2GTL4 5000LM	LED	120 / 39
	LITHONIA IBG 15LM 40K LED HIGH BAY	LED	120 / 107
	LITHONIA OLW 31	LED	120 / 48
O <u>exit</u> -O	LITHONIA LHQM S W 3 R	EMERGENCY LIGHT	120 / 5
	LITHONIA 6ELM2 120 CS CSA	EMERGENCY LIGHT 3-FOOT CORDSET	120 / 5.4
	LIGHTFIXTURE INDUSTRIES	EMERGENCY LIGHT	120 / 10

ELECTRICAL LOAD ANALYSIS FOR SHELL BUILDING DESIGN

PROVIDE 400A, 120/208V, 3 PHASE, 4 WIRE

-

B. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF WALL MOUNTED LIGHT FIXTURES WITH ARCHITECT PRIOR TO ROUGH-IN.

LIGHT FIXTURE SCHEDULE

C. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF LIGHT FIXTURE.

A. CONFIRM CEILING TYPE AND CONSTRUCTION PRIOR TO ORDERING LIGHT FIXTURE.

GENERAL NOTES:

1. LIGHTING LOAD:

Α.

2. RECEPTACLE LOAD:

3. EQUIPMENT LOAD: A. MOTORS: B. MISCELLANEOUS:

E. HVAC:

F. EQUIPMENT:

C. ELECTRIC HEATING:

D. WATER HEATERS:

4. 25% OF LARGEST MOTOR (KW):

(1) SET OF (4)W # 600 CU IN 4" CONDUIT.

6 120 / 208V, 3Ø, 400A, NEMA 1 PANEL "L".

5. TOTAL CONNECTED LOAD (KW)FOR EACH SUITE:

6. TOTAL AMP LOAD: 22800 / (208 X 1.731 ) = 65A

RISER DIAGRAM KEY NOTES

 $\langle 4 \rangle$  120 / 208V, 3Ø, 400A, NEMA 3R SERVICE DISCONNECT SWITCH "SDS".

 $\langle 2 \rangle$  120/208V, 3Ø, 400A, NEMA 3R TRANS-SOCKET METER "M'.

 $\langle 3 \rangle$  (2) SETS OF (4)W #3/0 CU AND (1)W #1/0 CU IN 3" CONDUITS.

 $\langle 5 \rangle$  (2) SETS OF (4)W #3/0 CU AND (1)W #1/0 CU IN 3" CONDUITS.

А. В.

3.3x1.25

	Eng	ineer
ŀ	ligh Rise M 213 Wate Hutto, Te designme (512) 4 Mechanica Plui	IEP Engineering ergate Way exas 78634 ep@aol.com 431 6702 I - Electrical mbing
	Gardenia Warehouse	2205 Gardenia Drive Austin, Texas
	<b>H</b> igh	Rise
	Engir F-S	peering 9491
Issu	ie Date: Revi	09/18/23  isions
No.	Date	Description
	NAEE	OF 75480 M EGHANI 93963 SISTERE DMAL
Proje	ect Number	:: 092303
Draw Desi	n By: NE	NE
Chec	ked By: N	aeem Eghani, PE
Shee	et Title: E	Electrical riser
5786	ει iNUMDer:	E-3

## E UNSWITCHED.

BALLAST
-
-

![](_page_5_Figure_40.jpeg)

## General Note

1- All mechanical installation shall be per 2021 Uniform Mechanical Code (UMC) and city of Austin's mechanical amendments.

# Key notes:

- $\langle 1 \rangle$  Install indoor unit over drop ceiling.
- $\langle 2 \rangle$  Install and secure condensate pan with overflow switch under coil.
- $\langle 3 \rangle$  Route condensate water from unit to mop sink (MS).
- $\langle 4 \rangle$  Mount thermostat (T) on wall at 48" above floor.
- $\langle \mathbf{5} \rangle$  Balance supply, return and fresh air as recommended on drawing.
- $\langle 6 \rangle$  Insulate all air duct with R-8 duct insulator over drop ceiling.
- Locate intake air 10 feet away from all exhaust air termination.
- $\langle 9 \rangle$  Install condenser unit outside of building over concrete pad.

![](_page_6_Figure_12.jpeg)

T Route intake fresh air duct though wall out. Install rain cap, bird screen and motorize damper on fresh air duct. Install ventilation controller by factory's requirement (Aprilaire - Model # 8120X) to monitor relative humidity, outside air temperature and control damper.

Mechanical plan

Scale: 3/16"=1'-0"

(1

 $\langle 8 \rangle$  Route exhaust duct from restroom and through wall out. Install rain cap, damper and bird screen at the end.

![](_page_6_Figure_17.jpeg)

![](_page_6_Figure_18.jpeg)

							Heat Pump					
	OU <sup>.</sup>	TDOOR UNIT			COOLING	HEATING	ELECTRICAL		WEICHT	IN	DOOR UNIT	EVAPORATOR AIR
WARE	MARK	MODEL	SEER2	HSPF2	BTU/H	BTU/H	MCA / MCOP	W / D / H	WEIGHT	MARK	MODEL	OUTSIDE AIR
LENNOX	CU-1	MLA012S4S-1P	18	10	12.000	12,000	230V / 1Ø / 60HZ 9A / 20A	34 / 14 / 21	88 LBS	EV-1	MMDB012S4-2P	400 CFM 40 CFM
						Outsic	de Air					

Space description	living Area	Outside Air criteria	Outside Air required	No. of People	Outside Air criteria	Minimum Outside Air required	Outside Air A + B	Outside Air Provided
	(SQFT)	ACH	(CFM)	VARIABLE OCCUPANCY	(CFM/PERSON)	(CFM)	(CFM)	CFM AIR PROVIDE BY:
OFFICE	340	0.06	20 A	2	5	10 B	30 CFM	40 CFM BY "EV-1"
	MOTE:	(1) - Table 403	3.3.1.1 of 2021 UMC.					

# MARK

EF

	DIFFUSER										
MARK	MAKE	MODEL #	DESCRIPTION	NECK SIZE	FINISH	REMARKS					
A	SPECAIRE	AM5	CEILING DIFFUSER	8,10,12_Ø	OWNER OPTION	16X16					
В	SPECAIRE	AM5	CEILING DIFFUSER	4,6,_Ø	OWNER OPTION	10X10					
R	SPECAIRE	FBH1	RETURN , BACK FILTER	8,10,12_Ø	OWNER OPTION	24X24 & 24X12					

Restroom - Exhaust fan											
MAKE	MODEL NO.	SP	CAPACITIES	AMP / WATT	DUCT SIZE	REMARK					
BROAN	L 100 MG	0.125	115 CFM	1.1 / 87	6"	1					

1- Install rain cap and bird screen at the end of exhaust duct.

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	ligh Rise MEP Engineering
	213 Watergate Way
	Hutto, Texas 78634 designmep@aol.com
	(512) 431 6702 Mechanical - Electrical
	Plumbing
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W/D/H	WEIGHT
30 / 19 / 7	38 LBS

# General Note

1- All plumbing installation shall be per 2021 Uniform Plumbing Code (UPC) and city of Austin amendments.

# key notes :

- (1) Water line from water meter to building, see civil utility plan.
- $\langle 2 \rangle$  Route water line near ceiling inside building.
- $\overrightarrow{3}$  Install water heater (WH-1) on housekeeping pad.
- $\langle 4 \rangle$  Install 1" insulation on all cold and hot water line.
- $\overline{(5)}$  See riser diagram for pipe sizing.

![](_page_8_Figure_9.jpeg)

(1)

Domestic water plan

Scale: 3/16"=1'-0"

3/4"-

![](_page_8_Figure_16.jpeg)

# General Note

1- All plumbing installation shall be per 2021 Uniform Plumbing Code (UPC) and city of Austin amendments.

![](_page_9_Figure_3.jpeg)

![](_page_9_Picture_6.jpeg)

![](_page_9_Figure_11.jpeg)

![](_page_9_Figure_13.jpeg)

		FIXTURE AND	EQUIPMENT SCHEE	DULE	
MARK	FIXTURE / EQUIPMENT	MODEL NO.	SIZE / CAPACITY	TRIM / ACCESSORIES	REMARKS
WC	WATER CLOSET	AMERCAN STANDARD ELONGATED BOWL VITREOUS CHINA	TANK 1.28 GPF	WHITE, CHURCH 9500C SEAT OPEN FRONT TYPE SEAT	WC-1 AT ADA HEIGHT
LAV	WALL MOUNT LAVATORY	AMERCAN STANDARD 0321.026		WHITE, 2385.403 FAUCET, SUPPLIES WITH STOPS, WALL HANGER, CHROME PLATED P-TRAP, STRAINER DRAIN & SUPPLY INSUL. PER A.D.A. REQUIREMENTS	ADA COMPLIANCE
MS	MOP SINK	ADVANCE TABCO 9-OP-20 FLOOR MOUNTED	2" PIPE SIZE	K-240 SERVICE FAUCET K-242 MOP HANGER	
WC0	WALL CLEAN OUT				
DYC0	DOUBLE YARD CLEAN OUT				
NOTES:				1	I

WEIGHT

5 LBS.

3/4"

MANUFACTURE

THERM-X-TROL

MODEL

ST-5

MARK

EXP

1. FIXTURE MANUFACTURER SHALL BE EQUAL TO LISTED ONE.
 2. PROVIDE ALL CARRIERS AND SUPPORT MATERIALS REQUIRED FOR A SOLID AND SECURE INSTALLATION.

CAPACITY

2 GAL.

		ELI	ECTRIC	WATE	ER HEA	TER	TANK TY	′PE			
MARK	MANUFACTURE MODEL		KW INPUT		CAPACITY	,	HEIGHT / DIAMETER		ELECTRICAL REQUIREMENT V/Ø/A		WEIGHT
WH-1	A.O. S DSE-1	D. SMITH 3 KW 10 GAL. 28" / 22"			208 / 1 / 14.4		116 LBS.				
EXPANSION TANK											
		MANUFACTURE					DIAMETER /		NECTION SIZE	WEIGHT	1

HEIGHT

8" / 13"

![](_page_10_Figure_5.jpeg)

![](_page_10_Figure_6.jpeg)

![](_page_10_Figure_7.jpeg)

		FIXTURE	UNIT CO	UNT		
FIXTURE	QUANTITY			WATER F.U.		
	NEW	EXISTING	ACCU.	EACH	TOTAL	
WC	1	-		2.5	2.5	
LAV	1	-		1	1	
MS	1	-		1.5	1.5	
TOTAL					5.0	

![](_page_10_Figure_10.jpeg)

Sheet Number: P-3

![](_page_10_Figure_11.jpeg)