ELECTRICAL NOTES

- LOCATION OF OUTLETS ARE SUBJECT TO CHANGE, DEPENDING ON SPECIFIC LOCATION OF EQUIPMENT WIRES. FEILD VERIFY WITH ARCHITECT/OWNER.
- B. ALL EXPOSED CONDUIT LINE TO BE COORDINATED WITH CONTRACTOR BEFORE INSTALLED.
- C. ALL (E) OUTLETS TO REMAIN AS IS.
- D. ELECTRICIAN TO PROVIDE ROOF TOP EQUIPMENT DISCONNECT SWITCHES AND A GFCI/WP SERVICE OUTLET THAT IS NO MORE THAN 25' FROM ANY ROOF TOP UNIT.

ELECTRICAL KEYNOTES

NO. DESCRIPTION - NOTE ALL NOTES ARE APPLICABLE

- 1A. (N) 600 AMPS MAIN PANEL 1 PHASE.
- 1B. (N) 600 AMPS MAIN PANEL 1 PHASE.
- 1C. (N) 600 AMPS MAIN PANEL 1 PHASE. (N) 200 AMPS SUB-PANEL - 1 PHASE. HOUSE PANEL (H.P.) WITH CONVERTER FOR DUMPWAITER
- (N) 200 AMPS SUB-PANEL 1 PHASE. SUITE 120 (N) 200 AMPS SUB-PANEL - 1 PHASE. SUITE 140
- (N) 200 AMPS SUB-PANEL 1 PHASE. SUITE 160 (N) 200 AMPS SUB-PANEL - 1 PHASE. SUITE 180
- (N) 200 AMPS SUB-PANEL 1 PHASE. SUITE 200A (N) 200 AMPS SUB-PANEL - 1 PHASE. SUITE 200B 9. (N) 200 AMPS SUB-PANEL - 1 PHASE. SUITE 260
- 10. (N) 600 AMPS MAIN PANEL 1 PHASE. 11. (N) 200 AMPS SUB-PANEL - 1 PHASE. SUITE 100A 12. (N) 200 AMPS SUB-PANEL - 1 PHASE. SUITE 100B 13. (N) 200 AMPS SUB-PANEL - 1 PHASE. SUITE 100C
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ELECTRICAL GENERAL NOTES

- 2018 IBC Section - 1006.1The means of egress, including the exit discharge, shall be illuminated at all times the building space served by the means of egress is occupied.

- 2018 IBC Section 1006.2 - The means of egress illumination level shall not be less than 1 footcandle (11 lux) at the walking surface.

- 2018 IBC Section 1006.3 - The power supply for means of egress illumination shall normally be provided by the premises' electrical supply. In the event of power supply failure, an emergency electrical system shall automatically

illuminate all of the following areas: a. Aisles and unenclosed egress stairways in rooms and spaces that require two

b. Corridors, interior exit stairways and ramps and exit passageways in buildings required to have two or more exits.

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e. Exterior landings as required by Section 1008.1.6 for exit discharge doorways in buildings required to have two or more exits.

The emergency power system shall provide power for a duration of not less than 90 minutes and shall consist

of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 2702.

- 2018 IECC Section 505.2.1 - Each area enclosed by walls or floor-to-ceiling partitions shall have at least one manual control for the lighting serving that area. The required controls shall be located within the area served by the controls or be a remote switch that identifies the lights served and indicates their status.

Exceptions:

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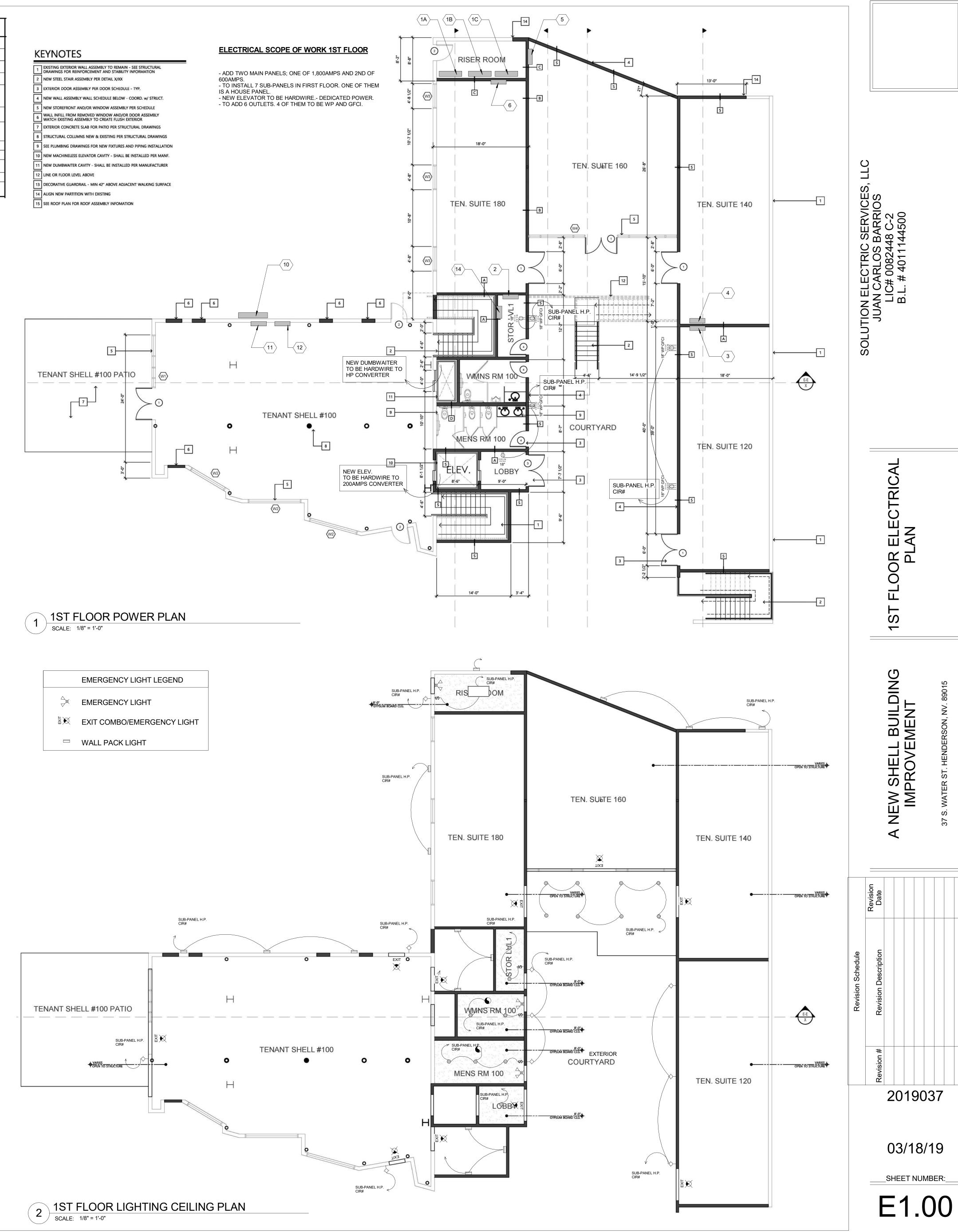
505.2.2.2 Automatic Lighting Shutoff - Buildings larger than 5,000 square feet shall be equipped with an automatic control device to shut off lighting in those areas. This automatic control device shall function on either: 1. A scheduled basis, using time-of-day, with an independent program schedule

that controls the interior lighting in areas that do not exceed 25,000 square feet and are not more than one floor; or 2. An occupant sensor that shall turn lighting off within 30 minutes of an occupant leaving a space; or 3. A signal from another control or

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QUIREMENTS LISTED E	S ARE CALCULATED BASED ON THE MAXIMUM WATTAGE	€GFCI	DUPLEX GFCI OUTLET
20A BREAKER=1800	BELOW. MAXIMUM LOAD FOR 15A BREAKER = 1440 WATTS WATTS	e	SPLIT WIRE DUPLEX OUTLET WITH GROUND
SYMBOL	DE9CRIPTION	\(\operatorname(\text{a})\)	DUPLEX OUTLET WITH GROUND MOUNTED AT +12" W/ A.F.C.I. AT ALL HABITABLE ROOMS U.N.O.
0	RECESSED INCANDESCENT DOWN LIGHT FIXTURE MAXIMUM 100W INCANDESCENT	@ =	DUPLEX OUTLET WITH GROUND FOR EITHER COOKTOP, OVEN, DISHWASHER, GARBAGE DISPOSAL, OR REFRIGERATOR
-	CEILING MOUNTED INCANDESCENT LIGHT FIXTURE MAXIMUM 100W INCANDESCENT	99	SMOKE DETECTOR TO MEET REQUIREMENTS OF THE STATE OF NEVADA FIRE MARSHALL AND THE INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS AND THE AMERICANS WITH DISABILITIES ACT [ADA]
<u> </u>	WALL MOUNTED INCANDESCENT LIGHT FIXTURE MAXIMUM 100W INCANDESCENT	•	EXHAUST FAN VERIFY LOCATIONS AND WATTAGE WITH MECHANICAL DRAWINGS/MECHANICAL CONTRACTOR - 150 CFM
-	PENDANT FIXTURE MAXIMUM 100W INCANDESCENT	•	TELEVISION OUTLET VERIFY LOCATION AND TERMINATION OF CABLES TO MAIN TO MAIN TELEPHONE TERMINAL CABINET WITH DESIGNER / LOCAL TELEPHONE COMPANY
0000	WALL MOUNTED 'MAKE UP' LIGHT FIXTURE MAXIMUM (4) 40W INCANDESCENT LAMPS FOR A TOTAL OF 160 WATTS MAXIMUM PER FIXTURE	-	PHONE
		(†)	THERMOSTAT CONTROL VERIFY WITH MECHANICAL
φ	SINGLE POLE SWITCH WITH SENSOR	DED.	DEDICATED CIRCUIT 20 AMP BREAKER TOTAL WATTAGE 1800
∽ 3	THREE WAY POLE SWITCH	44	SECURITY LIGHT

NOTE: ALL NEW LIGHTING SWITCHES TO HAVE SENSOR AND AUTOMATIC LIGHTING CONTROL



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 (N) 200 AMPS SUB-PANEL - 1 PHASE. SUITE 200A

10. (N) 600 AMPS MAIN PANEL - 1 PHASE.
11. (N) 200 AMPS SUB-PANEL - 1 PHASE. SUITE 100A
12. (N) 200 AMPS SUB-PANEL - 1 PHASE. SUITE 100B

13. (N) 200 AMPS SUB-PANEL - 1 PHASE. SUITE 100C

9. (N) 200 AMPS SUB-PANEL - 1 PHASE. SUITE 260

8. (N) 200 AMPS SUB-PANEL - 1 PHASE. SUITE 200B

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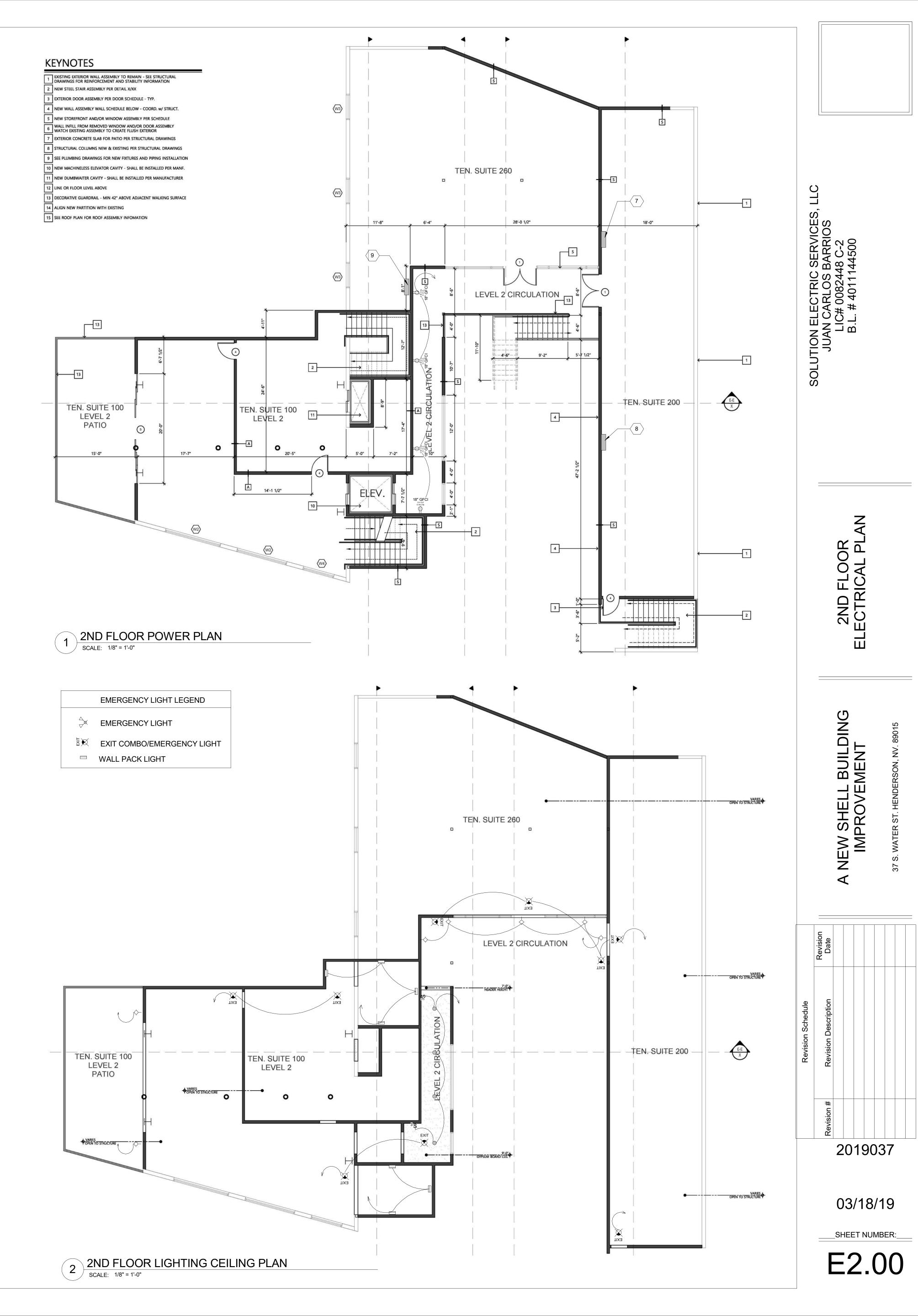
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Sleeping unit 2. Lighting in spaces where patient care is directly provided. 3.

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SPLIT WIRE DUPLEX OUTLET WITH GROUND PESCRIPTION DUPLEX OUTLET WITH GROUND MOUNTED AT +12" W/ A.F.C.I. AT ALL HABITABLE ROOMS U.N.O. RECESSED INCANDESCENT DOWN LIGHT FIXTURE MAXIMUM 100W INCANDESCENT CEILING MOUNTED INCANDESCENT LIGHT FIXTURE MAXIMUM 100W INCANDESCENT WALL MOUNTED INCANDESCENT LIGHT FIXTURE MAXIMUM 100W INCANDESCENT WALL MOUNTED INCANDESCENT LIGHT FIXTURE MAXIMUM 100W INCANDESCENT PENDANT FIXTURE MAXIMUM 100W INCANDESCENT WALL MOUNTED 'MAKE UP' LIGHT FIXTURE MAXIMUM (a) 40W INCANDESCENT LIMPS FOR A TOTAL OF 160 WATTS MAXIMUM PER FIXTURE SINGLE POLE SWITCH THREE WAY POLE SWITCH PED. SINGLE POLE SWITCH SELUTIVE WITH GROUND MOUNTED WITH GROUND MOUNTED AT +12" W/ A.F.C.I. AT ALL HABITABLE ROOMS U.N.O. DUPLEX OUTLET WITH GROUND MOUNTED AT +12" W/ A.F.C.I. AT ALL HABITABLE ROOMS U.N.O. DUPLEX OUTLET WITH GROUND MOUNTED AT +12" W/ A.F.C.I. AT ALL HABITABLE ROOMS U.N.O. SMOKE DETECTOR TO MEET REQUIREMENTS OF THE STATE OF NEWDAL RICHARD AND THE INTERNATIONAL CONFERENCE OF THE STATE OF NEWDAL RICHARD AND THE INTERNATIONAL CONFERENCE OF BUILDING OF FICIALS AND THE STATE OF NEWDAL RICHARD AND THE INTERNATIONAL CONFERENCE OF BUILDING OF FICIALS AND THE STATE OF NEWDAL RICHARD AND WITH ABERCANS WITH DISABILITIES ACT (ADA) WHAT MOUNTED INCANDESCENT WALL MOUNTED INCANDESCENT WHAT MAXIMUM 100W INCANDESCENT WITH DISABILITIES ACT (ADA) TELEVISION OUTLET VERIFY LOCATION AND TERMINATION OF CABLES TO MAIN TO MAIN TELEPHONE TERMINAL CABINET WITH DESIGNER / LOCAL TELEPHONE COMPANY THERMOSTAT CONTROL VERIFY WITH MECHANICAL DEDICATED CIRCUIT 20 AMP BREAKER TOTAL WATTAGE 1800 SECURITY LIGHT SECURITY LIGHT		DS ARE CALCULATED BASED ON THE MAXIMUM WATTAGE D BELOW, MAXIMUM LOAD FOR ISA BREAKER = 1440 WATTS	€GFCI	DUPLEX GFCI OUTLET
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⇒ WP WEATHERPROOFC DUPLEX GFCI OUTLET @ +24"	<u>•</u>	5 (3.5 (4.5 (4.5 (4.5 (4.5 (4.5 (4.5 (4.5 (4		

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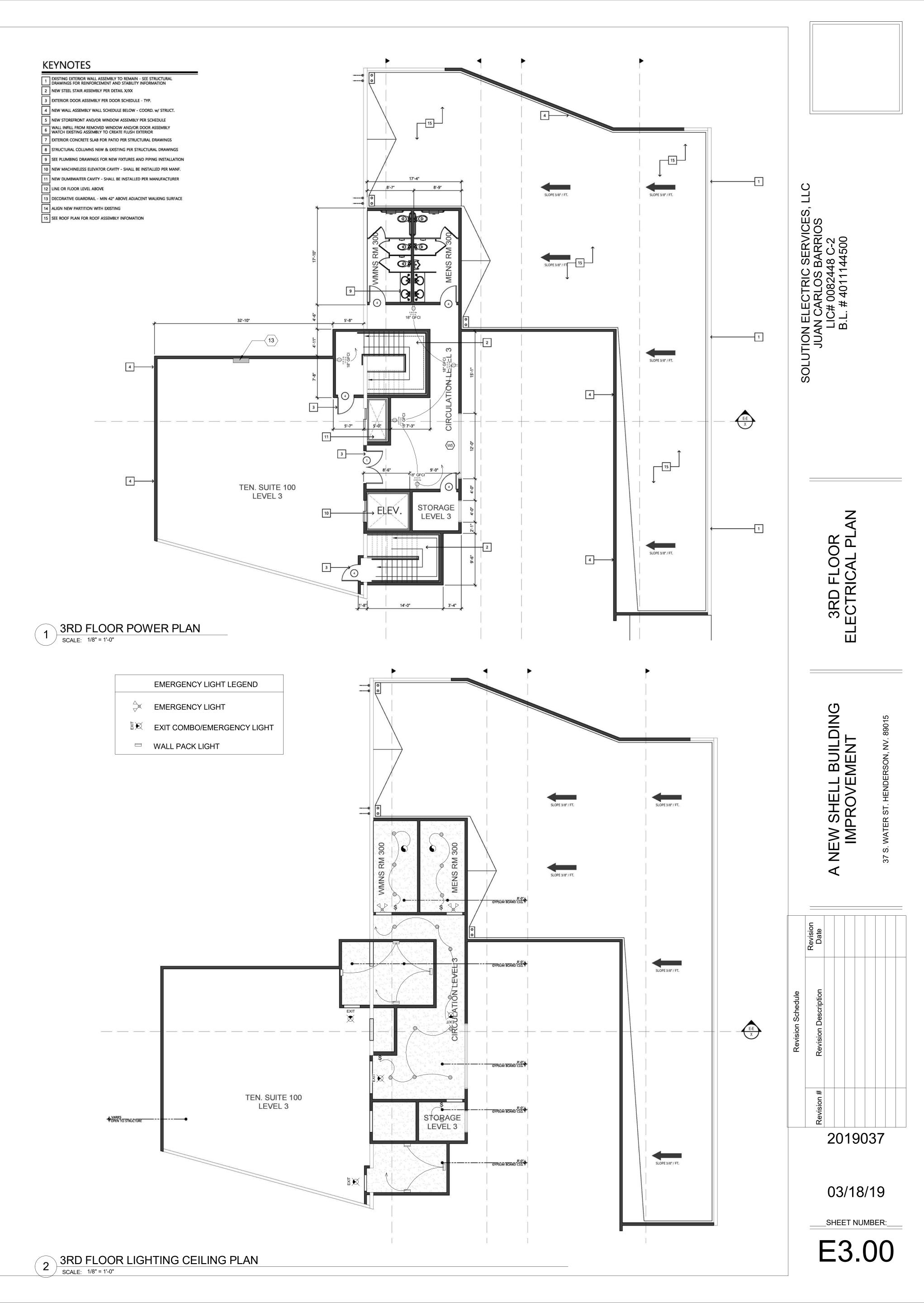
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D 20A BREAKER=		=	SPLIT WIRE DUPLEX OUTLET WITH GROUND
SYMBOL	DESCRIPTION	\(\operatorname(\text{a})\)	DUPLEX OUTLET WITH GROUND MOUNTED AT +12" W/ A.F.C.I. AT ALL HABITABLE ROOMS U.N.O.
0	RECESSED INCANDESCENT DOWN LIGHT FIXTURE MAXIMUM 100W INCANDESCENT	@ =	DUPLEX OUTLET WITH GROUND FOR EITHER COOKTOP, OVEN, DISHWASHER, GARBAGE DISPOSAL, OR REFRIGERATOR
-	CEILING MOUNTED INCANDESCENT LIGHT FIXTURE MAXIMUM 100W INCANDESCENT	99	SMOKE DETECTOR TO MEET REQUIREMENTS OF THE STATE OF NEVADA FIRE MARSHALL AND THE INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS AND THE AMERICANS WITH DISABILITIES ACT [ADA]
•	WALL MOUNTED INCANDESCENT LIGHT FIXTURE MAXIMUM 100W INCANDESCENT	•	EXHAUST FAN VERIFY LOCATIONS AND WATTAGE WITH MECHANICAL DRAWINGS/MECHANICAL CONTRACTOR - 150 CFM
	PENDANT FIXTURE MAXIMUM 100W INCANDESCENT	•	TELEVISION OUTLET VERIFY LOCATION AND TERMINATION OF CABLES TO MAIN TO MAIN TELEPHONE TERMINAL CABINET WITH DESIGNER / LOCAL TELEPHONE COMPANY
0000	WALL MOUNTED 'MAKE UP' LIGHT FIXTURE MAXIMUM [4] 40W INCANDESCENT LAMPS FOR A TOTAL OF 160 WATTS MAXIMUM PER FIXTURE	4	PHONE
0000	100 mm 3 950 7 40 kilonoth - 1946 contribut the 2011 (2014) (2015	(†)	THERMOSTAT CONTROL VERIFY WITH MECHANICAL
₩.	SINGLE POLE SWITCH WITH SENSOR		DEDICATED CIRCUIT
9 ³	THREE WAY POLE SWITCH	DED.	20 AMP BREAKER TOTAL WATTAGE 1800
<u></u>	PUSH BUTTON SWITCH	4	SECURITY LIGHT
— WP GFCI	WEATHERPROOFC DUPLEX GFCI OUTLET @ +24"		

NOTE: ALL NEW LIGHTING SWITCHES TO HAVE SENSOR AND AUTOMATIC LIGHTING CONTROL



Report date: 03/11/19

Comments/Assumptions

Complies?

□Not Observable

Complies

□Does Not

□Does Not

⊔Complies

Does Not

□Not Observable

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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□Not Applicable

□Not Observable

Plan Review

calculations provide all information

determined for the interior lighting

and document where exceptions to

provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and

Plans, specifications, and/or

Plans, specifications, and/or

efficiency package options.

Additional Comments/Assumptions:

with which compliance can be

Project Title: A NEW SHELL BUILDING IMPROVEMENT

4PLEX\37 WATER ST.cck

with which compliance can be

the standard are claimed. Information

calculations provide all information

determined for the exterior lighting

and document where exceptions to the standard are claimed. Information provided should include exterior

calculations provide all information

determined for the additional energy

lighting power calculations, wattage of bulbs and ballasts, transformers and

and electrical systems and equipment

Not Applicable

and electrical systems and equipment ONot Applicable

with which compliance can be

C103.2 Plans, specifications, and/or

control devices.

control devices.

& Req.ID

SOLUTION ELECTRIC SERVICES, JUAN CARLOS BARRIOS LIC# 0082448 C-2 B.L. # 4011144500

_SHEET NUMBER:

Project Information

Energy Code: A NEW SHELL BUILDING IMPROVEMENT Project Title:

> JOHN CURTIS TYLER CONSTRUCTION 702-858-9040

> > Comments/Assumptions

Report date: 03/11/19

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B X C)
1-Common Space Types:Stairwell	1107	0.58	642
2-Common Space Types:Corridor/Transition <8 ft wide	602	0.66	397
3-Common Space Types:Restrooms	571	0.85	485
4-Common Space Types:Lobby For Elevator	65	0.68	44
5-Common Space Types:Storage	200	0.63	126
		Total Allowed Watts	= 1695

Proposed Interior Lighting Power

Proposed Interior Lighting Power				
A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	(C X D)
1-Common Space Types:Stairwell LED 1: LED Linear 15W:	1	20	15	300
2-Common Space Types:Corridor/Transition <8 ft wide LED 2: LED Other Fixture Unit 13W:	1	13	13	169
3-Common Space Types:Restrooms LED 3: LED Other Fixture Unit 13W:	1	11	13	143
4-Common Space Types:Lobby For Elevator LED 4: LED Other Fixture Unit 13W:	1	1	13	13
5-Common Space Types:Storage LED 5: LED Other Fixture Unit 13W: LED 6: LED Linear 11W:	1 2	3 1	13 11	39 11
		Total Propos	- III.	675

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.1.0 and to comply with any applicable mandatory

Report date: 03/11/19 Data filename: C:\Users\desig\Desktop\labels\01 - Template\01 Current Drawings\02 Revit\350 N. STEPHANIE Page 1 of 8

Does Not

Does Not

□Not Observable

Name - Title

Energy Code: 2018 IECC Project Title: A NEW SHELL BUILDING IMPROVEMENT Project Type: Addition Exterior Lighting Zone 2 (Neighborhood business district)

▲ COM*check* Software Version 4.1.1.0

Exterior Lighting Compliance Certificate

Designer/Contractor:

TYLER CONSTRUCTION

JOHN CURTIS

702-858-9040

Construction Site: Owner/Agent: 37 S. WATER ST. HENDERSON, NV 89015

Allowed Exterior Lighting Power

Project Information

~	-	C	D		.
Area/Surface Category	Quantity	Allowed Watts / Unit	Tradable Wattage		ed Watts X C)
Illuminated area of facade wall or surface	2000 ft2	0.07	No	79	150
		Total Tradab	le Watts (a)	=	0
		Total All	owed Watts	=	150
	Total All	owed Supplement	al Watts (b)	=	400
(a) Wattage tradeoffs are only allowed between tradable areas/surface	S.				
(b) A supplemental allowance equal to 400 watts may be applied towar		oth non-tradable a	ind tradable a	areas/surfac	es.
Proposed Exterior Lighting Power					
Α		В	С	D	E
Fixture ID: Description / Lamp / Wattage Per Lamp	/ Ballast	Lamps/	# of	Fixture	(C X D)
		Fixture	Fixtures	Watt.	
Illuminated area of facade wall or surface (2000 ft2): Non-tradable	Wattage				
LED 1: LED Panel 36W:		1	9	33	297
LED 2: LED A Lamp 11W:		1	aran		,
LLD Z. LLD / Lump 1144.		1	11	11	121
LED 3: LED Other Fixture Unit 13W:		1	11 8	11 13	(4)
		1 Total Trac	V-20	13	121

kterior Lighting PASSES: Design 0.0% better than code

Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.1.0 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature

Project Title: A NEW SHELL BUILDING IMPROVEMENT Report date: 03/11/19 Data filename: C:\Users\desig\Desktop\labels\01 - Template\01 Current Drawings\02 Revit\350 N. STEPHANIE Page 3 of 8

Project Title: A NEW SHELL BUILDING IMPROVEMENT Report date: 03/11/19

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Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.3, C405.2.3. 1, C405.2.3. 2 [EL23] ²	individual controls that control the lights independent of general area	□Complies □Does Not □Not Observable □Not Applicable	
C405.2.4 [EL26] ¹	Separate lighting control devices for specific uses installed per approved lighting plans.	□Complies □Does Not □Not Observable □Not Applicable	
C405.2.4 [EL27] ¹	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	□Complies □Does Not □Not Observable □Not Applicable	
C405.2.5 [EL28] ^{null}	Automatic lighting controls for exterior lighting installed. Controls will be daylight controlled, set based on business operation time-of-day, or reduce connected lighting > 30%.	□Complies □Does Not □Not Observable □Not Applicable	
C405.3 [EL6] ¹	Exit signs do not exceed 5 watts per face.	□Complies □Does Not □Not Observable □Not Applicable	
C405.6 [EL26] ²	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	□Complies □Does Not □Not Observable □Not Applicable	
C405.7 [EL27] ²	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	□Complies □Does Not □Not Observable □Not Applicable	
C405.8.2, C405.8.2. 1 [EL28] ²	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	□Complies □Does Not □Not Observable □Not Applicable	
C405.9 [EL29] ²	Total voltage drop across the combination of feeders and branch	□Complies □Does Not	

Additional Comments/Assumptions:

circuits <= 5%.

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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■Not Observable □Not Applicable

1 | High Impact (Tier 1) | 2 | Medium Impact (Tier 2) | 3 | Low Impact (Tier 3)

Project Title: A NEW SHELL BUILDING IMPROVEMENT Data filename: C:\Users\desig\Desktop\labels\01 - Template\01 Current Drawings\02 Revit\350 N. STEPHANIE Page 7 of 8 4PLEX\37 WATER ST.cck

Additional Comments/Assumptions:

& Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5. 2 [FI17] ³	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	□Complies □Does Not □Not Observable □Not Applicable	
C405.4.1 [FI18] ¹	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	□Complies □Does Not □Not Observable □Not Applicable	See the Interior Lighting fixture schedule for values.
C405.5.1 [FI19] ¹	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	□Complies □Does Not □Not Observable □Not Applicable	See the Exterior Lighting fixture schedule for values.
C408.1.1 [FI57] ¹	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	□Complies □Does Not □Not Observable □Not Applicable	
C408.2.5. 1 [FI16] ³	Furnished as-built drawings for electric power systems within 90 days of system acceptance.	□Complies □Does Not □Not Observable □Not Applicable	
C408.3 [FI33] ¹	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1	High Impact (Tier 1)	7	Medium Impact (Tier 2)	2	Low Impac

Report date: 03/11/19

□Not Observable lounges/breakrooms, enclosed offices, \square Not Applicable lighting in aisleways and open areas is controlled with occupant sensors that automatically reduce lighting power \square Not Applicable sensor controls in open office spaces

Not Observable configured so that general lighting can \square Not Applicable

□Not Applicable

Project Title: A NEW SHELL BUILDING IMPROVEMENT Data filename: C:\Users\desig\Desktop\labels\01 - Template\01 Current Drawings\02 Revit\350 N. STEPHANIE Page 8 of 8 4PLEX\37 WATER ST.cck

2018 IECC Project Type:

Construction Site: Owner/Agent: Designer/Contractor: 37 S. WATER ST. HENDERSON, NV 89015

Allowed Interior Lighting Power

nterior Lighting PASSES: Design 60% better than code

Rough-In Electrical Inspection Complies?

a reasonably uniform illumination

reduction controls have a manual

conference/meeting/multipurpose

open plan office areas, restrooms, storage rooms, locker rooms, warehouse storage areas, and other spaces <= 300 sqft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.2 for control function in warehouses and section C405.2.1.3

for open plan office spaces.

controlled by the sensor.

C405.2.1. Occupancy sensors control function in Complies

by 50% or more when the areas are unoccupied. The occupant sensors control lighting in each aisleway independently and do not control lighting beyond the aisleway being

C405.2.1. Occupant sensor control function in Complies

>= 300 sq.ft. have controls 1)

be controlled separately in control

zones with floor areas <= 600 sq.ft. within the space, 2) automatically turn off general lighting in all control zones within 20 minutes after all occupants have left the space, 3) are configured so that general lighting power in each control zone is reduced by >= 80% of the full zone general lighting power within 20 minutes of all occupants leaving that control zone, and 4) are configured such that any daylight responsive control will activate space general lighting or control zone general lighting only when occupancy for the same area is detected.

C405.2.2, Each area not served by occupancy Complies

C405.2.2. sensors (per C405.2.1) have time-

C405.2.2. in sections C405.2.2.1 and C405.2.2.2.

Project Title: A NEW SHELL BUILDING IMPROVEMENT

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[EL21]²

switch controls and functions detailed

Not Observable

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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warehouses: In warehouses, the Does Not

open plan office areas: Occupant Does Not

reduce the connected lighting load in

Interior Lighting Compliance Statement

requirements listed in the Inspection Checklist.

Project Title: A NEW SHELL BUILDING IMPROVEMENT

C405.2.2. Spaces required to have light-

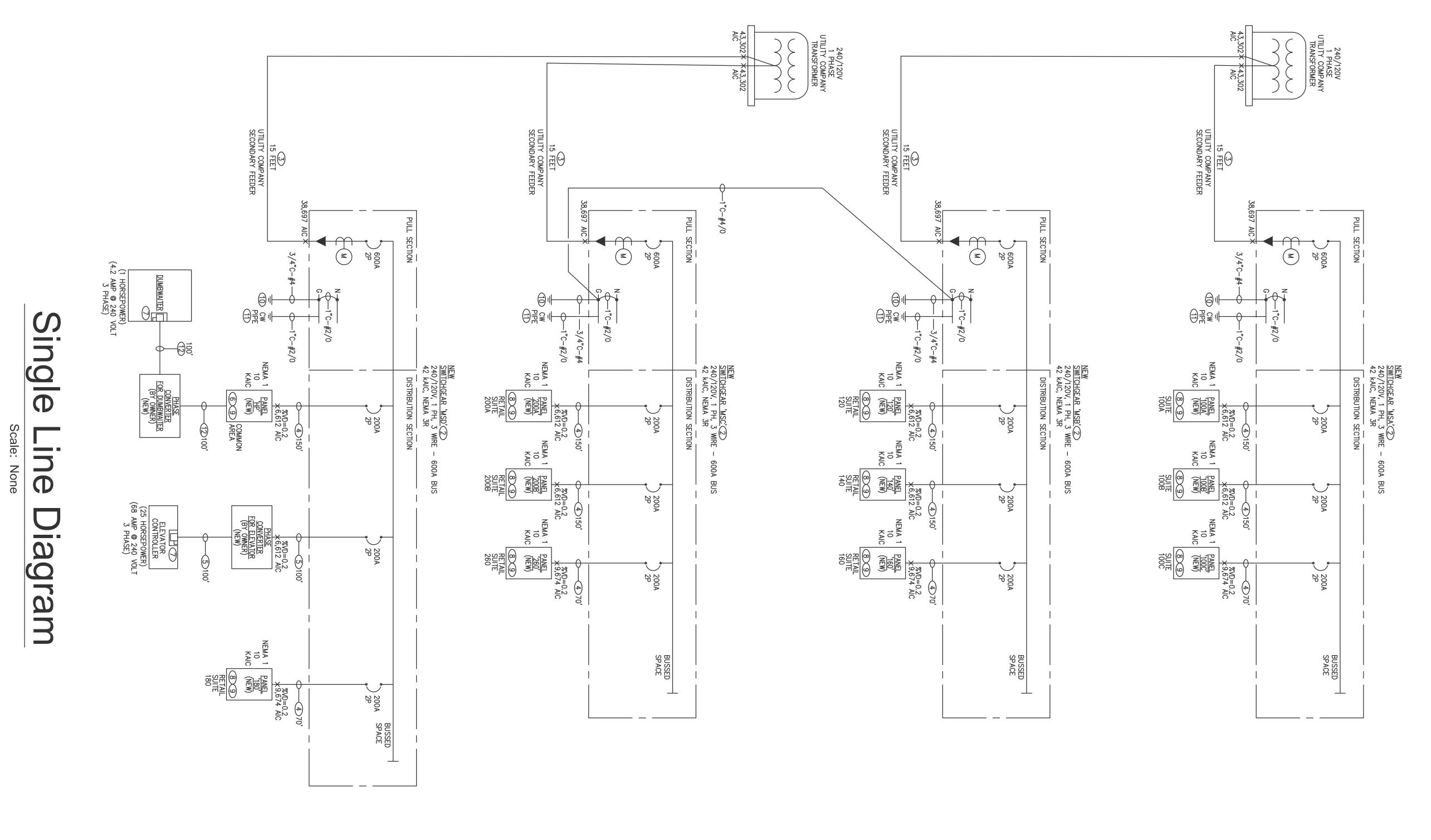
[EL22]¹ control that allows the occupant to

pattern >= 50 percent. C405.2.1, Occupancy sensors installed in

C405.2.1. classrooms/lecture/training rooms,

[EL18]¹ rooms, copy/print rooms,

& Req.ID



BO(RETAIL) 672 SQ FT C C C C C C C C C						
REA 672 SQ.FT DEMAND WATTS WATTS DEMAND WATTS WATTS DEMAND WATTS G.FT FACTOR WATT FER SQ.FT SQ.FT FACTOR WATT FACTOR WATT FACTOR WATT FACTOR WATT MATT FACTOR WATT MATT MATT			5			
REA	UITE #180 (KETAIL)	7/۵	yu			_
WATTS DEMAND WATTS DEMAND WATTS DEMAND WATTS WATTOR WATTTS DEMAND WATTTS WATTT WATTT	TOTAL AREA	672	SQ FT			
PER SQ FT SQ FT FACTOR 4ART SART 1.5 672 1.25 1 G 1.5 672 1.25 1 2 3 672 1 1 2 1 2 1 2 1 1 2 1		WATTS		DEMAND	×	ATTS
ARIT 1.5 672 1.25 1 G 1.5 672 1.25 1 3 672 1 2 8 672 1 1 9 1 1200 1 1 1 1200 1 1 1 1 1200 1 1 1 1 28234 1.25 35 SEPOWER) 28234 1.25 35 SEPOWER) 24000 1.25 30 INGEXTERIOR 24000 1.25 30 INGEXTERIOR 30 30 30 AL 75 30 30 ENIT FOR FUTURE 18 39331 1 240 240 93		PER SQ FT	SQ FT	FACTOR		
G 1.5 672 1.25 1 3 672 1 3 672 1 2 1 20 8 672 1 9 1 1200 1 9 1 1200 1 9 1 1200 1 9 2 2 2 3 4 1.25 3 9 3 5 2 2 3 4 1.25 3 9 3 6 7 2 1 9 3 9 3 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 1 9 3 9 3 1 1 1 1 1 1 1 1 1 9	RETAIL PART					
3 672 1 2 2 5 5 5 5 5 5 5 5 5	LIGHTING	1.5		1		1260
SIGNAGE	POWER	(L)				2016
1 1200 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	HVAC	8				5376
1 1200 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						
28234 1.25 35 28200 1.25 30 24000 1.25 30 30 30 30 30 30 30 30 30 30 30 30 30 3	RETAIL SIGNAGE					1200
28234 1.25 35 28234 1.25 35 28200 1.25 30 24000 1.25 30 30 30 31 31 32 32 32 33 33 33 33 33 33 33 33 33 33	OMMON ARFA LOAD					
28234 1.25 35 24000 1.25 30 24000 1.25 30 30 30						
24000 1.25 30 24000 1.25 30 30 31 / 240 39331 / 240	ELEVATOR		28234			35293
24000 1.25 30 24000 1.25 30 30 30 30 30 30 30 30 30 30 30 30 30 3	25 HORSEPOWER)					
24000 1.25 30 24000 1.25 30 30 31	(68 AMPS @					
24000 1.25 30 24000 1.25 30 75 18 93931 / 240 93	240 VOLT, 3 PHASE)					
75 78 79 79 79 79 79 79 79 79	HOUSE PANEL 'HP'		24000	1		30000
75 18 18 93931 / 240	(INCLUDING EXTERIOR					
75 18 93931 / 240	LIGHTING)					
18 93931 / 240						
93931 / 240	SUBTOTAL					75145
93931 / 240 93	25 PERCENT FOR FUTURE					18786
93931 / 240 93						
/ 240	TOTAL					93931
		93931	_	240		391 AMPS

SERVICE LOAD CALCULATION 'MSC'	N 'MSC'					
SUITE #200 (RETAIL)	1493	1493 SQ FT				
SUITE #260 (RETAIL)	1726	1726 SQ FT				
TOTAL AREA	3219	3219 SQ FT				
	WATTS		DEMAND	٧	WATTS	
	PER SQ FT	SQ FT	FACTOR			
RETAIL PART						
LIGHTING	1.5	3219	1.25		6036	
POWER	3	3219	1		9657	
JAVH	8	3219	1		25752	
RETAILSIGNAGE	3	1200	1		3600	
EXTERIOR LIGHTING		5000	1.25		6250	
SUBTOTAL					51295	
25 PERCENT FOR FUTURE					12824	
TATOT					64119	
	64119	/	240		267 AMPS	MPS
THEREFORE, PROVIDE A NEW 600 AMP SERVICE.	N 600 AMP S	ERVICE.				

	3600	Ľ	1200	ω	RETAIL SIGNAGE
	25752	12	3219	8	HVAC
	9657	₽	3219	3	POWER
	6036	1.25	3219	1.5	LIGHTING
					RETAIL PART
		FACTOR	SQ FT	=	
	WATTS	DEMAND		WATTS	
			3219 SQ FT	3219	TOTAL AREA
			1726 SQ FT	1726	SUITE #260 (RETAIL)
			1493 SQ FT	1493	SUITE #200 (RETAIL)
				N 'MSC'	SERVICE LOAD CALCULATION 'MSC'
			ERVICE.	V 600 AMP S	THEREFORE, PROVIDE A NEW 600 AMP SERVICE
209 AIVIPS	7607	240	/	50261	
;	2 1	3	,	1	
	50261				TOTAL
	10052				25 PERCENT FOR FUTURE
	40209				SUBTOTAL
		!			
	6250	1.25	5000		EXTERIOR LIGHTING
	,		700		KEIAIESIONAGE
	3600	2	1200	J	
	18864		2358	8	HVAC
	7074	₽	2358	3	POWER
	4421	1.25	2358	1.5	LIGHTING
					RETAIL PART
		FACTOR	SQ FT	그	
	WATTS	DEMAND		WATTS	
			2358 SQ FT	2358	TOTAL AREA
			9/3 JUF1	6/5	OTTE #160 (RETAIL)
			973 SO ET	072	SUITE #160 (RETAIL)
			716 60 57	716	TF #1 10 (BFT)
				/ 03	UOII F #140 (NEI AIE)

PROVIDE BOND TO COLD WATER PIPE WITHIN 5 FEET OF BUILDING AS REQUIRED 250.

ROVIDE CONCRETE ENCASED ELECTRODE CONSISTING OF MINIMUM 20 FEET OF SOPPER WIRE OR 1/2 INCH STEEL REBAR ENCASED IN CONCRETE AS REQUIRED 50.

		AMP.	CE TO 600 /) AMP SERVI	THEREFORE, UPGRADE EXISTING 400 AMP SERVICE TO 600 AMP.
AMPS	563	240	/	135155	
	135155				TOTAL
	27031				25 PERCENT FOR FUTURE
	108124				SUBTOTAL
	6250	1.25	5000		EXTERIOR LIGHTING
	4800		1200	Ľ	SIGNAGE
	47160	1	4716	10	HVAC
	11484	1	3828	3	POWER DINING
	26640	1	888	30	POWER FOOD PREP
	11790	1.25	4716	2	LIGHTING
		FACTOR	SQ FT	PER SQ FT	
	WATTS	DEMAND		STTAW	
			4716		TOTAL BUILDING AREA
			888		TOTAL AREA FOOD PREP
			227		3RD FLOOR 3RD BAR
			661		2ND FLOOR KITCHEN
					FOOD PREP
			3828		TOTAL AREA DINING
			1064		3RD FLOOR BAR DECK
			964		2ND FLOOR 2ND BAR
			1800		1ST FLOOR RESTAURANT

		;	7 70 000		
563 AMPS	563	240	/	135155	
	135155				TOTAL
	27031				25 PERCENT FOR FUTURE
	108124				SUBTOTAL
	6250	1.25	5000		EXTERIOR LIGHTING
	4800		1200	1	SIGNAGE
	47160	1	4716	10	HVAC
	11484	1	3828	ω	POWER DINING
	26640	1	888	30	POWER FOOD PREP
	11790	1.25	4716	2	LIGHTING
		FACTOR	SQ FT	PER SQ FT	
	WATTS	DEMAND		WATTS	
			4716		TOTAL BUILDING AREA
			888		TOTAL AREA FOOD PREP
			227		3RD FLOOR 3RD BAR
			661		2ND FLOOR KITCHEN
					FOOD PREP
			3828		TOTAL AREA DINING
			1064		3RD FLOOR BAR DECK
			964		2ND FLOOR 2ND BAR
			TOU		TO I FLOOR RESTAURANT

(PHASE CONVERTER SHALL CONVERT VOLTAGE F 120/240 VOLT, 1 PHASE, 3 WIRE TO 120/240
	CONTRACTOR MUST VERIFY AND COORDINATE ALL CONTRACTOR MUST VERIFY AND COORDINATE ALL CONTRACTOR MORK PHASE CONVERTER AND PHASE CONVERTER AND COTHER SUCH REQUIREMENTS IN ORDER TO ENSI
6	PROVIDE BUILDING HOUSE PANEL FOR COMMON DETAILS.
0	PROVIDE MANUFACTURER'S MAXIMUM RECOMMEN
<u>©</u>	PROVIDE NEW SUBPANEL WITH ALL CIRCUIT BREAKIFOR COMPLETE AND FULLY OPERABLE SYSTEM. PLESIGNATION. SEE UNIT ELECTRICAL PLANS FOR ISUBPANEL. EXISTING FEEDER MAY BE REUSED IF CONDITION.

120, CON PHA REQI BOTH	120, CON PHA REQI BOTH OTHI
240 VOLT, 1 PHASE, 3 WIRE TO 120/240 VOLT, 3 PHASE, 4 WIRE. RACTOR MUST VERIFY AND COORDINATE ALL APPLICABLE REQUIREMENTS FOR RACTOR MUST VERIFY AND COORDINATE ALL APPLICABLE REQUIREMENTS FOR JIRED, IF ANY DISCONNECT SWITCHES AND/OR OVERCURRENT PROTECTION IS REQUIRED, IF ANY DISCONNECT SWITCHES AND OUTGOING TO ELEVATOR AND ANY AND ALL INCOMING INTO PHASE CONVERTER AND OUTGOING TO ELEVATOR AND FULLY OPERABLE SYS.	240 VOLT, 1 PHASE, 3 WIRE TO 120/240 VOLT, 3 PHASE, 4 WIRE. RACTOR MUST VERIFY AND COORDINATE ALL APPLICABLE REQUIREMENTS FOR RACTOR MUST VERIFY AND COORDINATE ALL APPLICABLE REQUIREMENTS FOR SECONVERTER PRIOR TO START OF WORK INCLUDING ALL FEEDER CONDUIT AND WIRE JIRED, IF ANY DISCONNECT SWITCHES AND OVERCURRENT PROTECTION IS REQUIRED INCOMING INTO PHASE CONVERTER AND OUTGOING TO ELEVATOR AND ANY AND ALL REQUIREMENTS IN ORDER TO ENSURE COMPLETE AND FULLY OPERABLE SYSTADE BUILDING HOUSE PANEL FOR COMMON AREA LOADS. SEE PANEL SCHEDULE 'HP'ILLS.
FEEDER FOR COMMERCIAL TYPE ELEVATOR VIA PHASE CONVERTER FURNISHED BY OWNER PHASE CONVERTER SHALL CONVERT VOLTAGE FROM 120/240 VOLT, 1 PHASE, 3 WIRE TO 120/240 VOLT, 3 PHASE, 4 WIRE. CONTRACTOR MUST VERIFY AND COORDINATE ALL APPLICABLE REQUIREMENTS FOR PHASE CONVERTER PRIOR TO START OF WORK INCLUDING ALL FEEDER CONDUIT AND WIREQUIRED, IF ANY DISCONNECT SWITCHES AND/OR OVERCURRENT PROTECTION IS REQUIRED BOTH INCOMING INTO PHASE CONVERTER AND OUTGOING TO ELEVATOR AND ANY AND ALL OTHER SUCH REQUIREMENTS IN ORDER TO ENSURE COMPLETE AND FULLY OPERABLE SYS	FEEDER FOR COMMERCIAL TYPE ELEVATOR VIA PHASE CONVERTER FURNISHED BY OWNER. PHASE CONVERTER SHALL CONVERT VOLTAGE FROM 120/240 VOLT, 1 PHASE, 3 WIRE TO 120/240 VOLT, 3 PHASE, 4 WIRE. CONTRACTOR MUST VERIFY AND COORDINATE ALL APPLICABLE REQUIREMENTS FOR PHASE CONVERTER PRIOR TO START OF WORK INCLUDING ALL FEEDER CONDUIT AND WIRE REQUIRED, IF ANY DISCONNECT SWITCHES AND/OR OVERCURRENT PROTECTION IS REQUIRE BOTH INCOMING INTO PHASE CONVERTER AND OUTGOING TO ELEVATOR AND ANY AND ALL OTHER SUCH REQUIREMENTS IN ORDER TO ENSURE COMPLETE AND FULLY OPERABLE SYSTEMOVIDE BUILDING HOUSE PANEL FOR COMMON AREA LOADS. SEE PANEL SCHEDULE 'HP' DETAILS.
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ON INCOMING ELECTRICAL EQUIPMENT PER 2011 NEC 110.16 RRNING: POTENTIAL ELECTRIC ARC FLASH HAZARD EXISTS WHILE UIPMENT".	ALIERNAIE MEANS AND MEIHODS TO IMPLEMENT WORK DIT COMPLIES WITH ALL APPLICABLE STATE, LOCAL AMENDMENTS.
	ON INCOMING ELECTRICAL EQUIPMENT PER 2011 NEC 110.16 ARNING: POTENTIAL ELECTRIC ARC FLASH HAZARD EXISTS WHILE JUIPMENT".

REQUIRED VOLTAGE DROP CALCULATIONS FOR ALL BRANCH
CIRCUITS AND FEEDERS PER THE 2017 NATIONAL ELECTRICAL
CODE, ARTICLE 210.19(A)(1) FPN NO. 4.
THE DESIGN PROFESSIONAL HAS PERFORMED ALL THE REQUIRED SHORT CIRCUIT CALCULATIONS AND THE
AIC RATING INDICATED FOR EACH DEVICE IS ADEQUATE TO
PROTECT THE EQUIPMENT AND THEELECTRICAL SYSTEM.

PENSO ENGINEERING 12237 CRYSTAL SHORE AVE. LAS VEGAS, NEVADA 89138 (702) 860-7805

	revisions		
#	date	description	



CONTRACTOR SHALL FIELD VERIFY EXACT SITE CONDITION PRIOR TO COMMENCEMENT OF WORK SHOWN HEREIN.

GENERAL NOTES

CONTRACTOR SHALL COORDINATE ALL NEW WORK DESCRITRADES PRIOR TO START OF WORK.

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