









1. Design Criteria

- 1.1. Governing Building Code: 2018 International Building Code (IBC)
A. Patient Tower Risk Category: III
1.2. Floor Live Loading:
A. Typical Floor: 80 psf Live Load + 20 psf Partitions
B. Ceiling: 20 psf Live Load
1.3. Earthquake:
A. Seismic Design Category: D
B. Spectral Response Accelerations:
Ss = 1.05 g, S1 = 0.39 g, S2 = 0.75 g, S3 = 0.45 g
C. Soil Site Class: D
F0 = 1.2, F1 = 1.95
1.4. Seismic Requirements for Nonstructural Components
A. Analysis Procedure: ASCE 7 Chapter 13 - Seismic Design Requirements for Nonstructural Components
B. Spectral Response Acceleration, Sns: 0.75g
C. Component Importance Factor, I: 1.0
D. Seismic Coefficients for Architectural Components, Medical Equipment:
a1 = 1, R0 = 2.5, a2 = 2
1.5. Foundation
A. Subsurface Conditions:
Borehole logs and log of borings were obtained by the Owner for the Engineer's use in the design of the foundation, and is not a part of the Contract Documents. This report and log of borings is available for the Contractor's information, but is not a warranty of the subsurface conditions. The Contractor may use the report at their own risk.
B. Soils report by CMT Engineering Laboratories dated December 30th 2020.
C. Soil Bearing Pressure: 2000 psf on 12-inch Min. compacted fill

2. Earthwork

- 2.1. Clearing: The entire building area shall be scraped to remove the top 4 inches of soil, including all vegetation and debris.
2.2. Proof rolling: The natural undisturbed soil below all footings shall be proof rolled prior to placing structural fill. Remove all soft spots and replace with stabilization fill.
2.3. Compacted structural fill: Structural fill shall be provided under slab/footing. All fill material shall be a well-graded sand/gravel mixture, with maximum particle size of 4-inches, a minimum 70% passing 3/4-inch sieve, a maximum 20% passing the No. 200 sieve, and a maximum Plasticity Index of 10. It shall be compacted to 95 percent of the maximum laboratory density as determined by ASTM D1557. All fill shall be tested.
2.4. It shall be the responsibility of the Contractor to brace and shore excavations as required.
2.5. Subbase course (compacted fill to support floor slab): Same Material as Compacted Structural fill described in GSN Paragraph 2.3
2.6. Drainage Course: The drainage material should be a compactible, easy to trim, granular fill that will remain stable and support construction traffic.
A. Open Graded: Crushed rock with 100% passing the 1 inch sieve and 100% retained on the No. 4 sieve.
B. Compacted: Crushed rock with 100% passing the 1 inch sieve and 100% retained on the No. 4 sieve.
C. Concrete: Crushed rock with 100% passing the 1 inch sieve and 100% retained on the No. 4 sieve.

3. Concrete

- 3.1. Materials shall comply with the Standards specified in American Concrete Institute (ACI) 318-14, "Building Code Requirements for Structural Concrete".
A. Concrete mix design requirements shall be as follows:

Table with 7 columns: Location, Fc at 28 days (psi), Fc at 56 days (psi), Max W/C Ratio, Air Content (%), Max Aggregate Size, Exposure Classes. Row: Reinforced Slab on Grade / Mat Footing.

- Exposure Classes are per ACI 318, Section 19.3.1.1, where F, S and C are exposure categories for heating and thawing, sulfate, and corrosion protection of reinforcement, respectively.
B. Cementitious Materials:
1. Portland Cement (ASTM C150):
a. Type I or II for exposure class S0.
2. Fly Ash (ASTM C618, Class C or F): maximum fly ash content as a percentage of total weight of cementitious materials shall be 25 percent.
C. Concrete Density (Maximum Air Dry Weight):
1. Normal weight concrete shall be approximately 145 to 155 pounds per cubic foot. Aggregate shall be ASTM C33.
D. Steel Reinforcement:
1. ASTM A615 Grade 60, fy = 60,000 psi min. unless noted otherwise.
E. Admixtures:
1. Air-entraining admixtures, comply with ASTM C 260 (when used).
a. Tolerance on air content as delivered shall be +/- 1.5%.
b. When air content of a trowel finished floor slab exceeds 3%, there is an increased risk for delamination and blistering to occur.
2. The use of super plasticizers and water reducers is allowed, but not required.
3. Calcium chloride or admixtures containing calcium chloride shall not be added to the concrete mix.
F. Chloride Ion: Maximum water soluble chloride ion concentrations in hardened concrete at age between 28 and 42 days contributed from the ingredients including water, aggregates, cementitious materials, and admixtures shall not exceed a maximum, by weight of cement, of 1.00% for concrete with exposure class C0.
G. Slump Limit: 4 inches, maximum for all concrete prior to the addition of plasticizers and water reducing admixtures.
H. Shrinkage Limit: Interior slabs on grade shall have a drying shrinkage limit of 0.030 percent tested in accordance with ASTM C157.
I. Formwork shall comply with ACI Standards Publication 347 and the project specifications.
3.2. Formwork shall be responsible for the design, detailing, care, placement and removal of the formwork and shores.
3.3. Concrete cover requirements for deformed bar reinforcing steel shall comply with ACI 318, "Building Code Requirements for Structural Concrete".
A. Cast-in-place Concrete:
1. Cast against and permanently exposed to earth: 3"
2. Formed concrete exposed to earth or weather:
#8 thru #18 bars: 2"
#5 and smaller bars: 1 1/2"
3. Concrete not exposed to weather or in contact with ground:
Slabs, Walls, Joists: #11 bars and smaller: 3/4"
Beams, Columns: primary reinforcement, ties, stirrups, spirals: 1 1/2"
3.4. Construction Joints:
A. All horizontal and vertical construction joints shall have a surface intentionally roughened to 1/4" amplitude.
B. Provide reinforcement to match the member reinforcement across the joint, unless noted otherwise.
3.5. Detailing: All reinforcing, shall be detailed, bolstered & supported to comply with ACI 315, "Details and Detailing of Concrete Reinforcement" and the Concrete Reinforcing Steel Institute (CRSI) recommendations.
3.6. No aluminum conduit or product containing aluminum or any other material injurious to concrete shall be embedded in concrete.
3.7. Unless otherwise noted, all slabs on grade shall be 4" thick.

4. Cold-Formed Steel

- 4.1. Material:
A. Stud:
1. Base metal thickness of less than 54 mil: ASTM A1003 or A653, Fy = 33 ksi.
2. Base metal thickness of 54 mil or greater: ASTM A1003 or A653, Fy = 50 ksi.
B. Track, Connection Clips, and Miscellaneous Shapes:
1. Base metal thickness of less than 54 mil: A1003 or A653, Fy = 33 ksi.
2. Base metal thickness of 54 mil or greater: A1003 or A653, Fy = 50 ksi.
4.2. Design, fabrication and construction shall comply with the following Codes and Standards:
A. American Iron and Steel Institute (AISI) S100-16, "North American Specification for the Design of Cold-Formed Steel Structural Members", dated 2016.
B. American Iron and Steel Institute (AISI) S202-15: Code of Standard Practice for Cold-Formed Steel Framing, 2015.
C. American Iron and Steel Institute (AISI) S220-15, "North American Standard for Cold-Formed Steel Framing-Nonstructural Members".
D. American Iron and Steel Institute (AISI) S240-15: North American Standard for Cold-Formed Steel Structural Framing.
E. American Iron and Steel Institute (AISI) S400-15/S1-16: North American Standard for Seismic Design of Cold-Formed Steel Structural Systems, 2015, with Supplement 1, dated 2016.
4.3. Non-Load-Bearing Exterior Cold-Formed Steel Framing:
A. All non-load bearing exterior cold-formed steel (and/or) joist framing members along with all runner, bridging, and end track shall be of the designation shown on the plans, schedules, and details.
B. All components shall be galvanized.
C. Where not noted in the drawings, all framing members shall have a base metal thickness of 33 mil or greater.
D. All jamb, header, and sill components shall be continuous without splices unless noted otherwise.
E. Web punchouts in header stud members shall not be located within 12 inches of the support.
F. Fasteners for steel stud construction shall be self-drilling and self-tapping meeting ASTM C1513.
G. See the Typical Steel Stud Wall Bridging Detail for wall stud bridging requirements.
H. Wall to floor or roof connections shall use deflection tracks or steel clips designed to accommodate vertical deflection of the floor or roof structure.
I. Connection clips as specified in the schedules and details use The Steel Network (TSN) products as the basis of design.
J. Proprietary headers, jamb studs, and other miscellaneous framing may be substituted for framing as shown in the NON-LOAD-BEARING EXTERIOR STEEL STUD FRAMING SCHEDULE but must be submitted to the Engineer & reviewed prior to ordering material or fabricating & installing such components.

4.4. Welding:

- A. The steel stud contractor shall contact the Quality Assurance Agency prior to beginning any welds.
B. Certification of Welders: All shop and field welding shall be executed by AWS certified welders who have been specifically certified for the process of welding being performed.
C. Unless noted otherwise, all welded connections shall be done using 1/8" AWS type 6013 or 7014 rod with a welding heat of 60-110 amperes depending on the gauge of material and the fit of the parts.
4.5. Submit complete shop drawings of all elements for review.
4.6. Submittals with Prefabricated Structures or systems intended to replace conventional framing herein shall have complete shop drawings and calculations of all elements for review and bear the stamp of a Professional Engineer registered in the State of Utah.

5. Miscellaneous

- 5.1. Post-Installed Anchors in Concrete and Masonry
A. Anchorage to hardened concrete shall include all mechanical and adhesive anchors and epoxy doweled reinforcing bars of size, quantity, spacing, and embedment as shown on the drawings.
B. Special inspection is required during the installation of all post-installed anchors.
C. Anchorage to Concrete:
1. All post-installed anchors into hardened concrete shall be selected from the following pre-approved products, unless noted otherwise:
Steel Screw Anchor:
Hilti KWIK HUS-EZ (ICC ESR-3027)
DeWalt Screw-Bolt+ (ICC ESR-3889)
Simpson Titen HD (ICC ESR-2713)
Steel Expansion/Wedge Anchor:
Hilti KWIK Bolt 2 (ICC ESR-1917)
DeWalt Power-Stud+ SD2 (ICC ESR-2502)
Simpson Strong-Bolt 2 (ICC ESR-3037)
Adhesive Anchor System:
Hilti HIT-HY 200 (ICC ESR-3187)
Hilti HIT-RE 500 V3 (ICC ESR-2614)
DeWalt AC208 (ICC ESR-4027)
DeWalt Pure 110+ (ICC ESR-3298)
Simpson SET-3G (ICC ESR-4057)
2. Adhesive anchors shall be installed into concrete having a minimum age of 21 days.
D. Alternate anchors or adhesives are permitted with approval of the Engineer.
E. Installation of adhesive anchors horizontally or upwardly inclined to support sustained tension loads shall be performed by personnel certified by an applicable certification program.
F. Anchors shall be installed according to the Manufacturer's Printed Installation Instructions and applicable code evaluation reports including:
1. Hole diameter, depth, and cleaning procedure.
2. Adhesive mixing, preparation, and placement.
3. Installation torque
G. Locate all existing reinforcement and embedded items prior to drilling into concrete or masonry elements.
H. Grout all defective or abandoned holes with non-shrink grout or an injectable epoxy adhesive matching the surrounding concrete compressive strength.
I. Drilled anchors are not allowed in post-tensioned concrete without approval of the Architect and Engineer.
J. Carbon steel anchors are limited to use in dry, interior locations.
K. Holes for post-installed anchors may not be core drilled unless specifically allowed by the manufacturer's installation instructions and the code evaluation report.

6. Special Instructions

- 6.1. The project specifications are not superseded by the General Structural Notes but are intended to be complementary to them.
6.2. The architectural drawings are the prime contract drawings.
6.3. The structural drawings shall be used in conjunction with the architectural drawings.
6.4. Shoring and Bracing Requirements:
A. Floor and Roof Structures - The General Contractor is responsible for the method and sequence of all structural erection.

- B. Foundation walls must be braced until the complete floor or roof systems is completed.
C. Walls above grade shall be braced until the structural system is complete.
6.5. All expansion joints (E.J.) shown in the structural drawings shall be considered seismic separation joints, unless noted otherwise.
6.6. Submittals: A copy of all shop drawings that have been submitted for review must be kept at the construction site for reference.
6.7. Project Coordination: It shall be the responsibility of the General Contractor to coordinate with all trades any and all items that are to be integrated into the structural system.
6.8. Contractor shall field verify all dimensions, and conditions.
6.9. Notice of Copyright: The structural drawings, plans, schedules, notes and details are hereby copyrighted by Reaveley Engineers.

7. Quality Assurance

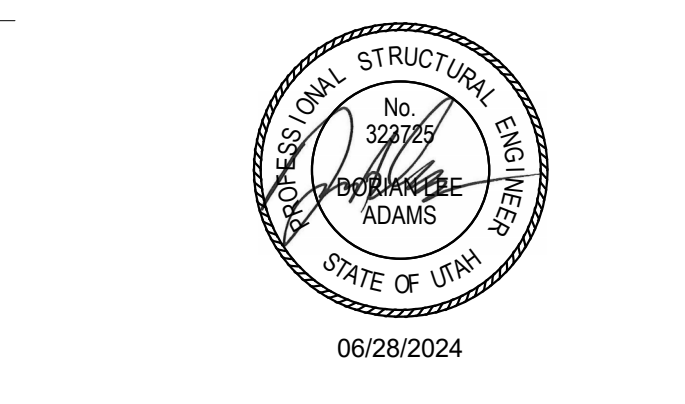
- 7.1. Quality Assurance Agency Requirements:
A. The Owner shall engage a qualified Quality Assurance Agency (QAA) to provide all special inspection and quality assurance testing for the project.
7.2. Contractor Responsibilities:
A. The Contractor shall submit a written statement of responsibility to the building official and the Owner or the owner's authorized agent prior to the commencement of work on the systems or components listed in the statement of special inspections.
7.3. Structural Observations by the Engineer of Record:
A. The Engineer of Record will perform structural observations at critical phase of the project.
B. Observation visits to the site by the Engineer's field representatives shall not be construed as inspection or approval of construction.

8. Statement of Special Inspections

- 8.1. The following materials, systems and components require special inspection or testing per Chapter 17 of the International Building Code (IBC).
8.2. For items requiring continuous inspection, a special inspector must be present onsite during the performance of that task.

Concrete Construction per IBC Sections 1705.3 & 1705.12

Table with 3 columns: Item, Frequency, Detailed Instructions. Rows include Reinforcing steel, Cast-in bolts & embeds, Post-installed adhesive anchors, Concrete sampling for strength tests, Curing temperature and techniques, In-situ strength verification, Formwork.



INTERMOUNTAIN HEALTHCARE LRH PET/CT
500E 1400N LOGAN, UT 84341



Table with 2 columns: Role, Name. Roles include Project Manager, Project Health Planner, Project Architect, etc.

Table with 2 columns: MARK, DATE, DESCRIPTION. Row: Sheet Reviewer, CEB, 06/28/2024

Table with 2 columns: MARK, DATE, DESCRIPTION. Multiple empty rows for project notes.

Table with 2 columns: Project Number, Original Issue. Values: 10394200, 06/28/2024

GENERAL STRUCTURAL NOTES

SE001







































































### SWITCHBOARD "QSWBH" (EXISTING)

VOLTS/PHASE/WIRE: 480/277 V, 3 PH, 4 WIRE		MAIN SIZE & TYPE: 1800 AMPERE MAIN		LOCATION: MAIN ELEC. ROOM 1622		NOTES:	
ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR				AIC RATING: 65000			
CKT NO	OCP	LOAD (KVA)			PHASE LOAD (KVA)		
		AMP	POLE	LTG	A	B	C
1	200	3	0.0	60.8	2.0	21.0	21.4
2	225	3	0.0	67.7	0.0	22.6	22.6
3	225	3	0.0	6.0	0.0	2.0	2.0
4	225	3	0.0	10.6	0.0	3.5	3.5
5	1200	3	0.0	708.9	0.0	236.8	236.4
6	90	3	0.0	50.0	0.0	16.7	16.7
7	80	3	0.0	12.5	0.0	4.2	4.2
8	200	3	0.0	65.4	0.0	21.8	21.8
9	150	3	0.0	52.6	0.0	18.4	17.1
10	225	3	0.0	0.0	0.0	0.0	0.0
11	225	3	0.0	0.0	0.0	0.0	0.0
12	225	3	0.0	0.0	0.0	0.0	0.0
13	--	1	0.0	0.0	0.0	--	--
14	--	1	0.0	0.0	0.0	--	--
15	--	1	0.0	0.0	0.0	--	--
16	--	1	0.0	0.0	0.0	--	--
<b>TOTALS:</b>				CONNECTED KVA PER PHASE	<b>346.3</b>	<b>344.2</b>	<b>346.0</b>
				CONNECTED AMPS PER PHASE	<b>1251</b>	<b>1243</b>	<b>1250</b>
				TOTAL CONNECTED KVA =	<b>1036.5</b>		
				AVERAGE CONNECTED AMPS PER PHASE =	<b>1247</b>		

#### NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING & CONTINUOUS LOADS: RECEPTACLES: <b>2.0 kVA @ 100% = 2.0 kVA</b> KITCHEN EQUIPMENT: <b>18.7kVA@65%=12.2kVA</b> ELEVATORS: <b>115.3kVA@85%=98.0kVA</b> ALL OTHER LOADS @ 100%: <b>900.4 kVA</b>	- 100% CONNECTED LOAD PLUS 25% - FIRST 10kVA @ 100%, REMAINDER @ 50% - 65% CONNECTED LOAD PER NEC - 85% CONNECTED LOAD PER NEC - MOTOR TOTALS INCLUDED IN ALL OTHER LOADS WITH LARGEST MOTOR CALCULATED @ 125% PER NEC	TOTAL DIVERSIFIED KVA = <b>1019.7</b> AVERAGE AMPS PER PHASE = <b>1226</b>
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NOTES:  
1) USE EXISTING BREAKER TO FEED NEW CIRCUIT.

### PANEL: "1LA2"(EXISTING)

VOLTS/PHASE/WIRE: 120/208V, 3 PH 4 WIRE		PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON		MAIN SIZE AND TYPE: 225 AMPERE MAIN LUGS		FED FROM: MSWBL		CABINET: SURFACE		LOCATION: MAIN ELEC. ROOM 1623		NOTES:			
ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR				AIC RATING: 22000											
CKT NO	OCP	LOAD (KVA)			PHASE LOAD			DESCRIPTION	LOAD (KVA)			OCP	AMP	CKT	
		AMP	POLE	LTG	A	B	C		CO	PWR	LTG				
1	20	1	0.0	0.0	1.3				0.0	1.1	0.0	1	20	2	
3	20	1	0.0	0.0	1.4				0.0	0.7	0.0	1	20	4	
5	20	1	0.0	0.0	1.4				0.0	1.7	0.0	1	20	6	
7	20	1	0.0	0.0	1.4				0.0	1.3	0.0	1	20	8	
9	20	1	0.0	0.0	1.4				0.0	1.4	0.0	1	20	10	
11	20	1	0.0	0.0	1.4				0.0	1.4	0.0	1	20	12	
13	20	1	0.0	0.0	1.4				0.0	1.4	0.0	1	20	14	
15	20	1	0.0	0.0	0.7				0.0	0.7	0.0	1	20	16	
17	20	1	0.0	0.0	1.4				0.0	1.4	0.0	1	20	18	
19	20	1	0.0	0.0	1.3				0.0	1.3	0.0	1	20	20	
21	20	1	0.0	0.0	1.3				0.0	1.3	0.0	1	20	22	
23	20	1	0.0	0.0	1.4				0.0	1.4	0.0	1	20	24	
25	20	3	0.0	4.9	0.0				0.0	1.6	1.3	0.0	1	20	26
27	--	--	--	--	--				0.0	1.6	0.2	0.0	1	20	28
29	--	--	--	--	--				0.0	1.6	1.4	0.0	1	20	30
31	20	1	0.0	0.0	0.7				0.0	0.7	1.3	0.0	1	20	32
33	20	1	0.0	0.0	0.7				0.0	0.7	1.3	0.0	1	20	34
35	20	1	0.0	1.7	0.0				0.0	1.7	1.5	0.0	1	20	36
37	20	1	0.0	0.0	1.4				0.0	1.4	1.0	0.0	1	20	38
39	20	1	0.0	1.3	0.0				0.0	1.3	0.2	0.0	1	20	40
41	20	1	0.0	1.2	0.0				0.0	1.2	1.4	0.0	1	20	42
43	20	1	0.0	0.2	0.0				0.0	0.2	0.0	0.0	1	20	44
45	20	1	0.0	0.3	1.3				0.0	0.3	1.3	0.0	1	20	46
47	15	1	0.0	0.5	0.0				0.0	0.5	0.7	0.0	1	20	48
49	20	1	0.0	1.0	0.0				0.0	1.0	2.3	0.0	1	20	50
51	20	1	0.0	0.0	1.4				0.0	1.4	1.4	0.0	1	20	52
53	20	1	0.0	0.3	1.1				0.0	0.3	1.1	0.0	1	20	54
55	20	3	0.0	1.4	0.0				0.0	1.4	0.0	0.0	1	20	56
57	--	--	--	--	--				0.0	0.5	0.2	0.0	1	20	58
59	--	--	--	--	--				0.0	0.5	0.9	0.0	1	20	60
61	20	1	0.0	0.0	0.5				0.0	0.5	1.1	0.0	1	20	62
63	20	1	0.0	0.0	1.3				0.0	1.3	1.1	0.0	1	20	64
65	20	1	0.0	0.0	0.5				0.0	0.5	1.0	0.0	1	20	66
67	20	1	0.0	0.0	1.3				0.0	1.3	1.1	0.0	1	20	68
69	20	1	0.0	0.0	1.4				0.0	1.4	1.2	0.0	1	20	70
71	20	1	0.0	0.0	1.4				0.0	1.4	0.7	0.0	1	20	72
73	20	1	0.0	0.6	1.3				0.0	0.6	1.3	0.0	1	20	74
75	20	1	0.0	0.0	0.9				0.0	0.9	0.8	0.0	1	20	76
77	20	1	0.0	0.0	0.9				0.0	0.9	0.8	0.0	1	20	78
79	20	1	0.0	0.0	0.0				0.0	0.0	0.8	0.0	1	20	80
81	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	1	20	82
83	20	1	0.0	0.0	0.0				0.0	0.0	0.8	0.0	1	20	84
<b>TOTALS:</b>				CONNECTED KVA PER PHASE	<b>29</b>	<b>29</b>	<b>29</b>	CONNECTED TOTAL KVA =			<b>88</b>				
				CONNECTED AMPS PER PHASE	<b>245</b>	<b>242</b>	<b>245</b>	AVERAGE CONNECTED AMPS PER PHASE =			<b>244</b>				

#### NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING & CONTINUOUS LOADS: RECEPTACLES: <b>54.7 kVA @ 99% = 32.4 kVA</b> ALL OTHER LOADS @ 100%: <b>33.2 kVA</b>	- 100% CONNECTED LOAD PLUS 25% - FIRST 10kVA @ 100%, REMAINDER @ 50% - MOTOR TOTALS INCLUDED IN ALL OTHER LOADS WITH LARGEST MOTOR CALCULATED @ 125% PER NEC	DIVERSIFIED TOTAL KVA = <b>66</b> AVERAGE AMPS PER PHASE = <b>182</b>
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NOTES:  
1) USE EXISTING SPARE BREAKER IN PANEL TO FEED NEW BRANCH CIRCUIT.

### PANEL: "C1LA2"(EXISTING)

VOLTS/PHASE/WIRE: 120/208V, 3 PH 4 WIRE		PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON		MAIN SIZE AND TYPE: 600 AMPERE MAIN CB		FED FROM: TAC2		CABINET: SURFACE		LOCATION: MAIN ELEC. ROOM 1622		NOTES:			
ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR				AIC RATING: 10000											
CKT NO	OCP	LOAD (KVA)			PHASE LOAD			DESCRIPTION	LOAD (KVA)			OCP	AMP	CKT	
		AMP	POLE	BKR	A	B	C		CO	PWR	LTG				
1	20	1	0.0	1.9	0.0				0.0	1.0	0.0	1	20	2	
3	20	1	0.0	1.9	0.0				0.0	1.9	0.6	0.0	1	20	4
5	20	1	0.0	0.6	0.0				0.0	0.6	1.0	0.0	1	20	6
7	20	1	0.0	0.0	0.2				0.0	0.4	0.4	0.0	1	20	8
9	20	1	0.0	0.0	0.4				0.0	0.4	0.4	0.0	1	20	10
11	20	1	0.0	0.0	0.9				0.0	0.9	1.0	0.0	1	20	12
13	225	3	0.0	0.7	11.3				0.0	0.0	0.5	0.0	1	20	14
15	--	--	--	--	--				0.0	4.7	0.6	0.0	1	20	16
17	--	--	--	--	--				0.0	0.0	0.0	0.0	1	20	18
19	20	1	0.0	0.0	0.5				0.0	0.5	0.0	0.0	1	20	20
21	20	1	0.0	0.0	0.7				0.0	0.7	0.0	0.0	1	20	22
23	20	1	0.0	0.0	1.4				0.0	0.0	1.4	0.0	1	20	24
25	20	1	0.0	0.0	1.1				0.0	0.0	1.1	0.0	1	20	26
27	20	1	0.0	0.0	0.4				0.0	0.4	0.0	0.0	1	20	28
29	20	1	0.0	0.0	0.0				0.0	0.0	0.0	0.0	1	20	30
31	20	1	0.0	0.0	0.0				0.0	0.0	0.0	0.0	1	20	32
33	20	1	0.0	0.0	0.0				0.0	0.0	0.0	0.0	1	20	34
35	20	1	0.0	0.0	0.0				0.0	0.0	0.0	0.0	1	20	36
37	20	1	0.0	0.0	0.0				0.0	0.0	0.0	0.0	1	20	38
39	20	1	0.0	0.0	0.0				0.0	0.0	0.0	0.0	1	20	40
41	20	1	0.0	0.0	0.0				0.0	0.0	0.0	0.0	1	20	42
<b>TOTALS:</b>				CONNECTED KVA PER PHASE	<b>9</b>	<b>10</b>	<b>9</b>	CONNECTED TOTAL KVA =			<b>28</b>				
				CONNECTED AMPS PER PHASE	<b>76</b>	<b>80</b>	<b>74</b>	AVERAGE CONNECTED AMPS PER PHASE =			<b>77</b>				

#### NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING & CONTINUOUS LOADS: <b>1.2 kVA @ 125% = 1.4 kVA</b> RECEPTACLES: <b>17.3 kVA @ 79% = 13.6 kVA</b> ALL OTHER LOADS @ 100%: <b>9.1 kVA</b>	- 100% CONNECTED LOAD PLUS 25% - FIRST 10kVA @ 100%, REMAINDER @ 50% - MOTOR TOTALS INCLUDED IN ALL OTHER LOADS WITH LARGEST MOTOR CALCULATED @ 125% PER NEC	DIVERSIFIED TOTAL KVA = <b>24</b> AVERAGE AMPS PER PHASE = <b>67</b>
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NOTES:  
1) USE EXISTING SPARE BREAKER IN PANEL TO FEED NEW BRANCH CIRCUIT.

### BRANCH CIRCUIT CONDUCTOR AND CONDUIT SIZING TABLE

CIRCUIT AMPACITY/VOLTAGE	CIRCUIT LENGTH	CONDUCTOR SIZE (PHASE, NEUTRAL AND GR)	CONDUIT SIZE
20A/120V			







