Jones Gillam Renz Architects

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730 N 9th St.
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1881 Main St., Suite 301
Kansas City, MO 64108

Contact
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(785) 827-0386

Web
jgrarchitects.com

ARCHITECT'S SUPPLEMENTAL INSTRUCTIONS

JONES GILLAM RENZ DOCUMENT JGR 710

PROJECT: **The Reserves at Grand View Heights**
New Development
Laramie, Wyoming

OWNER: **Overland Property Group**
Dan Maximuk
234 N. Santa Fe Ave, Suite A
Salina, KS 67401

CONTRACTOR: **MCP Group**
3501 SW Fairlawn Rd.
Topeka, KS 66614

Report No. **Three (3)**

Date **Nov. 4, 2024**

Architect's Proj No. **22-3262**

Contract For: General Construction
Mechanical, Electrical

The work shall be carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in Contract Sum or Contract Time. Prior to proceeding in accordance with these instructions, indicate your acceptance of these instructions for minor change to the Work as consistent with the Contract Documents and return a copy to the Architect.

DESCRIPTION:

Contractor to make adjustments as needed and required per the modifications as indicated on attached drawings and in the below descriptions:

DRAWINGS:

1. Sheet C1.0 – added note "Detached Sidewalk by others".
2. Sheet C1.1 – this sheet has been added. Drawing includes information regarding responsible parties for installation and equipment procurement.
    1. Notes directly from Rocking Mountain Power (RMP):
        i. All conductors (primary loop and feeders from transformer to meter center) provided and installed by RMP
        ii. Fiberglass pads for sectionalizers, provided by RMP, installed by G.C.
        iii. Transformer provided and installed by RMP.
        iv. G.C. to provide and install all conduit (Primary: 4" with pull string, service lateral: (4)4" with pull string)
        v. G.C. to provide all and install transformer pads/vaults per RMP standards.
        vi. G.C. to install sectionalizer pads
        vii. G.C. to provide and install 36" deep x 12" wide trench
3. Sheet E1.0 – Revised Notes 1 & 2, showed primary cabling between transformers, and updated primary conduit detail
4. Sheet E6.2 – updated note for conduits to meter center and added kAIC rating for meter center
5. Sheet E6.3 – updated kAIC ratings for panels
6. Sheet E6.4 - added short circuit values to riser diagrams
7. Sheet E6.5 – added short circuit calcs to plan set

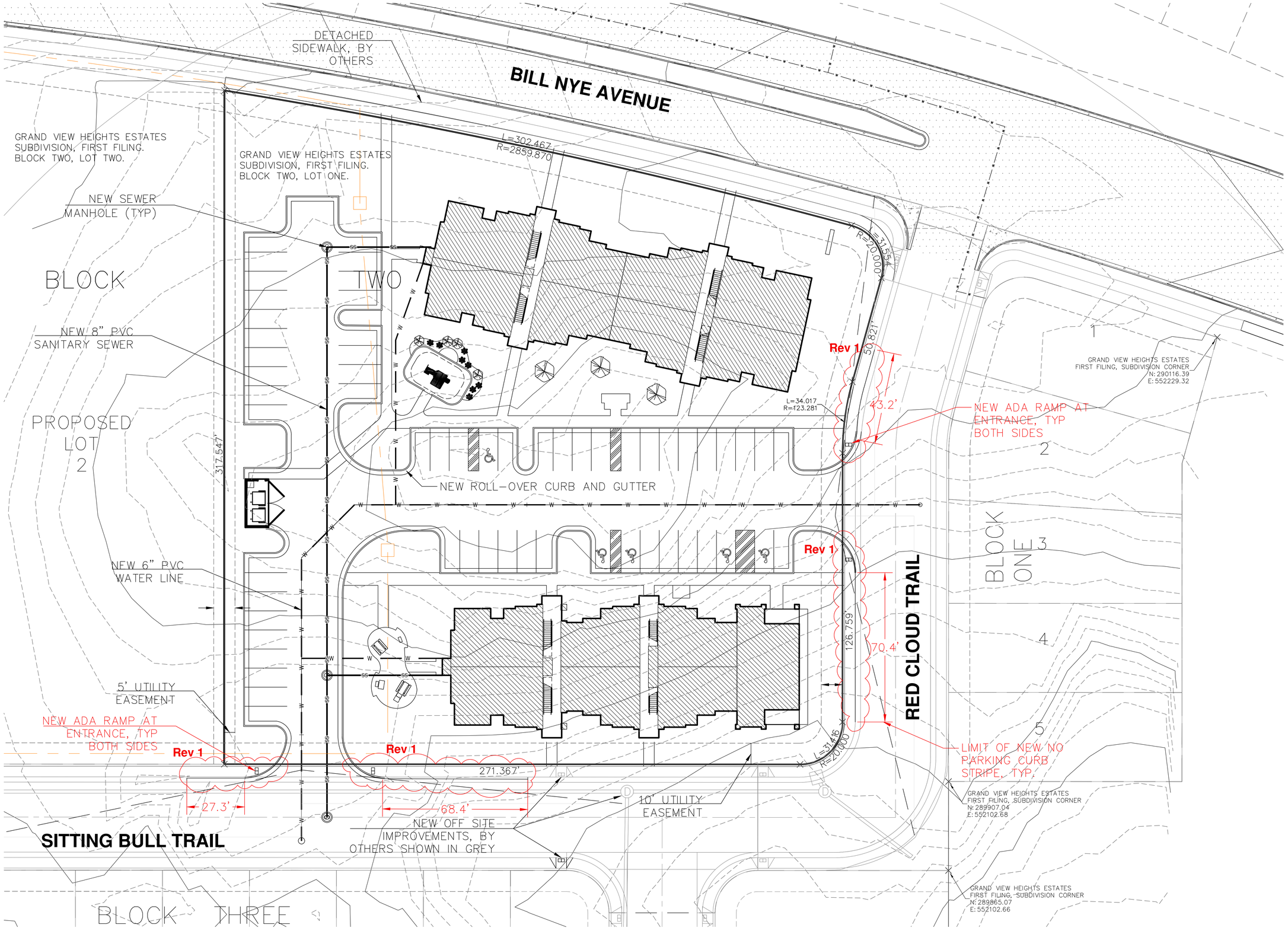
Attachments:

1. Revised Sheets C1.0, C1.1, E1.0, E6.2, E6.3, E6.4, E6.5

Issued by: Jones Gillam Renz Architects PO Box 2928, Salina, KS 67402
Maggie Gillam, Project Architect mgillam@jgrarchitects.com

Copies to:

MCP Group – Brian Murphy
OPG- Dan Maximuk, Austin Kack, Raegan Brown, Amanda Klaus
LST – Ryan Lies
Structural – Isaac Cundiff, Marcus Himmelberg
Civil – Collin Fossen



A SITE PLAN
1" = 20'-0"

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THE RESERVES AT GRAND VIEW HEIGHTS

NEW APARTMENT COMPLEX

LARAMIE, WYOMING

Professional Engineer
COLLIN D. FOSSEY
15045
Date 8/16/2024
WYOMING

REVISION: REV-1 08-16-24

DATE: 5-23-2024
JOB: 22-3262
SHEET NO.:

C1.0

PROVIDE AND INSTALL 6" CONDUITS WITH FIBERGLASS ELBOWS FOR POWER COMPANY PROVIDED PRIMARY CABLING, REFERENCE 2A.E1.0. COORDINATE ROUTING AND REQUIREMENTS WITH ROCKY MOUNTAIN POWER.

APPROXIMATE TOTAL LENGTH OF PRIMARY POWER FEED CONDUIT: 1200 LF

CONTRACTOR TO INSTALL NEW SECTIONALIZER CABINET PROVIDED BY ROCKY MTN POWER. FINAL LOCATION TO BE COORDINATED WITH POWER UTILITY

CONTRACTOR TO INSTALL CONCRETE PAD AND VAULT PER ROCKY MOUNTAIN POWER STANDARDS. FINAL LOCATION TO BE COORDINATED WITH POWER UTILITY. TRANSFORMER PROVIDED AND SET BY ROCKY MTN POWER.

CONTRACTOR TO INSTALL NEW SECTIONALIZER CABINET PROVIDED BY ROCKY MTN POWER. FINAL LOCATION TO BE COORDINATED WITH POWER UTILITY

PROVIDE AND INSTALL NEW 6" CONDUIT FOR PRIMARY POWER FEED

BILL NYE AVENUE

RED CLOUD TRAIL

SITTING BULL TRAIL

SITTING BULL TRAIL (50' R/W)

TRACT G

GRAND VIEW HEIGHTS 6TH FILING

30' PUBLIC ACCESS AND TRAIL EASEMENT

C¼ SEC. 2

S0°01'28"W 1051.77'

LOT 1, BLOCK 5 RE-PLAT LOT 1, BLOCK 5, LOT 1, BLOCK 1 AND A PORTION OF BILL NYE AVENUE OF BOULDER ADDITION

BLOCK FIVE

BLOCK TWO

BLOCK ONE

BLOCK THREE

10' UTILITY EASEMENT

10' UTILITY, ACCESS, AND DRAINAGE EASEMENT

GRAND VIEW HEIGHTS ESTATES FIRST FILING, SUBDIVISION CORNER N: 290116.39 E: 552229.32

GRAND VIEW HEIGHTS ESTATES FIRST FILING, SUBDIVISION CORNER N: 289907.04 E: 552102.68

GRAND VIEW HEIGHTS ESTATES FIRST FILING, SUBDIVISION CORNER N: 289865.07 E: 552102.66

ISSUED 10-30-24

North

C OFF-SITE IMPROVEMENTS

1" = 30'-0"

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NEW APARTMENT COMPLEX

LARAMIE, WYOMING

Professional Engineer COLLIN D. FOSSEN 15045 Date 5/23/2024 WYOMING

REVISION: REV-1 08-16-24

DATE: 5-23-2024
JOB: 22-3262
SHEET NO.:

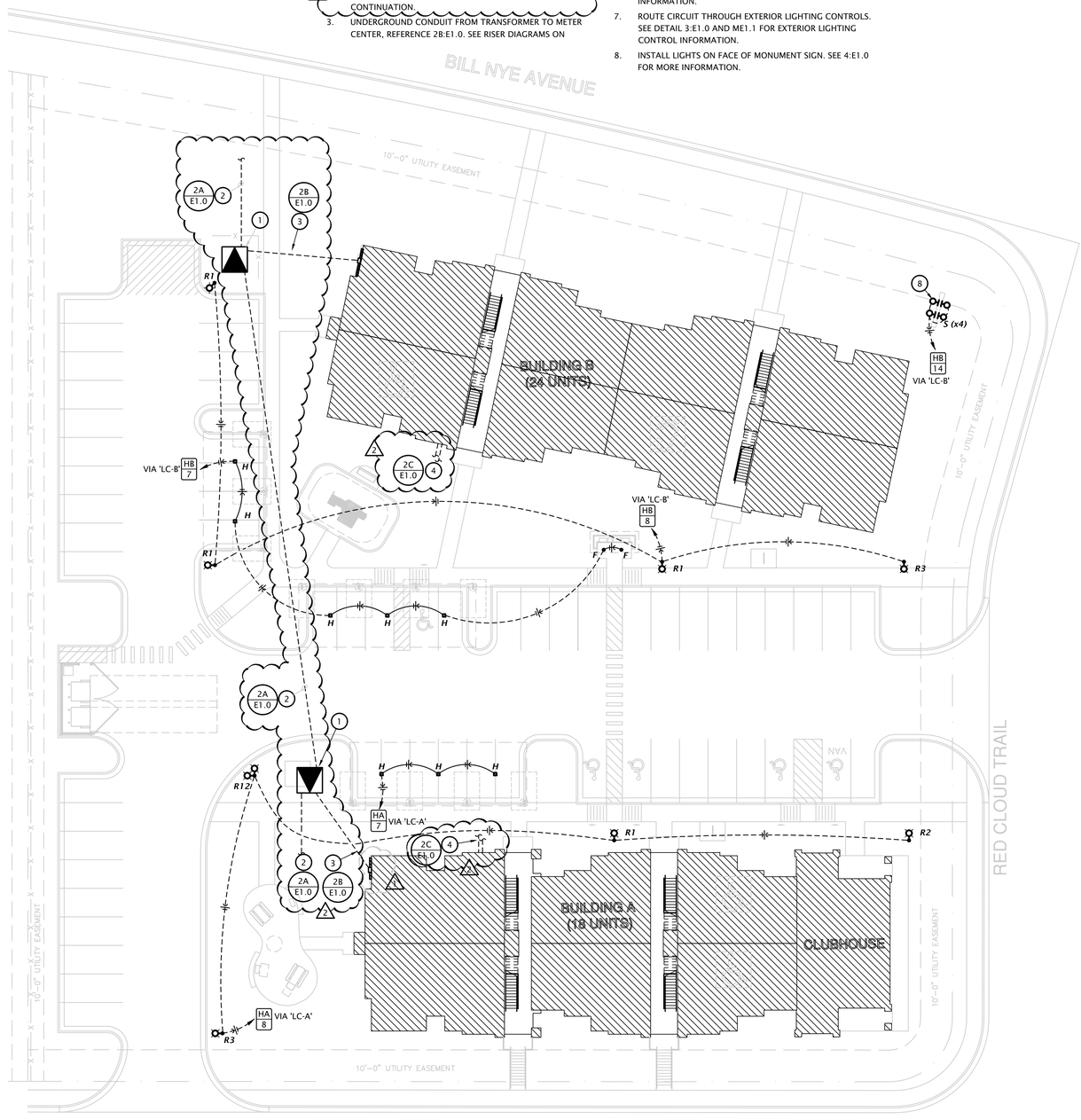
C1.1

LST Consulting Engineers, PA
MANHATTAN
4809 Vue Du Lac Place, Suite 201
Manhattan, KS 66503
785.587.8042
WICHITA
125 S. Washington, Suite 150
Wichita, Kansas 67202
316.285.0696
www.LSTengineers.com
mail@LSTengineers.com

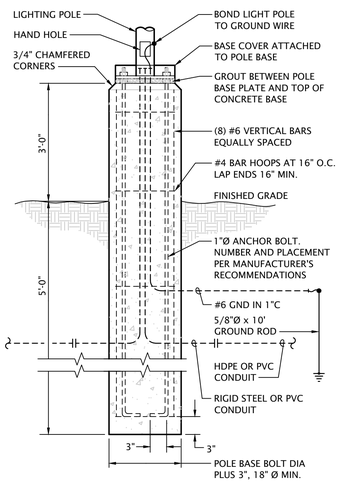
Project 24037 July 2023

(#) M/E NOTES BY SYMBOL

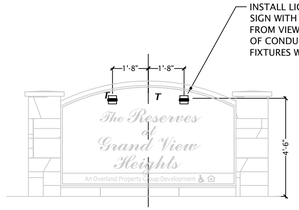
1. POWER COMPANY PAD MOUNTED TRANSFORMER. CONCRETE PAD AND VAULT BY GENERAL CONTRACTOR PER ROCKY MOUNTAIN POWER STANDARDS. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH UTILITY PROVIDER PRIOR TO COMMENCING WORK.
2. PROVIDE 6" CONDUITS WITH FIBERGLASS ELBOWS FOR POWER COMPANY PROVIDED PRIMARY CABLING, REFERENCE 2A:E1.0. COORDINATE ROUTING AND REQUIREMENTS WITH ROCKY MOUNTAIN POWER. SEE CIVIL DRAWINGS FOR CONTINUATION.
3. UNDERGROUND CONDUIT FROM TRANSFORMER TO METER CENTER, REFERENCE 2B:E1.0. SEE RISER DIAGRAMS ON SHEET E6.2 FOR MORE INFORMATION.
4. ROUTE (2) 2" CONDUITS FOR TELEPHONE AND CATV SERVICES TO PROPERTY LINE. PROVIDE PULLSTRING IN EACH RACEWAY, REFERENCE 2C:E1.0. VERIFY TERMINATION POINTS WITH LOCAL TELEPHONE AND CATV COMPANIES.
5. METER CENTER, SEE ME1.1 AND E6.2 FOR MORE INFORMATION.
6. POLE MOUNTED AREA LIGHT, REFERENCE 2:E1.0 FOR MORE INFORMATION.
7. ROUTE CIRCUIT THROUGH EXTERIOR LIGHTING CONTROLS. SEE DETAIL 3:E1.0 AND ME1.1 FOR EXTERIOR LIGHTING CONTROL INFORMATION.
8. INSTALL LIGHTS ON FACE OF MONUMENT SIGN. SEE 4:E1.0 FOR MORE INFORMATION.



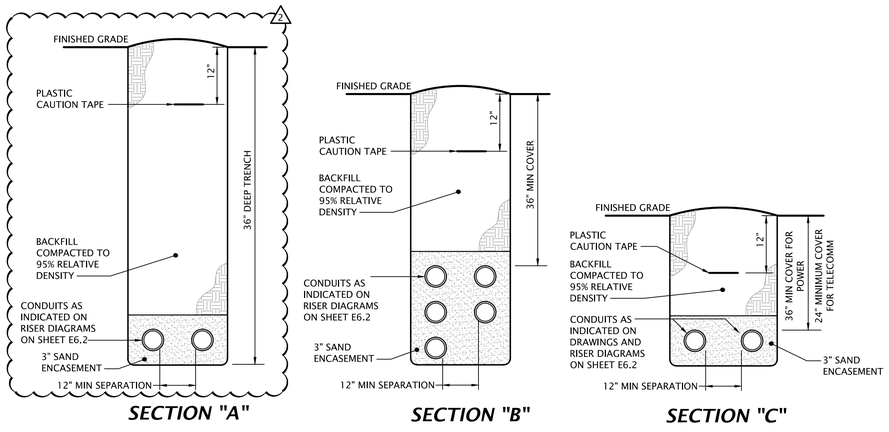
(1) ELECTRICAL SITE PLAN
1" = 20'-0"



(3) CONCRETE POLE BASE DETAIL
No Scale



(4) MONUMENT LIGHT DETAIL
No Scale



(2) CONDUIT TRENCH DETAILS
No Scale

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THE RESERVES AT GRAND VIEW HEIGHTS
NEW APARTMENT COMPLEX
LARAMIE, WYOMING

Professional Engineer
JOHN F. LEWIS-SMITH
20170
WYOMING
Date 7/17/2024

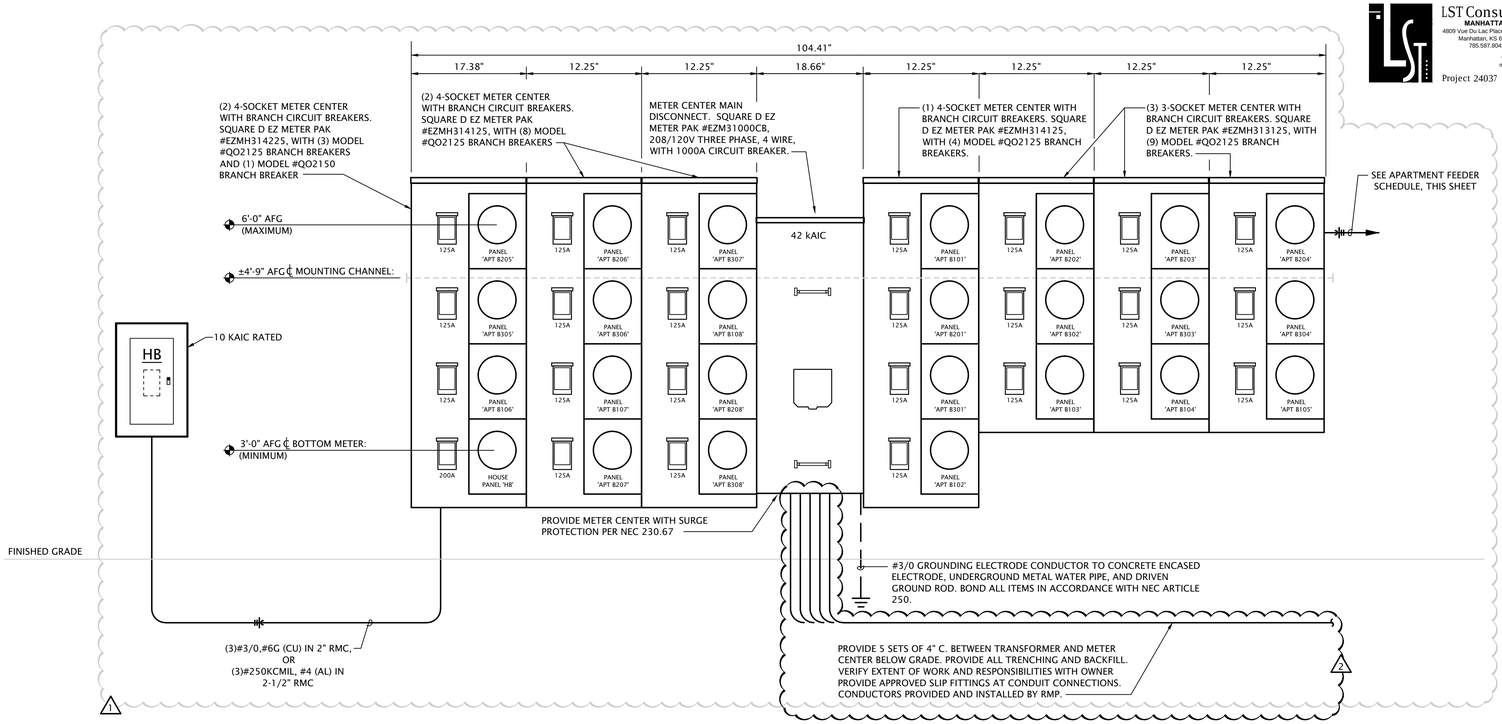
REVISION:	
1	9-27-2024
2 ASI#3	10-14-2024

DATE: 7-17-2024
JOB: 22-3262
SHEET NO.:

E1.0

Building B Service Calculation (24 total units)						
Area: 23820 SF (Dwelling Units Only)						
					Connected Load (VA)	Demand Load (VA)
Feeder & Service Loads per NEC 220.84 Part IV						
C1 General Loads (220.84 (C)(1))						
a Lighting & Receptacles	3	VA/SF	23820	SF	71,460	
C2 Required Circuits (220.84 (C)(2))						
a Laundry Circuit	1,500	VA/Circuit	24	Circuit	36,000	
b Kitchen Circuits	1,500	VA/Circuit	48	Circuit	72,000	
C3 Nameplate Ratings of Equipment (220.84 (C)(3))						
a1 Microwave	1,000	VA/Circuit	24	ea	24,000	
a2 Dishwasher	840	VA/Circuit	24	ea	20,160	
a3 Disposal	1175	VA/Circuit	24	ea	28,200	
a4 Refrigerator	1200	VA/Circuit	24	ea	28,800	
b Electric Range	8,000	VA/Circuit	24	ea	192,000	
c Electric Clothes Dryer	5,000	VA/Circuit	24	ea	120,000	
d Water Heater	4,500	VA/Circuit	24	ea	108,000	
C4 Nameplate Ratings of Motors (220.84 (C)(4))						
VTAC Blower	150	VA/Circuit	24	ea	3,600	
Exhaust Fan - Kitchen	20	VA/Circuit	24	ea	480	
Exhaust Fan - RR	20	VA/Circuit	48	ea	960	
C5 Larger of Heating and A/C load (220.84 (C)(5))						
2BR Electric Heat + Defrost	8,694	VA/Circuit	12	ea	104,328	
3BR Electric Heat + Defrost	8,694	VA/Circuit	12	ea	104,328	
				Connected Load Total	914,316	
				Dwelling Unit Demand Load from Table 220.84	35%	**320,011**
				Building Service NEC Demand Load (VA) Sub-Total		**320,011**
				Total Aparment Service Demand Load (VA)		**320,011**
				Panel HB Service Demand Load (VA)		**31,408**
				Total Building Service Demand Load (Amperes) @ 208/120V-3Ph, 4W		**976**
Provide 1000A Meter Center						

1



1

ELECTRICAL RISER DIAGRAM - BULDING B

No Scale

APARTMENT FEEDER SCHEDULE

Apartment #	Feeder Size
A103, A104, A105, A106, A203, A204, A303, A304, A205, A206, A305, A306, B105, B106, B107, B108, B205, B206, B207, B208, B305, B306, B307, B308	BASE BID (COPPER): (3)#1,#6G IN 1-1/4" C OR MC CABLE ALTERNATE BID (ALUMINUM): (3)#1/0, #4G IN 1-1/2" C OR MC CABLE
A101, A102, A201, A202, A301, A302, B103, B104, B203, B204, B303, B304	BASE BID (COPPER): (3)#1/0,#4G IN 1-1/2" C. OR MC CABLE ALTERNATE BID (ALUMINUM): (3)#3/0, #2G IN 2" C OR MC CABLE
B101, B102, B201, B202, B301, B302	BASE BID (COPPER): (3)#1/0,#4G IN 1-1/2" C. OR MC CABLE ALTERNATE BID (ALUMINUM): (3)#4/0, #1G IN 2" C OR MC CABLE

NOTES:

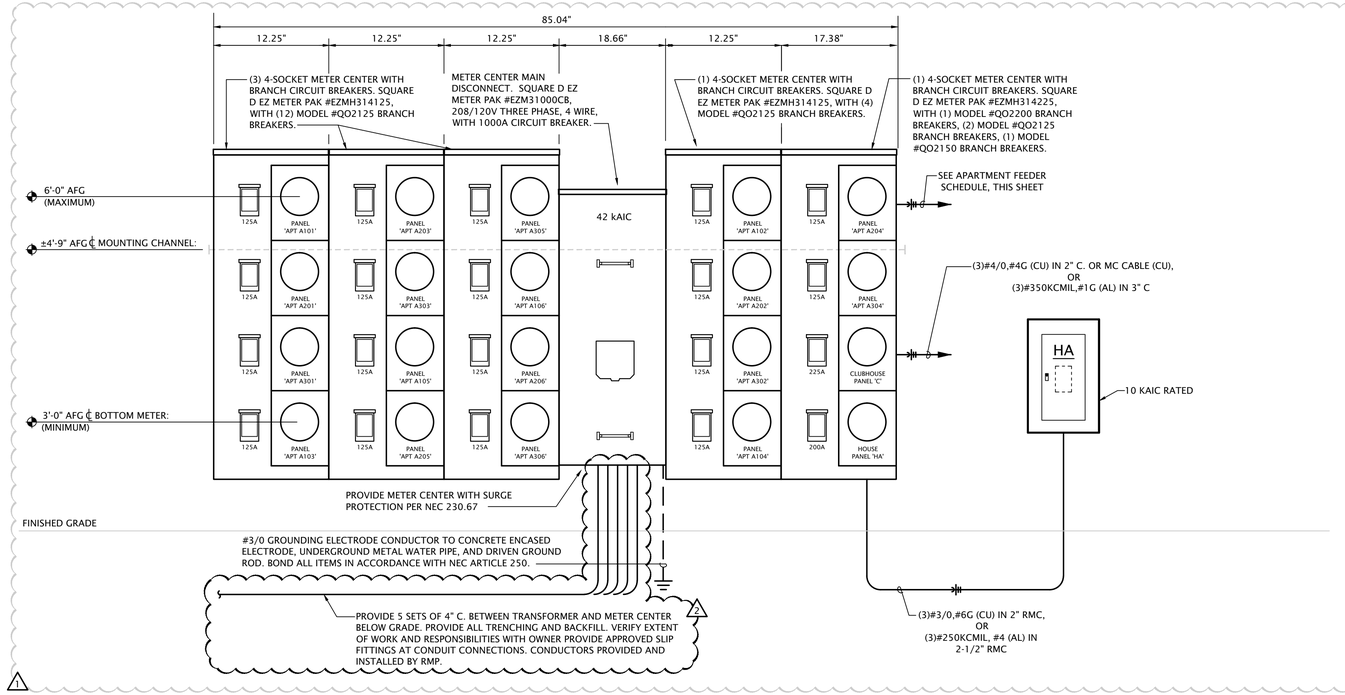
1. Voltage drop has been accounted for in sizes indicated, further up-sizing of feeders is not necessary
2. Ensure panel lugs are adequately sized to handle up-sized feeders. Provide lug adapter kits if required.

NOTES:

- See sheets E1.0 and ME1.1, ME1.2 for meter center locations.
- Main disconnect section shall be rated for maximum 42,000A peak let through.
- All conductor sizes are based on copper, U.N.O.
- Entire installation shall comply with NEC.
- Coordinate all responsibilities and requirements with utility company and pay associated fees. Contact Information:
  Thayne Cranford
  Rocky Mountain Power
  thayne.cranford@pacificorp.com
  307-721-7916
- Coordinate final location of meter assemblies with utility company. Provide shop drawings of proposed equipment whether as specified or substituted to utility company for approval.
- All meter center components shall be NEMA 3R
- All dimensions based on Square D equipment, it is the contractor's responsibility to verify the dimensions of substitute equipment and receive approval from utility for substitution.
- For each meter, provide a permanent brass, copper or aluminum tag identifying the apartment served. Tags shall be securely fastened to the meter base and be stamped with 1/8" letters, minimum.

Building A Service Calculation (18 total units + Clubhouse)						
Area: 17190 SF (Dwelling Units Only)						
					Connected Load (VA)	Demand Load (VA)
Feeder & Service Loads per NEC 220.84 Part IV						
C1 General Loads (220.84 (C)(1))						
a Lighting & Receptacles	3	VA/SF	17190	SF	51,570	
C2 Required Circuits (220.84 (C)(2))						
a Laundry Circuit	1,500	VA/Circuit	18	Circuit	27,000	
b Kitchen Circuits	1,500	VA/Circuit	36	Circuit	54,000	
C3 Nameplate Ratings of Equipment (220.84 (C)(3))						
a1 Microwave	1,000	VA/Circuit	18	ea	18,000	
a2 Dishwasher	840	VA/Circuit	18	ea	15,120	
a3 Disposal	1175	VA/Circuit	18	ea	21,150	
a4 Refrigerator	1200	VA/Circuit	18	ea	21,600	
b Electric Range	8,000	VA/Circuit	18	ea	144,000	
c Electric Clothes Dryer	5,000	VA/Circuit	18	ea	90,000	
d Water Heater	4,500	VA/Circuit	18	ea	81,000	
C4 Nameplate Ratings of Motors (220.84 (C)(4))						
VTAC Blower	150	VA/Circuit	18	ea	2,700	
Exhaust Fan - Kitchen	20	VA/Circuit	18	ea	360	
Exhaust Fan - RR	20	VA/Circuit	36	ea	720	
C5 Larger of Heating and A/C load (220.84 (C)(5))						
2BR Electric Heat + Defrost	8,694	VA/Circuit	12	ea	104,328	
3BR Electric Heat + Defrost	8,694	VA/Circuit	6	ea	52,164	
				Connected Load Total	683,712	
				Dwelling Unit Demand Load from Table 220.84	38%	**239,299**
				Building Service NEC Demand Load (VA) Sub-Total		**239,299**
				Total Aparment Service Demand Load (VA)		**239,299**
				Clubhouse Service Demand Load (VA)		**39,139**
				Panel HA Service Demand Load (VA)		**28,743**
				Total Building Service Demand Load (Amperes) @ 208/120V-3Ph, 4W		**853**
Provide 1000A Meter Center						

1



1

ELECTRICAL RISER DIAGRAM - BULDING A

No Scale

LST Consulting Engineers, PA
MANHATTAN
4809 Vue Du Lac Place, Suite 201
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785.587.8042
WICHITA
125 S. Washington, Suite 150
Wichita, Kansas 67202
316.285.0696
www.LSTengineers.com
mail@LSTengineers.com

Project 24037 July 2023

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785.827.0386

THE RESERVES AT GRAND VIEW HEIGHTS

NEW APARTMENT COMPLEX

LARAMIE, WYOMING

Professional Engineer
JOHN F. LEWIS-SMITH
20170
Date 7/17/2024
WYOMING

REVISION:	
1	9-27-2024
2	ASI#3 10-14-2024

DATE: 7-17-2024
JOB: 22-3262
SHEET NO.:

E6.2

Designation: C **Manufacturer:** Square D 'NQ'
Location: MECH ROOM **Bus Amps:** 225
Voltage: 208/120V-1Ph-3W **MCB Amps:** MLO
Enclosure: NEMA 1 **AIC Rating:** 10 KAIC
Mounting: Surface **Other:** Integral Surge Protection

Circuit #	Load Description	Conductors	C/B Size	C/B Size	Conductors	Load Description	Circuit #
1	LTG - CLUB,OFFICE,LIBRARY	2#12,#12G., 1/2"C.	20 / 1	20 / 1	2#12,#12G., 1/2"C.	RCPT - OFFICE 112	2
3	LTG - HALL,STOR,FITNESS	2#12,#12G., 1/2"C.	20 / 1	20 / 1	2#12,#12G., 1/2"C.	RCPT - CLUB 101	4
5	SPARE BREAKER	---	20 / 1	20 / 1	2#12,#12G., 1/2"C.	RCPT - WARMING COUNTER	6
7	RCPT - LIBRARY	2#12,#12G., 1/2"C.	20 / 1	20 / 1	2#12,#12G., 1/2"C.	RCPT - WARMING COUNTER	8
9	RCPT - HALL,STOR,TLTS	2#12,#12G., 1/2"C.	20 / 1	20 / 1	---	SPARE BREAKER	10
11	RCPT - FITNESS	2#12,#12G., 1/2"C.	20 / 1	20 / 1	2#12,#12G., 1/2"C.	RCPT - DISHWASHER	12
13	RCPT - FITNESS	2#12,#12G., 1/2"C.	20 / 1	20 / 1	2#12,#12G., 1/2"C.	RCPT - REFRIGERATOR	14
15	RCPT - FITNESS	2#12,#12G., 1/2"C.	20 / 1	20 / 1	2#12,#12G., 1/2"C.	RCPT - DISPOSER	16
17	RCPT - STOR 103	2#12,#12G., 1/2"C.	20 / 1	45 / 2	2#8,#10G., 3/4"C.	HEAT PUMP 'HP' 15 MCA	18
19	RCPT - STOR 103	2#12,#12G., 1/2"C.	20 / 1				20
21	HEATER 'EH-1'	2#10,#10G., 3/4"C.	25 / 2	60 / 2	2#4,#10G., 1"C.	BLOWER COIL 'BC' CIRCUIT #1 7.2 KW	22
23							24
25	WATER HEATER	2#10,#10G., 3/4"C.	30 / 2	25 / 2	2#10,#10G., 3/4"C.	BLOWER COIL 'BC' CIRCUIT #2 3.6 KW	26
27			---				28
29	FUTURE DE-ICING SYSTEM	1"C. WITH PULL STRING	--- 2	---	---	SPACE	30
31				---	---	SPACE	32
33	FUTURE DE-ICING SYSTEM	1"C. WITH PULL STRING	--- 2	---	---	SPACE	34
35				---	---	SPACE	36
37	SPACE	---	---	---	---	SPACE	38
39	SPACE	---	---	---	---	SPACE	40
41	SPACE	---	---	---	---	SPACE	42

Designation: HB **Manufacturer:** Square D 'NQ'
Location: EXTERIOR WALL **Bus Amps:** 225
Voltage: 208/120V-1Ph-3W **MCB Amps:** MLO
Enclosure: NEMA 3R **AIC Rating:** 42 KAIC (2)
Mounting: Surface **Other:** Integral Surge Protection

Circuit #	Load Description	Conductors	C/B Size	C/B Size	Conductors	Load Description	Circuit #
1	EXTERIOR BUILDING LIGHTS	2#10,#10G., 3/4"C.	20 / 1	20 / 1	2#12,#12G., 1/2"C.	FACP	2
3	WALL HEATER	2#12,#12G., 1/2"C.	20 / 2	20 / 1	2#12,#12G., 1/2"C.	RECEPTACLES	4
5				20 / 1	2#10,#10G., 3/4"C.	FUTURE RADON FANS	6
7	PARKING LOT CANOPY LIGHTING	2#10,#10G., 3/4"C.	20 / 1	20 / 1	2#10,#10G.,3/4"C.	PARKING LOT LIGHTS	8
9	FIRE SPRINKLER AIR COMPRESSOR	2#12,#12G., 1/2"C.	20 / 1	20 / 1	2#12,#12G., 1/2"C.	EXTERIOR LIGHTING CONTROLS	10
11	HEAT TRACE	2#12,#12G., 1/2"C.	20 / 1	20 / 1	2#12,#12G., 1/2"C.	TELECOMM	12
13	HEAT TRACE	2#12,#12G., 1/2"C.	20 / 1	20 / 1	2#10,#10G.,3/4"C.	MONUMENT SIGN LIGHTING	14
15	WEST BREEZEWAY LIGHTS	2#10,#10G., 3/4"C.	20 / 1	--- 2	1"C. WITH PULL STRING	FUTURE DE-ICING SYSTEM	16
17	EAST BREEZEWAY LIGHTS	2#10,#10G., 3/4"C.	20 / 1				18
19	FUTURE DE-ICING SYSTEM	1"C. WITH PULL STRING	--- 2	--- 2	1"C. WITH PULL STRING	FUTURE DE-ICING SYSTEM	20
21							22
23	FUTURE DE-ICING SYSTEM	1"C. WITH PULL STRING	--- 2	--- 2	1"C. WITH PULL STRING	FUTURE DE-ICING SYSTEM	24
25							26
27	FUTURE DE-ICING SYSTEM	1"C. WITH PULL STRING	--- 2	--- 2	1"C. WITH PULL STRING	FUTURE DE-ICING SYSTEM	28
29							30
31	FUTURE DE-ICING SYSTEM	1"C. WITH PULL STRING	--- 2	---	---	SPACE ONLY	32
33				---	---	SPACE ONLY	34
35	SPACE ONLY	---	---	---	---	SPACE ONLY	36
37	SPACE ONLY	---	---	---	---	SPACE ONLY	38
39	FUTURE SOLAR SPACE	---	---	---	---	SPACE ONLY	40
41				---	---	SPACE ONLY	42

Designation: HA **Manufacturer:** Square D 'NQ'
Location: EXTERIOR WALL **Bus Amps:** 225
Voltage: 208/120V-1Ph-3W **MCB Amps:** MLO
Enclosure: NEMA 3R **AIC Rating:** 42 KAIC (2)
Mounting: Surface **Other:** Integral Surge Protection

Circuit #	Load Description	Conductors	C/B Size	C/B Size	Conductors	Load Description	Circuit #
1	EXTERIOR BUILDING LIGHTS	2#10,#10G., 3/4"C.	20 / 1	20 / 1	2#12,#12G., 1/2"C.	FACP	2
3	WALL HEATER	2#12,#12G., 1/2"C.	20 / 2	20 / 1	2#12,#12G., 1/2"C.	RECEPTACLES	4
5				20 / 1	2#10,#10G., 3/4"C.	FUTURE RADON FANS	6
7	PARKING LOT CANOPY LIGHTING	2#10,#10G., 3/4"C.	20 / 1	20 / 1	2#10,#10G., 3/4"C.	PARKING LOT LIGHTS	8
9	FIRE SPRINKLER AIR COMPRESSOR	2#12,#12G., 1/2"C.	20 / 1	20 / 1	2#12,#12G., 1/2"C.	EXTERIOR LIGHTING CONTROLS	10
11	HEAT TRACE	2#12,#12G., 1/2"C.	20 / 1	20 / 1	2#12,#12G., 1/2"C.	TELECOMM	12
13	HEAT TRACE	2#12,#12G., 1/2"C.	20 / 1	---	---	SPACE	14
15	WEST BREEZEWAY LIGHTS	2#10,#10G., 3/4"C.	20 / 1	--- 2	1"C. WITH PULL STRING	FUTURE DE-ICING SYSTEM	16
17	EAST BREEZEWAY LIGHTS	2#10,#10G., 3/4"C.	20 / 1				18
19	FUTURE DE-ICING SYSTEM	1"C. WITH PULL STRING	--- 2	--- 2	1"C. WITH PULL STRING	FUTURE DE-ICING SYSTEM	20
21							22
23	FUTURE DE-ICING SYSTEM	1"C. WITH PULL STRING	--- 2	--- 2	1"C. WITH PULL STRING	FUTURE DE-ICING SYSTEM	24
25							26
27	FUTURE DE-ICING SYSTEM	1"C. WITH PULL STRING	--- 2	--- 2	1"C. WITH PULL STRING	FUTURE DE-ICING SYSTEM	28
29							30
31	FUTURE DE-ICING SYSTEM	1"C. WITH PULL STRING	--- 2	---	---	SPACE ONLY	32
33				---	---	SPACE ONLY	34
35	SPACE ONLY	---	---	---	---	SPACE ONLY	36
37	SPACE ONLY	---	---	---	---	SPACE ONLY	38
39	FUTURE SOLAR SPACE	---	---	---	---	SPACE ONLY	40
41				---	---	SPACE ONLY	42

(1)

CLUBHOUSE ELECTRICAL SERVICE LOAD SUMMARY

Load Types	Connected VA	VA/ft²	NEC Demand Factor	Demand VA
General Lighting	735	0.00	125%	919
Convenience Receptacles	6,480	0.00	100% of 1st 10 KVA, 50% of Remainder	6,480
Dedicated Outlets	3,000	0.00	100%	3,000
Motors	516	0.00	125%	645
Air Conditioning*	5,408	0.00	0%	0
Electric Space Heating*	14,776	0.00	125%	18,470
Water Heaters	4,500	0.00	125%	5,625
Future Snow Melt	4,000	0.00	100%	4,000
			Total NEC Demand VA	39,139
			Spare Capacity = 10%	3,914
			Total Service VA	43,053
			Minimum Ampacity at 208/120V-1Ph-3W	207
			Service Size = 225 A	

* Demand load incorporates greater of heating and A/C loads

2 Bed / 2 Bath Unit - Feeder Calculation

Area 880 SF

				Connected Load (VA)	Demand Load (VA)
Feeder & Service Loads per NEC 220.82 Part IV					
B GENERAL LOADS					
B1 General Lighting & Receptacles (220.82 (B)(1))					
a) Lighting & Receptacles	3 VA/SF	880 SF		2,640	
B2 Small Appliance & Laundry Branch Circuits (220.82 (B)(2))					
a) Laundry Circuit	1,500 VA/Circuit	1 Circuit		1,500	
b) Kitchen Circuits	1,500 VA/Circuit	2 Circuit		3,000	
B3 Nameplate Ratings of Equipment (220.82 (B)(3))					
a1) Dishwasher	840 VA/Circuit	1 ea		840	
a2) Refrigerator	1,000 VA/Circuit	1 ea		1,000	
a3) Microwave	1200 VA/Circuit	1 ea		1,200	
a4) Disposal	1175 VA/Circuit	1 ea		1,175	
b) Electric Range	8,000 VA/Circuit	1 ea		8,000	
c) Clothes Dryer	5,000 VA/Circuit	1 ea		5,000	
d) Water Heater	4,500 VA/Circuit	1 ea		4,500	
B4 Nameplate Ratings of Motors (220.82 (B)(4))					
1) Blower Coil Fan	150 VA/Circuit	1 ea		150	
1) Exhaust Fan - Kitchen	20 VA/Circuit	1 ea		20	
1) Exhaust Fan - RR	20 VA/Circuit	2 ea		40	
		Part (B) Connected Load Total		29,065	
		Part (B) Demand Load Total (100% of 1st 10KVA + 40% of remainder)			17,626
C HEATING AND AIR-CONDITIONING LOAD					
C3 100% of Heat Pump & 65% Supplemental Electric Heat (220.82 (C)(3))					
1) Heat Pump #1 (VTAC-18)	1,893 VA/Circuit	1 ea		5,988	
2) kW of Electric Heat	6 kW	65%			
		Part (C) Connected Load Total		5,988	
		Part (C) Demand Load			5,988
			Total Dwelling Unit Demand Load		23,614
			Total NEC Demand VA		23,614
			Total Amps @ 208/120V-1Ph-3W		114
Provide 125A Load Center & Feed with 125A/2P Breaker					

3 Bed / 2 Bath Unit - Feeder Calculation

Area 1105 SF

				Connected Load (VA)	Demand Load (VA)
Feeder & Service Loads per NEC 220.82 Part IV					
B GENERAL LOADS					
B1 General Lighting & Receptacles (220.82 (B)(1))					
a) Lighting & Receptacles	3 VA/SF	1105 SF		3,315	
B2 Small Appliance & Laundry Branch Circuits (220.82 (B)(2))					
a) Laundry Circuit	1,500 VA/Circuit	1 Circuit		1,500	
b) Kitchen Circuits	1,500 VA/Circuit	2 Circuit		3,000	
B3 Nameplate Ratings of Equipment (220.82 (B)(3))					
a1) Dishwasher	840 VA/Circuit	1 ea		840	
a2) Refrigerator	1,000 VA/Circuit	1 ea		1,000	
a3) Microwave	1200 VA/Circuit	1 ea		1,200	
a4) Disposal	1175 VA/Circuit	1 ea		1,175	
b) Electric Range	8,000 VA/Circuit	1 ea		8,000	
c) Clothes Dryer	5,000 VA/Circuit	1 ea		5,000	
d) Water Heater	4,500 VA/Circuit	1 ea		4,500	
B4 Nameplate Ratings of Motors (220.82 (B)(4))					
1) Blower Coil Fan	150 VA/Circuit	1 ea		150	
1) Exhaust Fan - Kitchen	20 VA/Circuit	1 ea		20	
1) Exhaust Fan - RR	20 VA/Circuit	2 ea		40	
		Part (B) Connected Load Total		29,740	
		Part (B) Demand Load Total (100% of 1st 10KVA + 40% of remainder)			17,896
C HEATING AND AIR-CONDITIONING LOAD					
C3 100% of Heat Pump & 65% Supplemental Electric Heat (220.82 (C)(3))					
1) Heat Pump #2 (VTACT-24)	1,893 VA/Circuit	1 ea		5,988	
2) kW of Electric Heat	6 kW	65%			
		Part (C) Connected Load Total		5,988	
		Part (C) Demand Load			5,988
			Total Dwelling Unit Demand Load		23,884
			Total NEC Demand VA		23,884
			Total Amps @ 208/120V-1Ph-3W		115
Provide 125A Load Center & Feed with 125A/2P Breaker					

(1)

Panel Designation: 3BR APT # **Mounting:** Flush
Location: 3 Bedroom Apartment **Bus Amps:** 125
Voltage: 208/120V-1Ph-3W **MCB Amps:** MLO (2)
Enclosure: NEMA 1 **Other:** 10 KAIC (4)
Panel is typical for 3BR units

	Circuit #	Load Description	Conductors	C/B Size	C/B Size	Conductors	Load Description	Circuit #	
1	1	HALLWAY RCPTS	2#12,#12G,1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	KITCHEN/LIVING/HALL LTS	2	1
3	3	DISHWASHER/DISPOSAL	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	CLOTHES WASHER RCPT	4	1
3	5	HOOD/MICROWAVE	2#12, #12G, 1/2"C	20 / 1	30 / 2	3#10, #10G, 3/4"C	CLOTHES DRYER	6	2
3	7	REFRIGERATOR	2#12, #12G, 1/2"C	20 / 1				8	
3	9	COUNTER TOP RCPTS	2#12, #12G, 1/2"C	20 / 1	40 / 2	3#8, #10G, 1"C	RANGE	10	2
3	11	COUNTER TOP/ KITCHEN RCPTS	2#12, #12G, 1/2"C	20 / 1				12	
1	13	LIVING ROOM RCPTS	2#12, #12G, 1/2"C	20 / 1	30 / 2	2#10,#10G,3/4"C	WATER HEATER 'HWH'	14	
	15	HALL BATHROOM	2#12, #12G, 1/2"C	20 / 1				16	
1	17	MASTER BEDROOM	2#12, #12G, 1/2"C	20 / 1	45 / 2	2#6,#10G,3/4"C	VTAC	18	(1)
1	19	HALLWAY BEDROOM	2#12, #12G, 1/2"C	20 / 1				20	
	21	KITCHEN EXHAUST 'EF-2'	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	MASTER BATHROOM	22	
	23	SPACE ONLY	---	---	20 / 1	2#12, #12G, 1/2"C	CORNER BEDROOM	24	1

Panel Designation: 2BR APT # **Mounting:** Flush
Location: 2 Bedroom Apartment **Bus Amps:** 125
Voltage: 208/120V-1Ph-3W **MCB Amps:** MLO
Enclosure: NEMA 1 **Other:** 10 KAIC
Panel is typical for 2BR units

	Circuit #	Load Description	Conductors	C/B Size	C/B Size	Conductors	Load Description	Circuit #	
1	1	HALLWAY RCPTS	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	KITCHEN/LIVING/HALL LTS	2	1
3	3	DISHWASHER/DISPOSAL	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	CLOTHES WASHER RCPT	4	1
3	5	HOOD/MICROWAVE	2#12, #12G, 1/2"C	20 / 1	30 / 2	3#10, #10G, 3/4"C	CLOTHES DRYER	6	2
3	7	REFRIGERATOR	2#12, #12G, 1/2"C	20 / 1				8	
3	9	COUNTER TOP RCPTS	2#12, #12G, 1/2"C	20 / 1	40 / 2	3#8, #10G, 1"C	RANGE	10	2
3	11	COUNTER TOP/ KITCHEN RCPTS	2#12, #12G, 1/2"C	20 / 1				12	
1	13	LIVING ROOM RCPTS	2#12, #12G, 1/2"C	20 / 1	30 / 2	2#10, #10G, 3/4"C	WATER HEATER 'HWH'	14	
	15	BATHROOM	2#12, #12G, 1/2"C	20 / 1				16	
1	17	MASTER BEDROOM	2#12, #12G, 1/2"C	20 / 1	45 / 2	2#6,#10G,3/4"C	VTAC	18	
1	19	HALLWAY BEDROOM	2#12, #12G, 1/2"C	20 / 1				20	
	21	KITCHEN EXHAUST 'EF-2'	2#12, #12G, 1/2"C	20 / 1	---	---	SPACE ONLY	22	
	23	SPACE ONLY	---	---	---	---	SPACE ONLY	24	

[#] PANEL SCHEDULE NOTES BY SYMBOL

1. ARC FAULT CIRCUIT INTERRUPTING (AFCI) TYPE BREAKER.
2. CLASS 'A', 5mA RATED GROUND FAULT CIRCUIT INTERRUPTING (GFCI) TYPE BREAKER.
3. COMBINATION AFCI/GFCI TYPE BREAKER.
4. ELECTRIC PANELS IN UNITS A105, A106, A205, A206, A305, B107, B108, B208, AND B308 SHALL BE 22 KAIC RATED.

(2)

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Project 24037 July 2023

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THE RESERVES AT GRAND VIEW HEIGHTS
NEW APARTMENT COMPLEX
LARAMIE, WYOMING

Professional Engineer — John F. Lewis-Smith — 20170 — Date 7/17/2024 — WYOMING

REVISION:
(1) 9-27-2024
(2) ASI#3 10-14-2024

DATE: 7-17-2024
JOB: 22-3262
SHEET NO.:

E6.3

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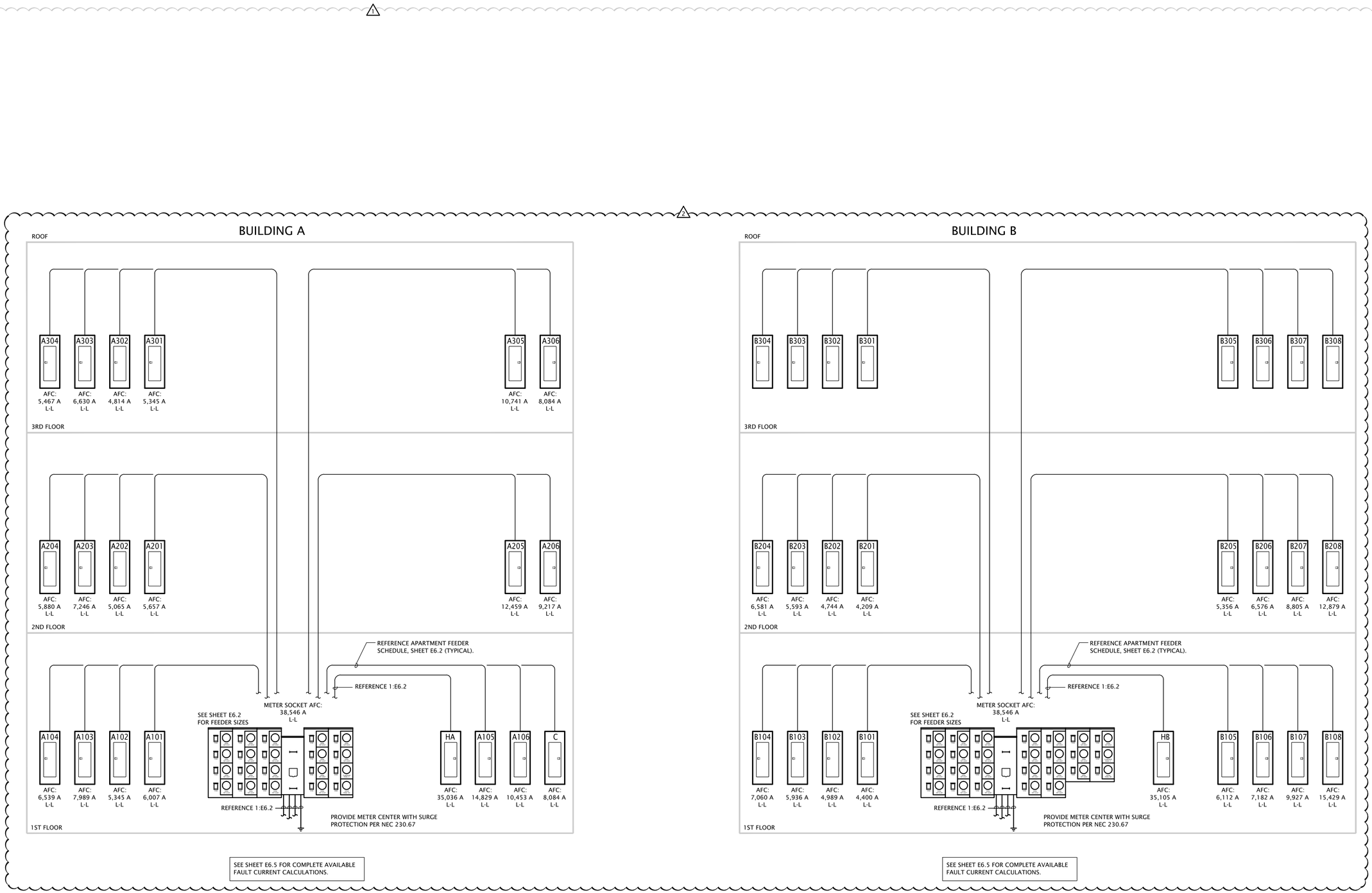
Project 24037 July 2023



1 BUILDING A ELECTRICAL RISER DIAGRAM
No Scale

2 BUILDING B ELECTRICAL RISER DIAGRAM
No Scale

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REVISION:
1 9-27-2024

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Project 24037 July 2023

Fault Current

Project Name: Reserves at Grand View Heights
Project Number: 24037
Designed By:
Item Name: SCC Building A
Notes: -NONE-

Calculation of Fault Current
Fault SCA Source = Main Bus
SCA Available = 38546
Length Units = Feet
Motor Load = 39.8 KW
Motor SCA = 1401
Motor SCA Treatment = Motor SCA Added to Main Bus
System Voltage = 208
System Phase = 1 Phase

Transformers

Name	PH	Size	Pri.V	Sec.V	%Z	SCA,L-L
TA	1-PH			208		

Main-Feeders

Name	Cond	Cable	Size	Qty	Feet	SCA,L-L
F1 B101	None	1/c,CU	1/0	1	196	4,400
F2 B102	None	1/c,CU	1/0	1	170	4,989
F3 B103	None	1/c,CU	1/0	1	139	5,936
F4 B104	None	1/c,CU	1/0	1	113	7,060
F5 B105	None	1/c,CU	1	1	108	6,112
F6 B106	None	1/c,CU	1	1	89	7,182
F7 B107	None	1/c,CU	1	1	59	9,927
F8 B108	None	1/c,CU	1	1	31	15,429
F9 B201	None	1/c,CU	1/0	1	206	4,209
F10 B202	None	1/c,CU	1/0	1	180	4,744
F11 B203	None	1/c,CU	1/0	1	149	5,593
F12 B204	None	1/c,CU	1/0	1	123	6,581
F13 B205	None	1/c,CU	1	1	126	5,356
F14 B206	None	1/c,CU	1	1	99	6,576
F15 B207	None	1/c,CU	1	1	69	8,805
F16 B208	None	1/c,CU	1	1	41	12,879
F17 B301	None	1/c,CU	1/0	1	216	4,034
F18 B302	None	1/c,CU	1/0	1	190	4,523
F19 B303	None	1/c,CU	1/0	1	159	5,288
F20 B304	None	1/c,CU	1/0	1	133	6,162
F21 B305	None	1/c,CU	1	1	136	5,012
F22 B306	None	1/c,CU	1	1	109	6,065
F23 B307	None	1/c,CU	1	1	79	7,911
F24 B308	None	1/c,CU	1	1	51	11,053
F25 PANEL HB	PVC	1/c,CU	3/0	1	5	35,105

File Name: Z:\24037 Reserves at Grand View Heights Laramie\Design\Power\SCC BLDG B.edr

Date Created: 8/25/2023 2:43:11 PM
Date Modified: 10/30/2024 4:16:09 PM

Fault Current

Project Name: Reserves at Grand View Heights
Project Number: 24037
Designed By:
Item Name: SCC Building A
Notes: -NONE-

Calculation of Fault Current
Fault SCA Source = Main Bus
SCA Available = 38457
Length Units = Feet
Motor Load = 39.8 KW
Motor SCA = 1401
Motor SCA Treatment = Motor SCA Added to Main Bus
System Voltage = 208
System Phase = 1 Phase

Transformers

Name	PH	Size	Pri.V	Sec.V	%Z	SCA,L-L
TA 300KVA	1-PH			208		

Main-Feeders

Name	Cond	Cable	Size	Qty	Feet	SCA,L-L
F1 A101	None	1/c,CU	1/0	1	137	6,007
F2 A102	None	1/c,CU	1/0	1	157	5,345
F3 A103	None	1/c,CU	1	1	78	7,989
F4 A104	None	1/c,CU	1	1	103	6,359
F5 A105	None	1/c,CU	1	1	33	14,829
F6 A106	None	1/c,CU	1	1	55	10,453
F9 A201	None	1/c,CU	1/0	1	147	5,657
F10 A202	None	1/c,CU	1/0	1	167	5,065
F11 A203	None	1/c,CU	1	1	88	7,246
F12 A204	None	1/c,CU	1	1	113	5,880
F13 A205	None	1/c,CU	1	1	43	12,459
F14 A206	None	1/c,CU	1	1	65	9,217
F17 A301	None	1/c,CU	1/0	1	157	5,345
F18 A302	None	1/c,CU	1/0	1	177	4,814
F19 A303	None	1/c,CU	1	1	98	6,630
F20 A304	None	1/c,CU	1	1	123	5,467
F21 A305	None	1/c,CU	1	1	53	10,741
F22 A306	None	1/c,CU	1	1	75	8,242
F25 PANEL HA	PVC	1/c,CU	3/0	1	5	35,036
F26 CLUBHOUSE	PVC	1/c,CU	4/0	1	171	8,084

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Date Modified: 10/30/2024 4:36:56 PM

Fault Current

Project Name: Reserves at Grand View Heights
Project Number: 24037
Designed By:
Item Name: Service Entrance SCC
Notes: -NONE-

Calculation of Fault Current
Fault SCA Source = Main Bus
SCA Available = 47640
Length Units = Feet
Motor Load = None
Motor SCA = None
Motor SCA Treatment = Motor SCA Not Included
System Voltage = 208
System Phase = 3 Phase

Transformers

Name	PH	Size	Pri.V	Sec.V	%Z	SCA,3PH
TA 300KVA	3-PH			208		

Main-Feeders

Name	Cond	Cable	Size	Qty	Feet	SCA,3PH
F1 BUILDING A	PVC	1/c,AL	350	4	40	38,546
F2 BUILDING B	PVC	1/c,AL	350	4	40	38,546

File Name: Z:\24037 Reserves at Grand View Heights Laramie\Design\Power\Building Service 3-Phase 300kVA Transformer.edr

Date Created: 8/25/2023 2:43:11 PM
Date Modified: 10/30/2024 4:35:33 PM

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THE RESERVES AT GRAND VIEW HEIGHTS

NEW APARTMENT COMPLEX

LARAMIE, WYOMING

Professional Engineer
JOHN F. LEWIS-SMITH
20170
WYOMING
Date 7/17/2024

REVISION:
1 9-27-2024

DATE: 7-17-2024
JOB: 22-3262
SHEET NO.:

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