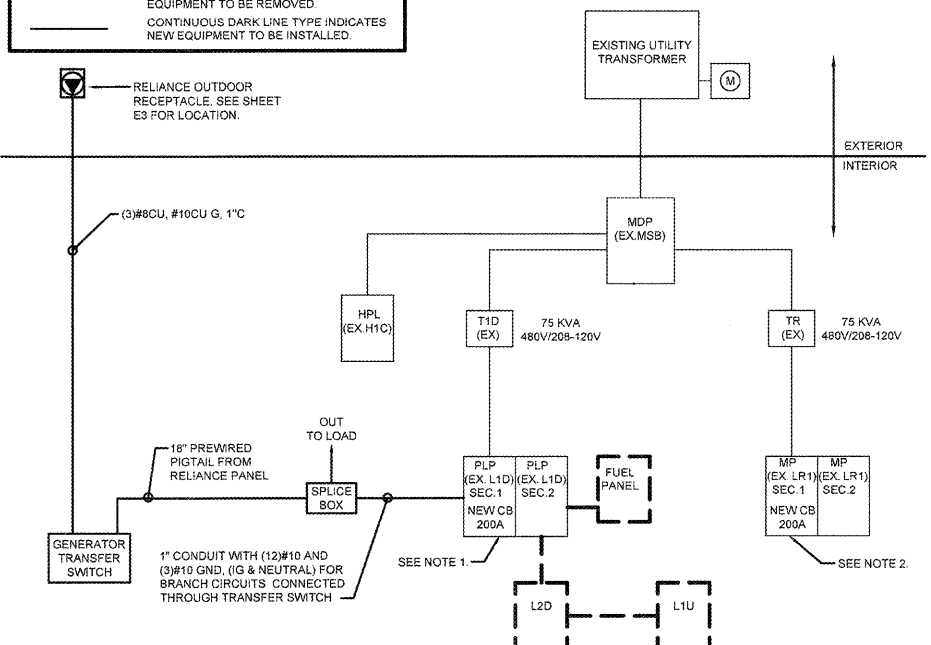


**RISER LEGEND**

---	CONTINUOUS LIGHT LINE TYPE INDICATES EXIST. EQUIPMENT TO REMAIN.
---	DASH LINE TYPE INDICATES EXISTING EQUIPMENT TO BE REMOVED.
---	CONTINUOUS DARK LINE TYPE INDICATES NEW EQUIPMENT TO BE INSTALLED.

EMS COORDINATION: CONTACT VENSTAR BEFORE CONNECTING AND POWERING UP THE SYSTEM THROUGH THE EMS SYSTEM.



- NOTES:**
- EXISTING 250A MAIN CIRCUIT BREAKER RATING EXCEEDS CAPACITY OF 75 KVA TRANSFORMER. THAT IS A CODE VIOLATION. REPLACE WITH NEW CIRCUIT BREAKER AS SHOWN.
  - EXISTING 400A MAIN CIRCUIT BREAKER RATING EXCEEDS CAPACITY OF 75 KVA TRANSFORMER. THAT IS A CODE VIOLATION. REPLACE WITH NEW CIRCUIT BREAKER AS SHOWN.

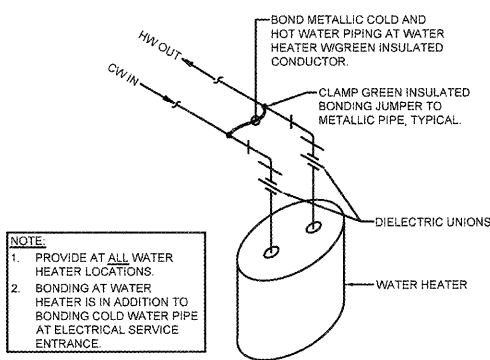
**EXISTING ELECTRICAL ONE-LINE DIAGRAM**

SCALE: N.T.S.

ALL PANELBOARDS AND DISCONNECTS WILL BE SUPPLIED BY THE OWNER (O'REILLY) UNO. PANELBOARDS SHALL BE DIRECT ORDERED AND/OR RELEASED FROM THE LISTED ELECTRICAL EQUIPMENT DISTRIBUTOR:

GRAYBAR ELECTRIC COMPANY, INC.  
11885 LACKLAND ROAD  
ST. LOUIS, MO 63146

GRAYBAR O'REILLY TEAM  
EMAIL: oreilly@graybar.com  
PHONE: (314) 573-2080



- NOTE:**
- PROVIDE AT ALL WATER HEATER LOCATIONS.
  - BONDING AT WATER HEATER IS IN ADDITION TO BONDING COLD WATER PIPE AT ELECTRICAL SERVICE ENTRANCE.

- NOTE:**
- BOND ALL NONCURRENT CARRYING METAL PARTS OF SERVICE EQUIPMENT (INCLUDING METER ENCLOSURE) TO GROUNDING ELECTRODE AS REQUIRED. PER NEC 250-71.
  - THE GROUNDED NEUTRAL CONDUCTOR SHALL BE RUN TO AND BONDED TO EACH SERVICE DISCONNECTING MEANS ENCLOSURE IN ACCORDANCE WITH NEC 250-23b.
  - BONDING OF OTHER ENCLOSURES SHALL BE IN ACCORDANCE WITH NEC 250-75.

**SERVICE EQUIPMENT GROUNDING AND BONDING SHALL BE IN ACCORDANCE WITH:**

NEC 250-63	NEC 250-66
NEC 250-23	NEC 250-71
NEC 250-53	NEC 250-81
NEC 250-50	NEC 250-90

MOUNT: SURFACE		277/480		3-PHASE, 4W		PANEL MDP		CAPACITY: 600A		INT CAP: EXISTING								
LOCATION: BACK OF BLDG.		LUGS:		MCB		DEMAND LOAD: 138A		AV. FAULT: EXISTING		CONTROL								
CKT	LTG	REC	HVAC	MSC	NP	DESCRIPTION	AMP	POLE	AMP	POLE	DESCRIPTION	LTG	REC	HVAC	MSC	NP	CKT	
1			10.8			XRTU 3	45	3	A	125	3							2
3			11.8			XRTU 4	45	3	B	3								4
5			3.0			XRTU 2	15	3	B	150	3							6
7			3.0			XRTU 5	20	3	B	3								8
9			3.0			SPARE	30	3	A	100	3							10
11			3.0			SPARE	30	3	B	3								12

MOUNT: SURFACE		277/480		3-PHASE, 4W		PANEL PLP		CAPACITY: 600A		INT CAP: EXISTING								
LOCATION: BACK OF BLDG.		LUGS:		MCB		DEMAND LOAD: 46A		AV. FAULT: EXISTING		CONTROL								
CKT	LTG	REC	HVAC	MSC	NP	DESCRIPTION	AMP	POLE	AMP	POLE	DESCRIPTION	LTG	REC	HVAC	MSC	NP	CKT	
1						SPARE	100	3	A	20	1							2
3						SPARE	100	3	B	20	1							4
5						RECEPTACLES			C	20	1							6
7						BATTERY BACK-UP			A	30	1							8
9						ISOLATED GRD REC			B	20	1							10
11						ISOLATED GRD REC			C	20	1							12
13						COKE MACHINE			A	20	1							14
C1	15	0.1		0.2		LIGHTING (B), EX-EE			B	20	1							16
C1	17	0.1		0.2		LIGHTING (B), EF-1			C	20	1							18
C3	19	0.5				SHOW WINDOW			A	20	1							20
C4	21	1.0				MONUMENT SIGN			B	20	1							22
LFB	23	0.4				RECEPTACLES			C	20	1							24
25			0.9			WATER COOLER REC			A	20	1							26
27			1.0			RTU REC			B	20	1							28
C3LC	29	0.6				ILLUM BLDG SIGN			C	20	1							30
C3LC	31	0.6				ILLUM BLDG SIGN			A	20	1							32
GA	33	0.4				ISOLATED GRD REC			B	20	1							34
GE	35	0.4				ISOLATED GRD REC			C	20	1							36
37						SPARE			A	20	1							38
39						SPARE			B	20	1							40
41						SPARE			C	20	1							42
A	43	0.6				CHECK-IN			A	20	1							44
45						SPARE			B	20	1							46
47						SPARE			C	20	1							48
49						SPARE			A	20	1							50
51						SPARE			B	20	1							52
53						SPARE			C	20	1							54
55						SPARE			A	20	1							56
57						SPARE			B	20	1							58
59						SPARE			C	20	1							60

PHASE BALANCE		LOAD TYPE		CONNECTED		DEMAND		DEMAND FORMULA		TOTAL LOAD	
LOAD	%	RECEPTACLE	HVAC	RECEPTACLE	HVAC	LOAD X 125% NEC 210.19 CONTINUOUS	LOAD X 50% REMAINDER NEC 220.44	LOAD X 80% (USED MCA IN CALCULATION)	LOAD X 100% (USED MCA IN CALCULATION)	CONNECTED	DEMAND
A	42.5 KVA	34%	HVAC	27.7 KVA	18.9 KVA	10KVA + 50% REMAINDER NEC 220.44	17.7 KVA	16.0 KVA	49.1A	46.2A	
B	42.1 KVA	34%	MSC	3.4 KVA	3.4 KVA	LOAD X 100% NEC 210.19 NON-CONT.	0.0 KVA	0.0 KVA	0.0 KVA	0.0 KVA	
C	36.7 KVA	31%	NP	0.0 KVA	0.0 KVA	0 NONCOINCIDENTAL LOADS NEC 220.60	0.0 KVA	0.0 KVA	0.0 KVA	0.0 KVA	

NOTES: EXISTING PANEL LRT RENAMED.  
 "A" USE #10 WIRE.  
 "L" PROVIDE BREAKER HANDLE "LOCK-OFF" ATTACHMENT.  
 "LO" PROVIDE "LOCK-ON" DEVICE.  
 "G" CIRCLES THAT ARE ASSOCIATED WITH GENERATOR TRANSFER SWITCH. SEE DETAIL 4/E4.  
 "IG" ISOLATED GROUND. SEE DETAIL 3/E3.  
 "CP" REPRESENTS CONTACT NUMBER ROUTED THROUGH EMS SYSTEM. SEE SHEET VS1.  
 "B" GFCI CIRCUIT BREAKER.

MOUNT: SURFACE		277/480		3-PHASE, 4W		PANEL HPL		CAPACITY: 100A		INT CAP: EXISTING								
LOCATION: BACK OF BLDG.		LUGS:		MLO		DEMAND LOAD: 17A		AV. FAULT: EXISTING		CONTROL								
CKT	LTG	REC	HVAC	MSC	NP	DESCRIPTION	AMP	POLE	AMP	POLE	DESCRIPTION	LTG	REC	HVAC	MSC	NP	CKT	
C2A	3	0.9				LIGHTING-FUT TEN			A	20	1							2
CB	5	0.5				DAY LIGHTING (A)			B	20	1							4
C2	7	1.2				NIGHT LIGHTING (A)			C	20	1							6
C2	9	0.9				LIGHTING (A)			A	20	1							8
C2	11	1.1				LIGHTING (A)			B	20	1							10
C1	13	1.8				LIGHTING (B&C)			C	20	1							12
C1	15	1.5				LIGHTING (B&C)			A	20	1							14
17						SPARE			B	20	1							16
19						SPARE			C	20	1							18
21						SPARE			A	20	1							20
23						SPARE			B	20	1							22
25						SPARE			C	20	1							24
27						SPARE			A	20	1							26
29						SPARE			B	20	1							28
31						SPARE			C	20	1							30

MOUNT: SURFACE		277/480		3-PHASE, 4W		PANEL MP		CAPACITY: 200A		INT CAP: EXISTING								
LOCATION: BACK OF BLDG.		LUGS:		MP		DEMAND LOAD: 32A		AV. FAULT: EXISTING		CONTROL								
CKT	LTG	REC	HVAC	MSC	NP	DESCRIPTION	AMP	POLE	AMP	POLE	DESCRIPTION	LTG	REC	HVAC	MSC	NP	CKT	
1						SPARE			A	40	2							2
3						SPARE			B	40	2							4
5						RECEPTACLES			C	20	1							6
7						SPARE			A	20	1							8
9						SPARE			B	20	1							10
11						SPARE			C	20	1							12
13						SPARE			A	20	1							14
15						SPARE			B	20	1							16
17						SPARE			C	20	1							18
19						SPARE			A	20	1							20
21						SPARE			B	20	1							22
23						SPARE			C	20	1							24
25						SPARE			A	20	1							26
27						SPARE			B	20	1							28
29						SPARE			C	20	1							30
31						SPARE			A	20	1							32
33						SPARE			B	20	1							34
35						SPARE			C	20	1							36
37						SPARE			A	20	1							38
39						SPARE			B	20	1							40
41						SPARE			C	20	1							42
A	43	0.6				CHECK-IN			A	20	1							