

ALL PANELBOARDS, TRANSFORMERS, TRANSFER SWITCH KIT AND DISCONNECTS WILL BE SUPPLIED BY THE OWNER (O'REILLY). ELECTRICAL GEAR SHALL BE DIRECT ORDERED AND/OR RELEASED FROM THE LISTED ELECTRICAL EQUIPMENT DISTRIBUTOR. SEE "ELECTRIC SERVICE RESPONSIBILITIES" FOR ADDITIONAL CLARIFICATION.

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GRAYBAR O'REILLY TEAM
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MP PANELBOARD SCHEDULE																							
MAINS: 400A MAIN LUGS ONLY		VOLTAGE: 208		ACCESSORIES:																			
TYPE: SQUARE D, NQ		PHASE: 3Φ, 4W		1. EQUIPMENT GROUND BAR 2. ISOLATED GROUND BAR 3. * *SO. D' #001PA - WITH LOCKABLE CLIPS 4. * MUST BE TYPE "HACR" BREAKER 5. FEED THRU LUGS																			
MOUNTING: SURFACE		WIDTH: 20																					
SCCR: 22K AIC		SPACE(S): 42																					
CKT	CKT BRK	WIRE	LOAD DESCRIPTION	(KVA)	A(KVA)	B(KVA)	C(KVA)	LOAD DESCRIPTION	WIRE	CKT BRK	CKT												
1	20A/1P	#12s	LIGHTING/EXHAUST FAN	0.51	4.44		3.93																
3	20A/1P	#12s	LIGHTING	1.12		5.05																	
5	20A/1P	#12s	LIGHTING	1.19			5.12	3.93															
7	20A/1P	#12s	LIGHTING	1.24	5.17		3.93																
9	20A/1P	#12s	LIGHTING	1.13		5.06	3.93																
11	20A/1P	#12s	LIGHTING	0.93			4.86	3.93															
13	20A/1P	#12s	LIGHTING	0.64	3.42		2.78																
15			SPACE	0		2.78	2.78																
17			SPACE	0		2.78	2.78																
19			SPACE	0		2.78	2.78																
21			SPACE	0		2.78	2.78																
23	20A/1P	#12s	BUILDING LIGHTING	0.18			2.98	2.78															
25	20A/1P	#12s	SITE LIGHTING	0.30	0.30		0																
27	20A/1P	#12s	SITE LIGHTING	0.15	0.15		0																
29	20A/1P	#12s	SITE SIGN	1.30			3.73	2.43															
31	20A/1P	#12s	SITE SIGN	1.30	3.73		2.43																
33	*20A/1P	#12s	LED SIGN BUILDING	1.20		3.63	2.43																
35			SPACE	0.03		0.03	0																
37	20A/3P	#12s	GRIDPOINT EC-1000	0.03	0.03		0																
39			SPACE	0.03		0.03	0																
41	20A/1P	#12s	XFMR J-BOX	0.60			1.20	0.60															
TOTAL PHASE A (KVA)				TOTAL PHASE B (KVA)				TOTAL PHASE C (KVA)				TOTAL CONNECTED LOAD (KVA)				TOTAL AMPS							
19.87				19.48				20.68				60.03				166.63							
LIGHTING(6.76)				EXTERIOR LIGHTING(4.43)				TOTAL LIGHTING(11.19)				HVAC(40.28)				RECEPTACLES(3.11)				MISCELLANEOUS(14.40)			

PLP PANELBOARD SCHEDULE																			
MAINS: 400A MAIN LUGS ONLY		VOLTAGE: 208		ACCESSORIES:															
TYPE: SQUARE D, NQ		PHASE: 3Φ, 4W		1. EQUIPMENT GROUND BAR 2. ISOLATED GROUND BAR 3. *** GFI BREAKER CKT. #16 & #23 4. *** 'SO. D' #001PAF CKT. #33 5. * MUST BE TYPE "HACR" BREAKER 6. * 'SO. D' #001PA - WITH LOCKABLE CLIPS															
MOUNTING: SURFACE		WIDTH: 20																	
SCCR: 22K AIC		SPACE(S): 42																	
CKT	CKT BRK	WIRE	LOAD DESCRIPTION	(KVA)	A(KVA)	B(KVA)	C(KVA)	LOAD DESCRIPTION	WIRE	CKT BRK	CKT								
1	20A/1P	#10s	LATHE	1.70	2.20		0.50	CHECK IN RECEPT. (I.G.)	#12s	20A/1P	2								
3	20A/1P	#10s	CUTOFF SAW	1.73		1.91			#10s	20A/1P	4								
5	20A/1P	#12s	CRIMPER	1.77			1.95	0.18	BATTERY RACK RECEPT.	#10s	20A/1P								
7	20A/1P	#12s	RECEPTACLES	0.54	0.90		0.36	0.36	BREAK AREA RECEPT.	#12s	20A/1P								
9	20A/1P	#10s	STARTER/ALT. TESTER	1.68		1.68	0		SPACE		10								
11	20A/1P	#10s	STARTER/ALT. TESTER	1.68			2.22	0.54	RTU RECEPTACLES	#12s	20A/1P								
13	20A/1P	#10s	STARTER/ALT. TESTER	1.64	2.00				RECEPTACLES	#12s	20A/1P								
15	20A/1P	#12s	RECEPTACLES	0.36		2.11		1.75	COKE MACHINE (ONLY)	#12s	**20A/1P								
17	20A/1P	#12s	ISOLATED GRD. RECEPT.	0.72		1.44		0.72	ISOLATED GRD. RECEPT.	#12s	20A/1P								
19	20A/1P	#12s	RECEPTACLES	0.36	1.08		0.72	0.72	ISOLATED GRD. RECEPT.	#12s	20A/1P								
21	30A/1P	#10s	BATTERY BACKUP (I.G.)	3.00		3.36		0.36	ISOLATED GRD. RECEPT.	#12s	20A/1P								
23	**20A/1P	#12s	WATER COOLER RECEPT.	0.90			1.62	0.72	ISOLATED GRD. RECEPT.	#12s	20A/1P								
25	20A/1P	#12s	RECEPT./IRRIGATION	1.00	1.36		0.36	0.36	ISOLATED GRD. RECEPT.	#12s	20A/1P								
27			SPACE	0	0.00		0		SPACE		28								
29			SPACE	0		0.00	0		SPACE		30								
31			SPACE	0	0.00		0		SPACE		32								
33	**20A/1P	#12s	TANK WATER HEATER	1.65		2.01		0.36	ISOLATED GRD. RECEPT.	#12s	20A/1P								
35	20A/1P	#12s	ISOLATED GRD. RECEPT.	0.36		0.72		0.36	ISOLATED GRD. RECEPT.	#12s	20A/1P								
37	*20A/1P	#12s	FIRE ALARM (F REQD)	0.30	0.80		0.50	0.50	PRINTER RECEPTACLE	#12s	20A/1P								
39			SPACE	0		0.90		0.90	PHONE EQUIP./SECURITY	#12s	15A/1P								
41			SPACE	0	0.90		0.90		RECEPTACLES	#12s	20A/1P								
TOTAL PHASE A (KVA)				TOTAL PHASE B (KVA)				TOTAL PHASE C (KVA)				TOTAL CONNECTED LOAD (KVA)				TOTAL AMPS			
8.34				11.97				8.85				29.16				80.94			
WATER HEATER(1.65)				TOTAL CONNECT AMPS =				247.57											

E TRANSFER SWITCH SCHEDULE				
POSITION	CIRCUIT BREAKER	LOAD DESCRIPTION	(KVA)	BREAKER
A	20A/1P	OFFICE COMPUTER	0.38	PLP-36
B	20A/1P	COUNTER RECEPTACLES	0.36	PLP-34
C	20A/1P	PRINTER	0.50	PLP-38
D	20A/1P	TELEPHONE EQUIPMENT/SECURITY	0.90	PLP-40
E	20A/1P	LIGHTING OFFICE/BATHROOMS (100% ON)	0.51	MP-1
F	20A/1P	LIGHTING SECURITY (100% ON)	0.64	MP-13
G	20A/1P	LIGHTING HARD PARTS (DIMMED TO 50% ON)	0.56	MP-3
H	20A/1P	LIGHTING HARD PARTS (DIMMED TO 50% ON)	0.60	MP-5
I	20A/1P	INSTALLER (ISOLATED GRD RECEPTACLE)	0.36	PLP-17
J	20A/1P	INSTALLER (RECEPTACLE)	0.18	PLP-19
GENERATOR (6,000 WATTS) RATED. MAX KVA=5.0 LOAD			4.97	TOTAL

NOTE: ALL BRANCH CIRCUITS SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR ROUTED WITH THE CIRCUIT CONDUCTORS. THIS MEANS ALL CONDUITS MUST HAVE A GREEN WIRE INSTALLED IN THEM AND SIZED IN ACCORDANCE WITH TABLE 250.122 OF THE N.E.C.

WIRING & LABELING OF EXIT & EMERGENCY LIGHT CIRCUITS

- SEE DETAIL 1/E1 FOR WIRING OF EXIT & EMERGENCY LIGHTS ON THESE CIRCUITS.
- ALL EXIT & EMERGENCY LIGHTING CIRCUITS SHALL BE LABELED BY THE CONTRACTOR ON THE "PANEL DIRECTORY", (SPEC: NEPA 70.408.4 & 700.12)

DOT-HATCH REPRESENTS CIRCUITS THAT ARE ASSOCIATED WITH OPTIONAL STANDBY GENERATOR CONTROL.

EQUIPMENT LABELS CHART

EQUIPMENT	LABELS (MIN)					
	SERVICE DISCONNECT	OPTIONAL STANDBY SOURCE	GENERATOR POWER INLET	SERIES RATING	AVAILABLE FAULT CURRENT	
DISCONNECT	X	X				
GENERATOR POWER INLET			X			
MP						
PLP						
E						
CT CABINET						

GENERATOR POWER INLET LABEL

PERMANENT LABEL SHALL BE 2 x 3 IN SIZE AND SHALL BE BLUE LETTERING ON A CONTRASTING BACKGROUND. LABEL TO BE PLACED 6 INCHES ABOVE GENERATOR RECEPTACLE.

WARNING:
FOR CONNECTION OF A NONSEPARATELY DERIVED (FLOATING NEUTRAL) SYSTEM ONLY (MAX. 6,000 WATT GENERATOR)

OPTIONAL STANDBY SOURCE LABEL

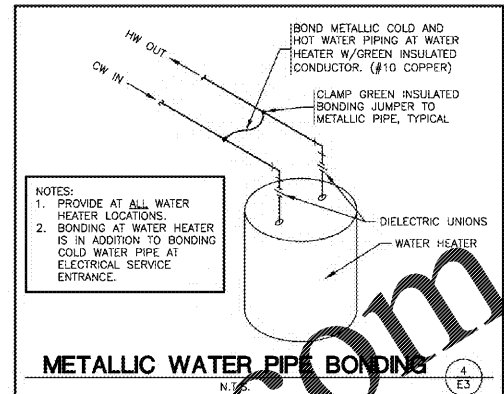
PERMANENT LABEL SHALL BE 2 x 3 IN SIZE AND SHALL BE BLUE LETTERING ON A CONTRASTING BACKGROUND. LABEL TO BE PLACED ON DISCONNECT DOOR.

CAUTION
TWO SOURCES OF SUPPLY
STANDBY POWER SOURCE (PORTABLE 6kw GENERATOR)
LOCATION: OVER HEAD DOOR.

EXAMPLE OF OPTIONAL STANDBY SOURCE LABELING ABOVE.

SERVICE DISCONNECT LABEL

THE SERVICE DISCONNECT MEANS SHALL BE PROPERLY MARKED "SERVICE DISCONNECT". REFER TO SPEC SECTION 26 00 20 FOR FURTHER IDENTIFICATION PLATE REQUIREMENTS.



METALLIC WATER PIPE BONDING

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

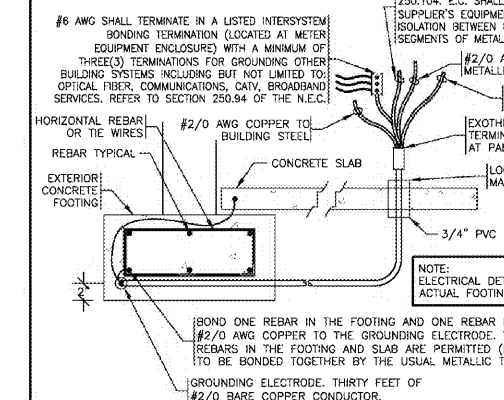


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NOTE:
1. BOND ALL NONCURRENT CARRYING METAL PARTS OF SERVICE EQUIPMENT (INCLUDING METER ENCLOSURE) TO GROUNDING ELECTRODE AS REQUIRED PER NEC 250-92.
2. THE GROUNDING NEUTRAL CONDUCTOR SHALL BE RUN TO AND BONDED TO EACH SERVICE DISCONNECT MEANS ENCLOSURE IN ACCORDANCE WITH NEC 250-24c.
3. BONDING OF OTHER ENCLOSURES SHALL BE IN ACCORDANCE WITH NEC 250-96.

BONDING REQUIREMENTS

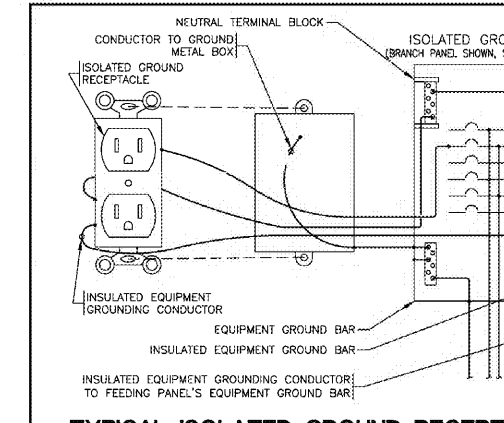
SERVICE EQUIPMENT GROUNDING & BONDING SHALL BE IN ACCORDANCE WITH:
*NEC 250-24 *NEC 250-25 *NEC 250-53 *NEC 250-66 *NEC 250-90 *NEC 250-92 *NEC 250-130



NOTE: ELECTRICAL DETAIL IS FOR CONCEPT. ACTUAL FOOTING TYPE MAY VARY.
BOND ONE REBAR IN THE FOOTING AND ONE REBAR IN THE SLAB WITH #2/0 AWG COPPER TO THE GROUNDING ELECTRODE. THE REST OF THE REBARS IN THE FOOTING AND SLAB ARE PERMITTED (PER NEC 250.52(A)3) TO BE BONDED TOGETHER BY THE USUAL METALLIC TIE WIRES.
GROUNDING ELECTRODE, THIRTY FEET OF #2/0 BARE COPPER CONDUCTOR.

GROUNDING ELECTRODE (UFER TYPE) & BONDING JUMPER(S) DETAIL

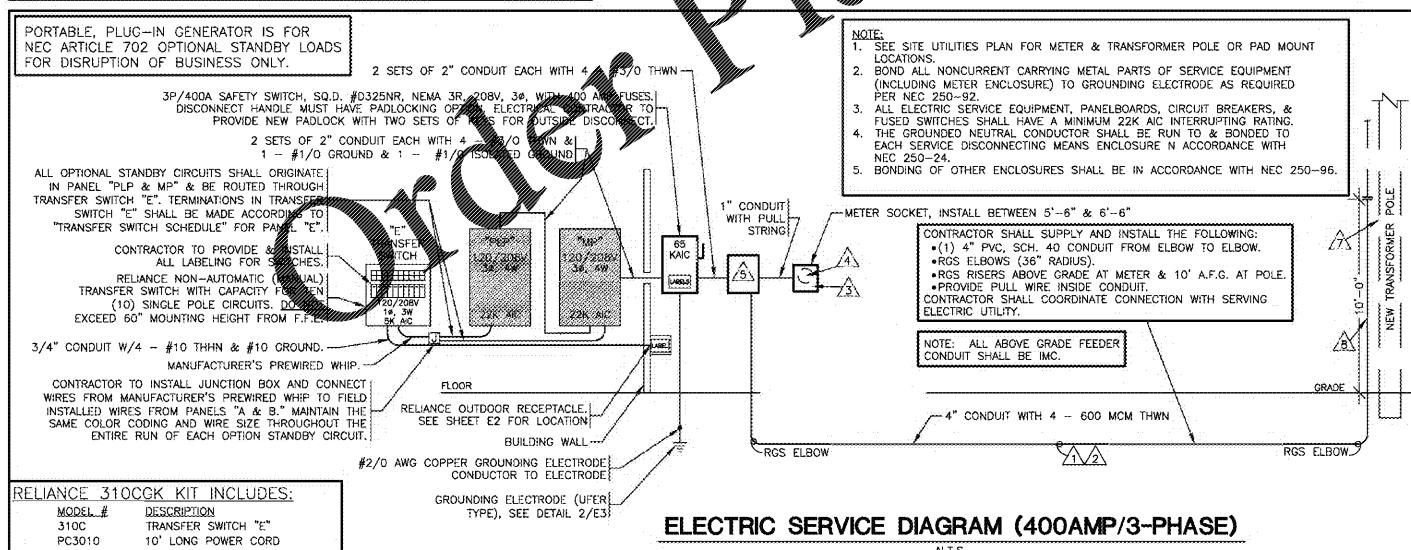
NOTE: GROUNDING ELECTRODE TEST MEASURE AND RECORD GROUND RESISTANCE FROM SYSTEM NEUTRAL CONNECTION AT SERVICE ENTRANCE TO CONVENIENT GROUND REFERENCE POINT USING SUITABLE GROUND TESTING EQUIPMENT. MAXIMUM ACCEPTABLE RESISTANCE: 10 OHMS. WHEN RESISTANCE EXCEEDS 10 OHMS, DRIVE AND BOND (#6 COPPER MINIMUM) ANOTHER GROUND ROD. ONE GROUND ROD LENGTH AWAY (MINIMUM 6'-0") AND REPEAT TEST. CONTINUE THIS PROCESS UNTIL RESISTANCE IS BELOW 10 OHMS.



TYPICAL ISOLATED GROUND RECEPTACLE

NOTE: ISOLATED GROUND PANEL (BRANCH PANEL SHOWN, SERVICE PANEL SIMILAR)

ELECTRIC SERVICE RESPONSIBILITIES				
SEE SITE PLAN FOR UTILITY COMPANY CONTACT.				
ITEM NO.	DESCRIPTION (IF APPLICABLE)	FURNISHED BY	INSTALLED BY	
		UTILITY CO.	CONTRACTOR	UTILITY CO.
1	SERVICE LATERAL	X	X	X
2	SERVICE LATERAL RACEWAY	X		X
3	METER BASE	X		X
4	METER	X	X	X
5	CT CABINET	X		X
6	OH SERVICE RISER @ BUILDING	X		X
7	TRANSFORMER POLE	X	X	X
8	SERVICE RISER @ POLE	X		X
9	TRANSFORMER PAD	X		X
10	PAD MOUNT TRANSFORMER	X		X



RELIANCE 3100CK KIT INCLUDES:
MODEL # DESCRIPTION
310C TRANSFER SWITCH "E"
PC3010 10' LONG POWER CORD
PB30 OUTDOOR RECEPTACLE

ELECTRIC SERVICE DIAGRAM (400AMP/3-PHASE)

N.T.S.



PROJECT: **NEW O'REILLY AUTO PARTS STORE**
CLEVELAND HIGHWAY
VARNELL, GA
ELECTRICAL SCHEDULES

O'Reilly AUTO PARTS
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COMM # 4420
DATE: 02-28-2020
REVISION
DATE: