

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.

GRAYBAR ELECTRIC CO. INC.
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GRAYBAR O'REILLY TEAM
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MP	PANELBOARD SCHEDULE	
MAINS: 400A MAIN LUGS ONLY	VOLTAGE: 3Ø, 4W	ACCESSORIES:
TYPE: SQUARE D, NQ	PHASE: 3Ø, 4W	1. EQUIPMENT GROUND BAR
MOUNTING: SURFACE	WIDTH: 20	2. ISOLATED GROUND BAR
SCCR: 22K AIC	SPACE(S): 42	3. * "SQ. D" #Q01PA - WITH LOCKABLE CLIPS
		4. * MUST BE TYPE "HACR" BREAKER
		5. FEED THRU LUGS

PLP	PANELBOARD SCHEDULE	
MAINS: 400A MAIN LUGS ONLY	VOLTAGE: 3Ø, 4W	ACCESSORIES:
TYPE: SQUARE D, NQ	PHASE: 3Ø, 4W	1. EQUIPMENT GROUND BAR
MOUNTING: SURFACE	WIDTH: 20	2. ISOLATED GROUND BAR
SCCR: 22K AIC	SPACE(S): 42	3. ** GFI BREAKER CKT. #16 & #23
		4. ** "SQ. D" #Q01PAF CKT. #33
		5. * MUST BE TYPE "HACR" BREAKER
		6. * "SQ. D" #Q01PA - WITH LOCKABLE CLIPS

CKT	CKT BRK	WIRE	LOAD DESCRIPTION	(KVA)	A(KVA)	B(KVA)	C(KVA)	(KVA)	LOAD DESCRIPTION	WIRE	CKT BRK	CKT		
1	20A/1P	#12s	LIGHTING/EXHAUST FAN	0.51	4.44			3.93				2		
2	20A/1P	#12s	LIGHTING	1.24		5.17		3.93	RTU-1	#8s	+50A/3P	4		
3	20A/1P	#12s	LIGHTING	1.35			5.28	3.93				6		
4	20A/1P	#12s	LIGHTING	0.99	4.92			3.93	RTU-2	#8s	+50A/3P	8		
5	20A/1P	#12s	LIGHTING	0.85		4.78		3.93				10		
6	20A/1P	#12s	LIGHTING	0.77			4.70	3.93	RTU-3	#8s	+45A/3P	12		
7	20A/1P	#12s	LIGHTING	0.78	3.57			2.78				14		
8	20A/1P	#12s	SPACE	0		2.78		2.78	RTU-4	#8s	+45A/3P	16		
9	20A/1P	#12s	SPACE	0	2.78			2.78				18		
10	20A/1P	#12s	SPACE	0	2.78			2.78				20		
11	20A/1P	#12s	SPACE	0	2.78			2.78				22		
12	20A/1P	#12s	BUILDING LIGHTING	0.24		3.02		2.78				24		
13	20A/1P	#12s	SITE LIGHTING	0.15	0.15			0	SPACE			26		
14	20A/1P	#12s	SITE LIGHTING	0.15		0.15		0	SPACE			28		
15	20A/1P	#12s	SITE SIGN	1.30		1.30		0	SPACE			30		
16	20A/1P	#12s	SITE SIGN	1.30	1.30			0	SPACE			32		
17	*20A/1P	#12s	LED SIGN BUILDING	1.20		1.20		0	SPACE			34		
18	20A/1P	#12s	GRIDPOINT EC-1000	0.03	0.03		0.03	0	SPACE			36		
19	20A/1P	#12s	GRIDPOINT EC-1000	0.03	0.03		0.03	0	SPACE			38		
20	20A/1P	#12s	GRIDPOINT EC-1000	0.03	0.03		0.03	0	SPACE			40		
21	20A/1P	#12s	XFMR J-BOX	0.60		1.20	0.60		LCP	#12s	20A/1P	42		
TOTAL PHASE A (KVA)				17.19	TOTAL PHASE B (KVA)				16.89	TOTAL PHASE C (KVA)				18.31
TOTAL CONNECTED LOAD (KVA)				52.39	TOTAL CONNECTED LOAD (KVA)				52.39	TOTAL CONNECTED LOAD (KVA)				145.42
TOTAL AMPS				145.42	TOTAL AMPS				145.42	TOTAL AMPS				145.42
LIGHTING				6.50	EXTERIOR LIGHTING				4.34	TOTAL LIGHTING				10.84
HVAC				40.26	RECEPTACLES				13.97	MISCELLANEOUS				14.40
WATER HEATER				1.65	TOTAL CONNECT AMPS =				228.75					

CKT	CKT BRK	WIRE	LOAD DESCRIPTION	(KVA)	A(KVA)	B(KVA)	C(KVA)	(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		
2	20A/1P	#10s	CUTOFF SAW	1.73	2.27			0.54	BATTERY RACK RECEPT.	#10s	20A/1P	4		
3	20A/1P	#12s	CRIMPER	1.77		1.95	0.18	0.36	BATTERY RACK RECEPT.	#10s	20A/1P	6		
4	20A/1P	#10s	RECEPTACLES	0.54	0.90			0.36	BREAK AREA RECEPTS.	#12s	20A/1P	8		
5	20A/1P	#10s	STARTER/ALT. TESTER	1.68	1.68			0	SPACE			10		
6	20A/1P	#10s	STARTER/ALT. TESTER	1.68		2.40	0.72	0.36	RTU RECEPTACLES	#12s	20A/1P	12		
7	20A/1P	#10s	STARTER/ALT. TESTER	1.64	2.00			0.36	RECEPTACLES	#12s	20A/1P	14		
8	20A/1P	#12s	RECEPTACLES	0.36		2.11	1.75	0.36	COKE MACHINE (ONLY)	#12s	**20A/1P	16		
9	20A/1P	#12s	ISOLATED GRD. RECEPTS	0.72		1.44	0.72	0.36	ISOLATED GRD. RECEPTS.	#12s	20A/1P	18		
10	20A/1P	#12s	RECEPTACLES	0.36	1.08			0.72	ISOLATED GRD. RECEPTS.	#12s	20A/1P	20		
11	30A/1P	#10s	BATTERY BACKUP (I.G.)	3.00	3.36			0.36	ISOLATED GRD. RECEPTS.	#12s	20A/1P	22		
12	**20A/1P	#12s	WATER COOLER RECEPT.	0.90		1.62	0.72	0.36	ISOLATED GRD. RECEPTS.	#12s	20A/1P	24		
13	20A/1P	#12s	RECEPTS/IRRIGATION	1.00	1.36			0.36	ISOLATED GRD. RECEPTS.	#12s	20A/1P	26		
14	20A/1P	#12s	SECURITY	0.50		0.50	0	0	SPACE			28		
15	20A/1P	#12s	SPACE	0		0.00	0.00	0	SPACE			30		
16	20A/1P	#12s	SPACE	0	0.00		0	0	SPACE			32		
17	**20A/1P	#12s	TANK WATER HEATER	1.65	2.01		0.36	0.36	ISOLATED GRD. RECEPTS.	#12s	20A/1P	34		
18	20A/1P	#12s	ISOLATED GRD. RECEPTS	0.36		0.72	0.36	0.36	ISOLATED GRD. RECEPTS.	#12s	20A/1P	36		
19	*20A/1P	#12s	FIRE ALARM (F REQ'D)	0.30	0.80			0.30	PRINTER RECEPTACLE	#12s	20A/1P	38		
20	20A/1P	#12s	SPACE	0		0.72	0.72	0.36	PHONE EQUIP. RECEPTS.	#12s	20A/1P	40		
21	20A/1P	#12s	SPACE	0		0.90	0.90	0.36	RECEPTACLES	#12s	20A/1P	42		
TOTAL PHASE A (KVA)				8.34	TOTAL PHASE B (KVA)				12.65	TOTAL PHASE C (KVA)				9.03
TOTAL CONNECTED LOAD (KVA)				30.02	TOTAL CONNECTED LOAD (KVA)				30.02	TOTAL CONNECTED LOAD (KVA)				83.33
TOTAL AMPS				83.33	TOTAL AMPS				83.33	TOTAL AMPS				83.33
WATER HEATER				1.65	TOTAL CONNECT AMPS =				228.75					

E	TRANSFER SWITCH SCHEDULE			
POSITION	CIRCUIT BREAKER	LOAD DESCRIPTION	(KVA)	BREAKER
A	20A/1P	OFFICE COMPUTER	0.36	PLP-36
B	20A/1P	COUNTER RECEPTACLES	0.36	PLP-34
C	20A/1P	PRINTER	0.50	PLP-38
D	20A/1P	TELEPHONE EQUIPMENT RECEPTACLE	0.72	PLP-40
E	20A/1P	LIGHTING OFFICE/BATHROOMS (100% ON)	0.5	MP-1
F	20A/1P	LIGHTING SECURITY (100% ON)	0.73	MP-13
G	20A/1P	LIGHTING HARD PARTS (DAMAGED TO 25% ON)	0.53	MP-3
H	20A/1P	LIGHTING HARD PARTS (DAMAGED TO 25% ON)	0.53	MP-5
I	20A/1P	INSTALLER (ISOLATED GRD RECEPTACLE)	0.72	PLP-17
J	20A/1P	INSTALLER (RECEPTACLE)	0.36	PLP-19
GENERATOR (6,000 WATTS) RATED. MAX KVA=5.0 LOAD			4.96	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.

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

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.)

EQUIPMENT	LABELS					
	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)

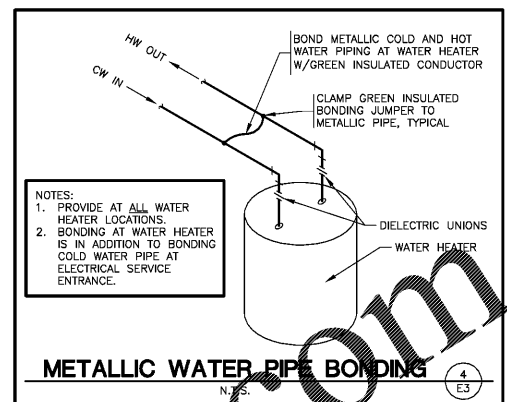
OPTIONAL STANDBY SOURCE LABEL

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: OVERHEAD DOOR.

SERVICE DISCONNECT LABEL

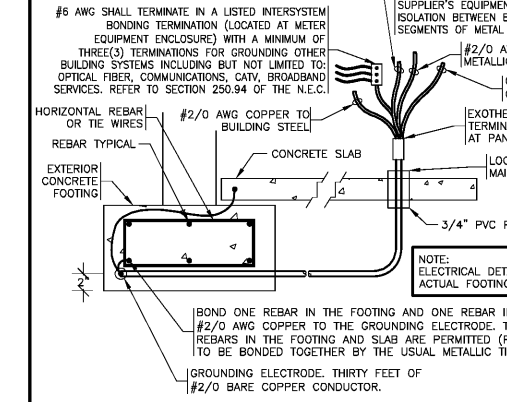
THE SERVICE DISCONNECT MEANS SHALL BE PROPERLY MARKED "SERVICE DISCONNECT" REFER TO SPEC SECTION 26.00.20 FOR FURTHER IDENTIFICATION & REQUIREMENTS.



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.

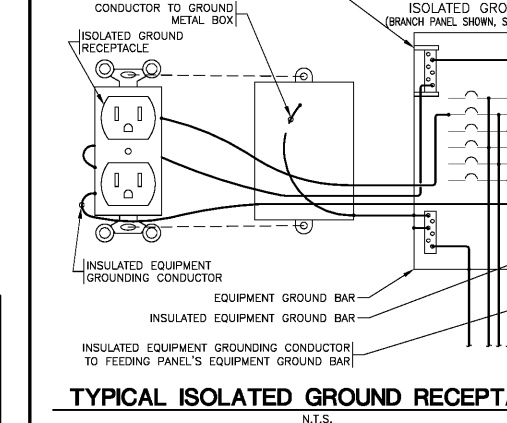
BONDING REQUIREMENTS



NOTE: ELECTRICAL DETAIL IS FOR CONCEPT. ACTUAL FOOTING TYPE MAY VARY.

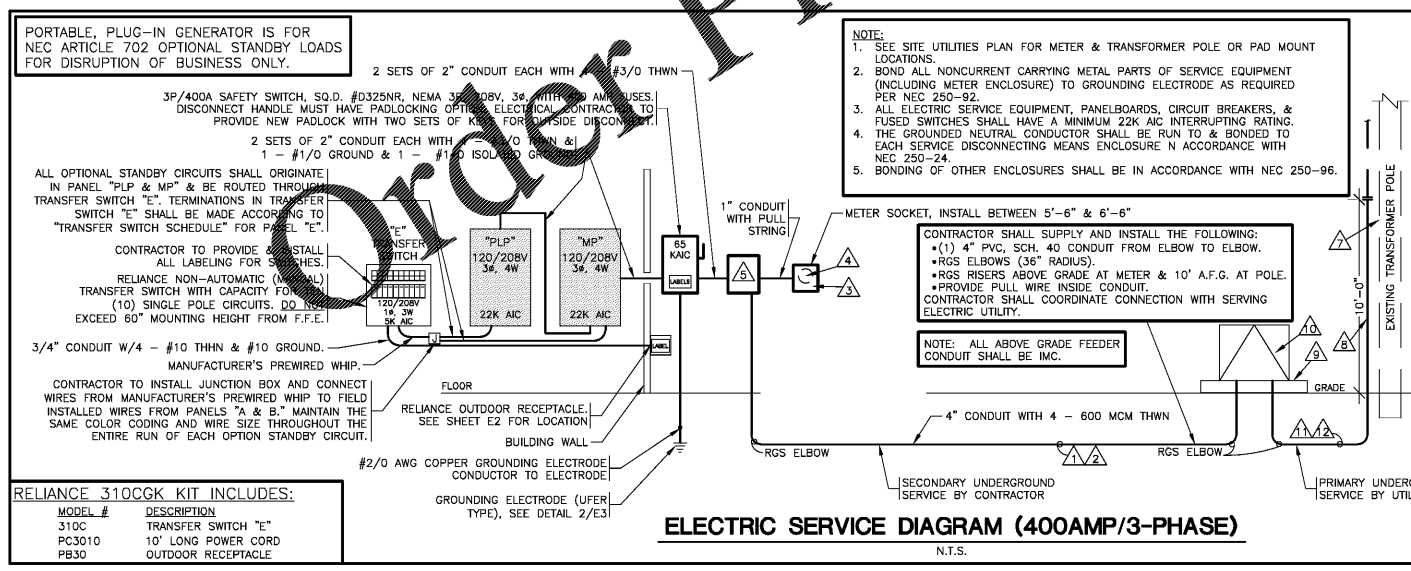
GROUNDING ELECTRODE (UFER TYPE) & BONDING JUMPER(S) DETAIL

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.



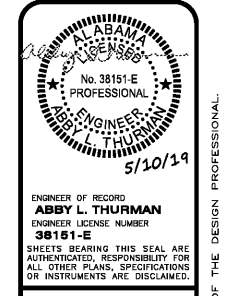
TYPICAL ISOLATED GROUND RECEPTACLE

NOTE: N.T.S.



ELECTRIC SERVICE RESPONSIBILITIES

ITEM NO.	DESCRIPTION (IF APPLICABLE)	FURNISHED BY		INSTALLED BY	
		UTILITY CO.	CONTRACTOR	UTILITY CO.	CONTRACTOR
1	SERVICE LATERAL		X		X
2	SERVICE LATERAL RACEWAY		X		X
3	METER BASE		X		X
4	METER	X		X	
5	CT CABINET		X		X
6	OH SERVICE RISER @ BUILDING		X		X
7	TRANSFORMER POLE	X		X	
8	SERVICE RISER @ POLE	X		X	
9	TRANSFORMER PAD		X		X
10	PAD MOUNT TRANSFORMER	X		X	
11	PRIMARY SERVICE LATERAL	X		X	
12	PRIMARY SERVICE RACEWAY		X		X



ENGINEER OF RECORD
ABNEY L. THURMAN
ENGINEER LICENSE NUMBER
38151-E
SHEETS BEARING THIS SEAL ARE AUTHORIZED. RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS OR INSTRUMENTS ARE DISCLAIMED.

PROJECT:
NEW O'REILLY AUTO PARTS STORE
1178 COUNTY LINE ROAD
MADISON, AL 35758

O'Reilly AUTO PARTS
CORPORATE OFFICES
238 SOUTH PATTERSON
SPRINGFIELD, MISSOURI 65802
(417) 868-6874 TELEPHONE

DRAWN BY: CEV
CHECKED BY: AT/BC
DATE: 05/10/2019
REVISION:
PROJECT NUMBER: 19098-MS3
SHEET NUMBER: E3

Order Plans @ WWW.WWWDILLINGHAM.COM