

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, NO				PHASE: 3Ø, 4W				1. EQUIPMENT GROUND BAR			
MOUNTING: SURFACE				WIDTH: 20				2. ISOLATED GROUND BAR			
SCCR: 22K AIC				SPACE(S): 42				3. * SQ. D #001PA - WITH LOCKABLE CLIPS			
								4. + MUST BE TYPE "HACR" BREAKER			
								5. FEED THRU LUGS			
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			2
3	20A/1P	#12s	LIGHTING	1.10		5.03		3.93		#8s	+50A/3P
5	20A/1P	#12s	LIGHTING	1.34			5.27	3.93			4
7	20A/1P	#12s	LIGHTING	1.34	5.27			3.93			8
9	20A/1P	#12s	LIGHTING	1.21		5.14		3.93			10
11	20A/1P	#12s	LIGHTING	0.84			4.77	3.93			12
13	20A/1P	#12s	LIGHTING	0.81	3.59			2.78			14
15			SPACE	0		2.78		2.78		#8s	+45A/3P
17			SPACE	0			2.78	2.78			16
19			SPACE	0	2.78			2.78			18
21			SPACE	0		2.78		2.78		#8s	+45A/3P
23	20A/1P	#12s	BUILDING LIGHTING	0.24			3.02	2.78			20
25	20A/1P	#12s	SITE LIGHTING	0.00	0.00			0			21
27	20A/1P	#12s	SITE LIGHTING	0.00		0.00		0			22
29	20A/1P	#12s	SITE SIGN	1.30			1.30	0			23
31	20A/1P	#12s	SITE SIGN	1.30	1.30			0			24
33	*20A/1P	#12s	LED SIGN BUILDING	1.20			1.20	0			25
35			SPACE	0			0.03	0			26
37	20A/3P	#12s	GRIDPOINT 1204	0.03	0.03			0			27
39			SPACE	0		0.03		0			28
41	20A/1P	#12s	XFMR J-BOX	0.60			1.20	0.60		#12s	20A/1P
42											42

PLP PANELBOARD SCHEDULE											
MAINS: 400A MAIN LUGS ONLY				VOLTAGE: 208				ACCESSORIES:			
TYPE: SQUARE D, NO				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. #18 & #23			
								4. ** SQ. D #001PAF CKT. #33			
								5. + MUST BE TYPE "HACR" BREAKER			
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
3	20A/1P	#10s	CUTOFF SAW	1.73		1.91		0.18	BATTERY RACK RECEPT.	#10s	20A/1P
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	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			0.36	RECEPTACLES	#12s	20A/1P
15	20A/1P	#12s	RECEPTACLES	0.56			2.11	1.75	COKE MACHINE (ONLY)	#12s	**20A/1P
17	20A/1P	#12s	ISOLATED GRD. RECEPT.	0.36			0.72	0.36	ISOLATED GRD. RECEPT.	#12s	20A/1P
19	20A/1P	#12s	RECEPTACLES	0.18	0.54			0.36	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			1.26	0.36	ISOLATED GRD. RECEPT.	#12s	20A/1P
25	20A/1P	#12s	RECEPTACLES	1.00	1.36			0.36	ISOLATED GRD. RECEPT.	#12s	20A/1P
27	20A/1P	#12s	SECURITY	0.50		0.86		0.36	ISOLATED GRD. RECEPT.	#12s	20A/1P
29	20A/1P	#12s	RECEPTACLES (OS)	1.08		1.44		0.36	ISOLATED GRD. RECEPT.	#12s	20A/1P
31			SPACE	0	0.36			0.36	ISOLATED GRD. RECEPT.	#12s	20A/1P
33	**20A/1P	#12s	TANK WATER HEATER	1.65		2.01		0.26	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			SPACE	0	0.50			0.50	PRINTER RECEPTACLE	#12s	20A/1P
39			SPACE	0		0.72		0.72	PHONE EQUIP. RECEPT.	#12s	15A/1P
41			SPACE	0		0.90		0.90	RECEPTACLES	#12s	20A/1P
42											42

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)	0.53	MP-1
F	20A/1P	LIGHTING SECURITY (100% ON)	0.80	MP-13
G	20A/1P	LIGHTING HARD PARTS (DIMMED TO 50% ON)	0.58	MP-3
H	20A/1P	LIGHTING HARD PARTS (DIMMED TO 50% ON)	0.67	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			4.87	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.

DOT-DASH 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 20_408.4 & 200.12.)

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)

EXAMPLE OF LABELING ABOVE.

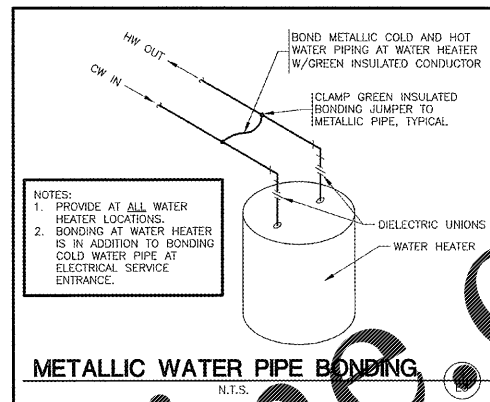
OPTIONAL STANDBY SOURCE LABEL

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: OUTSIDE DOOR.

SERVICE DISCONNECT LABEL

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



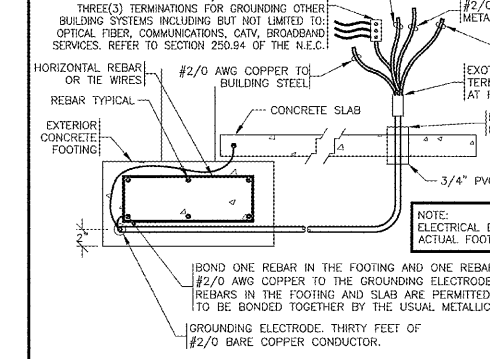
METALLIC WATER PIPE BONDING

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.

BONDING REQUIREMENTS
N.T.S.

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

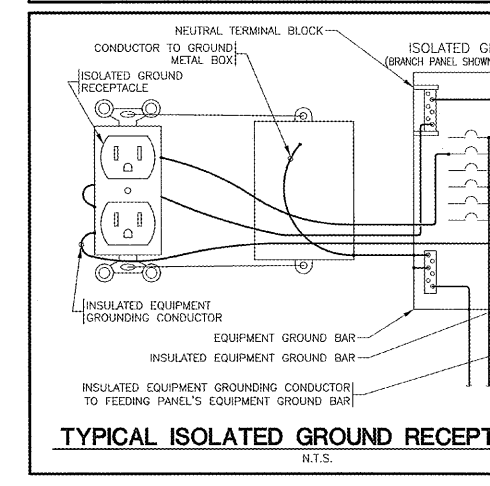
SERVICE EQUIPMENT GROUNDING & BONDING SHALL BE IN ACCORDANCE WITH: *NEC 250-24 *NEC 250-28 *NEC 250-53 *NEC 250-66 *NEC 250-90 *NEC 250-92 *NEC 250-130



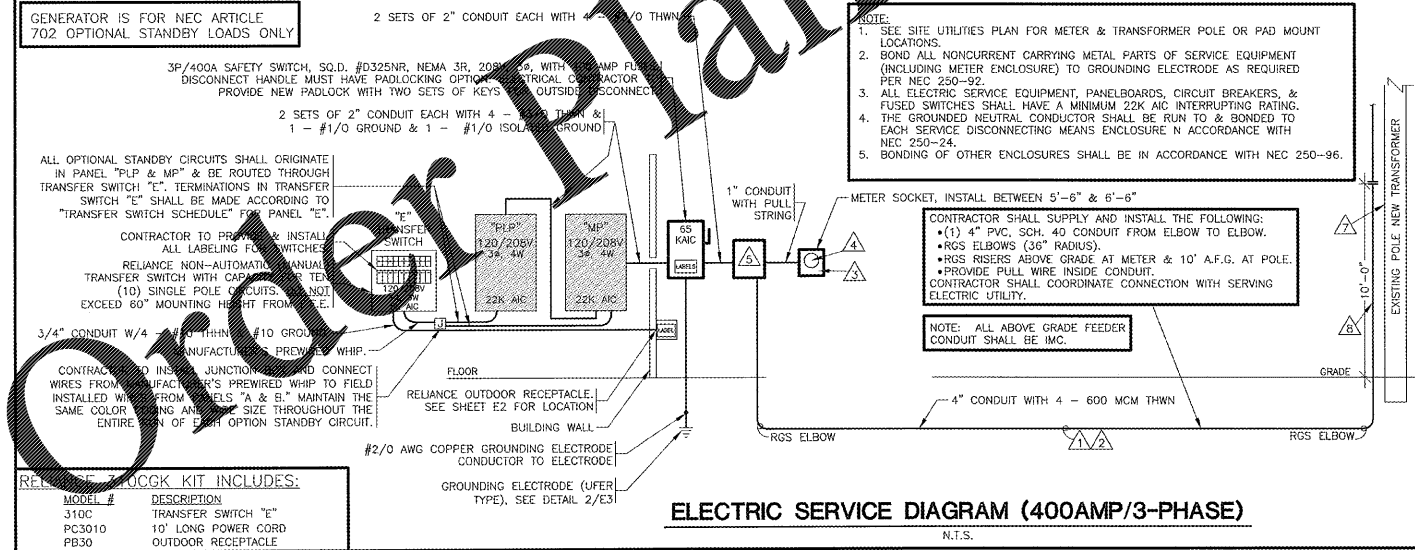
GROUNDING ELECTRODE (UFER TYPE) & BONDING JUMPER(S) DETAIL

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
N.T.S.



ELECTRIC SERVICE RESPONSIBILITIES					
SEE SITE PLAN FOR UTILITY COMPANY CONTACT.					
ITEM NO.	DESCRIPTION (IF APPLICABLE)	FURNISHED BY		INSTALLED BY	
		UTILITY CO.	CONTRACTOR	UTILITY CO.	CONTRACTOR
△	SERVICE LATERAL		X		X
△	SERVICE LATERAL RACEWAY		X		X
△	METER BASE	X			X
△	METER	X		X	
△	CT CABINET		X		X
△	OH SERVICE RISER @ BUILDING				
△	TRANSFORMER POLE	X		X	
△	SERVICE RISER @ POLE		X		X
△	TRANSFORMER PAD				
△	PAD MOUNT TRANSFORMER				



ELECTRIC SERVICE DIAGRAM (400AMP/3-PHASE)

N.T.S.

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ELECTRICAL SCHEDULES

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REVISION
DATE:

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