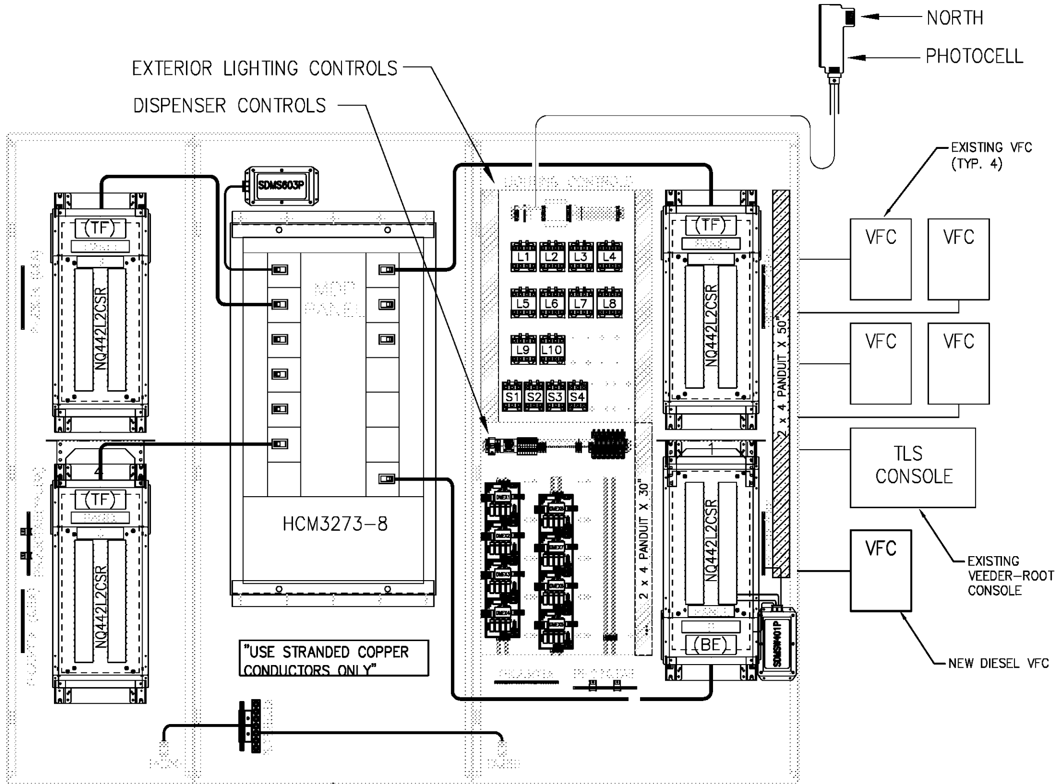
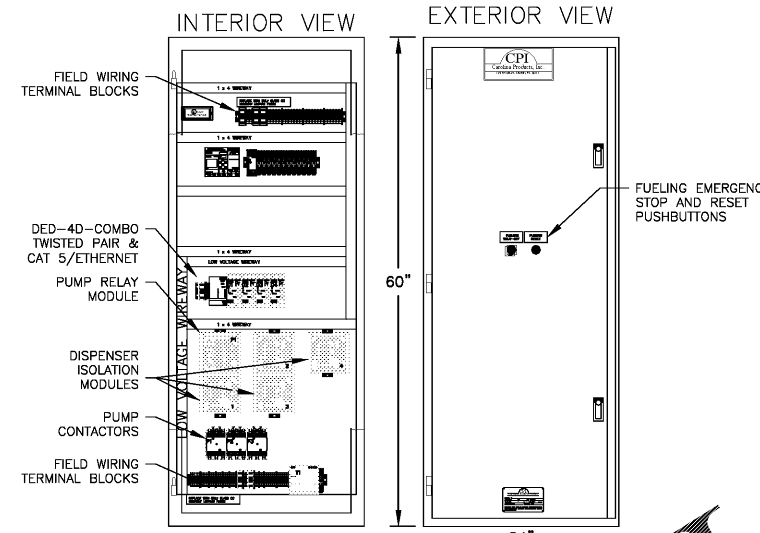


EXISTING CABINET LAYOUT

OUTSIDE LIGHTING, DISPENSER & PUMP CONTROLS



NEW CPI CABINET LAYOUT

DISPENSER & PUMP CONTROLS

ELECTRICAL SCOPE:

1. INSTALL NEW CPI DISPENSER CONTROL CABINET FOR (5) NEW DIESEL DISPENSERS & (2) NEW STP's.
2. CONNECT NEW E-STOP CONTROLS TO EXISTING E-STOP SYSTEM.
3. CONNECT NEW CANOPY LIGHTS, SIGNS & POLE LIGHTS TO EXISTING LIGHTING CONTACTORS & CONTROLS.
4. COORDINATE WITH CPI (CAROLINA PRODUCTS INC) FOR INTERCONNECTION REQUIREMENTS TO EXISTING FUEL EQUIPMENT & LIGHTING CONTROLS.
5. INSTALL NEW PANEL "E" FOR NEW DIESEL DISPENSERS, STP's AND LIGHTS.

PANEL MDP – EXISTING

PANELBOARD 600 AMP MAIN BREAKER | 120/208 3-PHASE 65K AIC FULLY RATED | BOLT-IN SURFACE-NEMA 1 | NEUTRAL BAR EQUIPMENT GROUND BAR

CIRCUIT DESCRIPTION	*	A	B	C	N	Bkr.	Wire	Cond.	Num.	Num.	Cond.	Wire	Bkr.	N	A	B	C	*	CIRCUIT DESCRIPTION
PANEL A	1	4547				200/3	3/0		1	2		3/0	200/3		10727			1	PANEL B
PANEL A	1		6570			200/3	3/0		3	4		3/0	200/3			14180		1	PANEL B
PANEL A	1			3269		200/3	3/0		5	6		3/0	200/3					1	PANEL B
PANEL C	1	5797				200/3	3/0		7	8		3/0	200/2	6,300	14865			1	PANEL D
PANEL C	1		15005			200/3	3/0		9	10		3/0	200/2			10405		1	PANEL D
PANEL C	1			10418		200/3	3/0		11	12									
									13	14									
HEAT PUMP #1	1		14876			125/3	2		15	16		6	80/3			7056		1	HEAT PUMP #2
HEAT PUMP #1	1			14876		125/3	2		17	18		6	80/3				7056	1	HEAT PUMP #2
HEAT PUMP #1	1	14876				125/3	2		19	20		6	80/3		7056			1	HEAT PUMP #2
CDU #1	1		4560			40/3	8		21	22		10	30/3			3480		1	CDU #2
CDU #1	1			4560		40/3	8		23	24		10	30/3				3480	1	CDU #2
CDU #1	1	4560				40/3	8		25	26		10	30/3		3480			1	CDU #2
CDU #3			5280			50/3	8		27	28									
CDU #3				5280		50/3	8		29	30									
CDU #3		5280				50/3	8		31	32									
									33	34									
									35	36									
									37	38									
									39	40									
									41	42									
		44560	48091	35218	0									6300	35826	35101	10536		

		Connected		Demand
CONNECTED VA (A)		80788		
CONNECTED VA (B)		81182		
CONNECTED VA (C)		48754		
CONNECTED VA (ABC)		210734		
NON-CONTINUOUS	*1	210734	100%	210734
CONTINUOUS	*2	0	125%	0
KITCHEN EQUIPMENT	*3	0	65%	0
SUBTOTAL		210734		210734
NON-COINCIDENTAL		-39960		-39960
TOTAL		170774		170774

TOTAL NEUTRAL LOAD: 6,300 / (208X1.73) = 17.5 AMPS

TOTAL DEMAND LOAD: 170,774 / (208x1.73) = 474.4 AMPS

PANEL D – EXISTING

PANELBOARD 225 AMP MLO | 120/208 1-PHASE 65K AIC SERIES RATED | BOLT-IN SURFACE-NEMA 1 | NEUTRAL BAR EQUIPMENT GRND BAR

CIRCUIT DESCRIPTION	*	A	C	N	Bkr.	Wire	Cond.	Num.	Num.	Cond.	Wire	Bkr.	N	A	C	*	CIRCUIT DESCRIPTION
AUTO DIESEL PUMP	1	1120			20/2	12		1	2		12	20/1				1	MSP #1
AUTO DIESEL PUMP	1		1120		20/2	12		3	4		12	SWN	360			1	MSP #1
AUTO PREMIUM PUMP #1	1	1120			20/2	12		5	6		12	20/1		360		1	MSP #2
AUTO PREMIUM PUMP #1	1		1120		20/2	12		7	8		12	SWN	360			1	MSP #2
AUTO PREMIUM PUMP #2	1	1120			20/2	12		9	10		12	20/1		360		1	MSP #3
AUTO PREMIUM PUMP #2	1		1120		20/2	12		11	12		12	SWN	360			1	MSP #3
AUTO REGULAR PUMP #1	1	1120			20/2	12		13	14		12	20/1		360		1	MSP #4
AUTO REGULAR PUMP #1	1		1120		20/2	12		15	16		12	SWN	360			1	MSP #4
AUTO REGULAR PUMP #2	1	1120			20/2	12		17	18		12	20/1		360		1	MSP #5
AUTO REGULAR PUMP #2	1		1120		20/2	12		19	20		12	SWN	360			1	MSP #5
KIOSK	1	180		180	20/1	12		21	22		12	20/1		360		1	MSP #6
TLS	1		240	240	20/1	12		23	24		12	SWN	360			1	MSP #6
* PANEL E	1	5645		2,280	100/2	3	1.25"	25	26		12	20/1		360		1	MSP #7
* PANEL E	1		4565		100/2	3	1.25"	27	28		12	SWN	360			1	MSP #7
								29	30		12	20/1		360		1	MSP #8
								31	32		12	SWN	360			1	MSP #8
								33	34		12	20/1		360		1	MSP #9
								35	36		12	SWN	360			1	MSP #9
								37	38		12	20/1		360		1	MSP #10
								39	40		12	SWN	360			1	MSP #10
								41	42								
		11425	10405	2780									3600	3240	0		

		Connected		Demand
CONNECTED VA (A)		14665		
CONNECTED VA (C)		10405		
CONNECTED VA (A,C)		25070		
NON-CONTINUOUS	*1	25070	100%	25070
CONTINUOUS	*2	0	125%	0
KITCHEN EQUIPMENT	*3	0	65%	0
SUBTOTAL		25070		25070
NON-COINCIDENTAL		0		0
TOTAL		25070		25070

TOTAL NEUTRAL LOAD: 6,300 / 208 = 30.3 AMPS

TOTAL DEMAND LOAD: 25,070 / 208 = 120.5 AMPS

* NEW CIRCUIT

PANEL E – NEW

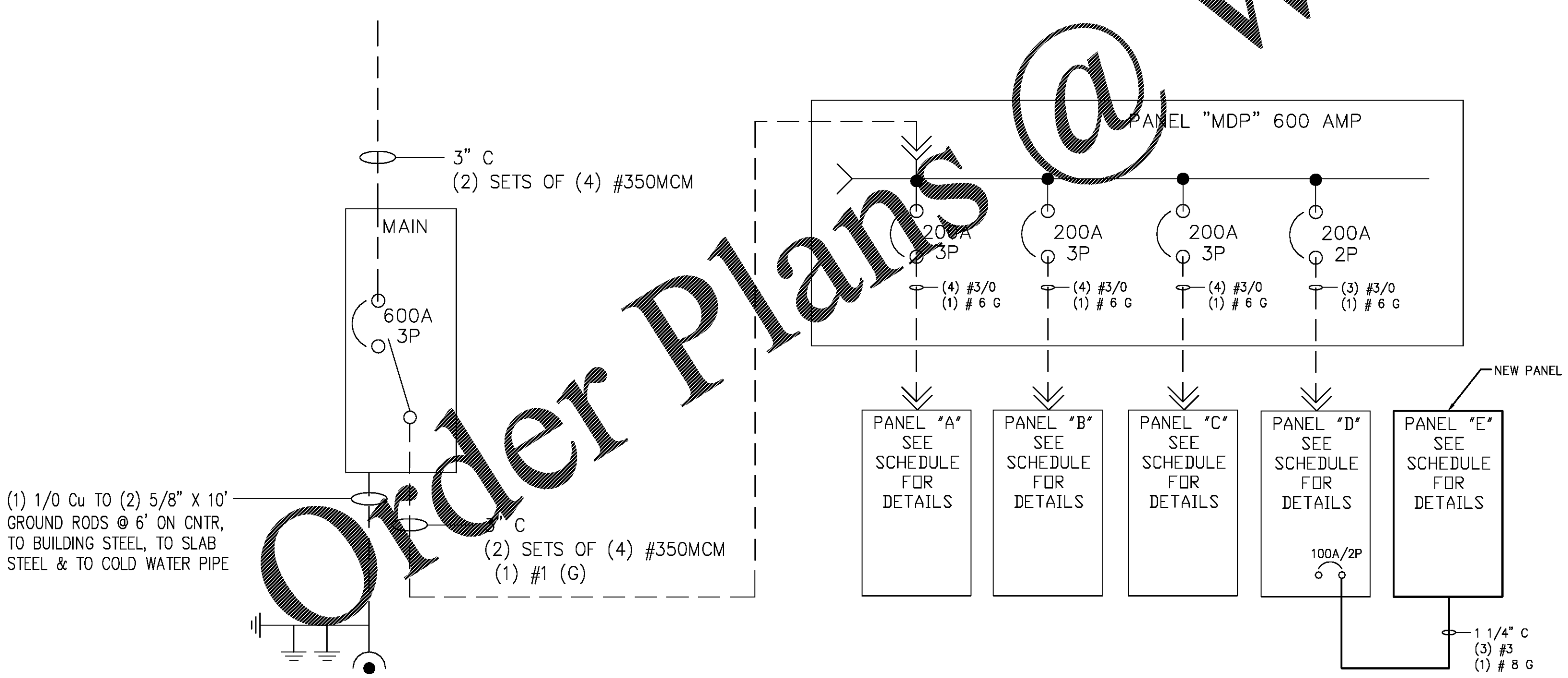
PANELBOARD 225 AMP MLO | 120/208 1-PHASE 10K AIC RATED | BOLT-IN SURFACE-NEMA 1 | NEUTRAL BAR EQUIPMENT GRND BAR

CIRCUIT DESCRIPTION	*	A	C	N	Bkr.	Wire	Cond.	Num.	Num.	Cond.	Wire	Bkr.	N	A	C	*	CIRCUIT DESCRIPTION
TRUCK DIESEL PUMP	1	1120			20/2	10	.75"	1	2	.75"	12	20/1				1	DIESEL DISPENSER #1
TRUCK DIESEL PUMP	1		1120		20/2	10	.75"	3	4	.75"	12	SWN	360			1	DIESEL DISPENSER #1
TRUCK DSP	1	1120			20/2	10	.75"	5	6	.75"	12	20/1		360		1	DIESEL DISPENSER #2
TRUCK DSP	1		1120		20/2	10	.75"	7	8	.75"	12	SWN	360			1	DIESEL DISPENSER #2
TRUCK CANOPY LIGHTS	2	400			20/2	10	.75"	9	10	.75"	12	20/1		360		1	DIESEL DISPENSER #3
TRUCK CANOPY LIGHTS	2		400		20/2	10	.75"	11	12	.75"	12	SWN	360			1	DIESEL DISPENSER #3
TRUCK CANOPY LIGHTS	2	400			20/2	10	.75"	13	14	.75"	12	20/1		360		1	DIESEL DISPENSER #4
TRUCK CANOPY LIGHTS	2		400		20/2	10	.75"	15	16	.75"	12	SWN	360			1	DIESEL DISPENSER #4
TRUCK CANOPY SIGN	2	420		420	20/1	10	.75"	17	18								
TRUCK CANOPY SIGN	2		420	420	20/1	10	.75"	19	20								
POLE LIGHTS	2	320			20/2	10	.75"	21	22								
POLE LIGHTS	2		320		20/2	10	.75"	23	24								
POLE LIGHTS	2	320			20/2	10	.75"	25	26								
POLE LIGHTS	2		320		20/2	10	.75"	27	28								
								29	30								
		4100	4100	840									1440	1080	0		

		Connected		Demand
CONNECTED VA (A)		5180		
CONNECTED VA (C)		4100		
CONNECTED VA (A,C)		9280		
NON-CONTINUOUS	*1	5560	100%	5560
CONTINUOUS	*2	3720	125%	4650
KITCHEN EQUIPMENT	*3	0	65%	0
SUBTOTAL		9280		10210
NON-COINCIDENTAL		0		0
TOTAL		9280		10210

TOTAL NEUTRAL LOAD: 2,280 / 208 = 11.0 AMPS

TOTAL DEMAND LOAD: 10,210 / 208 = 49.1 AMPS



NOTE: ALL CONDUCTORS TO BE THWN, COPPER

REVISED SINGLE LINE DIAGRAM

120 / 208 VOLTS 600 AMPS 3-PHASE

Order Plans @ WWW.LDILine.com

CLIENT:

CIRCLE K STORES, INC.

SOUTH ATLANTIC DIVISION
215 PENDLETON ST
WAYCROSS, GA 31501
PHONE: (912) 285-4011

DESIGN TEAM:

MDM SERVICES, INC.
engineering • environmental • construction
1055 KATHLEEN ROAD, LAKELAND, FLORIDA 33805
(863) 646-9130
EB #004857

TANK & PIPING PLANS & SPECIFICATIONS

NO.	DATE	REVISION DESCRIPTION

BID SET

RICHARD P. MORRIS, P.E.
GA REG # 13997

SITE ADDRESS:

CIRCLE K
1717 E 16th AVE.
CORDELE, CRISP COUNTY
GEORGIA

SCALE:	MDM JOB # 20183
DATE: 11/14/19	
DESIGNED BY:	
DRAWN BY: JR	FILE NAME:
CHECKED BY:	

DRAWING TITLE:

ELECTRICAL EQUIPEMENT PLAN

SHEET NO:

SE-2.0