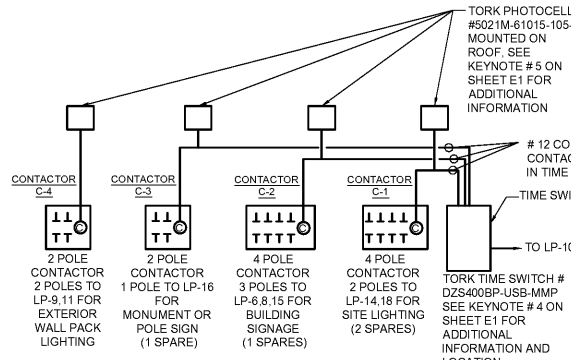


COMMERCIAL LOAD SUMMARY					
BUILDING AREA: 6,560 SQ. FT.		VOLTAGE: 208Y/120V, 3PH, 4W			
LOAD DESCRIPTION	CONNECTED LOAD (VA)	DEMAND FACTOR		DEMAND LOAD (VA)	
INTERIOR LIGHTING	4,575	x	125%	=	0
EXTERIOR LIGHTING	228	x	125%	=	285
SIGNAGE	6,000	x	125%	=	7,500
MINIMUM GENERAL LIGHTING PER NEC-220 x 125%					10,500
MINIMUM TRACK LIGHTING SHOW WINDOW PER NEC-220 x 125%					4,250
<b>POWER &amp; HVAC</b>					
EXISTING	0	x	100%	=	0
RECEPTACLES	13,304	x	100%/50%	=	11,622
MISCELLANEOUS EQUIPMENT	66,812	x	100%	=	66,812
REFRIGERATION EQUIPMENT	0	x	100%	=	0
KITCHEN	0	x	100%	=	0
HVAC - SUMMER	5,728	x	100%	=	5,728
HVAC - WINTER	0	x	100%	=	0
SUPP. ELECTRIC HEAT	1,548	x	100%	=	1,548
MOTORS	5,721	x	100%	=	5,721
LARGEST MOTOR	1,822	x	25%	=	406
SUB-TOTAL (VA)	104,530				121,400
SUB-TOTAL (AMPS)	290				337
SERVICE SIZE (AMPS)					400
SPARE CAPACITY (AMPS)					63

PANELBOARD MDP											
BUS AMPS: 400			LOCATION: UTILITY AREA			GROUND BUS: YES			ISOL. GROUND BUS: YES		
MAIN SIZE / TYPE: M.L.O.			NEMA RATING: NEMA 1			FEED THRU LUGS: NO			FEED THRU LUGS: NO		
VOLTS/PHASE: 208Y/120V, 3PH, 4W			AFC VALUE: 16,897A			SECTIONS: 1 OF 1			SECTIONS: 1 OF 1		
MOUNTING: SURFACE			AIC RATING: 42,000 A FULLY RATED								
CKT #	DESCRIPTION	BREAKER	WIRE	LOAD	CONNECTED PER PHASE (VA)	LOAD	WIRE	BREAKER	CIRCUIT	DESCRIPTION	CKT #
1	RTU-1 (HACR BREAKER)	35	3	RD	2,462	2,462	2,462	0	3	20	SPARE
3	5HP AIR COMPRESSOR (HACR BREAKER)	30	3	RD	2,100	4,200	2,100	2,100	3	30	5HP AIR COMPRESSOR (HACR BREAKER)
5	EXHAUST FAN EF-3 (HACR BREAKER)	20	3	RD	936	23,078	23,092	22,156	3	300	PANELBOARD PP
7	PANELBOARD LP	100	3	RD	4,694	4,694	4,694	0	1	20	SPARE
PER PHASE SUB-TOTALS					34,434	34,442	34,041	LEGEND:			
TOTAL CONNECTED PANELBOARD (VA)					102,917	TS - VIA TIME SWITCH					ST - SHUNT TRIP
TOTAL CONNECTED PANELBOARD (AMPS)					296	GF - GROUND FAULT INTERRUPTER					LCK - LOCKING TAB
TOTAL PANELBOARD DEMAND (VA)					108,858	FA - FIRE ALARM / RED / LOCKING TAB					IG - ISOLATED GROUND
TOTAL PANELBOARD DEMAND (AMPS)					302	EM - EMERGENCY LTG. / LOCKING TAB					RD - RISER DIAGRAM

PANELBOARD PP											
BUS AMPS: 400A			LOCATION: UTILITY AREA			GROUND BUS: YES			ISOL. GROUND BUS: YES		
MAIN SIZE / TYPE: M.L.O.			NEMA RATING: NEMA 1			FEED THRU LUGS: NO			FEED THRU LUGS: NO		
VOLTS/PHASE: 208Y/120V, 3PH, 4W			AFC VALUE: 17,499A			SECTIONS: 1 OF 2			SECTIONS: 1 OF 2		
MOUNTING: SURFACE			AIC RATING: 22,000 A FULLY RATED								
1	MVS SERVER CABINET IG IN OFFICE	20	1	12	360	1,090	720	12	1	20	CUSTOMER SHOWRM RCPTS
3	ROOF CONVENIENCE RCPT	20	1	12	180	360	180	12	1	20	COFFEE BAR
5	SALES POOL AND OR DESK IG RCPT	20	1	12	360	720	360	12	1	20	OFFICE IG RCPTS
7	SALES POOL AND OR DESK IG RCPT	20	1	12	360	1,220	600	12	1	20	TOILET RCPT & EWC
9	SALES POOL AND OR DESK IG RCPT	20	1	12	360	900	540	12	1	20	BREAK RCPT
11	CUSTOMER SHOWRM IG RCPT	20	1	12	180	1,380	1,200	10	1	20	MICROWAVE
13	SERVICE AREA RCPT	20	1	12	180	1,780	1,600	10	2	20	ELECTRONIC WHEEL BALANCER #13A
15	SERVICE AREA RCPT	20	1	12	180	1,780	1,600	10	2	20	BALANCER NON-ROAD FORCE #13B
17	SERVICE AREA RCPT	20	1	12	180	1,280	1,100	10	2	20	LOUVER-L-1L-2
19	ALIGNMENT COMPUTER	20	1	12	1,200	2,300	1,100	10	2	20	SHOP FAN #42
21	MVS SERVICE DESK IG IN BAY AREA	20	1	12	360	560	200	12	1	20	SHOP FAN #42
23	SERVICE AREA RCPT	20	1	12	600	2,544	2,544	12	1	20	SHOP FAN #42
25	SERVICE AREA WORK BENCH	20	1	12	360	624	264	12	1	20	SHOP FAN #42
27	BRAKE SHOP #10	20	1	12	1,500	2,440	540	12	1	20	SERVICE AREA RCPT
29	CO SENSOR	20	1	12	200	560	360	12	1	20	SERVICE AREA RCPT
31	HEAVY DUTY CORD DROP #17	20	1	10	1,500	2,040	540	12	1	20	SCISSOR LIFT BAY #1
33	HEAVY DUTY CORD DROP #17	20	1	10	1,500	4,260	2,760	6	2	30	SMART LIFT BAY #2
35	SHOP FAN #42	20	1	12	264	3,024	2,760	10	1	20	SMART LIFT BAY #3
37	SHOP FAN #42	20	1	12	264	624	350	12	1	20	SMART LIFT BAY #5
39	SHOP FAN #42	20	1	12	264	1,764	1,500	10	1	20	SCISSOR LIFT BAY #6
41	SHOP FAN #42	20	1	12	264	1,764	1,500	10	1	20	SCISSOR LIFT BAY #7
PER PHASE SUB-TOTALS					22,142	22,156	22,410	LEGEND:			
TOTAL CONNECTED PANELBOARD (VA)					66,708	TS - VIA TIME SWITCH					ST - SHUNT TRIP
TOTAL CONNECTED PANELBOARD (AMPS)					185	GF - GROUND FAULT INTERRUPTER					LCK - LOCKING TAB
TOTAL PANELBOARD DEMAND (VA)					65,498	FA - FIRE ALARM / RED / LOCKING TAB					IG - ISOLATED GROUND
TOTAL PANELBOARD DEMAND (AMPS)					182	EM - EMERGENCY LTG. / LOCKING TAB					RD - RISER DIAGRAM

PANELBOARD LP											
BUS AMPS: 125A			LOCATION: UTILITY AREA			GROUND BUS: YES			ISOL. GROUND BUS: NO		
MAIN SIZE / TYPE: M.L.O.			NEMA RATING: NEMA 1			FEED THRU LUGS: NO			FEED THRU LUGS: NO		
VOLTS/PHASE: 208Y/120V, 3PH, 4W			AFC VALUE: 16,217 A			SECTIONS: 1 OF 1			SECTIONS: 1 OF 1		
MOUNTING: SURFACE			AIC RATING: 22,000 A FULLY RATED								
1	SERVICE AREA LIGHTING	20	1	12	994	1,174	180	12	1	20	SIGNAGE CONVENIENCE RCPT
3	SERVICE AREA LIGHTING	20	1	12	994	1,174	180	12	1	20	EXTERIOR FRONT RCPT
5	SERVICE AREA LIGHTING	20	1	12	994	1,174	180	12	1	20	BUILDING SIGNAGE
7	INVENTORY LTG, EM LTG AND EF	20	1	12	890	2,080	1,200	12	1	20	BUILDING SIGNAGE
9	EXTERIOR LIGHTING	20	1	12	114	1,114	1,000	12	1	20	TIME SWITCH 'TS' & CONTACTORS
11	EXTERIOR LIGHTING	20	1	12	114	294	180	12	1	20	SHOW WINDOW RCPT
13	SERVICE AREA LIGHTING & EM LTG	20	1	12	68	240	172	10	1	20	SITE LIGHTING
15	BUILDING SIGNAGE	20	1	12	1,200	2,400	1,200	8	1	20	SITE SIGNAGE
17	SHOWRM LTG AND EM LTG	20	1	12	539	711	172	10	1	20	SITE LIGHTING
19	SHOWRM SIGNAGE	20	1	12	1,200	1,200	0	1	20	SPARE	
21	SPARE	20	1	12	0	0	0	1	20	SPARE	
23	TOILET OFFICE BREAK RM LTG, EF & EM LTG	20	1	12	834	834	0	1	20	SPARE	
25	SPARE	20	1	12	0	0	0	1	20	SPARE	
27	SPARE	20	1	12	0	0	0	1	20	SPARE	
29	SPARE	20	1	12	0	0	0	1	20	SPARE	
PER PHASE SUB-TOTALS					4,694	4,698	4,033	LEGEND:			
TOTAL CONNECTED PANELBOARD (VA)					13,415	TS - VIA TIME SWITCH					ST - SHUNT TRIP
TOTAL CONNECTED PANELBOARD (AMPS)					37	GF - GROUND FAULT INTERRUPTER					LCK - LOCKING TAB
TOTAL PANELBOARD DEMAND (VA)					20,366	FA - FIRE ALARM / RED / LOCKING TAB					IG - ISOLATED GROUND
TOTAL PANELBOARD DEMAND (AMPS)					57	EM - EMERGENCY LTG. / LOCKING TAB					RD - RISER DIAGRAM



2 CONTACTOR DIAGRAMS  
E5 SCALE: NONE

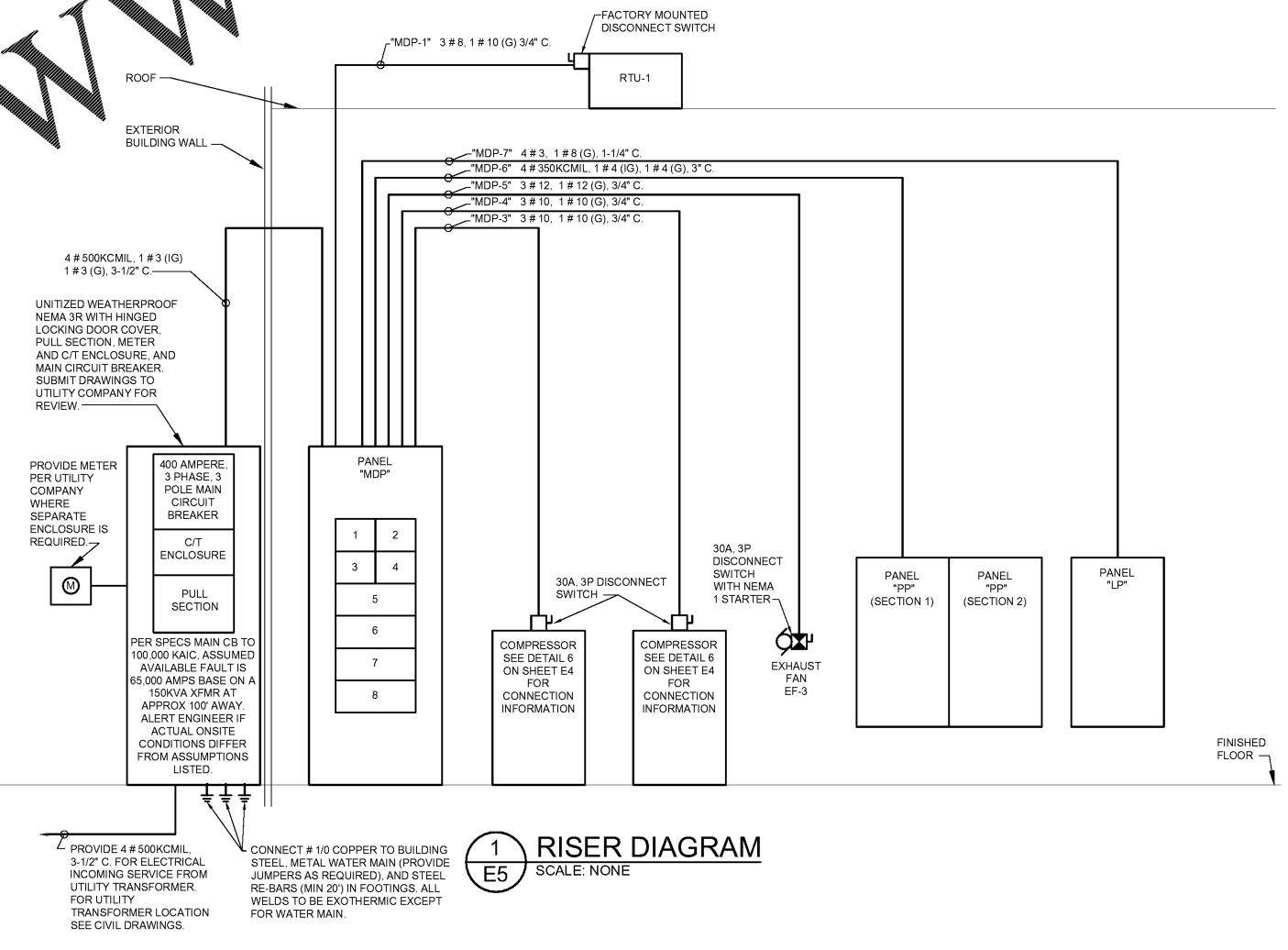
### CONTACTOR NOTES

- ALL CONTACTORS TO BE ELECTRICALLY HELD TYPICAL.
- ALL CONTACTORS AND TIME SWITCH SHALL BE INSTALLED IN ONE (1) GENERAL PURPOSE CABINET WITH HINGED DOOR, VERIFY CABINET SIZE IN FIELD.
- CONTRACTOR TO PROVIDE TIME SWITCH (TS), CONTACTORS, AND PHOTOCELLS, AS SHOWN TO CONTROL ALL EXTERIOR LIGHTING AND SIGNAGE AS SHOWN IN "CONTACTOR DIAGRAM" THIS SHEET. COORDINATE WITH STORE MANAGER THE HOURS OF OPERATION AND DEMONSTRATE ALL "TIME SWITCH" FUNCTIONS. PROVIDE STORE MANAGER AND FIRESTONE CONSTRUCTION DEPARTMENT WITH COPIES OF ALL OPERATION AND INSTALLATION MANUALS.
- WALL MOUNT TIME SWITCH AND CONTACTOR PANEL.
- PROVIDE PHOTOCELL DOWNSTREAM OF TIME SWITCH TO ALLOW FOR PHOTOCELL OVERRIDE OF TIMESWITCH CONTROLS. CONTROL INTENT IS FOR PARKING LOT LIGHTING, SIGNAGE AND BUILDING SIGN LIGHTING TO BE OFF BETWEEN 2AM AND STORE OPENING TIME. AT STORE OPENING TIME, THE FIXTURES SHOULD BE ON PHOTOCELL CONTROL ONLY TO ALLOW THESE FIXTURES TO ENERGIZE 'ON' DURING DARKER PERIODS THROUGHOUT THE DAY. WALL PACKS SHALL BE ON PHOTOCELL CONTROL ONLY 24 HOURS/DAY.
- THE CONDUIT WHICH PROVIDES POWER TO THE EXTERIOR SIGN LIGHTING, EXTERIOR LIGHTING OR OTHER EXTERIOR REQUIREMENTS REQUIRING UNDERGROUND CONDUIT SHOULD COMMENCE UNDERGROUND AT THE INSIDE FACE OF AN EXTERIOR WALL AND EXIT THE BUILDING IMMEDIATELY WITHOUT RUNNING HORIZONTAL UNDER OR IN THE GROUND FLOOR CONSTRUCTION.

### RISER DIAGRAM NOTES

- ALL METERING EQUIPMENT AND PANELS SHALL BE MANUFACTURED PER THE ELECTRICAL SPECIFICATIONS AND MEET ALL REQUIREMENTS.
- GROUNDING CONDUCTORS, AND ALL BOUNDING REQUIREMENTS, SHALL BE INSTALLED AS DIRECTED BY EQUIPMENT MANUFACTURER AND AS SHOWN ON DRAWINGS.
- LABEL EACH JUNCTION BOX, PULL OR TAP BOX, DISCONNECT SWITCH ETC., WITH BLACK LETTERING ON AN ORANGE STICKER WITH LETTERING SIZED IN RELATION TO SIZE OF COVER, AND FOR PANELS SEE SPECIFICATIONS.
- IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE ALL REQUIREMENTS WITH THE UTILITY COMPANY. FIELD VERIFY THE AVAILABLE FAULT CURRENT WITH THE UTILITY COMPANY AND CONTACT THE ENGINEER OF RECORD WITH THE DISCREPANCY SO AS TO REVISE THE EQUIPMENT RATINGS AS NEEDED.
- PROVIDE MULTI-LAYERED ACRYLIC LABELS PER SPECIFICATION FOR ALL DISTRIBUTION PANEL BOARDS, PANEL BOARDS, SWITCH GEAR SECTIONS, STARTERS AND INDIVIDUAL SWITCH GEAR FUSED SWITCHES.
- SIZE ALL BRANCH CIRCUITS NOT TO EXCEED 3% VOLTAGE DROP. ALL WIRE SIZES SHALL BE FOR PERAGE REQUIRED PER N.E.C.
- CONDUIT SHALL BE RIGID GALVANIZED STEEL THROUGHOUT, EXCEPT WHERE OTHERWISE NOTED.
- SEE ELECTRICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- INCLUDE IN CONTRACT ALL ONE TIME TAP CHARGERS AND FEES FROM UTILITY COMPANY, COORDINATE WITH UTILITY COMPANY.
- ALL ELECTRICAL AND TELEPHONE CONDUITS THAT PENETRATE FIRE RATED WALLS SHALL BE SEALED WITH FIRE STOP MATERIAL TO MEET ALL GOVERNING CODE REQUIREMENTS.
- PROVIDE LABEL STATING ARC-FAULT AND AIC RATING ON EACH PANEL.

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1 RISER DIAGRAM  
E5 SCALE: NONE



NEW FCAC STORE  
2019 JANUARY - SMALL ER  
5845 NC HWY 42  
GARNER, NC

09/26/19  
ACERTUS NORTH CAROLINA  
CERTIFICATION NUMBER - P1514

ISSUE BLOCK

DATE	09/27/19	ADDENDUM #	
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PROPERTY NO.: 160017  
6 DIGIT NO.: 903065  
4 DIGIT NO.: 015P  
AOR PROJECT NUMBER: 1955801  
TO PERMIT: DATE: 07-28-19  
TO BID: DATE: ##-##-##

SHEET TITLE:  
RISER DIAGRAM,  
PANEL SCHEDULES  
AND NOTES

SHEET NUMBER:  
**E5**