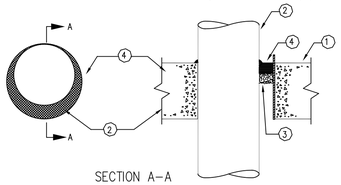
SYSTEM NO. CAJ1044

(Formerly System No. 319)
F Ratings–2, 3 and 4 hour (See Items 2A and 4)
T Rating–0 hour
L Rating At Ambient–2 CFM/sq ft
L Rating At 400F–less than 1 CFM/sq ft



SECTION A–A

1. FLOOR or WALL ASSEMBLY–Lightweight or normal weight (100–150 pcf) concrete. Except as noted in table under Item 4, min thickness of solid concrete floor or wall assembly is 4–1/2 in. Floor may also be constructed of any min. 6 in. thick UL Classified hollow core PRECAST CONCRETE UNIT. When floor is constructed of hollow core precast concrete units, packing material (Item 3) and caulk fill material (Item 4) to be installed symmetrically on both sides of floor, flush with floor surface. Wall assembly may also be constructed of any UL Classified CONCRETE BLOCKS*. Max diam of opening is in solid lightweight or normal weight concrete. Floor is 32 in. Max diam of opening in floor constructed of hollow–core precast concrete units is 7 in.
   See CONCRETE BLOCKS (CAZT) and PRECAST CONCRETE UNITS (QFTV) categories in the Fire Resistance Directory for names of manufacturers.

1A. STEEL SLEEVE– (Optional, not shown)–Max 15 in. ID (or smaller) Schedule 10 (or heavier) steel sleeve cast or grouted into floor or wall assembly. Sleeve may extend a max. of 2 in. above top of floor or beyond either surface of wall. Max 16 in. ID (or smaller) min. 0.028 wall thickness (or heavier) galvanized steel sleeve cast or grouted into floor or wall assembly. Sleeve may extend a max of 1/2 in. beyond either surface of floor or wall.

2. THROUGH PENITRANTS–One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. Max annular space between pipe, conduit or tubing and edge of through opening or sleeve is dependent on the parameters shown in Item 4. Min annular space between pipe or conduit and edge of through opening is zero in. (point contact). Pipe conduit or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. STEEL PIPE–Nom 30 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. IRON PIPE –Nom 30 in. diam (or smaller) cast or ductile iron pipe.
   C. CONDUIT–Nom 6 in. diam (or smaller) rigid steel conduit.
   D. CONDUIT–Nom 4 in. diam (or smaller) steel electrical metallic tubing.
   E. COPPER TUBING–Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   F. COPPER PIPE–Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.

3. PACKING MATERIAL–Polyethylene backer rod or nom 1 in. thickness of tightly–packed mineral wool batt or glass fiber insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of caulk fill material (Item 4).

4. FILL, VOID or CAVITY MATERIAL*–CAULK–Applied to fill the annular space flush with top surface of floor. In wall assemblies, required caulk thickness to be installed symmetrically on both sides of wall, flush with wall surface. At point contact location between penetrant and sleeve or between penetrant and concrete, a min 1/4 in. diam bead of caulk shall be applied at the top surface of floor and at both surfaces of wall. The hourly F Ratings and the min required caulk thickness are dependent upon a number of parameters, as shown in the following table:

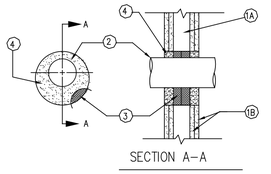
Min Floor Or Wall Thkns, In	Nom Pipe Tube Or Conduit Diam, In	Max Annular Space, In	Min Caulk Thkns, In	F Rating, Hr
2–1/2	1/2–12	1–3/8	1/2	2
2–1/2	1/2–12	3–1/4	1	2
4–1/2	1/2–6	1–3/8	1/4 (a)	2
4–1/2	1/2–12	1–1/4	1/2	3
4–1/2	1/2–20	2	1	3
4–1/2	1/2–20	2	1	3
4–1/2	1/2–12	3–1/4	1	3
4–1/2	22–30	2	2	3
5–1/2	1/2–6	1–3/8	1(b)	4

(a) Min 2 in thickness of material wool batt insulation required in annular space.
(b) Min 1 in. thickness of material wool batt insulation required in annular space on both sides of floor or wall assembly. Min 1 in. thickness of caulk to be installed flush with each surface of floor or wall assembly.
Minnesota Mining & Manufacturing Co.–CP 25WB+.
*Bearing the UL Classification Marking

FLOOR OR WALL ASSEMBLY
1–2–3 HR UL PENETRATION (STEEL CONDUIT)

SYSTEM NO. W.1041

F RATING – 2 HR.
T RATING – 0 HR.



SECTION A–A

1. Wall Assembly – The fire–rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs – Wall framing may consist of either wood studs or steel channel studs. Wood stude to consist of nom 2 by 4 in. lumber spaced max 16 in. OC. Steel studs to be 8 min 2–1/2 in wide and spaced 24 in OC.

B. Wallboard, Gypsum – Two layers of nom 5/8 in. thick gypsum wallboard, as specified in the individual Wall and Partition Designs. Max diam of opening not to exceed 7 in.

2. Through Penetrants – One metallic pipe or conduit to be installed concentrically or eccentrically within the firestop system. The annular space shall be min 1/4 in. to max 2–1/2 in. pipe or conduit to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes or conduits may be used:

   A. Steel Pipe – Nom 4 in. diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. Conduit – Nom 4 in. diam (or smaller) electrical metallic tubing or steel conduit.
   C. Copper Tubing – Nom 3 in. diam (or smaller) Type M (or heavier) copper tubing.

3. Packing Material – Min 3–1/2 in. thickness of min 0.5 pcf fiberglass insulation firmly packed into opening as a permanent form. The packing material shall be sized to be at least 1/2 in. larger than the opening dia. centered in the walls mid–depth and compressed so that it is recessed a min. of 1–1/4 in. from each surface of wall.

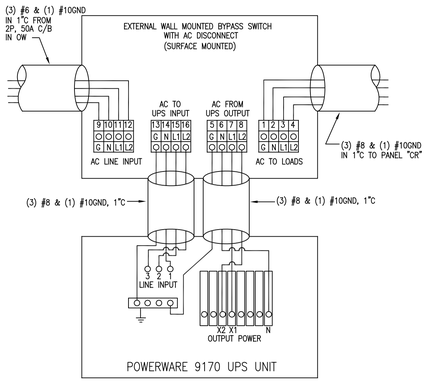
4. Fill, Void or Cavity Material – Dry mix material mixed with water at a rate of 100 grams of dry mix per 48 to 50 ml of water or a 48/100 to 50/100 ratio by weight of water to dry mix, in accordance with the accompanying installation instructions. Material applied to each surface of the packing material within the annulus between the penetrating item and periphery of opening to a min. depth of 1–1/4 in. Material shall be troweled flush with both surfaces of wall assembly.

   Gold Bond Building Products, National Gypsum Div. – Type Sta–Smooth FS.

   ** Bearing the UL Classification Marking.

FLOOR OR WALL ASSEMBLY
1–2–3 HR UL PENETRATION (STEEL CONDUIT)

UL PENETRATING PROCEDURE DETAILS
NOT TO SCALE



UPS UNIT NOTES:

1. THIS DIAGRAM MUST BE FOLLOWED PER PROPER PHASING AND OPERATION.
2. PANEL 'CR' TO BE POWERED BY 208 VAC HOT, NEUTRAL AND ISOLATED GROUND.
3. ALL ELECTRICAL WIRING WILL BE DONE IN A MANNER ACCEPTABLE TO DELHAIZE AMERICA AND THE N.E.C.
4. FOR ANY QUESTIONS, CALL NATIONAL POWER CORPORATION AT (336) 613–3679.
5. NATIONAL POWER IS RESPONSIBLE FOR STARTING UP THE U.P.S. SYSTEM.
6. 6"x6"x4"D JUNCTION BOX SHALL BE FLUSH MOUNTED DIRECTLY BEHIND THE BYPASS SWITCH FOR CONCEALED UPS WIRING.

2 E6.02 "UPS" UNIT WIRING DIAGRAM
NOT TO SCALE

LIGHT FIXTURE SCHEDULE

Fixture Type	Description	Manufacturer	Label	Watts	Volts	Note	Location
BL	LED LINEAR CURVE Fixture, 37w, 4650 lumens, 35K	Elite	4-OC1-LED-5000L-DIM10-MVOLT-35K-85				If anything other than recessed cans or Avante fixtures exist, replace with this fixture. Replace all fluorescent restroom lights with this fixture in LED stores.
BLE	LED LINEAR CURVE Fixture, 37w, 4650 lumens, 35K w/emeg battery backup	Elite	4-OC1-LED-5000L-DIM10-MVOLT-35K-85-0-EMG-LED				If anything other than recessed cans or Avante fixtures exist, replace with this fixture. Replace all fluorescent restroom lights with this fixture in LED stores.
E1	Emergency light, 2 head	Mule	TSR-HO-W-BM	10.8	MVOLT		To be used when existing fixtures are off-white and store is getting all new finishes (cool color scheme)
XCL	LED Egress Light	Mule	MAKO-LED ACEM DB	6	120		LED Exterior egress emergency light
XC	Egress Light	Lithonia	AFN DB EXT	0.05	120		Exterior egress emergency light
EXL	Exit Sign, Polycarbonate, NiCad battery	Mule	MX-B-R-U	4	MVOLT		White Interior EXIT sign
M	2L2X4 Prismatic Troffer	Lithonia	2GT8 2 32 RN A12 MVOLT OS10ISH	52	120		Corridors/Offices/Lounge with lay-in ceiling.
ME	2L2X4 Prismatic Troffer emergency	Lithonia	2GT8 2 32 RN A12 MVOLT OS10ISH EL14	52	120		Same, emergecy light
M2	2L2X2 Prismatic Troffer	Lithonia	2GT8 2 17 RN A12 MVOLT OS10ISH	37	MVOLT		2' version of M fixture (to be added as needed to boost light levels in dark areas)
O4	4' Led Lensed Strip Light	Lithonia	ZL1N L48 3000LM FST MVOLT 35K 80CRI	32	MVOLT		Mount 4' to bulkhead to illuminate taste of inspirations board.
O4S	4' Led Lensed Strip Light for Deli / Bakery suspended	Lithonia	ZL1N L48 3000LM FST MVOLT 35K 80CRI (ZACVH + CABLE)	32	MVOLT		Suspended behind bulkhead to illuminate taste of inspirations board (when case doesn't run parallel to bulkhead)
QZA	2L8' with Asymetric Reflector	Lithonia	TZ 1 32 MVOLT OS10IS Z8ASR48	52	120	4	On top of cases (uplighting)
QZA1	1L4' with Asymetric Reflector	Lithonia	Z 1 32 MVOLT OS10IS Z8ASR48	27	120	4	4' version of QZA
QZAG	2L8' with Asymetric Reflector , Grid Hung	Lithonia	TZ 1 32 MVOLT OS10IS Z8ASR48, ZSPRG	52	120		Grid QZA (downlighting); department signage illumination
QZAG1	1L4' with Asymetric Reflector , Grid Hung	Lithonia	Z 1 32 MVOLT OS10IS Z8ASR48, ZSPRG	27	120		4' version of QZAG
QZAS	2L8' with Asymetric Reflector , Suspended	Lithonia	TZ 1 32 MVOLT OS10IS Z8ASR48, ZACVH	52	120	7	Suspended QZA (downlighting); department signage illumination
QZAS1	1L4' with Asymetric Reflector , Suspended	Lithonia	Z 1 32 MVOLT OS10IS Z8ASR48, ZACVH	27	120	7	4' version of QZAS
T	LED Retrofit Kit; Clear atrak refl w/lens		LDN8RV 27/20 LR8AR LS MVOLT ELV		MVOLT		LED Retrofit Kit for existing Fluorescent Recessed Can Lights
U	2L4' Wraparound	Lithonia	LB 2 32 MVOLT OS10ISH	52	120		Corridors/Offices/Lounge with gypsum wall board ceiling
UE	2L4' Wraparound with emergency	Lithonia	LB 2 32 MVOLT OS10ISH EL14	52	120		Same, emergency light
X7	2x4 LED Troffer (lay-in)	Power Concepts	P-HT2F4119L06A301	120	MVOLT		Deli/Bakery sales lights for stores with a lay-in ceiling

EXAMPLES OF EXISTING SALES AREA LIGHTS

Fixture Type	Description	Manufacturer	Catalog Number	Watts	Volts	Note	Location
X	Continuous Recessed Row Fluorescent, 2L 8'	Lithonia	CRRS 2 96T8 120 OS10IS	123	MVOLT		Existing Sales Area- lay-in ceiling with recessed fixtures
X1	Continuous Recessed Row Fluorescent, 2L 4'	Lithonia	CRRS 2 32T8 120 OS10IS	65	MVOLT		Existing Sales Area- lay-in ceiling with recessed fixtures

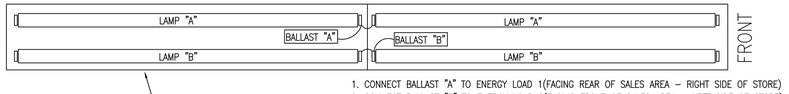
NOTE: NOT ALL FIXTURES USED ON THIS PROJECT

NOTE:

LIGHT FIXTURES SHALL BE MANUFACTURED BY LITHONIA UNLESS NOTED OTHERWISE. PURCHASE FROM SYLVANIA AT THE NATIONAL CONTRACT PRICE. FOR PURCHASE, CONTACT SYLVANIA AT 1–800–573–1514 EXT. 0066. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES, RATINGS, LENGTHS...ETC. ANY DISCREPANCIES SHALL BE RESOLVED WITH SYLVANIA PRIOR TO BID. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITION TO THE BILL OF MATERIALS DUE TO LOCAL, STATE GOVERNMENTAL CODES.

LIGHT FIXTURE SCHEDULE NOTES

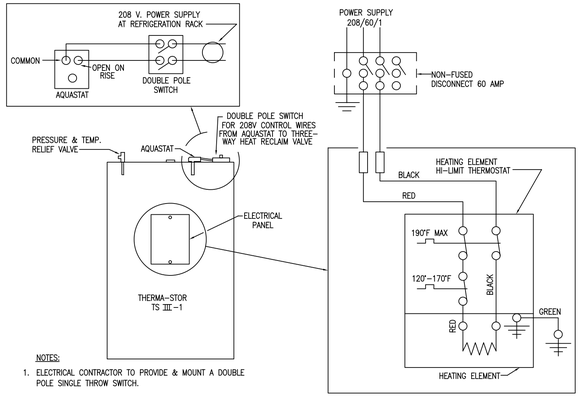
1. LIGHT FIXTURES AND LAMPS SHALL BE PURCHASED FROM SYLVANIA LIGHTING SERVICES CORP. LIGHTING DESIGN AND PROJECT MANAGEMENT DEPARTMENT, 200 MIDWAY PARK DRIVE, MIDDLETON, NY 10940 AT THE NATIONAL CONTRACT PRICE. FOR PURCHASE, CONTACT LISA B. MASTIN AT 1–800–573–1514 EXT. 0066 EMAIL: lisab.mastin@sylvania.com; LED LIGHTS TO BE PURCHASED FROM POWER CONCEPTS; CONTACT NEIL CHABLEE (252) 723–9887 EMAIL Neil.Chamblee@gmail.com. ALL FIXTURES SHALL BE INSTALLED AND POWERED BY THE ELECTRICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES, RATINGS, LENGTHS, ETC.
2. SEE SHEET E1.01 FOR MOUNTING HEIGHTS ALL LIGHTING FIXTURES. COORDINATE CABLE MOUNTING LENGTH WITH MOUNTING HEIGHT OF FIXTURE.
3. INSTALL "SREP" CLIPS ON BOTH SIDES OF EACH ROW OF FIXTURES. PROVIDE BLACK MC POWER FEED. TIE WRAP MC CORD NEATLY TO AIRCRAFT CABLE.
4. FIXTURE TO BE MOUNTED ON TOP OF REFRIGERATED CASE. MOUNT FIXTURE 24" FROM CENTER OF FIXTURE TO FACE OF WALL. POSITION REFLECTOR TO FACE THE WALL.
5. TRACK SYSTEM SHALL BE SUSPENDED WITH AIRCRAFT CABLE. PROVIDE BLACK MC CORD POWER FEED FOR (2) CIRCUIT TRACK SECTION OF GRID. HARD WIRE POWERED TRACK SECTIONS TOGETHER VIA BLANK GRID SECTION. CIRCUITING OF TRACK HEADS SHALL BE DISTRIBUTED EVENLY AMONG CIRCUITS. ELECTRICAL CONTRACTOR TO INSTALL STEEL SAFETY CABLE PROVIDED WITH FIXTURE.
6. ALL LAMPS SHALL BE MANUFACTURED BY GENERAL ELECTRIC, SYLVANIA OR PHILLIPS, UNLESS NOTED OTHERWISE.
7. SUSPEND QZAS FIXTURES WITH AIRCRAFT CABLE. PROVIDE WHITE MC CABLE POWER FEED. TIE WRAP MC CABLE NEATLY TO AIRCRAFT CABLE.
8. PROVIDE TUBE SHIELDS FOR ALL LAMPS IN THE PRODUCE PREP AND SALES AND ALL FIXTURES IDENTIFIED WITH "TS".
9. MOUNTED TO BACK OF BULKHEAD
10. SEE NOTE SHEET E1.01 FOR LUMEN PACKAGE COLOR (6K OR 8K).



1. CONNECT BALLAST "A" TO ENERGY LOAD 1(FACING REAR OF SALES AREA – RIGHT SIDE OF STORE)
2. CONNECT BALLAST "B" TO ENERGY LOAD 2(FACING FRONT OF SALES AREA – LEFT SIDE OF STORE)
3. CONNECT EACH "X" OR "XS" FIXTURE SO THAT LAMPS "A" ARE CONTROLLED BY BALLAST "A" AND ARE LOCATED ON THE SAME SIDE IN EACH FIXTURE OF THE ROW (TYP. FOR LAMPS AND BALLAST "B").

NOTE
*EVERY ROW CONSISTENTLY WIRED

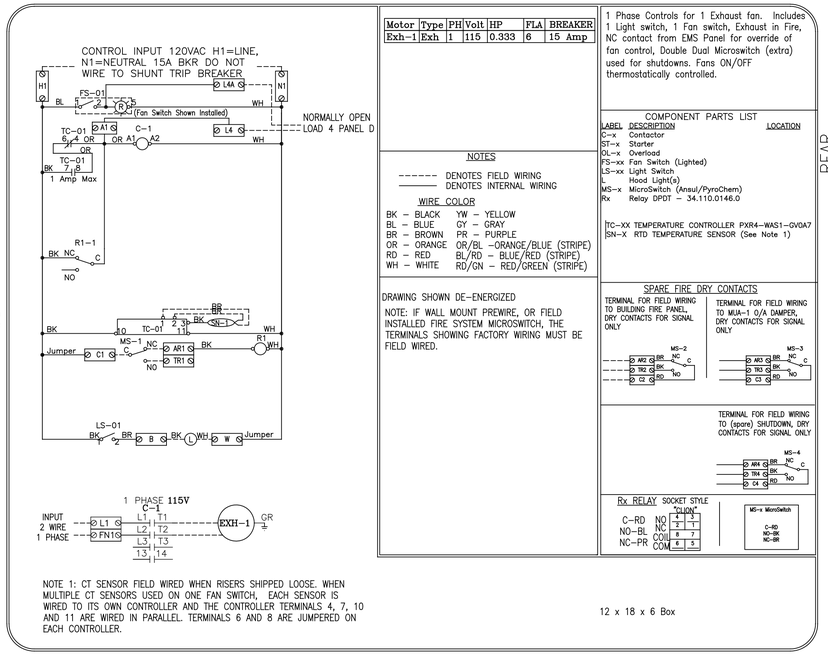
1 E6.02 MAIN SALES AREA LIGHTING WIRING DETAIL
NTS



NOTES:
1. ELECTRICAL CONTRACTOR TO PROVIDE & MOUNT A DOUBLE POLE SINGLE THROW SWITCH.

3 E6.02 WIRING DETAIL FOR THERMA–STOR III–1 RECLAIM WATER HEATER
NOT TO SCALE

HOOD SYSTEM WIRING DETAIL



Motor	Type	PH	Volt	HP	FLA	BREAKER
Exh–1	Exh	1	115	0.333	6	15 Amp

NOTES

------ DENOTES FIELD WIRING
—— DENOTES INTERNAL WIRING

WIRE COLOR

BK	BLACK	YW	YELLOW
BL	BLUE	GY	GRAY
BR	BROWN	PR	PURPLE
OR	ORANGE	OR/BL	ORANGE/BLUE (STRIPE)
RD	RED	BL/RD	BLUE/RED (STRIPE)
WH	WHITE	RD/GN	RED/GREEN (STRIPE)

DRAWING SHOWN DE–ENERGIZED

NOTE: IF WALL MOUNT PREWIRE, OR FIELD INSTALLED FIRE SYSTEM MICROSWITCH, THE TERMINALS SHOWING FACTORY WIRING MUST BE FIELD WIRED.

1 Phase Controls for 1 Exhaust fan. Includes 1 Light switch, 1 Fan switch, Exhaust in Fire, NC contact from EMS Panel for override of fan control, Double Dual Microswitch (extra) used for shutdowns. Fans ON/OFF thermostatically controlled.

COMPONENT PARTS LIST

LABEL	DESCRIPTION	LOCATION
C–x	Contactor	
ST–x	Starter	
OL–x	Overload	
FS–xx	Fan Switch (Lighted)	
LS–xx	Light Switch	
L	Hood Light(s)	
MS–x	MicroSwitch (Ansul/PyroChem)	
Rx	Relay DPDT – 34.110.0146.0	
TC–XX	TEMPERATURE CONTROLLER PXR4–WAS1–GVOA7	
SN–X	RTD TEMPERATURE SENSOR (See Note 1)	

SPARE FIRE DRY CONTACTS

TERMINAL FOR FIELD WIRING TO BUILDING FIRE PANEL, DRY CONTACTS FOR SIGNAL ONLY

TERMINAL FOR FIELD WIRING TO MUA–1 O/A DAMPER, DRY CONTACTS FOR SIGNAL ONLY

MS–2: AR2, BR, NC, C, TR2, BK, NO, C2, RD
MS–3: AR3, BR, NC, C, TR3, BK, NO, C3, RD

TERMINAL FOR FIELD WIRING TO (spare) SHUTDOWN, DRY CONTACTS FOR SIGNAL ONLY

MS–4: AR4, BR, NC, C, TR4, BK, NO, C4, RD

Rx RELAY SOCKET STYLE "Bottom"

C–RD	NO	4	3
NO–BL	NC	2	1
NC–PR	COM	8	7
	COM	6	5

MS–x MicroSwitch
C–RD
NO–BK
NC–BR

12 x 18 x 6 Box

NOTE 1: CT SENSOR FIELD WIRED WHEN RISERS SHIPPED LOOSE. WHEN MULTIPLE CT SENSORS USED ON ONE FAN SWITCH, EACH SENSOR IS WIRED TO ITS OWN CONTROLLER AND THE CONTROLLER TERMINALS 4, 7, 10 AND 11 ARE WIRED IN PARALLEL. TERMINALS 6 AND 8 ARE JUMPERED ON EACH CONTROLLER.

SYMBOL LEGEND

S	SINGLE POLE SWITCH		NEW FLOOR STUB–UP
S3	THREE WAY SWITCH		ELECTRICAL CONNECTION UNDER CASE
Sp	SINGLE POLE SWITCH w/ PILOT LIGHT INDICATOR		FLUORESCENT FIXTURE
	DUPLEX RECEPTACLE		LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE ON THIS SHEET)
W.P.	WEATHERPROOF RECEPTACLE		EXIT LIGHT
4	QUADRAPLEX RECEPTACLE		EMERGENCY LIGHT FIXTURE
	SPECIAL RECEPTACLE (TYPE AS NOTED)		EXHAUST FAN
	JUNCTION BOX	PB	PUSHBUTTON
	MICROPHONE	B	SIGNAL BELL
	TELEPHONE JACK, 2"x4" UNLESS NOTED OTHERWISE	S	SENSOR....TEMP/HUMIDITY (HANDY BOX MTD.)
	DISCONNECT SWITCH (TYPE AS NOTED)	SC	SCALE COMMUNICATION OUTLET
	MAGNETIC SWITCH	#	ENERGY MANAGEMENT SYSTEM LOAD NUMBER
	DROP FROM CEILING	V	SPEAKER VOLUME CONTROL

REVISIONS

NO.	DESCRIPTION	DATE

Riddick Fiedler Stern PC
Architecture ■ Planning ■ Interior Design
261 West Bute Street ■ Norfolk, VA 23510 ■ (757) 627-2791

FOOD LION 2560
7514 North Point Rd
Sparrows Point, MD 21219

ELECTRICAL SCHEDULES AND DIAGRAMS

DRAWING FILE NAME
2560 E6.02_00
RFS JOB #
2019-042
DATE
02/21/2020
E6.02
12 OF 14

STURGILL ENGINEERING P.A. C-3617
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