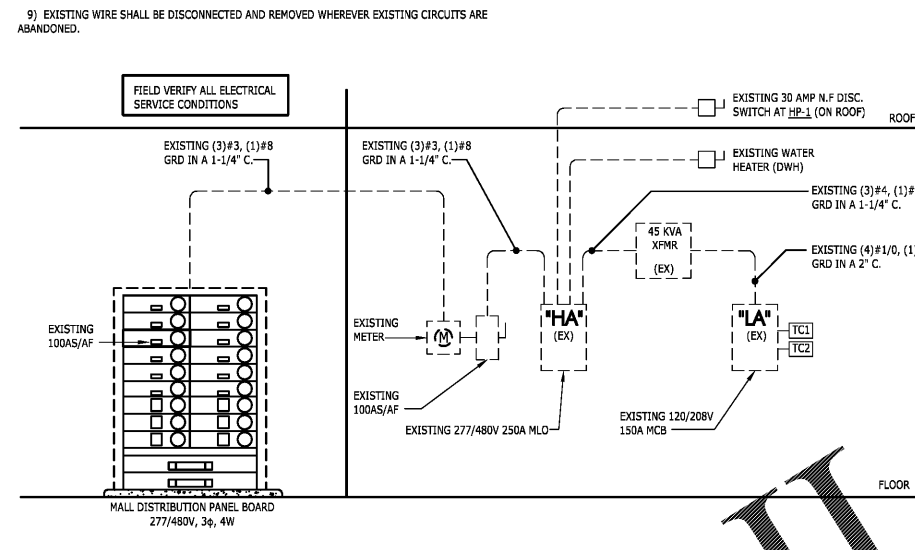


**ELECTRICAL SPECIFICATIONS**

- GENERAL PROVISIONS:
  - PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, NECESSARY FOR THE COMPLETE INSTALLATION OF THE ELECTRICAL SYSTEMS OUTLINED.
  - OBTAIN ALL PERMITS, FEES, LICENSES, INSPECTIONS, AND CERTIFICATES OF COMPLIANCE OR APPROVAL AS REQUIRED BY THE AUTHORITIES.
  - ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE NATIONAL ELECTRIC CODE (NEC), AND ALL APPLICABLE LAWS, CODES AND REGULATIONS OF THE GOVERNMENTAL BODIES HAVING JURISDICTION OVER THE SITE.
  - ALL TESTING REQUIRED BY AUTHORITIES SHALL BE CONSIDERED PART OF THIS WORK.
  - DURING CONSTRUCTION, ALL FIXTURES, EQUIPMENT, CONDUIT, ETC. SHALL BE COVERED, PLUGGED, OR CAPPED AS REQUIRED TO KEEP CLEAN AND UNMATED. ALL DAMAGED ITEMS SHALL BE RESTORED TO ORIGINAL CONDITION OR REPLACED. ALL PROTECTIVE COVERING SHALL BE REMOVED BEFORE FINAL ACCEPTANCE.
  - PROVIDE ALL NECESSARY CUTTING AND PATCHING OF WALLS, FLOORS, CEILINGS, AND ROOFS AS NECESSARY. PATCH AROUND ALL OPENINGS SHALL MATCH ADJACENT AREA. COORDINATE ALL ROOFING WORK WITH OWNER OR RESPONSIBLE PARTY, SO THAT THE EXISTING ROOFING WARRANTY WILL BE MAINTAINED.
  - CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS AGAINST DEFECTS FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE.
- OPERATION AND MAINTENANCE MANUALS:
  - DURING THE COURSE OF CONSTRUCTION, COLLECT AND COMPILE OPERATING INSTRUCTIONS, WIRING DIAGRAMS, CATALOG CUTS, LUBRICATION AND PREVENTIVE MAINTENANCE INSTRUCTIONS, PARTS LISTS, ETC. FOR ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT.
  - ALL LITERATURE AND INSTRUCTIONS SHIPPED WITH THE EQUIPMENT SHALL BE SAVED FOR INCLUSION IN THE OPERATION AND MAINTENANCE MANUALS.
  - ALL LITERATURE LISTED ABOVE AND ALL PAPERS LISTING WARRANTIES, ETC. SHALL BE BOUND IN A 3-RING BINDER AND LABELED WITH THE PROJECT NAME, ADDRESS, ARCHITECT, ENGINEER, CONTRACTORS, ETC.
- MANUFACTURERS:
  - MANUFACTURERS, MODEL NUMBERS, ETC. INDICATED OR SCHEDULED ON THE DRAWINGS SHALL BE INTERPRETED AS HAVING ESTABLISHED A STANDARD OF QUALITY AND SHALL NOT BE CONSTRUED AS LIMITING COMPETITION. ARTICLES, FIXTURES, ETC. OF EQUAL QUALITY BY MANUFACTURERS SHALL BE ACCEPTABLE, SUBJECT TO STRUCTURAL AND ELECTRICAL CONSTRAINTS OF THE PROJECT DESIGN, UNLESS NOTED OTHERWISE.
- TESTING, AND BALANCING:
  - ALL CIRCUITS SHALL BE TESTED FOR CONTINUITY, SHORTS, AND GROUNDS BEFORE CONNECTING TO THE PROPER PHASE AS DESIGNED TO BALANCE THE LOADING BETWEEN PHASES.
  - POWER AND LIGHTING PANELS SHALL BE PROPERLY PHASED TO DISTRIBUTE THE LOAD AND SHALL BE CONNECTED AND ADJUSTED TO OPERATE AS SPECIFIED.
  - ALL MOTORS AND SIMILAR EQUIPMENT SHALL BE CHECKED FOR PROPER PHASE ROTATION AND OPERATION.
- RACEWAYS:
  - CONDUIT INSIDE THE BUILDING SHALL BE METALLIC TUBING (EMT), BEARING THE UL LABEL, WITH COMPRESSION TYPE FITTINGS. MINIMUM CONDUIT SIZE IS 3/4".
  - CONDUIT EXPOSED TO THE WEATHER, INSTALLED UNDERGROUND, IN CONCRETE, OR USED FOR SERVICE ENTRANCE SHALL BE STANDARD RIGID CONDUIT (GALVANIZED) WITH THREADED FITTINGS.
  - UNDERGROUND CONDUIT MAY BE POLYVINYL CHLORIDE WITH A DEFLECTION TEMPERATURE, UNDER LOAD AT 264 PSI, OF 78 DEGREES C, AND A TENSILE STRENGTH OF 5,200 PSI. JOINTS SHALL BE FLUSH SOLVENT WELDED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. CONDUIT SHALL BE EQUAL TO CARLON POWER AND COMMUNICATIONS DUCT TYPE DB (DIRECT BURIAL). CONDUIT AND FITTINGS SHALL BE PRODUCED BY THE SAME MANUFACTURER.
  - FLEXIBLE METAL CONDUIT (LIQUID-TIGHT) SHALL ONLY BE USED FOR CONNECTIONS TO MOTORS, OR LIGHT FIXTURES (MAXIMUM 5 FT).
- CONDUCTORS:
  - WIRES SHALL BE CONTINUOUS WITHOUT SPLICES OR TAPS IN CONDUIT RUNS. ALL SPLICES SHALL BE MADE IN JUNCTION, PULL, OR OUTLET BOXES. ALL WIRE SHALL BE INSTALLED IN CONDUIT, WIREWAYS, OR OTHER PROTECTIVE COVER SANCTIONED BY CODES.
  - CONDUCTORS FOR LIGHTING AND POWER SHALL BE COPPER, MINIMUM NO. 12 A.W.G., 600 VOLT.
  - NO. 10 GAUGE AND SMALLER CONDUCTORS SHALL BE TYPE THW OR THHN, SOLID CONDUCTOR, UNLESS OTHERWISE INDICATED.
  - NO. 8 GAUGE AND LARGER CONDUCTORS SHALL BE TYPE THW OR THHN, STRANDED, UNLESS OTHERWISE INDICATED.
- MC CABLE:
  - MC CABLE SHALL CONSIST OF INTERLOCK ARMORED CABLE MADE OF THREE OR FOUR TYPE THIN STRANDED COPPER CONDUCTORS INSULATED WITH HEAT AND MOISTURE RESISTANT POLYVINYL CHLORIDE (PVC), WITH NYLON OR EQUIVALENT UL LISTED JACKET, PER UL STANDARD 83. THE THREE CONDUCTORS SHALL BE TWISTED TOGETHER WITH THE COPPER GROUNDING CONDUCTOR, SUITABLE FILLERS, AND WRAPPED IN BINDER TAPE. THE ASSEMBLY SHALL BE ARMORED WITH SPIRALLY WRAPPED INTERLOCKED ARMOR OR ALUMINUM OR GALVANIZED STEEL.
  - CABLES SHALL BE TESTED IN ACCORDANCE WITH UL STANDARD 1569 FOR TYPE MC CABLE AND RATED AT 600 VOLTS, 90 DEG. C FOR DRY LOCATIONS AND 75 DEG. C FOR WET LOCATIONS.
- WIRING DEVICES:
  - WALL SWITCHES SHALL BE SPECIFICATION GRADE, QUIET TYPE, FLUSH TOGGLE SWITCH, RATED FOR 20 AMPS, WITH THERMOPLASTIC COVER PLATES.
  - SINGLE POLE: HUBBELL #CS1221-X, OR EQUAL.
  - THREE WAY: HUBBELL #CS1223-X, OR EQUAL.
  - RECEPTACLES SHALL BE SPECIFICATION GRADE, DUPLEX, GROUNDING, THREE-WIRE TYPE, 15 AMP, 20 AMP, WITH THERMOPLASTIC COVER PLATES. HUBBELL #CR5352-X, OR EQUAL.
  - GROUND FAULT INTERRUPTER RECEPTACLES (GFI) SHALL BE HUBBELL #GFR352-XA. GFI COVER PLATES SHALL BE AS HEREINAFTER SPECIFIED.
  - ISOLATED GROUND RECEPTACLES (IG) SHALL BE HUBBELL #CR5352IG, ORANGE COLOR. GFI COVER PLATES SHALL BE AS HEREINAFTER SPECIFIED.
  - RECEPTACLES OUTSIDE BUILDING AND WHERE NOTED AS WEATHERPROOF SHALL BE AS HEREINAFTER SPECIFIED EXCEPT SHALL BE INSTALLED IN A WEATHERPROOF ENCLOSURE WHICH SHALL BE INTERIOR #WP1010MC OR #WP1010HMC DIECAST METAL WEATHERPROOF RECEPTACLE COVER. COVER SHALL WEATHER PROOF RATED WHILE IN USE.
  - VERIFY DEVICES AND DEVICES COORDINATE COLOR WITH FINISHES.
- BOXES:
  - HOT DIPPED GALVANIZED STEEL OR PROVIDE TYPE TO SUIT CONDITIONS FOR INSTALLATION.
  - ALL BOXES SHALL BE FLUSH MOUNTED, UNLESS INDICATED OTHERWISE.
- PANELBOARDS:
  - INSTALL CIRCUIT BREAKER PANELBOARDS AS SHOWN ON THE DRAWINGS. PANELBOARDS SHALL BE RATED 15K AND SO LABELLED SHALL BE FULLY RATED FOR THE VOLTAGE AND CURRENT CAPACITIES INDICATED IN THE PANEL SCHEDULE. PANELBOARDS SHALL BE EQUAL TO GENERAL ELECTRIC TYPE AQ WITH BUS RATING AS SPECIFIED. PANELBOARD LUGS SHALL BE RATED AT 75°C.
  - CIRCUIT BREAKER INTERRUPTING CAPACITIES SHALL MEET OR EXCEED THE AVAILABLE RMS SYMMETRICAL FAULT CURRENTS INDICATED AND AS REQUIRED TO MEET OR EXCEED THE AVAILABLE FAULT CURRENT FROM LOCAL UTILITY.



**ELECTRICAL ROAD SUMMARY**  
SCALE: NONE

LOAD DESCRIPTION	CONNECTED LOAD (KW)	DEMAND FACTOR	DEMAND LOAD (KVA)
LIGHTING	1.0	1.25	1.3
SIGN	2.4	1.25	3.0
RECEPTACLES	8.8	1.0	2.8
MOTOR	10.7	1.0	10.7
WATER HEATER	9.0	1.0	9.0
APPLIANCE LOAD	16.1	0.65	10.5
TOTAL (KVA)			37.2
SERVICE SIZE @ 277/480 V, 3-PHASE, 4-WIRE (AMPS)			45

**PANEL "HA" (EXISTING)**

REMARKS	ITEMS	CONF.	APPL.	N.C.	A	B	C	N.C.	APPL.	CONF.	ITEMS	REMARKS	
SPARE 1"	1 (800) HP-1												
<p><b>TOTAL S</b>      196      0      10719      18427      18180      3198      <b>TOTAL S</b></p> <p>PHASE "A"      54141      21      4900      8202      HIGHEST PHASE      14464</p> <p>PHASE "B"      14664      2174      6282      7219      LOWEST PHASE      14585</p> <p>PHASE "C"      14983      1809      6132      6733</p> <p><b>TOTAL S</b>      43874</p>													

**PANEL "LA" (EXISTING)**

REMARKS	ITEMS	CONF.	APPL.	N.C.	A	B	C	N.C.	APPL.	CONF.	ITEMS	REMARKS
<p><b>TOTAL S</b>      3198      420      2787      720      19680      0      <b>TOTAL S</b></p> <p>PHASE "A"      7588      0      4920      2880      HIGHEST PHASE      7855</p> <p>PHASE "B"      7669      1883      9699      637      LOWEST PHASE      7512</p> <p>PHASE "C"      7452      1295      9152      500</p> <p><b>TOTAL S</b>      22765</p>												

**SERVICE IS 277/480 VOLT; 3 PHASE; 4 WIRE**  
**PANEL SHALL BE RATED AT 250 AMPS WITH MLO**  
MLO = BREAKER WITH LOCK ON DEVICE  
L = BREAKER WITH LOCK ON DEVICE  
T = CIRCUIT CONTROLLED BY A TRIPPER CONTRACTOR  
F = DESIGNATED CIRCUIT WITH AN ISOLATED GROUND  
CIRCUIT BREAKER RATINGS: 10,000 AIC  
ALL CIRCUIT BREAKERS ARE 1P/2P SWITCHING DUTY BOLT-TIGHT, UNLESS NOTED OTHERWISE.  
ALL CIRCUIT BREAKERS FOR HVAC EQUIPMENT SHALL BE "HACRP" TYPE.

**SERVICE IS 120/208 VOLT; 3 PHASE; 4 WIRE**  
**PANEL SHALL BE RATED AT 250 AMPS WITH 150A M.C.B.**  
M.C.B. = BREAKER WITH LOCK ON DEVICE  
L = BREAKER WITH LOCK ON DEVICE  
T = CIRCUIT CONTROLLED BY A TRIPPER CONTRACTOR  
F = DESIGNATED CIRCUIT WITH AN ISOLATED GROUND  
CIRCUIT BREAKER RATINGS: 10,000 AIC  
ALL CIRCUIT BREAKERS ARE 1P/2P SWITCHING DUTY BOLT-TIGHT, UNLESS NOTED OTHERWISE.  
ALL CIRCUIT BREAKERS FOR HVAC EQUIPMENT SHALL BE "HACRP" TYPE.

**ELECTRICAL RESPONSIBILITIES**

NO.	DESCRIPTION	E	L	C	T	FURNISH	INSTALL	NOTES
<b>MAIN ELECTRICAL SERVICE</b>								
1	MAIN ELECTRICAL SERVICE CONDUIT FROM LANDLORD'S ROOM TO LEASE PREMISES.	E						
2	MAIN ELECTRICAL SERVICE CONDUCTORS FROM LANDLORD'S ROOM TO LEASE PREMISES.	E						
<b>ELECTRICAL EQUIPMENT</b>								
1	TENANT MAIN DISCONNECT SWITCH	E						
2	ELECTRICAL PANEL/BREAKERS	E						
3	STEP DOWN TRANSFORMER	E						
4	HVAC DISC. SWITCH	E			2			
5	WATER HEATER DISCONNECT	E						
6	LIGHTING TIME-CLOCK & TRANSFORMERS	C						
<b>LIGHT FIXTURES &amp; LAMPS</b>								
1	AREA		T		C			
2	SALES AREA		T		C			
3	SUPPORT ROOM		T		C			
4	TOILET ROOM		T		C			
5	TOILET LIGHTS		T		C			
6	EMERGENCY LIGHTS		T		C			
<b>WIRING &amp; CONNECTIONS</b>								
1	ROUGH IN AND FINAL CONNECTION TO LIGHT FIXTURES		C		C			
2	ROUGH IN AND FINAL CONNECTION TO SIGN		C		C			
3	ROUGH IN AND FINAL CONNECTION TO HVAC EQUIPMENT		E		E			
4	ROUGH IN AND FINAL CONNECTION TO WATER HEATER		E		E			
5	CONVENIENCE AND EQUIPMENT RECEPTACLES		C		C			
6	TEMPERATURE CONTROL WIRING		C		C		1	
<b>TELEPHONE/DATA SYSTEM</b>								
1	CONDUIT FROM LANDLORD MAIN SERVICE RM. TO SPACE		E		E			
2	PLYWOOD PANEL BOARD		E		E			
3	EXTEND TELEPHONE SERVICE TO PANELBOARD		E		E			
4	COMMUNICATIONS EQUIPMENT		T		C			
5	WALL BOXES, WIRING AND 3/4" CONDUIT		T		C			
6	CABLE TERMINATIONS		T		C			
<b>FIRE ALARMS SYSTEM</b>								
1	CONNECTION TO LANDLORD'S FIRE ALARM SYSTEM		E		E			
2	SMOKE DETECTORS		E		E			
3	HORN AND/OR STROBES	-	-		-			

NOTES:  
1. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING CONTROL WIRING REQUIREMENTS WITH MECHANICAL CONTRACTOR.  
2. HVAC DISCONNECTS (AND MOTOR STARTERS IF REQUIRED) SHALL BE PROVIDED BY MECHANICAL CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR.

**Häagen-Dazs**

SHOP# 1306  
SPACE #1164  
WEST TOWN MALL  
7600 KINGSTON  
PIKE  
KNOXVILLE, TN  
37919

Date: \_\_\_\_\_  
Revisions: \_\_\_\_\_  
No.: \_\_\_\_\_

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STATE OF TENNESSEE  
REGISTERED PROFESSIONAL ENGINEER  
No. 21814  
AUGUST 1987  
EXPIRES 12/31/2014

Project No. 180165  
Scale AS NOTED  
Drawn AH  
Checked DAR  
Date 06/29/2018  
Drawing Title

**PANEL SCHEDULES & DETAILS**  
Drawing No. E1.0

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