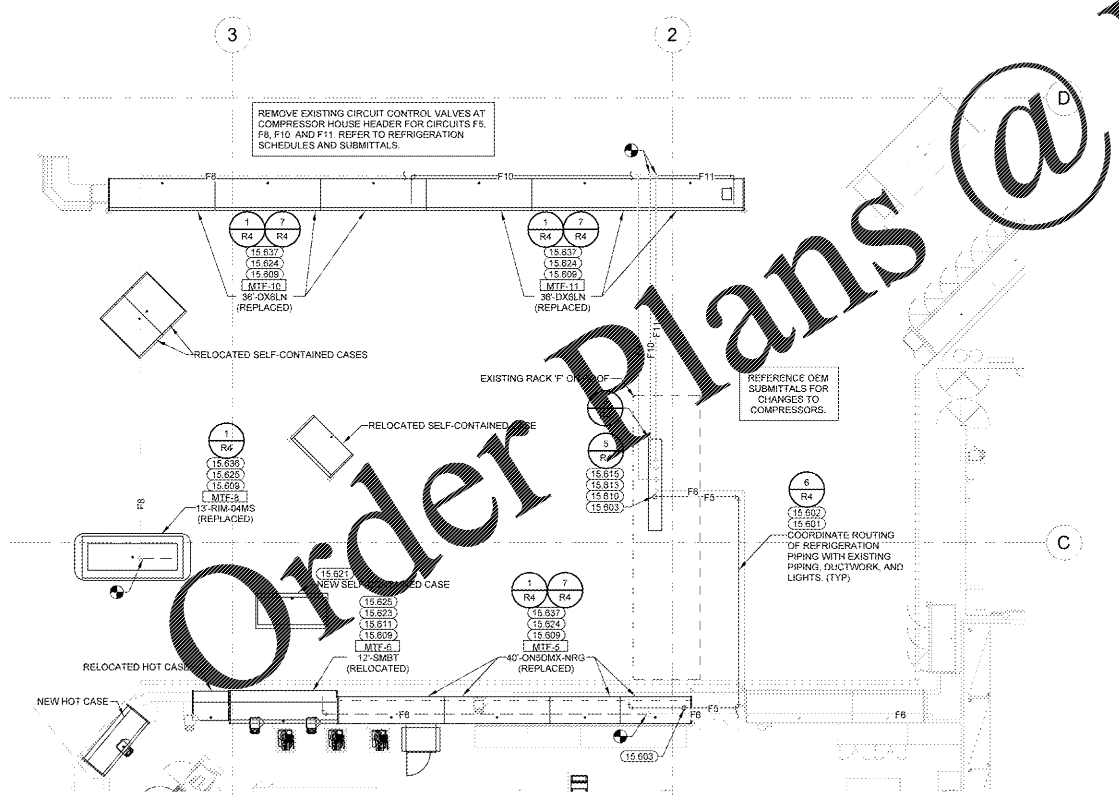

1 FRONT REFRIGERATION PLAN
1/8" = 1'-0"

PIPING SCHEDULE RACK MTF

PIPE DESIGNATION	HORIZONTAL SUCTION	VERTICAL SUCTION RISER AS REQUIRED	LIQUID	ESTIMATED TOTAL LENGTH**
F1	1 1/8	7/8	1/2	106
F2	7/8	5/8	1/2	86
F3	1 1/8	7/8	1/2	76
F5	1 5/8****	1 3/8****	7/8****	54
F6	1 1/8	5/8	1/2	135
F7	1 3/8	7/8	5/8	90
F8	1 3/8	1 1/8	5/8	159
F9	1 1/8	7/8	1/2	116
F10	2 1/8	1 3/8	7/8	103
F11	1 5/8	1 3/8	7/8	66

* RISER SIZE IS SHOWN EVEN WHERE A RISER IS NOT EXPECTED. THIS IS FOR REFERENCE ONLY AND TO BE USED IN THE EVENT THAT A PIPING CONFLICT CAUSES THE NEED FOR A RISER. IF RISER LENGTH EXCEEDS 4 FEET, IT MUST BE APPROVED BY ENGINEER OF RECORD.

**ESTIMATED TOTAL LENGTH INCLUDES HORIZONTAL AND VERTICAL PIPE SECTIONS. THIS IS ONLY AN ESTIMATE AND ACTUAL LENGTH WILL VARY.

****NEW PIPING

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REFRIGERATION KEYNOTES

15.601 SLOPE REFRIGERANT LINES BACK TO COMPRESSORS AT 1" PER 20' OF RUN. LOCATE HIGHEST POINT OF REFRIGERATION LINES JUST BELOW BOTTOM CHORD OF JOIST OR BEAM. COORDINATE ELEVATION TO AVOID CONFLICTS WITH DUCTWORK, LIGHTING, SKYLIGHTS, ETC.

15.602 SUPPORT HORIZONTAL RUNS OF REFRIGERANT LINES ON 1-5/8" X 1-5/8" UNISTRUT CHANNELS ON MAXIMUM OF 6 FOOT CENTERS.

15.603 AT ALL POINTS WHERE SUCTION LINES RISE, PROVIDE A SUCTION LINE TRAP AT THE BASE OF THE RISER.

15.609 PROVIDE PVC DRAIN LINE FROM EACH CASE DRAIN CONNECTION SAME SIZE AS CASE OUTLET, AND END OVER FLOOR RECEPTOR W/AIR GAP; PITCH DRAINS 1" PER 10'. PROVIDE DRAIN COVER GRATE TO MATCH EXISTING. CONTRACTOR SHALL ENSURE RECEPTOR(S) AND DRAIN LINE(S) SERVING CASE LINE-UP ARE FREE OF OBSTRUCTIONS AND FUNCTION PROPERLY. WHERE EXTENSIVE DAMAGE EXISTS AND/OR PROPER DRAINAGE CANNOT BE OBTAINED COORDINATE WITH WALMART MECHANICAL CONSTRUCTION MANAGER.

15.610 PROVIDE 0.020" PVC JACKET ON ALL REFRIGERATION LINES EXTERIOR TO BUILDING.

15.611 RELOCATE EXISTING REFRIGERATED CASE/EVAPORATOR TO NEW LOCATION AS SHOWN.

15.612 PROVIDE INTERMEDIATE SUCTION LINE TRAP IN WALL OR VOID SPACE. INTERMEDIATE TRAP SHOULD BE PLACED AT THE MIDPOINT OF ANY SUCTION LINE RISE WHICH EXCEEDS 16 FEET.

15.613 REPLACE EXISTING SUCTION RISER. REFER TO PIPING SCHEDULE FOR SIZE.

15.615 UTILIZE EXISTING ROOF OPENING AS INDICATED WHEN POSSIBLE. IF LARGER OPENING IS REQUIRED REINFORCE ROOF STRUCTURE AS NECESSARY, CUT THE ROOF FOR THE REFRIGERATION PIPE PENETRATION, AND SUPPLY THE PIPE PENETRATION RAIN HOOD. PROPERLY FLASH, PATCH, AND REPAIR ROOF AS REQUIRED FOR NEW PENETRATION. SEAL THE ROOF OPENING WITH FOAM AS SOON AS THE PIPING THROUGH THE ROOF OPENING IS COMPLETE.

15.621 REFRIGERATION CONTRACTOR SHALL RECEIVE, SET EQUIPMENT IN PLACE, LEVEL AND START UP OWNER'S SELF-CONTAINED REFRIGERATED EQUIPMENT. INSTALLATION AND START-UP SHALL BE IN STRICT CONFORMANCE WITH THE EQUIPMENT MANUFACTURER'S WRITTEN INSTALLATION AND START-UP INSTRUCTIONS. CONTRACTOR SHALL VERIFY CASE OPERATION AND NOTIFY WALMART MECHANICAL CONSTRUCTION MANAGER IF EQUIPMENT IS NOT OPERATING PROPERLY.

15.623 REFRIGERATION CONTRACTOR SHALL FURNISH AND INSTALL LIQUID LINE SOLENOID VALVE, EVAPORATOR PRESSURE REGULATOR, AND/OR FULL PORT ISOLATION BALL VALVES ON THE COMPRESSOR HOUSE HEADER. REFER TO REFRIGERATION SUBMITTAL SHEET(S) FOR EXACT REQUIREMENTS.

15.624 ROUTE REFRIGERATION LINES ON TOP OF CASE FOR ALL TOP FED CONNECTED CASES. SLOPE BACK TO COMPRESSOR AT 1" PER 20'-0" OF RUN. REFER TO TOP FED PIPING DETAIL.

15.625 ROUTE REFRIGERATION LINES IN BASE OF CASE FOR ALL BOTTOM FED CONNECTED CASES. SLOPE BACK TO COMPRESSOR AT 1" PER 20'-0" OF RUN.

15.636 REFRIGERATION CONTRACTOR SHALL FURNISH AND INSTALL LIQUID LINE SOLENOID, EVAPORATOR PRESSURE REGULATOR, AND FULL PORT ISOLATION BALL VALVES IN A SERVICE ACCESSIBLE LOCATION INSIDE CASE DRAIN PAN. PROVIDE CONTROL WIRING FROM VALVES BACK TO CASE CONTROLLER. REFER TO REFRIGERATION SUBMITTALS / SCHEDULES FOR EXACT REQUIREMENTS. PROVIDE VALVE LOCATION IDENTIFICATION TAG OF ENGRAVED PLASTIC. REMOVE THE EXISTING CIRCUIT CONTROL VALVES AT THE COMPRESSOR HOUSE AS REQUIRED.

15.637 REFRIGERATION CONTRACTOR SHALL FURNISH AND INSTALL LIQUID LINE SOLENOID, EVAPORATOR PRESSURE REGULATOR, AND FULL PORT ISOLATION BALL VALVES IN A SERVICE ACCESSIBLE LOCATION ON TOP OF CASE. PROVIDE CONTROL WIRING FROM VALVES BACK TO CASE CONTROLLER. REFER TO REFRIGERATION SUBMITTALS / SCHEDULES FOR EXACT REQUIREMENTS. PROVIDE VALVE LOCATION IDENTIFICATION TAG OF ENGRAVED PLASTIC. REMOVE THE EXISTING CIRCUIT CONTROL VALVES AT THE COMPRESSOR HOUSE AS REQUIRED.

REFRIGERATION SYMBOLS

10.12.17

SYMBOL	DESCRIPTION
X## / XXX	CIRCUIT NUMBER / MODEL NUMBER (CIRCUIT INFO)
CO	CLEANOUTS (CO)
	CONDENSATE DRAIN LINE (CD)
	CONNECT TO EXISTING
	CONTINUATION
# / X#	DETAIL NUMBER / SHEET NUMBER (DETAIL REFERENCE)
	EVAPORATOR COIL
	ISOLATION VALVE
	ELBOW - TURNED DOWN
	ELBOW TURNED UP
(## ####)	REFRIGERATION KEYNOTE REFERENCE
	REFRIGERATION PIPING (ABOVE)
	REFRIGERATION PIPING (BELOW)
ETR	EXISTING TO REMAIN
(TYP)	TYPICAL

24 HOURS PRIOR TO SHUTTING DOWN ANY REFRIGERATION SYSTEMS, HVAC SYSTEMS OR ENERGY MANAGEMENT CONTROLS SYSTEMS, SEND EMAIL TO NSRM@WALMART.COM. THE E-MAIL SHALL STATE WHAT, WHY, AND WHEN IT IS BEING SHUT DOWN AND HOW LONG IT IS ANTICIPATED TO BE SHUT DOWN. THEN SEND FOLLOW UP EMAIL TO NSRM@WALMART.COM AFTER WORK IS COMPLETE AND THE SYSTEM IS BACK UP AND RUNNING.

REFERENCE ARCHITECTURAL DRAWINGS FOR ALL NEW CASES BEING INSTALLED FOR CONNECTION LOCATION OF UTILITIES. (TOP FED VS BOTTOM FED)

SEPARATE CONTRACTOR IS RESPONSIBLE FOR RE-SKIN OF EXISTING REFRIGERATED CASES TO REMAIN.

ALL WORK ON THIS SHEET IS TO BE COMPLETED BY A WALMART APPROVED CONTRACTOR.

REFRIGERATION CONTRACTOR IS RESPONSIBLE FOR ALL FINAL REFRIGERATION ELECTRICAL TERMINATIONS TO REFRIGERATION EQUIPMENT.

VERIFY EXACT LOCATION OF ALL REFRIGERATED CASES WITH FINAL MERCHANDISE PLAN.

COORDINATE LOCATION OF REFRIGERATED CASES WITH PLUMBING CONTRACTOR PRIOR TO CUTTING OF FLOOR AND SETTING DRAINS.

ALL EXISTING REFRIGERATED CASES ARE TO REMAIN UNLESS NOTED OTHERWISE.

IF REPLACED REFRIGERANT LINE SIZES ARE LARGER THAN SUCTION OR LIQUID HEADER STUB SIZES, REPLACE STUB WITH SAME SIZE AS NEW REFRIGERANT LINE. COORDINATE WITH CONSTRUCTION MANAGER AND RACK OEM.

CONTRACTOR TO RE-USE EXISTING CASE DRAINS. REPLACE DRAIN IF MORE THAN 1/2 OF DRAIN IS EXPOSED TO SALES FLOOR. FIELD VERIFY EXACT LOCATIONS.

PROJECT COORDINATED WITH REFRIGERATION VENDOR (OEM) AS INDICATED ON REFRIGERATION SCHEDULE(S).

GENERAL NOTES

01.31.18

1. PLANS INDICATE GENERAL ROUTING OF REFRIGERANT LINES, WITH A SINGLE LINE SHOWN INDICATING BOTH SUCTION AND LIQUID LINE ROUTING FOR EACH SYSTEM.
2. REFRIGERATION SYSTEM INSTALLATION SHALL BE IN COMPLETE CONFORMANCE WITH SPECIFICATIONS, AND WITH ALL REQUIREMENTS OF REFRIGERATION EQUIPMENT MANUFACTURER.
3. REFRIGERATION DRAWINGS ARE PROVIDED AS AN AID TO BIDDERS AND TO INDICATE DESIRED ROUTING OF REFRIGERATION LINES; CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR CORRECT INSTALLATION OF PIPING AND ACCESSORIES TO PROVIDE A COMPLETE AND FULLY OPERATING SYSTEM.
4. REFER TO SPECIFICATION 15600 FOR INSULATION THICKNESS. INSIDE DIAMETER OF INSULATION SHALL MATCH PIPE DIAMETER TO MINIMIZE AIR GAPS BETWEEN PIPING AND INSULATION. PROVIDE FACTORY PRE-MANUFACTURED FITTINGS AT ALL TRAPS AND ELBOWS. WHERE PRE-MANUFACTURED FITTINGS ARE UNAVAILABLE MITER CUT ALL FITTINGS TO ENSURE PROPER SEAL BETWEEN INSULATION SEGMENTS.
5. PIPE INSULATION SHALL MATCH EXISTING COLOR UNLESS NOTED OTHERWISE ON PLANS OR SPECIFICATIONS.
6. COORDINATE REFRIGERATION DEMOLITION ISSUES WITH THE ARCHITECTURAL DRAWINGS. REFER TO ARCHITECTURAL PLANS FOR REFRIGERATION EQUIPMENT DEMOLITION AND COOLER REPAIR AND REMODELING.
7. REFRIGERATION SYSTEM SHALL REMAIN OPERATIONAL DURING REMODELING. DURING THE PHASING OF OLD TO NEW SYSTEMS, BOTH NEW AND OLD REFRIGERATION SYSTEMS MAY BE REQUIRED TO OPERATE AT THE SAME TIME FOR A SHORT PERIOD.
8. WHERE NEW REFRIGERATED EQUIPMENT IS INDICATED ON THE DRAWINGS, PROVIDE DEMOLITION, REMOVAL, AND TEMPORARY STORAGE OF OLD EQUIPMENT PER WALMART MECHANICAL SERVICES CONSTRUCTION MANAGER'S INSTRUCTIONS, AND REFRIGERATION DEMO NOTES.
9. COORDINATE REMOVAL AND DISPOSAL OF EXISTING EVAPORATORS, REFRIGERATED CASES, AND CONDENSING UNITS, WITH WALMART MECHANICAL SERVICES CONSTRUCTION MANAGER.
10. REMOVE COPPER LINES, EVAPORATORS, AND CONDENSATE LINES FROM COOLERS/ FREEZERS BEING REMOVED FROM SITE. COORDINATE WITH WALK-IN PANEL VENDOR FOR TIME LINE OF REPLACEMENT. REFERENCE SPECIFICATION FOR CONTACT INFORMATION.
11. WALK-IN PANEL VENDOR SHALL PROPERLY PREPARE ALL COOLER/FREEZER PANELS, GLASS DOORS, SLIDER OR SWING DOORS, PALLETIZE, AND PREPARE THE EQUIPMENT TO SHIP OFF SITE.
12. COORDINATE WITH FIRE PROTECTION CONTRACTOR FOR THE REMOVAL OF SPRINKLERS FOR ALL REMOVED COOLER/FREEZER BOXES.
13. COORDINATE WITH ELECTRICAL CONTRACTOR FOR THE REMOVAL OF ALL REMOVED COOLER/FREEZER BOXES ELECTRICAL WIRING DEVICES.
14. COORDINATE WITH EMS CONTRACTOR FOR THE REMOVAL OF ALL REMOVED COOLER/FREEZER BOXES EMS WIRING AND DEVICES.
15. EXISTING REFRIGERATION PIPING MAY BE RE-USED UNLESS OTHERWISE NOTED ON PLANS. REFER TO SCHEDULES FOR PIPE SIZE REQUIREMENTS.
16. BUILDING COMPONENTS ABANDONED BY THE SCOPE OF WORK SHALL BE SECURED TO PREVENT FALLING, LOOSENING, OR CREATING DAMAGE OF ANY KIND IN THE FUTURE.
17. IF ANY RACK SYSTEMS WILL BE OPENED TO ADD OR REPLACE CASES, EVAPORATORS, ETC. THEN 24 TO 48 HOURS AFTER THE WORK IS COMPLETED AND ALL FINAL ADJUSTMENTS HAVE BEEN MADE, PROVIDE AND CHANGE LIQUID LINE FILTER CORES, OIL SYSTEM FILTER USING SPORLAN OF STYLE FILTER, AND REPLACE SUCTION FILTERS. FILTERS ARE TO BE RATED FOR WAX REMOVAL. CONTRACTOR TO PROPERLY DISPOSE OF OIL AND COMPONENTS REPLACED. REFER TO SPECIFICATION 15600.
18. REFER TO GROCERY ARCHITECTURAL DRAWINGS FOR ADDITIONAL WORK BY REFRIGERATION CONTRACTOR.
19. COMPLETE ASSET TAGGING PROCESS FOR ALL NEW REFRIGERATED CASES. REFER TO SPECIFICATIONS.

FOOD PREP AREA NOTES

1. ROUTE ALL PIPING CONCEALED WITHIN STUD WALLS WHEREVER POSSIBLE.
2. ALL EXPOSED PIPE INSULATION SHALL BE CLAD PER SPECIFICATIONS. EXPOSED PIPING SHALL COMPLY WITH ONE OF THE FOLLOWING INSTALLATION OPTIONS.
   A. SURFACE MOUNTING PIPING WITH NON-CORROSIVE ANCHORS; SEAL BOTH SIDES OF PIPE TO SURFACE CONTINUOUSLY WITH SEALANT.
   B. INSTALL PIPING 1/2" OFF FACE OF SURFACE TO ALLOW FOR CLEANING. USE ONLY NON-CORROSIVE MATERIALS FOR ANCHORS AND SPACERS.
   C. COVER PIPING WITH 20 GAUGE STAINLESS STEEL BENT PLATES MOUNTED TO SURFACE WITH NON-CORROSIVE ANCHORS; APPLY CONTINUOUS SEALANT ALONG EDGES AND JOINTS.
3. PROPER INSTALLATION OF SEALANTS IS CRITICAL TO MEETING WALMART QUALITY STANDARDS. PROVIDE SEALANTS IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS. REFERENCE SECTION 07900 FOR SEALANT SCHEDULE.
4. INTERIOR SEALANTS USED IN FOOD PREP AREAS SHALL MEET THE REQUIREMENTS FOR USE IN USDA REGULATED FACILITIES.
5. PROVIDE CONTINUOUS USDA APPROVED SEALANT AT ALL JOINTS BETWEEN MATERIALS ON WALLS IN FOOD PREPARATION COOLER AND FREEZER AREAS.
6. ALL JOINTS BETWEEN DISSIMILAR MATERIALS SHALL BE SEALED AS REQUIRED FOR A COMPLETE AND PROPER INSTALLATION, REGARDLESS OF WHETHER SHOWN ON DRAWINGS OR NOT.

EPA CLEAN AIR ACT

COMPLY WITH CLEAN AIR ACT, TITLE VI, SECTION 608 AND CODE OF FEDERAL REGULATION TITLE 40, PART 82 WHEN ADDING OR REMOVING REFRIGERATED EQUIPMENT. RECORD ALL EQUIPMENT IDENTIFICATION NUMBERS, MODEL AND SERIAL NUMBERS, THE AMOUNT OF REFRIGERANT RECOVERED FROM EACH UNIT, THE DATE OF DECOMMISSIONING, COMPANY NAME AND SIGNATURE OF ON-SITE SUPERVISOR.

EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO SUBMITTING FINAL BIDS. CONTRACTOR SHALL CAREFULLY COORDINATE NEW WORK AND DEMOLITION WITH ALL OTHER DISCIPLINES AND EXISTING CONDITIONS.

EACH SUBCONTRACTOR IS RESPONSIBLE FOR HAVING A THOROUGH KNOWLEDGE OF ALL DRAWINGS AND SPECIFICATIONS IN THEIR RELATED FIELD. THE FAILURE TO ACQUAINT THEMSELF WITH THIS KNOWLEDGE DOES NOT RELIEVE THE RESPONSIBILITY OF PERFORMING THE WORK PROPERLY. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED BECAUSE OF CONDITIONS THAT OCCUR DUE TO FAILURE TO FAMILIARIZE WORKERS WITH THIS KNOWLEDGE.

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REFRIGERATION PLANS

SHEET: R1