

SECTION 11 4000 - FOOD SERVICE EQUIPMENT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. All Drawings, General and Supplementary Conditions, Division 1, Specifications, and related contract documents apply to this section and the requirements may exceed those shown in this section. The Food Service Engineering Consultants on this project are JRA Food Service Consultants, LLC in Grand Rapids, Michigan (616-454-4433) and is responsible to the Architect and Owner for ascertaining that the Food Service Equipment Contractor complies with all the requirements of this section.

1.02 SUMMARY

- A. As listed in this division, the Food Service Equipment Contractor shall furnish all labor, material, work, equipment, transportation, accessories, taxes, etc. for a complete and continuous installation in accordance with the requirements of these plans and specifications and related documents.

1.03 SUBSTITUTIONS AND VOLUNTARY ALTERNATES:

- A. The first manufacturer of equipment listed in the item specifications is intended to be the basis of the base bid. All other manufacturers must conform to the specifications, size, accessories, materials, capacity, etc.
- B. A proposed substitution on any specified equipment must be submitted to the Consultant 10 days in advance of the bid date and must include all manufacturers shop drawings and data sheets on the proposed equipment. The supplier shall pay any additional costs incurred for changes, engineering services, utilities, construction, etc. that may be incurred by said substitutions.
- C. A voluntary alternate can be attached to the base bid listing all pricing and data as listed above.
- D. The Owner has the right to accept or reject any substitutions.

1.04 INTERPRETATION OF DOCUMENTS:

- A. Prior to receipt of bids, all questions, clarification, and changes in the documents shall be executed by addendum. After award of contract, all changes shall be performed by bulletin.
- B. FSEC shall submit an itemized price breakdown to the Consultant on their letterhead for each piece of equipment including labor, freight, manufacturer, quantity, taxes, etc. as applicable.
- C. Any deletions of equipment by the Owner and/or Consultant prior to approval and/or release of the shop drawings, brochures, etc. shall be credited to the Owner at the itemized price as listed in the itemized price breakdown and include all equipment costs, freight, labor, taxes etc. Pricing shall not be credited at the amount listed on the Schedule of Values.
- D. Any additions to equipment by the Owner and/or Consultant that result in cost increases after approval and/or release of shop drawings, brochures, etc. shall be immediately noted by the FSEC and a written request with prices for a bulletin shall be issued by the FSEC to the Consultant.
- E. The General Specifications are applicable to items listed in the item specifications.

1.05 ABBREVIATIONS

- A. The following abbreviations are used herein unless otherwise noted on the plans or item specifications.

| | |
|--------|------------------------------------|
| A | Amps |
| AFF | Above Finish Floor |
| BTC | Branch To Connection |
| CFM | Cubic Feet of Air Per Minute |
| C.P. | Chrome Plated |
| CW | Cold Water - 25 PSI |
| DCO | Duplex Convenience Outlet - 20 amp |
| DFA | Drop From Above |
| E.C. | Electrical Trades |
| FL DR | Floor Drain - Wade W1104 |
| FFD | Funnel Floor Drain - Wade 1104-EF4 |
| FL SK | Floor Sink - 12" - Wade W9144-15 |
| FPM | Feet Per Minute |
| FSEC | Food Service Equipment Contractor |
| F.S.C. | Food Service Consultant |
| G | Natural Gas - 7" water column |
| GP | General Purpose |
| G.S. | General Specifications |
| G.C. | General Trades |
| HVAC | Heating Ventilation HVAC Trades |
| HP | Horsepower |
| HW | Hot Water - 140 degree - 25 PSI |
| J.B. | Junction Box |
| KW | Kilowatt |
| N.S.R. | No Service Required |
| N.I.C. | Not in FSEC contract |
| P.C. | Plumbing Trades |
| S.O.M. | Standard of Manufacturer |
| s.s. | Stainless Steel |
| SS | Steam Supply - 25 PSI |
| SR | Steam Return |
| V | Volts |
| VIF | Verify in field |
| W | Waste Outlet |
| W.G. | Water Gauge - Static Pressure |

1.06 CONFORMITY

- A. All equipment furnished under these specifications shall be newly manufactured and installed in strict conformity with all codes, regulations and requirements of the State Board of Health, the National Sanitation Foundation Standards, or any state or local agency.
- B. All equipment shall conform to the current standards and bear the seal of UL, NEMA, ASME, AGA, OSHA, NFPA, etc. where applicable and/or otherwise conform to the requirements of the authorities having jurisdiction.
- C. Wherever the requirements of the specifications and drawings are in excess of the regulations, the specifications and drawings shall govern. Whenever the regulations are in excess of the specifications and drawings, the regulations shall govern.
- D. Wherever the requirements of the specifications are in excess of the drawings, the specifications shall govern.
- E. Wherever the requirements of the drawings are in excess of the specifications, the drawings shall govern.

1.07 PERMITS - LICENSES - PHONE CALLS

- A. Provide to the proper authorities all notices required by law, obtain all refrigeration permits, licenses, etc., and pay any legal fees necessary for the due and faithful performance of the work, and which may arise incidental to the fulfilling of the foodservice documents. The Owner shall pay for any health department plan review or license fees.
- B. Permits shall be provided as required. Refer to the Construction Managers scope of work.
- C. Accept all collect phone calls relating to food service equipment that pertain to the project until warranty has expired on the equipment.

1.08 SUBMITTAL OF BUYOUT BROCHURES AND SHOP DRAWINGS

- A. Shop drawing and brochure requirements may also be listed in the general requirements or other areas of the documents. Provide submittals as per those requirements or as listed below - whichever is greater.
- B. All shop drawings, rough-in drawings, equipment brochures, etc. shall be submitted at one time within 20 days of the notice to proceed. Said items are subject to the terms and conditions of the plans and specifications for the entire project. All drawings which are submitted for distribution shall be clear and concise and have the following notes printed on each and every sheet:

Name of the F.S.E.C.
Name and location of the project.
Name of the Architect.
Name of the Consultant.
Name of the General Contractor.
Drawing number.
Date of drawing and revisions.

The following statement: The (name of F.S.E.C.) is solely responsible for the accuracy and completeness of these drawings and specifications, and we approve them for construction purposes. Signed: (Officer, Partner, etc.)

- C. All submitted data shall be reviewed for general compliance only and does not alleviate the F.S.E.C. from providing equipment as per the intent of the plans and specifications.
- D. Owner shall not be responsible for any equipment ordered or prior to receipt of Consultant approved brochures or shop drawings.
- E. If applicable, the F.S.E.C. shall visit site to verify requirements of existing or relocated equipment prior to submittals.

1.09 BUYOUT BROCHURES:

- A. As soon as possible, prepare a buy-out equipment brochure in PDF format with copies of manufacturer's specification sheet or literature on each item, along with a list of the model, manufacturer, quantity, connections required, accessories, etc. for each item and component or accessories. Material on all items shall be assembled in order and no consideration will be given to partial lists submitted from time to time.

1.10 ROUGH-IN DRAWING AND MECHANICAL DATA:

- A. As soon as possible, submit an electronic drawing in PDF format at 1/4" scale to locate accurately the utility connections for each item of equipment requiring water, gas, electrical, and drain. Listed on the drawings shall be dimensions to required utilities and located from a center line of a structural column or another positive reference point.

- B. Upon final approval of data, distribute copies to all trades, Owner, Architect, health department, etc. as required.
- C. Drawings shall be at 1/4" scale or larger and indicate each electrical and mechanical roughing-in required for all new and/or relocated or future or purveyor supplied (the Owner shall provide proper data on purveyor supplied equipment) food service equipment as listed in the plans or specifications. Include all electrical and convenience outlets, gas, water, steam, ventilation, drains, floor depressions, wall openings, weights, ceiling recess or access panels, sleeves, beverage lines, roof data, refrigeration, etc.
- D. Furnish all necessary assistance to the various trades and be responsible for the proper location of sleeves and conduits through which the utility lines are to be drawn. A field inspection shall be made before the finished floors are laid to make any necessary relocations of the utility sleeves, rough-ins and conduits, and immediate written notice shall be provided if rough in problems have occurred.

1.11 SUBMITTALS OF SHOP DRAWINGS:

- A. Completely detail and submit shop drawings (s.s. fabrication, fire protection, ventilation, plastic laminate fabrication, walk ins, sneeze guards, cafeteria serving counters, hoods, etc.) in electronic PDF format showing all items to be provided under this section of the specifications. Drawings to be submitted for review at 1/2" per foot scale or larger. Upon final review of data, distribute copies to all trades, Owner, Architect, etc. as required.
- B. The drawings shall show all elevations, sections, dimensions, mechanical and electrical requirements, related details of construction, installation and related work which require cutting, close fitting, etc. as required for installation.
- C. Submit proper notifications in writing of any departures from the contract drawings or specifications which may be necessary to permit installation of the equipment. Fabrication should not be started until after final approvals are received and final field measurements are taken.

1.12 MAINTENANCE MANUALS

- A. At time of demonstration, provide to the person in charge of the kitchen a minimum of three bound current copies of kitchen plans, roughing-in drawings, any and all warranties, instructions, parts lists, operating instructions for each piece of mechanical equipment, as built shop drawings, and "Buy-Out" brochures.
- B. Manuals shall include a typewritten list in the front of the manual listing the names, addresses, and telephone numbers of local servicing agencies and manufacturer's representatives for all equipment.

1.13 SAMPLES

- A. Submit all required samples for approval, if required, of all hardware, plastic laminate, paint, etc. before starting fabrication. Other samples shall be supplied as required.

1.14 MEASUREMENTS

- A. Measurements required to size and place the food service equipment shall not be taken from drawings but shall be made at the structure from the actual spaces reserved therefore, and giving due consideration to any architectural, structural or mechanical discrepancies that may occur during construction of the building. Verify size of all of Owners equipment and small wares (dishes, trays, pans, etc.) and Purveyor supplied equipment (urns, soda systems, beverage dispensers, etc.), if applicable. Field dimensions shall be taken at the earliest opportunity so as not to delay deliveries.

- B. Verify in field any and all measurements before doing any work on equipment that may be affected by the physical conditions and be responsible for the correction of same.
- C. Inspect equipment for proper operation prior to relocation. Advise if equipment is defective or needs rework which is not included in the original contract and submit a written quotation for said work.
- D. Coordinate Owners and/or Purveyor supplied equipment (coffee makers, beverage equipment, cash registers, soda equipment, etc.) as required for rough-in data, installation, etc.
- E. Measurements for tight fitting equipment shall allow no more than 1/4" between wall and equipment that shall be trimmed and/or sealed as required.

1.15 WARRANTY

- A. Provide a written warranty for all equipment against defects in workmanship and material for one (1) year from date of substantial completion and acceptance, excluding refrigeration units which shall carry an additional four-year warranty and a ten-year warranty on all walk-in panels. This shall cover any replacements and/or repair costs of such defective material, including transportation, labor, and materials for all equipment. This one-year free service, warranty and guarantee shall be available within 24 hours of notification on all equipment except refrigeration.
- B. Provide one-year free service, warranty and guarantee within 12 hours of notification on walk-in refrigeration and units must be operational within 24 hours after service call.
- C. This warranty is not intended to cover equipment which has been overly abused or items that have not had proper periodic maintenance (door gaskets, uncleaned refrigeration condensers, etc.) during the one-year period.

1.16 DELIVERY AND STORAGE

- A. Furnish all labor, material, equipment, etc. as required to unload and store all equipment.
- B. No equipment shall be delivered to the site unless it has been ascertained that storage space is available.
- C. Make all arrangements to deliver, unload, and store all equipment and shall assume all responsibility for safeguarding the equipment until it is accepted by the Owner.
- D. Unless noted in the item specifications, remove and store any existing and/or relocated equipment that is removed from the kitchen during the construction period.

PART 2 - GENERAL SPECIFICATIONS - PRODUCTS

2.01 MANUFACTURER'S STANDARDS

- A. It is the intention of these specifications to provide a type of equipment conforming to manufacturer's standards and only minor variations in construction will be accepted, provided that these variations do not detract from the finished appearance, durability, general function or in any way affect general overall size, capacity, strength, etc. of equipment.
- B. Manufacturer's catalog designation of material and/or fabricated equipment used in the following specifications are intended to illustrate and represent the standards which will be required by the owner. Equipment furnished must closely conform thereto in design, construction, capacity, and function to make and model called for. Where such catalog designations are given, the items shall be complete as described and shown in the catalog unless exceptions are in itemized specifications.

- C. When more than one manufacturer is listed in the Item Specification, only one manufacturer shall be acceptable for items of a similar nature (fabrication, cooking equipment, refrigerators, shelving, carts, etc.) to insure uniformity of design, installation, service, etc.

2.02 BOLTS, SCREWS AND RIVETS

- A. All exposed surfaces of equipment shall be free of bolt, screw and rivet heads. Wherever bolts are used to fasten tops and trim to paneling, body of counters and similar equipment, such bolts shall be of an approved type and shall be corrosion resistant metal of the same alloy as the metal to which they are fastened with acorn type nuts to eliminate sharp edges.

2.03 CODES AND SANITATION

- A. All food service equipment under this contract shall meet the requirements and bear the label of the National Sanitation Foundation. Specifications set forth are considered minimum and are to be superseded by any superior requirements in effect as of this date by the National Sanitation Foundation or the State Health Department. Any differences of opinion on sanitation shall be referred to the State Health Department for arbitration.

2.04 FIELD JOINTS:

- A. All field joints shall be welded with rod of same basic composition as sheets or parts welded. Welds shall be free of pits, cracks, cross graining or discolorations and shall be ground and polished to the original finish of the metal. No soldered or bolted joints shall be used unless noted in item specifications and shall be properly sealed and bolted.

2.05 GRINDING AND POLISHING:

- A. All exposed welded joints shall be ground flush with the adjoining material and neatly finished to harmonize therewith. Services shall be free of depressions. Wherever sheared edges occur, they shall be free of burrs, projections and fins to eliminate all danger of cutting or laceration when the hand is drawn over such sheared edges. Where miters or bull nosed corners occur, they shall be neatly ground to a uniform condition, and in no case will overlapping material be acceptable. All exposed surfaces shall be satin finish except rim which shall be a highly polished and buffed finish. Satin finish shall be comparable to the commercial mill finish known as No. 4 for s.s. No cross graining on equipment is acceptable.

2.06 GUARDS

- A. All machines shall be furnished fully enclosed with guards built in accordance with safety codes and regulations of State or Governmental agency having jurisdiction.

2.07 NAME PLATES

- A. Each item of equipment shall have a corrosion resistant metal name plate with model number, serial number, name and address of the manufacturer securely fastened to equipment in a non- conspicuous area. All mechanical and electrical controls, switches, disconnects, remote compressors, etc. shall be labelled with metal or engraved phenolic plastic signage.

2.08 PAINTING

- A. All galvanized material and black steel shall be thoroughly cleansed of all oil and foreign matter and given two (2) coats of enamel paint as selected.

2.09 WALK INS AND REFRIGERATION

- A. Provide NSF and UL approved walk ins as per the item specifications size and shape as per plan by 8'-6" high and furnished with prefabricated modular construction tongue and groove cam lock style panels for walls with coved vinyl screed, ceilings, and floors with 4" foamed in

place UL-25 flame spread class No. 1 urethane insulation with a minimum "R" factor of 32 and a "K" factor of 0.121. Wall and ceiling panels shall have 0.040 stucco embossed aluminum or 20 gauge 304 s.s. finish and floor panels shall be 0.100 smooth aluminum or 18 gauge s.s. with a rating of 700 pounds per square foot with non-skid floor strips. All panels shall have a ten-year guarantee and be installed with a watertight seal. Provide 4" s.s. high coved base molding at all exposed exterior and interior walls securely anchored and sealed as required. Provide ceiling hangers and structural supports as required.

- B. If floorless construction is required refer to the Construction Manager scope of work. Provide 4" urethane insulation and vapor barriers for sub floor and tile floor. Provide coved floor screeds below wall panels anchored to red wood vapor barriers which shall extend up thru and 1/8" above the level of the finished floor, 6 mil polyethylene vapor barrier, etc. as per the manufacturers standard requirements. Supply and coordinate installation of walk-ins to assure proper fit of floor recesses, sizes, tile, insulation, grout, vapor barriers, drainage, etc.
- C. Provide one surface mounted LED light fixture mounted above door for the first 50 square feet of floor space and one additional ceiling mounted fixture as shown on the plans. Lighting shall provide a minimum of 35 foot candles at 36" above floor. The light above door shall be inter-wired to switch and junction box, but all additional lights shall be installed and wired in field with conduit located outside the compartments.
- D. Provide 36" by 78" in-fitting doors with magnetic gaskets, three C.P. cam lift hinges, s.s. front, 24" high interior aluminum tread plate kick plate, cylinder locks, and automatic door closer. Doors shall be mounted in reinforced panel with FRP or s.s. door jambs with thermal break and thermostatically controlled heater strip, s.s. heavy gauge heated threshold, safety release, digital thermometer, and virgin plastic full width door curtains mounted 6" above door header. Provide non heated relief air vents for cooler and inter-wired heated vents for all freezer compartments mounted above doors.
- E. Provide removable closure trim with concealed fasteners of same appearance as walk-in exterior from box to all adjacent building walls and ceilings. Provide access panels and louvers as required for service.
- F. Refrigeration systems shall be complete with items as specified or as required to provide a first class system. Should any dispute arise as to the quality of equipment or workmanship, the decision shall rest with the Consultant.
- G. Hermetic or scroll compressors shall be mounted on anti-noise, anti-vibration blocks, and be factory mounted in welded angle iron frame and housing with support rails, metal curbs, timed defrost, factory installed control panel, pilot light, NEMA rated disconnects and starter, etc. Compressors to be factory pre-connected for final water and electrical connections. Verify that proper ventilation of compressors is obtained.
- H. Provide coil and/or compressor condensate drain lines as required and shown on the drawings. Provide drain lines terminating with trap over floor drain where shown. Drain lines to be neatly insulated with material similar to Armaflex. Any drain line run through a freezer compartment shall also have a heater coil neatly wrapped over the line, prewired and shall operate continuously. No drain piping shall interfere with shelving within the compartment nor exit through the front of a compartment. All piping shall be concealed where possible.
- I. Coils shall have timed defrost and immersion type thermostat and be connected to compressors by equipment supplier using type "L" copper tubing soldered using industry acceptable refrigerant. Refrigeration lines shall be insulated in same manner and materials as coil and drain lines and shall be concealed where possible.
- J. Provide refrigeration system with expansion valves, pressure controls, strainers, solenoid valves, liquid dryers, adjustable room thermostats, hangers, king and queen valves, heat exchangers, oil separators, pump-down solenoid, low ambient controls, crankcase heater, outdoor shroud, shut-off valves, sleeves, sight glass with moisture indicator and all other items necessary for a complete system.

- K. All electrical components within each compartment shall be pre-wired by supplier to junction box on exterior top of compartment. Make final connections and inter-wire to lights and from walk-in coils to compressor for timed defrost in conduit as required.
- L. After final connections, evacuate, pressure test, charge, start up and operate system for a period of three (3) days and make all necessary adjustment of controls as required. Operate coolers at 35 degrees and freezers at -5 degrees unless noted on plans. Provide manufacturers five-year compressor warranties and one-year free service available within 12 hour notification.

2.10 MECHANICAL/ELECTRICAL MATERIALS REQUIRED IN FOOD SERVICE CONTRACT:

A. The equipment supplier shall include materials properly labelled and packaged as follows:

B. PLUMBING APPURTENANCES:

1. Check requirements for gas, water, steam, etc. on job before ordering equipment. Information shown on drawings or specifications does not relieve contractor of this responsibility.
2. Faucets, pre-rinse units, lever wastes, vacuum breakers, to be as manufactured as described in the item specifications.
3. Except as otherwise specified, provide each sink compartment with deck type or backsplash type faucet with minimum 12" swing spout soft flow. Where multiple sink compartments are provided, faucets may be located between compartments.
4. C.P. brass overflow fittings shall be 1-1/2" tubing fully connected to sinks at factory with lever handle quick opening wastes with tailpieces on each sink compartment.
5. Provide all solenoids, C.P. atmospheric or pressure type vacuum breakers with C.P. stems above counter tops, shock absorbers, check valves, mixing valves, gas regulators, etc. required by code or for proper operation of equipment with mounting brackets as required. Valves shall be installed where required, accessible and convenient to the operator.
6. Provide swivel gas hoses assemblies 36" or of proper length as required with quick disconnect, ball valve, caster floor locks and 3000 pound coiled restraining device, and wall brackets.
7. All steam equipment shall have valves provided with heat resistant handles, traps, gauges, etc. as required for proper operation

C. ELECTRICAL APPURTENANCES:

1. Check voltage on job before ordering equipment. Information shown on drawings or specifications does not relieve contractors of this responsibility.
2. Except where noted under item specifications, current characteristics for motors 3/4 HP or less, solenoid valves and lighting shall be 120 volt, single phase, 60 cycle, A.C. Unless otherwise noted under item specifications, motors 3/4 HP and over shall be wound for 208/240 volts, three phase, 60 cycle, A.C.
3. Provide 120 volt control circuit on all equipment that operates on voltages on or over 208 volt. All equipment requiring 120 volt control circuits (120/480 volt, 120/208 volt, etc.) shall have transformers pre-wired on equipment.
4. Cords and plugs and receptacles for equipment shall be three or four wire all rubber coiled retractable style cord with ground as required and match receptacles provided and as best suited for the equipment. Units shall be mounted in NEMA type enclosures as per code with s.s. faceplates and boxes where receptacles are exposed.

5. Thermostats, unless otherwise noted on plans or in the item specifications, shall be provided at all equipment (bain-marie, urns, dish machines, hot food table, warming cabinets, etc.) with thermostatic control.
6. Heating elements to be of voltage and phase as specified or as required to suit job.
7. Controls, thermostats, switches, contactors, low water cut off, light fixtures and bulbs, etc., necessary for the installation and proper operation of equipment shall be furnished as required along with all starters and/or motor control switches for the proper function of the equipment specified. Controls mounted on vertical surfaces shall be recessed.
8. Controls that are an integral part of equipment shall be factory installed. Controls which are to be separately mounted shall be shipped loose for field installation. Coordinate all field installation so as to not interfere with access and/or operation.
9. Provide properly sized magnetic starters line voltage type with thermal overload relays and reset for normal operation by automatic control or pushbutton station for 208/240 volt control. Enclosures shall be general purpose NEMA type 1, A.C. voltage, unless located outdoors which will require a waterproof enclosure. Remote control motors shall have magnetic starters.
10. Disconnect switches shall be type non-fusible, single throw, heavy duty industrial, quick make, quick break. Circuit breakers may be used in lieu of above disconnects as per code.
11. Provide equipment with required internal wiring between elements, switches, motors, receptacles, starters, etc. complete to a junction box. Disconnect, starter, etc. as required and are to be "left ready" for final connections. All control circuits shall be 120 volt to ground.

PART 3 - GENERAL SPECIFICATIONS - EXECUTION

3.01 INSTALLATION AND MATERIALS:

- A. All work required under this section shall be installed by the proper trades having jurisdiction in this area concurrent with job progress, Construction manager scope of work and related field conditions. Such installation shall be under the direction of a competent supervisor. A site inspection is recommended prior to bidding if applicable.
- A. Provide for the conveyance, uncrating, erection, assembling, setting in place, trim, cutting of holes and ferrules in equipment for piping, drains, electrical outlets, etc.
- B. Coordinate installation with all trades, repairing of any damage done to equipment during installation, removal of debris created by installation, startup, testing, and cleaning of all equipment (new, existing, or relocated).
- D. Where necessary to move equipment to make final connections, coordinate and assist all in moving equipment and be on the job to carefully level and adjust equipment as the connections are being made. During installation, coordinate with all trades on connection details and be responsible for meeting the individual equipment manufacturer's connection requirements. Report any infractions of installation procedure in written form.
- E. The fit of all equipment as it joins all walls, floors, and corners shall be tight (within 1/4") to adjacent walls, seal all equipment with NSF approved clear sealing compound and/or s.s. trim molding of proper size with concealed fasteners. Inspect the site and advise in writing and/or on shop drawings all necessary building requirements door sizes, etc. to receive the equipment and assure accuracy of fit and installation.
- F. All cabinet bases and pieces of equipment which are to be set on bases or machine platforms shall be set into a sealing compound of color to match the tile mortar. Enclosures, backsplashes, and turn-backs to wall shall be pressed into a ribbon of the same material with the excess wiped out to a radius fillet. Where necessary, and to eliminate shifting and the subsequent breaking of this seal, item shall be anchored to floor and wall with suitable masonry anchors. All equipment with utility connections (island style sinks, dish tables, etc.)

shall also be anchored to floor with s.s. flange type feet.

- G. All equipment and materials shall be new, of prime quality, full gauge thickness of compositions indicated by names or abbreviations stated in itemized specifications.
- H. Equipment batteries of one manufacturer are to be pre-fitted at the factory and provide photographic proof of such work.
- I. If equipment is noted as relocated or removed during the construction period, said equipment shall be disconnected and be re-connected as directed in the Construction Manager scope of work and removed and stored unless noted in the item specifications. Coordinate and supervise this work and label equipment for reuse. Reinstall and clean equipment as per the plans and specifications. Existing equipment not scheduled for reuse shall be removed as directed in the Construction Manager scope of work.

3.02 LIMIT OF OTHER SUBCONTRACTORS/TRADES RESPONSIBILITY:

A. Plumbing:

- 1. Provide rough-ins and piping with stop valves, elbows, nipples, couplers, traps, waste vents, gas regulators, for water, steam, gas, etc. and make final connections to the equipment as directed in the Construction Manager scope of work.
- 2. Install equipment accessories (faucets, lever wastes, solenoids, valves, gas hoses, nipples, etc.) as directed in the Construction Manager scope of work.
- 3. Provide water heater and janitors sink unless otherwise indicated on the plans as directed in the Construction Manager scope of work.
- 4. Disconnect and reconnect relocated equipment if applicable as directed in the Construction Manager scope of work.

B. Electrical:

- 1. Provide rough-ins, controls, panels, switches, wall receptacles to match equipment cords and plugs, starters, junction boxes, canopy light and fan switches, conduit, wiring, wall outlets, disconnects, etc. and make final connections to the equipment as directed in the Construction Manager scope of work.
- 2. Install equipment accessories (cords, wiring harness, switches, etc.) in conduit as required by code as directed in the Construction Manager scope of work.
- 3. Disconnect and reconnect relocated equipment as directed in the Construction Manager scope of work.

C. General:

- 1. All concrete platforms, bases, etc. will be provided as directed in the Construction Manager scope of work. Grouting of drip pans and/or floor troughs to be installed as directed in the Construction Manager scope of work.
- 2. All required holes and recesses for piping and ducts will be coordinated with all trades and as directed in the Construction Manager scope of work. Provide location, size, etc. This information is to be provided in adequate time to be incorporated in the work.
- 3. Unless stated in the item specifications, provide all floor recesses, insulated sub floors, tile floors and vapor barriers for walk-ins as noted in the plans and as directed in the

Construction Manager scope of work.

4. If applicable, remove relocated equipment from kitchen and store in adjacent area during Kitchen construction period. Coordinate removal, inspection, storage, labeling, etc. of equipment. Reinstall relocated equipment as per plan after construction is completed as directed in the Construction Manager scope of work.
5. Provide fire rated walls in kitchen for cooking equipment exhaust hoods and non-combustible materials within 18" of top of hood or as required by fire codes as directed in the Construction Manager scope of work.

3.03 TESTING:

- A. After installation and hook, inspect, start up, clean, adjust and test all equipment under operating conditions for 48 hours prior to acceptance by Owner. If inspection or test shows defects, such defects shall be corrected and inspection and test repeated. Certify in writing that all equipment is performing in full compliance with the plans and specifications.

3.04 DEMONSTRATION:

- A. After utility connections to the equipment is completed, schedule and conduct the inspection and start up and final test of equipment prior to final inspection. Schedule the demonstration with the Owner and perform the demonstration in the presence of the Owner and/or their authorized representative with a minimum of seven days notification to owner.
- B. Before final inspection, remove any and all protective covering from his work and give all parts of all equipment a thorough cleaning and servicing, leaving items free from defects and remove trash from premises.
- C. Provide required competent personnel for two eight-hour periods as instructors to operating and maintenance personnel on the safe and proper operation and maintenance of all equipment. Provide additional instructions up to eight additional hours during the one-year guarantee period as requested by the Owner.
- D. Present all maintenance manuals and as built drawings as previously specified or requested by Consultant.

3.05 FINAL INSPECTION AND PUNCH LIST:

- A. After installation is completed and tested, notify the Consultant who will review all equipment and submit a repair or punch list of all items that are not in compliance with the documents. All items shall be completed immediately and not to exceed 14 days unless written notice is submitted and approved.

3.06 SCHEDULE OF EQUIPMENT:

- A. The following specifications refer to items of food service equipment on the drawings which shall form a part of these specifications and are binding as written herein, and will indicate the required quantity, size, etc. of each item.

Item Specifications:

Item #101 – Walk-in Cooler & Freezer - Qty. of 1
Base Manufacturer: American Panel Co.
Alternate Manufacturer: None

Model: FW3677.11TWNL
Serial #: 40379 D1 S1

Minimum specifications:

1. Walk-in Cooler & Freezer box is existing and will remain. The freezer section has icing issues at

- the ceiling where the refrigeration lines penetrate the ceiling panel.
2. After disconnection of utilities by the Trades, the FSEC shall disconnect, remove and discard both existing refrigeration systems.
 3. FSEC to remove the one ceiling panel in each section with refrigerant line penetrations and discard. FSEC to furnish and install one new ceiling panel in each section to replace the ceiling panel that was removed and discarded.
 4. Provide one UL listed 208 Volt 3 Phase system for the cooler and one 208 Volt 3 Phase system for the freezer. Provide Copeland compressors piped to BTU matched Bohn low profile end mount coils. Freezer shall have 208 Volt 1 Phase timed electric defrost coil. Cooler shall have 120 Volt air defrost coil. Both coils shall be furnished with electronically commutated motors, remote mounted (shipped loose) weather proof time clock for timed defrost, thermostat, solenoid, "P"-trap and expansion valves mounted and wired.
 5. The air-cooled compressors shall be factory assembled and mounted on heavy duty steel base and be placed on roof with outdoor package in aluminum housing with hinged shroud, head pressure control with flood back, crankcase heater, sight glass, frame mounted dual pressure control, oversize condenser, drier, suction line filter, suction vibration eliminator, oversize receiver with total pump down capacity and king and queen service valves. Provide a pre-wired NEMA-3 control panel with industrial grade fused disconnect, terminal block, magnetic starters, circuit breakers and contactors, defrost timer and pump down switch.
 6. Provide approximately 20'-0" of field piped and pressure tested insulated refrigeration lines per compartment to connect compressors to coils. The new refrigeration lines shall penetrate only the wall panels, no penetrations are to be made in the existing or new ceiling panels. Provide refrigeration with piping, controls, drain lines and heat tape, etc.
 8. FSEC to fill and insulate the refrigerant line penetration made in the walk-in wall in a manner to prevent air leakage and condensation.
 9. Final connections, building openings & closure trim (for refrigeration lines), structural support, etc. are by Trades.

Item #102 – Spare Number

Item #103 - Shelving - Qty. of 14 - Existing

END OF SECTION 11 4000 – FOOD SERVICE EQUIPMENT