

SECTION 11 40 00

FOOD SERVICE EQUIPMENT

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. The provisions of the General Conditions, Supplementary conditions, and the Sections included under Division 1, General Requirements, are included as a part of this Section as though bound herein.
- B. K.E.C. may offer voluntary alternates by submittal in writing, along with supporting literature and other data, at the time the bid is submitted. Voluntary Alternates shall not be confused with items listed as "equals" in the item specifications. Although they will be given consideration after award of the Contract, voluntary alternates will not be considered in the judgment about award of the Contract. Change in the Contract price proposed for the voluntary alternate(s) shall reflect all possible costs to be encountered should the voluntary alternate(s) be accepted and incorporated in the work.
- C. If the K.E.C. discovers an apparent conflict or discrepancy between portions of the Contract Documents that appears to be inconsistent or is not reasonably inferred from the intent of the Contract Documents, the Contractor shall include in their bid the most stringent and demanding, or highest cost, requirement.

1.02 SUMMARY

- A. Provide labor and materials required to deliver, uncrate, assemble, set in place, level, install, supervise and coordinate the installation of the food service equipment and accessories as indicated on drawings and as specified, exclusive of utility connections.
- B. Utility roughs-ins, final connections, and interconnection of components will be performed by Divisions 22 and 26.
 - 1. Work provided by Division 22 shall include, but not be limited to, the following:
 - a. Rough-in mechanical and plumbing services
 - b. Drain line piping and components from the rough-in to the equipment connections.
 - c. Supply line piping and components from the rough-in to the equipment connections.

- d. Traps, strainers, unions, piping, service valves and vents.
 - e. Install escutcheons on utility lines which extend through equipment.
 - f. Install faucets, pre-rinse assemblies, quick disconnect assemblies, hose station, pot fillers, and vacuum breakers, and check valves and flow control valves as furnished with the equipment.
 - g. Disconnection of existing equipment which is to be removed or relocated.
 - h. Paint, or chrome sleeve, all exposed water and gas piping (above counter height or in a direct line of sight) as directed by the Architect.
2. Work provided by Division 26 shall include, but not be limited to the following:
- a. Rough-in electrical service.
 - b. Conduit and conductors from the rough-in to the equipment and between remote controls and the equipment.
 - c. Electrical outlets in walls, floor and ceiling.
 - d. Disconnect switches as required by the electrical code.
 - e. Disconnection of existing equipment which is to be removed or relocated.
3. Work provided by various other trades shall include, but not be limited to, the following:
- a. Raised concrete or masonry bases and platforms.
 - b. Floor depressions, wall openings, recesses and holes through walls, floor and ceiling as required for piping and ducts.
4. Refer to item specifications for additional work and requirements.

1.03 DEFINITIONS

- A. The term "Kitchen Equipment Contractor", "Contractor", or "K.E.C." is defined as the person or company that will contract for the work specified in this section.

- B. The Consultant for this section of the work is *FOOD SERVICE CONSULTANTS, INC., DBA VORNDRAN AND ASSOCIATES, 3630 NEW VISION DRIVE, FORT WAYNE, INDIANA 46845-1706*. The Consultant is responsible to the Architect for ascertaining that the work complies with the requirements of this section.
- C. The term "provide" is defined as "Contractor furnish and install."
- D. Transmit reports, submissions, questions or correspondence to the Architect for distribution.

1.04 SUBMITTAL

- A. Refer to Section 01 33 23 and Section 01 77 00.
- B. Submit one (1) set of sepias and two (2) sets of prints of shop drawings for review. Upon final review of drawings, distribute prints to the various trades.
- C. Shop drawings to include a plan, elevation, and cross sections through each equipment item. Indicate anchor devices, reinforcements, dimensions, gauges, holes, radii, cutouts and details of construction, installation and relation to adjoining work. Do not start fabrication until final reviews are received. Draft shop drawings at 1 inch per foot scale.
- D. Rough-in drawings to show accurately the curbs, platforms, gutters, sleeves, pipe stubs, refrigerant lines, water supply lines, drains, floor drains, electrical services and other utility connections required. Coordinate work with the various trades. Draft rough-in drawings at ½ inch per foot scale.
- E. Submit product data brochures for review prior to equipment purchase. Brochure to contain a product data sheet for each manufacturer, along with a typewritten cover sheet indicating the item number, quantity, manufacturer, and model number, mechanical and electrical services required and a listing of accessories specified. Assemble cover sheet and literature in order. Partial lists submitted from time to time will be rejected. Bind brochure in a three (3) ring hard back black binder.
- F. Ventilation system shop drawings shall include a scaled roof plan indicating the locations of the exhaust duct termination in comparison to other roof equipment in the same area and information on automatic power/fuel shut-off to cooking appliances in accordance with provisions in Ohio Mechanical Code and Ohio Building Code.
- G. Submit, when requested, a copy of the manufacturer's order acknowledgement for each item of pre-fabricated equipment. Acknowledgement to show date item was ordered and the scheduled shipping date.
- H. Submit samples when requested. Samples will not be returned unless specifically requested.

- I. Guarantee equipment and accessories for one (1) year from date of substantial completion, covering replacement cost and/or labor cost of defective material and adjustment of controls. School projects shall be guaranteed for one (1) year from the date of the first day of the school opening. Provide a five (5) year parts and labor warranty for ALL remote refrigeration components for the walk-ins, and a five (5) year compressor only warranty for all self-contained refrigerated units.
- J. Submit operating / maintenance manuals prior to completion of work. Manual to contain directions and recommendations for the operation, care, adjustment, service and maintenance of equipment. Provide parts list and diagrams showing parts location and assembly. Provide three (3) copies of the manual. Identify each particular item of equipment with titled tabs. Arrange in alphabetical order. Bind manual in a three (3) ring hard back black binder.
- K. Submit a listing of the name and address of equipment manufacturers used, along with the name and address of the local service agencies. Include listing as a part of the maintenance and operation manuals.
- L. Submit three signed copies of pressure vessel inspection report. Inspector's report to be completed by a qualified pressure vessel inspector. Test all pressure equipment.

1.05 QUALITY ASSURANCE

- A. Manufacture and install equipment and accessories in strict compliance with and, if applicable, bear the seal of UL, NEMA, ASME, NSF, AGA, ANSI, OSHA and NFPA.
- B. Manufacture and install equipment in strict conformity with Public Health Service Publication - "Food Service Sanitation Manual" and applicable governmental codes and regulations.
- C. Provide safety guards on equipment in compliance with codes.
- D. Approval of contractor's drawings and other data does not relieve the Contractor from responsibility of complying with codes and regulations.
- E. Provide, at no extra charge, equipment, trim and accessories which may be required by codes and regulations.
- F. The custom equipment fabricator will be subject to the acceptance of the Architect, Consultant and Owner. Fabricator must have the plant, personnel and engineering facilities to properly design, detail and fabricate high quality equipment. Equipment shall be of standard unit assembly, manufactured by one manufacturer and of uniform design, material and finish.

- G. Manufacturer's catalog designations are intended to represent the standards required. Equipment furnished must closely conform thereto in design, construction, capacity and function, to the manufacturer and model specified. Where catalog designations are given, the items shall be complete as described and shown in the catalog, unless exceptions are specified.

1.06 DELIVERY STORAGE AND HANDLING

- A. Acquire approved "off-site" storage to house equipment if provisions cannot be made at the job site.
- B. Ship fittings to the job site as follows:
 - 1. Wrap and identify with tag naming the job, the supplier, the items enclosed and the item to which it is to be attached at the job.
 - 2. Fittings to be delivered to various trades involved. Obtain a receipt signed by the foreman.
 - 3. Do not ship fittings or accessories inside larger items of equipment.
- C. Continuously maintain protection of work from damage. Protect the Owner's property and that of other contractors from injury or loss arising in connection with this contract, and repair or replace damage, injury or loss. Damage to equipment not directly attributed to separate trades shall be the responsibility of the K.E.C.
- D. Permanently fasten manufacturer's nameplates to the equipment. One nameplate of the fabricator will be allowed in each room.
- E. Equipment of a like nature (cooking batteries, carts, self-leveling dispensers, etc.) shall be of one manufacturer to insure uniformity of design and to simplify service and maintenance.

1.07 PROJECT CONDITIONS

- A. Prior to fabrication of equipment, field measure and verify in-place construction.
- B. Fit equipment into the space provided regardless of the manufacturer's standards. Variations in equipment not recessed or built into fixed spaces, shall in no case be sufficient to materially change capacity of the equipment.
- C. Field inspect conditions at site and verify that the rough-ins were properly installed. Compensate the various trades for relocations of rough-ins caused by inaccuracy of drawings.
- D. Notify the Consultant and Architect in writing of discrepancies between the contract documents and the actual conditions on the job site prior to equipment fabrication.

- E. Pay for the cost incurred for special equipment; for removal or replacement of portions of the building if required for delivery and installation of equipment specified; as well as other costs incurred if work specified under this section must be done by others due to jurisdictional agreements or other conditions.
- F. Coordinate work specified under "WORK BY OTHERS", or other work that may arise incidental to completing the project. Furnish installing trades with information and assistance for the proper installation of equipment and components.
- G. Supervise the installation of the equipment and components. Submit to the Architect the name, address and telephone number of the supervisor. The Contractor agrees to accept collect telephone calls from the Consultant or Architect.

PART 2 PRODUCTS

2.01 MECHANICAL WORK INCLUDED IN CONTRACT

- A. Work provided by this section shall include, but not be limited to, the following:
 - 1. Chrome plated faucets with check valves, swing spout, soft flow aerators, monel metal seats and union coupling inlets. Equip faucets for 160° to 180° hot water with heat resistant red handle. Faucets and components shall be as follows:
 - a. Pre Rinse, Backsplash
T & S B133 / B-109
Chicago Faucet 510 / 902B / 851
Fisher 2210 / 2902 / 2925
 - b. Pre Rinse, Deck
T & S B113 / B-109
Chicago Faucet 919 / 902M / 851
Fisher 2310 / 2902 / 2925
 - c. Faucet, Backsplash
T & S B231 with B-199-2-F-12 aerator (1.20 gpm)
Chicago Faucet 540LD
Fisher 3252
 - d. Faucet, Deck mounted
T & S B221 with B-199-2-F-12 aerator (1.20 gpm)
Chicago Faucet 728LDSS
Fisher 3312
 - e. Faucet, 180° HW
T & S B212
Chicago Faucet 332-E1

Fisher 3710

- f. Faucet, ¾" Deck mounted
T & S B293 with B-199-2-F-12 aerator (1.20 gpm)
Chicago Faucet
Fisher 5312
- g. Faucet, ¾" Backsplash mounted
T & S B290 with B-199-2-F-12 aerator (1.20 gpm)
Fisher 5412
Chicago Faucet
- h. Pot Filler, Wall mounted
T & S B610
Chicago Faucet 512
Fisher 2240
- i. Pot Filler, Deck mounted
Fisher 2340
T & S
Chicago Faucet
- j. Pot Filler, Double joint
T & S B581
Chicago Faucet 514
Fisher 4930
- k. Pantry Faucet, Single
T & S B208
Chicago Faucet 349-L7
Fisher 3010
- l. Hose Reel, Wall mounted
T & S B-7222
Chicago Faucet 538
Fisher 2980
- m. Mixing faucet valve
T & S B512
Chicago Faucet 525
Fisher 2805
- n. Water Outlet
T & S BLB
Chicago Faucet 988-E1-M
Fisher 2905 or 2906

- o. Vacuum Breaker - 3/4"
 - T & S B457, B458
 - Watts
 - Arrowhead

- Vacuum Breaker - 1/2"
 - T & S B455, B456
 - Watts
 - Arrowhead

- p. Vacuum Breaker, Anti Siphon
 - Watts 800 series
 - T & S B963
 - Crane

- q. Check Valves
 - T & S Brass CVH
 - Watts
 - Crane

- T & S Brass CVV
 - Watts
 - Crane

- r. Quick disconnect Assemblies
 - Dormont
 - Greitzer
 - Connect It, Inc.

- s. Drain Valve Assemblies
 - CHG DSS-8000
 - Kason
 - Fisher

- 2. Waste outlets with stainless steel twist handle, stainless steel drain valve body, a self centering face flange, a flat stainless steel "snap-in" strainer plate and a chrome plated tailpiece. Overflow fittings will not be required unless specifically stated in the item specifications.
- 3. Control valves required for operation, located convenient to the operator. Extension stems with supports shall be chrome plated. Equip steam valves with heat resistant red handles.
- 4. Chrome plated vacuum breakers on threaded faucets, hose stations and on fixtures where the water inlets are placed below the water level.
- 5. Backflow preventers on pre-rinse units.

6. Anti-siphon pressure type vacuum breakers on hose reels.
7. Angle flange or deck and wall flange where vacuum breakers extend through equipment.
8. Special valves, regulators, strainers, pressure reducing valves, control valves, thermometers, pressure gauges, keyed water flow restrictors and accessories required by code or necessary for the operation of equipment.
9. Quick disconnect with couplers and flexible double wall stainless steel hose with built in restraining device and double shut-off at ends. Disconnect hoses for steam lines to be insulated. Assemblies to be color coded: Yellow for gas, green for steam, red for hot water and blue for cold water. Provide equipment chain retainer.

2.02 ELECTRICAL WORK INCLUDED IN CONTRACT

- A. Work provided by this section shall include, but not be limited to, the following:
1. Plugs matching the receptacles specified in the Electrical Section of specifications. Plugs to be manufactured by Hubbell, Leviton, or GE.
 2. Grounded receptacles mounted in type "IB" enclosures equipped with stainless steel faceplates and boxes where receptacles are exposed. Do not furnish twist lock unless specified. Receptacles mounted on tables and counters shall be equipped with ground fault interrupts (GFI).
 3. Controls, thermostats, starters, motor control switches, switches and contactors. Furnish remote mounted components to Division 26 00 00 for mounting.
 4. Magnetic starters with NEMA enclosure for motors sized as required by codes.
 5. Type "ND" single throw heavy duty industrial, quick make - quick break disconnect switch with interlocked cover control where called for in the item specifications.
 6. NEMA type 4 enclosures for controls, disconnects, magnetic starters and other components which are located in wet or damp areas.
 7. Bolted type circuit breaker where called for in the item specifications. Verify with Architect as to the manufacturer.
 8. Three wire or four wire type "SO" neoprene cord and plug sets with one leg grounded to equipment.

9. Anaconda Sealtite Type "EF", Electri-Flex, or Cantex conduit and waterproof boxes. Unprotected flexible metal conduit will not be accepted.
10. Conduit and conductors in conduit raceway for fabricated equipment.
11. Low voltage control circuits on equipment operating on voltages over 120 volts.
12. Totally enclosed, fan cooled motors where exposed to damp and wet areas.
13. Motors less than ½ horsepower, for solenoid valves and lighting shall be 120 volt, single phase. Unless otherwise noted motors greater than ½ horsepower shall be three phase. Motors shall have ball and thrust type bearings, totally enclosed, 55° rise above 40° ambient continuous duty. Motors shall have low starting torque, current characteristics, with NEMA frames.

2.03 HARDWARE

- A. Hardware other than stainless steel shall be heavy duty chrome plated brass, with concealed fasteners.
- B. Provide master keyed locks. Refrigeration equipment locks shall be keyed alike and fabricated equipment door and drawer locks shall be keyed alike.

2.04 FABRICATED EQUIPMENT

- A. Material shall be new prime quality, full gauge thickness, of composition indicated by names or abbreviations stated in item specifications.
- B. Stainless Steel shall be type 302 or type 304, with a No. 4 finish, as designated by the American Iron and Steel Institute and shall be austenitic.
- C. Galvanized steel angles, bars, channels, piping, tubing, and sheets shall be uniformly ductile in quality and free from hard spots, runs, blisters, spelter, checks and other surface defects. Material shall be mild steel, galvanized by the hot dip process, unless otherwise specified.
- D. Welds shall be of same basic composition as sheets or parts welded. Joints shall be fully welded. Pits, cracks, discolorations, distortion and depressions will not be acceptable. Grind smooth and polish welded joints, flush with the adjoining material and neatly finish to harmonize therewith. Soldered, lapped, fillet corners and bolted joints will not be acceptable in place of welded seamless construction.
- E. Burrs, projections and fins are not acceptable on sheared edges. Neatly grind miters and bullnosed corners to a uniform condition.

- F. Bolts, screws and rivets are not acceptable on exposed surfaces of equipment. Where bolts or studs are welded to the underside of stainless steel surfaces, the reverse side of the weld shall be neatly finished to blend in with the adjacent surface. Depressions at these points will not be acceptable. Cap bolt threads and studs with a suitable lock washer and chromium plated brass acorn nut. Bolts used to fasten trim shall be stainless steel.
- G. Fabricate metal table tops, sinks and drainboards of 14 gauge stainless steel. Sound deaden underside of tops, drainboards, and sinks with an NSF approved sound deadening product. Provide tacky tape between all support channel and metal table tops. Exposed table top corners shall be radiused $1\frac{3}{4}$ ".
- H. Edges, corners, rims and backsplash shall be die formed of same sheet as top. Cove intersection of tops at backsplash and rims on a $\frac{3}{4}$ " radius. Rim and backsplash tops shall be level.
- I. Backsplash shall be flanged back a minimum of 2" at 45° and down 1" at 45°. Enclose ends and rear of exposed backsplash.
- J. Provide raised die formed ferrule around punch or drilled holes in table tops and shelves.
- K. Sink back, bottom and front shall be formed of one continuous sheet with the ends welded into place. Construct bottom by creasing or forming the metal downward from each wall a minimum of one degree distinct slope toward the waste receptacle which shall be recessed a minimum of $\frac{3}{8}$ " below the adjoining surfaces. Provide double wall partition between each pair of sink compartments with rounded top edge. Provide sinks having two or more compartments with full length, full height flush stainless steel front panel to conceal joint between sinks. Turn back panel at sides and bottom and weld to sink bowl. Cove sink corners on a $\frac{3}{4}$ " radius.
- L. Slope drainboards, dishtable tops and beverage stand tops, urn drainers and troughs with an integral pitch towards the drain water receptor to ensure positive drainage and to eliminate water pockets.
- M. Reinforce tops with 12 gauge channels, one channel provided on tops up to 36" wide and two channels on tops over 36" wide. Provide open base tables with channel runner at each pair of legs. Exposed channels shall be stainless steel. Attach top to the channel reinforcements with studs welded to the underside of top. Seal intersection of channel edge and underside of top with silicone.
- N. Cabinet type enclosures shall be 16 gauge stainless steel. Round exposed vertical corners on a $\frac{3}{4}$ " radius die. Flange top and bottom off at 2" right angles to the body and weld in corner gusset plates. The walls of cabinet shall be a fully welded seamless assembly with channels and box sections corners. A STRUCTURAL ANGLE FRAMEWORK SUPPORTING THE ENCLOSURE IS NOT ACCEPTABLE. Provide individual compartments separated by a partition,

enclosing sinks, machinery and drawers from the balance of the base cabinet. Weld partition to the cabinet body.

- O. Doors shall be flush mounted double pan construction, with ½" thick semi-rigid fiberglass board between the two panels. Door face shall be 16 gauge steel and back face shall be 20 gauge stainless steel. Internally reinforce doors 24" wide and greater with a 4" wide channel to prevent warpage. Tack weld intersection of front and rear door face around inside perimeter. Corners shall be fully welded. Space tack welds no greater than 6" apart. Grind smooth and polish all welds. Balance of space to be sealed with silicone.
- P. Provide sliding doors with rubber button bumpers, die stamped stainless steel flush mounted door pull, sheaves, nylon rollers with stainless steel ball bearings, overhead aluminum door track and a bronze or stainless steel door guide bar attached to the bottom of cabinet.
- Q. Provide lockable hinged doors with rubber button bumpers, stainless steel lift off hinge, die stamped stainless steel flush mounted door pull and a Component Hardware Model M27-2490, FMP, or Kason catch. Provide locks on all doors housing machinery and power panels.
- R. Drawer assembly to be flush mounted double pan construction the same as described for doors. Provide two (2) rubber button bumpers, one on each side of drawer face, drawer insert, self closing drawer slides, die stamped stainless steel flush mounted door pull and a cylinder lock. Provide 20" x 20" x 5" deep Component Hardware Model S80-2020, FMP, or Kason drawer insert, set loosely in a perimeter supporting channel frame with drawer face welded to the frame. Provide Component Hardware model S-52, FMP, or Kason ball bearing roller drawer slides with adjustable stops at the fully opened position mounted to the channel frame. Enclosed drawers on open base table in an 18 gauge stainless steel enclosure.
- S. Fabricate shelves of 16 gauge stainless steel with formed edges, reinforced with channels, the same as specified for tops.
- T. Construct stationary shelves on open base tables formed with edge set on tangent point of leg and fully welded to leg.
- U. Provide solid stationary shelves in enclosed base cabinets with back and ends turned up 2" and coved on a ¼" minimum radius. Tack weld turn up to cabinet body and calk joint with silicone. Provide ¾" diameter perforations spaced on 4" center on shelves in heated base cabinets.
- V. Construct pipe slots through undershelves with turned up edge on four sides. Provide cabinets with an inner duct to conceal vertical piping.
- W. Tubular leg assemblies shall consist of 1½" diameter 16 gauge stainless steel tubular legs and 1" diameter 16 gauge stainless steel crossrails. Fit top of legs into

fully enclosed stainless steel sockets. Continuously weld sockets to reinforcing channel on underside of table tops, or to the reinforced stainless steel corner pads under sink corners. Bottom of pipe legs to be finished off smoothly and overlap the foot or caster stem. Crossrails shall be mitered and fully welded to each leg.

- X. Provide NSF labeled casters. Medium and heavy duty casters of 4", 5", and 6" diameter shall have a minimum capacity of 200 lbs. with double ball bearing raceway and non-marking neoprene soft tread ball bearing wheels with drilled axle and grease fittings. Casters shall be Component Hardware Group, Darnell or Jarvis.
- Y. Provide fully enclosed bullet shaped stainless steel feet with a slightly rounded foot at bottom and an extra long threaded stem at the top.

2.05 FINISHES

- A. Polish exposed stainless steel to a No. 4 commercial mill finish. Where unexposed, polish to a No. 2B finish. Satin finish exposed surfaces.
- B. Paint and coatings shall be durable, non-toxic, non-dusting, non-flaking and mildew resistant, complying with NSF standards and governing regulations. Apply in accordance with the manufacturers recommendations.
- C. Clean metal prior to painting and paint with a rust inhibiting primer. Finish with two (2) coats of enamel in color selection determined by the Architect. Do not paint galvanized shelving.

2.06 REFRIGERATION SYSTEMS

- A. Provide refrigeration systems complete with components required for operation, designed for direct expansion, employing thermostatic expansion valves and pressure switches. Refrigeration systems must meet all required code criteria noted in OBC Mechanical Code Section 11, and/or all state and local codes as required.
- B. Rate compressors on the American Society of Refrigeration Engineers Standards, based on a maximum operating time of 16 hours per day on 100° F days. Mount compressor, condenser, motor and auxiliary equipment on a single rigid base. Automatically control each unit by a suction pressure switch and a high pressure cut-off. Provide relief lines required by the codes, capped with screen vent fittings.
- C. Provide the following components:
 - 1. Sporlan, Ansul, or Cooper liquid line dryer.
 - 2. Suction line accumulators on air cooled condensers which are located remote and outside the building.

3. Room temperature thermostats and solenoid valves.
 4. Strainers ahead of all valves.
 5. Type "L" copper refrigerant piping.
 6. Vibration eliminators and flexible tubing in suction and liquid lines.
 7. Wrought copper recessed solder fittings for refrigeration lines.
 8. Type "L" copper piping with cast brass or wrought copper water line piping.
 9. Sta-Brite, Sil-Fos 15, or Stay-Silv 15 silver solder.
 10. Drip gutters under uncovered pipes, valves and fittings.
 11. Pipe hangers spaced a maximum of 96" on center and adjusted to the drop required.
 12. Packless shutoff valves with port area equal to pipe area.
 13. Charging valves located at the compressor.
 14. Sporlan, Alco or Detroit Lubricator Thermostatic expansion valves.
 15. Liquid line solenoid valves with port area equal to pipe area.
 16. Cover refrigerant lines and chilled water lines with ¾" minimum thickness refrigerant pipe insulation with joints neatly cut and glued with adhesive. Exposed exterior insulation shall be UV protected or wrapped.
 17. Pipe sleeves constructed of steel and molded vinyl large enough to permit covered insulated pipes to pass through.
 18. Oil traps located at base of vertical risers in suction lines and at outlet of evaporator. Depth of trap to be three times the suction pipe diameter with a minimum horizontal dimension.
 19. Equalizing line from expansion valve on compressor side of expansion bulb. Suction lines to be pitched from high point at coil to compressor. It may be necessary to rise to avoid pipes, ducts, etc. There shall be a trap of minimum dimensions at base of each vertical rise if over 48".
- D. Design system for not over two lbs. loss between compressor and evaporator. Dehydrate system and hold at 150 lbs. pressure for a period of twelve hours without loss of pressure.

- E. Test the refrigeration system for a period of three days making required adjustments.

PART 3 EXECUTION

3.01 PREPARATION

- A. Fit equipment accurately in space provided. Notify the Architect in writing of modifications required to receive equipment.
- B. Verify electrical and mechanical services at job site prior to ordering equipment. Information shown on drawings does not relieve the Contractor of this responsibility.

3.02 INSTALLATION

- A. Assist in moving equipment so other trades can make connections and be on the job to level and adjust equipment as the last connection is made. During installation instruct the trades on hook up of the various items of equipment.
- B. Equipment fit adjacent to walls, ceilings, floors and corners shall be tight. Allow selvage for a perfect fit.

3.03 SEALING AND TRIMMING

- A. Caulk joints with GE Silastic, Component Hardware, or Dow Corning 732 RTV sealant. Joints exceeding $\frac{3}{8}$ " in width shall be trimmed with a stainless steel channel and caulked with sealant.

3.04 START-UP AND TESTING

- A. Start-up, test and inspect equipment after installation under operating conditions. If inspection or test shows defects, correct the defects and repeat inspection and test.
- B. Equipment must be operable prior to the demonstration of equipment by the manufacturer.

3.05 ADJUSTING

- A. Adjust service equipment so as to be in perfect operating condition when turned over to the Owner at completion of work.

3.06 CLEANING

- A. Keep premises free from accumulation of waste material during progress of work and, at completion, leave the premises clean and the equipment washed down, polished and ready for use.

3.07 TOUCH-UP

- A. Polish out scratches in stainless steel and touch up scratches on painted surfaces.

3.08 DEMONSTRATION OF EQUIPMENT

- A. Schedule the equipment manufacturer's representatives to appear and teach the Owner's Staff on the correct operation, maintenance, and safety features of all the equipment.
- B. After instruction, prepare a letter stating that equipment was demonstrated, and personally checked by the manufacturer's representative, and found to be operating properly. Acceptance of the installation will not be contemplated until the letter, signed by the Owner, is received.
- C. A representative of the supplier of the kitchen equipment must be present in the kitchen during the demonstration by the appropriate equipment manufacturer.

3.09 EXISTING EQUIPMENT

- A. The Owner will have first salvage claim to equipment items not scheduled for reuse. Salvaged items shall be complete with valves, accessories and controls.
- B. Remove from the site equipment not scheduled for reuse or claimed by the Owner.
- C. Protect from damage and theft equipment scheduled for reuse. Identify by Item Number and tag loose valves, controls and accessories and store with equipment.
- D. Move the equipment from existing facility to storage and from storage to new facility. Verify with Owner as to date when the equipment can be removed from the existing facility.
- E. Examine existing equipment items scheduled for reuse at the site prior to preparing drawings. Drawings shall contain rough-in information for the equipment.
- F. Notify the Architect of parts or service required for existing equipment scheduled for reuse. Unauthorized service and parts shall be paid by the Contractor. Authorized service and parts will be paid by the Owner.
- G. Clean interior and exterior of equipment items scheduled for reuse. Ranges, ovens and fryers shall be thoroughly cleaned using a commercial degreasing agent steam. Installation requirements shall be the same as specified for the new equipment.

3.10 INSPECTION AND PUNCH LIST

- A. When it has been concluded that work is installed, operating and substantially complete, prepare a "punch list" of items yet to be completed and forward a copy to the Architect and the Consultant.
- B. The Architect will request the Consultant to inspect the equipment after receipt of the punch list. If inspection reveals that the installation is not substantially complete or the punch list is not of a minor nature, and another inspection is required, then a Certificate of Substantial Completion will not be issued.
- C. Reimburse the Consultant for subsequent inspections (including long distance telephone calls) and time of the Consultant. If the costs have not been paid before final payment, the costs will be deducted from the Contractor's final payment.
- D. Immediately upon completion of the Consultant's inspection, correct punch list items. When items have been corrected, the Contractor shall notify the Architect in writing that the installation is ready for inspection.

3.11 EQUIPMENT SCHEDULE / SPECIFICATIONS

The following equipment schedule/specifications refers to various items of food service equipment shown on the Contract Drawings. The Contract Drawings and notes form a part of these specifications and shall be as binding as if written herein.

ITEM NO. 1 - WALK-IN COOLER / FREEZER
QUANTITY - ONE
MFG. AND MODEL: KOLPAK
ELEC. REQ'M'TS: 120-1 208-3

Walk-in shall be the size and shape as shown on the plans, approved and listed in accordance with UL, NSF and constructed in accordance with all state and local codes and meet OBC 2603.4 and all Energy Independence and Security Act of 2007 requirements. Refer to the last page of this section for additional information to be submitted prior to installation.

Provide sectional pre-fabricated wall and ceiling panels constructed and joined together per manufacturers standard. Panels to be equipped with compression gaskets. Seal all wall and floor sections to building floor with silicone. Where the span of the ceiling is too great to support itself, provide hanger rods attached to the building structural system. Provide all steel, hanger rods, and turnbuckles required. Installation of complete assembly shall be by factory authorized personnel. K.E.C. to submit installer's name and record prior to installation. Refrigeration system shall be installed by, and serviced by, a local refrigeration specialist approved by the Owner and/or Owner's representative. Refer to standard form at the end of this section.

Floor shall be of sectional pre-fabricated construction and erected in a floor recess. Sections shall be constructed of heavy gauge aluminum treadplate over ¼" minimum thickness tempered hardboard or marine plywood and insulated with polyurethane insulation and contain floor

insulation of at least R-28 for freezers. Pre-fabricated floor shall set in a transit level and trowled smooth floor recess. Provide a .004" polyethylene vapor barrier in the recess before installing the sectional floor.

Base shall be 4" high, 20 gauge stainless steel with top and bottom crimped in opposite directions. Attach to all exposed interior and exterior wall panels and apply sealant to the top and bottom.

Insulation for wall and ceiling panels shall be reaction injection molded urethane (no CFC's used) and contain wall, ceiling, and door insulation of at least R-25 for coolers and R-32 for freezers. Insulation for wall panels shall be 4" thick. Ceiling panels shall be 4" thick, single piece, and self-supporting. Interior height of unit shall be a minimum of 8'-0".

Exposed exterior finish of wall panels shall be stucco embossed aluminum.

Interior finish of wall panels shall be stucco embossed aluminum.

Interior finish of ceiling panels shall be .032" smooth aluminum with white baked on acrylic finish.

Doors shall be off-set type construction insulated with urethane insulation. Interior surface of door shall be the same finish as adjacent wall panels.

Exterior finish shall be 20 gauge type 302 or 304 stainless steel with a No. 4 finish.

Interior door finish shall be the same as the adjacent exterior finish of the wall panels.

Door frames shall be equipped with heating elements at jamb, sill and head. Elements shall be factory wired to a junction box mounted on top of the ceiling panels. Equip each door with magnetic gasket, adjustable bottom sweep gasket, International 680 series hydraulic door closer with hold open device, heated vision panel in freezer door, unheated vision panel in cooler door, three (3) self-closing chrome plated cam-action hinges, Kason 27C polished chrome handle with two (2) keys for exterior door, mortise tamper-proof deadbolt lock with inside release, latch with inside release, and 36" high stainless steel kickplates on the interior and exterior.

Provide all exterior doors with a Curtron, Polar-Flex, or Ardco two-piece strip door, constructed of clear vinyl strips in accordance with the manufacturer's instructions. Strip door to meet all Energy Independence and Security Act of 2007 requirements.

Provide two-lamp Kason "GreenGuard" model 1810FES vapor tight fluorescent light fixtures fitted with low temperature ballasts and tubes as shown on the drawings. Division 26 00 00 to mount fixtures on ceiling panels in locations as shown in the drawings and shall punch all holes through cooler / freezer ceilings for final wiring. A minimum of 20 foot candles of lighting is required at the floor level. Lights shall be controlled by an automatic motion sensor with indicator light mounted in the interior of the wall panel adjacent to the door. All conduit shall be installed on the exterior top of ceiling and not within the interior of the compartment. Division 26

00 00 shall wire from light switch to all light fixtures. Division 26 00 00 to seal all conduit penetrations in wall and/or ceiling panels after wiring to prevent moisture from collecting in the fixtures.

Air pressure relief ports shall be provided for each compartment through the walls or ceiling. Ports shall be the design as standard with the cooler manufacturer. Division 26 00 00 to wire all electrically heated air pressure relief ports.

Thermometers shall be located and mounted on the exterior walls near the entrance doors and in full view of the kitchen. Thermometers shall be of the electronic digital type or of the dial type. Dial type thermometers shall be 6" diameter

Provide personnel alarm consisting of a lighted press switch located on an interior wall and adjacent to the door which activates an alarm horn. Division 26 to wire from the alarm to the 12V transformer, run sensor wire into the walk-in space, connect wires on the K.E.C. furnished personnel switch, and connect the output wires to the terminals on the K.E.C. furnished dry contact relay base.

Trim at side walls and closure panels to finished ceiling shall be the same finish as the exterior wall panels. Refer to drawings for details.

Coil supports to be provided in a ceiling panel of each compartment to support the cooling coils. Mounting nuts and bolts shall be non-corrosive. Sleeves through walls for refrigeration lines, electrical lines and drains shall be of extruded vinyl.

Unit cooler coils shall be equipped with fan blade guards, aluminum housing, disconnect switch and all controls required for operation. Division 26 wire from the junction box on coil to the remote temperature thermostat and the solenoid valve with Sealtite conduit. Evaporator fan motors less than 1 horsepower require electronically commutated (EC) or 3 phase design.

Unit freezer coil shall be equipped with fan blade guards, aluminum housing, electric defrost, drain pan heater, timers, thermostats and all components required for proper operation. Provide unit with the following special components and controls: Built-in thermostats and timer to return system to freezing cycle and to delay the start of fan motors after the completion of the defrost cycle, a timer with a stop defrost cycle in the event of thermostat failure. K.E.C. to provide a thermostatically controlled heater tape or internal drain pipe heater for the condensate drain line. Heater to be wired by Division 26 to the freezer coil "hot" terminal (see the mfr's wiring diagram). Division 26 wire from the remote timer located at compressor to the junction box on the freezer coil and from the junction box on the coil to the room temperature thermostat with Sealtite conduit. Evaporator fan motors less than 1 horsepower require electronically commutated (EC) or 3 phase design.

Condensate drain lines shall be extended from all coils to the open sight wastes by Division 22. All lines shall be type "L" hard copper using sweat fittings. Division 22 to provide a union fitting directly below the coils to all easy removal of the bottom pan of the coils. Drain lines to be secured to the cooler - freezer walls with 1" corrosion-resistant stand-offs and shall be concealed where possible. The walk-in installer shall punch all holes through cooler / freezer walls and assist Division 22 as to the proper installation of the drain lines. Division 22 to

insulate total length of drain piping in both the cooler and freezer with 1" thick closed-cell insulation equal to Rubatex model R-180-FS, RBX, or Owens Corning pipe insulation.

Scroll compressors shall be completely pre-wired to the defrost cycle timers, starters, disconnect switch and other related components which are mounted on the compressor frame. Compressor fan motors less than 1 horsepower shall be required to be electronically commutated (EC), permanent split capacitor (PSC), or 3 phase design. Provide anti-vibration devices and a plastic sign with ¾" high letters stating the refrigerant type and the name of the walk-in which the compressor is refrigerating. Refrigerant to be R404A or similar HFC type. Provide with crank case heaters and reverse acting pressure controls.

Compressor shall be enclosed in an RDM Products PSE Series, Kool-Star, or Heatcraft all-weather outdoor housing, constructed of a galvanized steel frame and an exterior skin of anodized aluminum. Provide hinged and lockable louvered access doors with padlock and a removable top. Housing shall be painted in a custom color as selected by the Architect.

Enclose compressor rack with metal framed expanded metal panels. Front side panels shall be removable for service.

Provide the following coils and compressors:

Room	Evap. Temp.
COOLER	+25
FREEZER	- 20

Provide Pate model ES5B, LM Curbs, or Roof Products equipment support rails for mounting the compressor on the roof, constructed of 18 gauge galvanized steel with continuously mitered and welded corner seams, integral base plate, factory installed nailer and 18 gauge galvanized steel counter flashing. Install rails on the roof deck in locations as shown on the drawings. Flashing of equipment rails shall be by Division 07 70 00.

Manufacturer shall provide monolithic membrane roof cap with nylon mesh reinforcement as manufactured by DuroLast, GenFlex, or Soprema USA. Provide all mechanical fasteners and trim pieces to attach roof to building. Flash roof cap up building wall approximately 6° and down over sides of walk-in unit 5°.

The reinforced concrete slab and foundation wall to be provided by others.

Equipment manufactured by American Panel and Penn shall be considered an approved equal providing the equipment conforms with the same physical requirements, capacities, and dimensions which are specified and/or shown on the drawings.

ITEM NO. 2 - SHELF UNIT, MOBILE
QUANTITY - TWELVE
MFG. AND MODEL: EAGLE GROUP VALU GARD

Shelf unit to include frames and posts constructed of steel with an electroplated substrate, abrasion-resistant epoxy finish, shelf mats constructed of injection molded polypropylene with anti-microbial protection, shelf wedge connectors constructed of reinforced nylon, and a corner lock release system.

Shelf mats shall be open grid style and totally removable without the use of tools.

Posts shall be mounted on a reinforced nylon leveling foot.

Each unit shall consist of four (4) 63" high posts and four (4) shelves. In Walk in.

Each unit shall consist of four (4) 74" high posts and four (4) shelves. In ware washing room. Rear and side wire closure panels finished in a gray epoxy.

Each unit shall consist of four (4) 86" posts and five (5) shelves. In Storage room

Nexel Industries Nexelite (w/ Nexelon posts) and Eagle LifeStor (w/ stainless steel posts) shall be considered approved equals providing the equipment conforms with the same physical requirements, capacities, and dimensions which are specified and/or shown in the drawings.

ITEM NO. 3 – FREEZER STORAGE - EXISTING
QUANTITY – ONE

KEC to relocate to new location shown on plan.

ITEM NO. 4 - UTENSIL WASHING SINK
QUANTITY - ONE
MFG. AND MODEL: EAGLE GROUP SPEC FAB

Top shall be the size and shape as shown on the drawings, constructed of 14 gauge stainless steel and reinforced on the underside with 12 gauge stainless steel channels. Sound deaden the underside of top. Openings in the top shall be die stamped and completely finished. Field joints shall be welded, ground and polished smooth. Backsplash to be provided along wall sides and sealed thereto.

Sink compartments shall be the size and shape as shown, constructed of 14 gauge stainless steel and made as an integral part of the top. Crease bottom of sink bowl and pitch to the drain.

Provide a Provide a T & S Brass model B-133-CCB, Fisher, or Chicago pre-rinse assembly equipped with a B-0107C spray valve with locking ring and heatproof handle, check valves, in-

line vacuum breaker, stainless steel flexible hose, and a wall bracket. Pre-rinse assembly to be EPA 2005 compliant and shall have a flow rate of not more than 1.6 gallons per minute.

Disposer cone shall be welded and shall appear as an integral part of the top. Below table top provide a stainless steel bracket for mounting the disposer control panel. Bracket shall be mounted so the front face of the control panel will not extend out beyond the face of the table.

Cut out top and weld a stainless steel disposer cone thereto. Cone sink shall serve as a scrap chute. Cone sink shall be 15" diameter.

Stationary undershelf shall be constructed of 16 gauge stainless steel. Shelf shall be fully welded to legs with weld ground and polished to blend with the adjacent surfaces.

Crossrails shall be 1" diameter x 16 gauge stainless steel tubing. Crossrails shall be fully welded to legs and ground and polished to blend with adjacent surfaces. Omit the crossrails where shown.

Legs shall be constructed of 1 5/8" diameter x 16 gauge stainless steel tubing equipped with stainless steel gussets and stainless steel adjustable bullet type feet. Leg gussets shall be fully welded to the top reinforcing channels.

Equipment manufactured by Great Lakes Stainless and Fred, Inc. shall be considered an approved equal providing the equipment conforms with the same physical requirements, capacities, and dimensions which are specified and/or shown on the drawings.

ITEM NO. 5 – BACK COUNTER WITH SINK
QUANTITY - ONE
MFG. AND MODEL: EAGLE GROUP SPEC-FAB

Top shall be the size and shape as shown on the drawings, constructed of 14 gauge stainless steel and reinforced on the underside with 12 gauge steel channels. Sound deaden the underside. Openings in the top shall be die stamped and completely finished.

Sink compartment shall be the size and shape as shown, constructed of 14 gauge stainless steel and made as an integral part of the top. Crease bottom of sink bowl and pitch to the drain. Provide a T & S Brass model B-0231 faucet assembly with B-199-2-F-12 aerator, and a CHG DSS-8000 lever waste assembly.

Cabinet base shall be located below the top as shown on the drawings and constructed of 16 gauge stainless steel with all seams welded and ground to a smooth finish.

Cabinet below sink shall be enclosed on the back and ends. Front to be equipped with a lockable hinged door with CHG M27-2490, FMP, or Kason spring catch and CHG P63-1012, FMP, or Kason die-stamped pull. Back or bottom shall be neatly cut out to allow for utilities.

Provide a tier of three (3) drawers. Cabinet base enclosing the drawers shall have the back, bottom and ends enclosed.

Hinged doors enclosing cabinet base shall be provided where shown. Doors shall be the same finish as the face of the cabinet body. Provide door with CHG M27-2490, FMP, or Kason spring catch, door locks, and CHG P63-1012, FMP, or Kason die-stamped pull.

Bottom and intermediate shelves shall be constructed of 16 gauge stainless steel with front edge turned down 1-1/2" and back 1/2" at a 45° angle. Turn back and sides up 1-1/2" and seal to the cabinet body.

Mount cabinet on 1 5/8" diameter × 16 gauge stainless steel legs equipped with top mounting plate and stainless steel adjustable bullet type feet.

Equipment manufactured by Great Lakes Stainless and Fred, Inc. shall be considered an approved equal providing the equipment conforms with the same physical requirements, capacities, and dimensions which are specified and/or shown on the drawings.

ITEM NO. 6 - ISLAND TABLE

QUANTITY - TWO

MFG. AND MODEL: EAGLE GROUP T30144SE - MODIFIED WITH ELECTRICAL JBOX & OUTLETS

ELEC. REQ'MTS: GFI 120-1 / 208 - 1

Top shall be the size and shape as shown on the drawings, constructed of 14 gauge stainless steel and reinforced on the underside with 12 gauge steel channels. Sound deaden the underside.

Adjustable undershelf shall be constructed of 16 gauge stainless steel.

Ground Fault Interruptible electrical receptacles shall be provided on the equipment where shown. Receptacles to be complete with outlet box and stainless steel faceplate. Wire the receptacles to a common junction box, ready for final connection by Division 26. Receptacles shall be recessed mounted on bracket under countertop.

Legs shall be constructed of 1 5/8" diameter × 16 gauge stainless steel tubing equipped with stainless steel gussets and stainless steel adjustable bullet type feet. Leg gussets shall be fully welded to the top reinforcing channels.

Equipment manufactured by Great Lakes Stainless and Fred, Inc. shall be considered an approved equal providing the equipment conforms with the same physical requirements, capacities, and dimensions which are specified and/or shown on the drawings.

ITEM NO. 7 - PASS THRU FRONT SERVING COUNTER
QUANTITY - TWO
MFG. AND MODEL: EAGLE GROUP FABRICATION
ELEC. REQ'M'TS: GFI 120-1 / 208 - 1

Top shall be the size and shape as shown on the drawings, constructed of 14 gauge stainless steel and reinforced on the underside with 12 gauge steel channels. Sound deaden the underside.

Stationary undershelf shall be constructed of 16 gauge stainless steel.

Ground Fault Interruptible electrical receptacles shall be provided on the equipment where shown. Receptacles to be complete with outlet box and stainless steel faceplate. Wire the receptacles to a common junction box, ready for final connection by Division 26. Receptacles shall be recessed mounted on bracket under countertop.

Legs shall be constructed of 1 $\frac{5}{8}$ " diameter \times 16 gauge stainless steel tubing equipped with stainless steel gussets and stainless steel adjustable bullet type feet. Leg gussets shall be fully welded to the top reinforcing channels.

Equipment manufactured by Great Lakes Stainless and Fred, Inc. shall be considered an approved equal providing the equipment conforms with the same physical requirements, capacities, and dimensions which are specified and/or shown on the drawings.

ITEM NO. 8 – PASS THRU WARMING CABINET
QUANTITY -
MFG. AND MODEL: EAGLE GROUP FSHPC-F-PT
ELEC. REQ'M'TS: 120-1

Unit shall have an interior and exterior finish of stainless steel and mounted on 5" dia. casters, two of which shall be equipped with wheel locks. Provide unit with the following components: "on-off" switch, indicator lights, cooking thermostat, holding thermostat, heat indicator light, timer, fused protected heating elements, removable top mounted heat module with three thermally protected blower motors and a power cord with plug.

Equipment manufactured by Crescor and FWE, Inc. shall be considered an approved equal providing the equipment conforms with the same physical requirements, capacities, and dimensions which are specified and/or shown on the drawings.

ITEM NO. 9 - WALL SHELF FOR MICROWAVE OVEN (MICROWAVE OVEN'S BY OWNER)
QUANTITY - TWO
MFG. AND MODEL: EAGLE GROUP MWS2424

Wall shelf shall be constructed of 14 gauge stainless steel with front and ends turned down forming a rim. All corners shall be fully welded, ground and polished to blend in with adjacent stainless steel surfaces. Attach shelf to 12 gauge stainless steel wall brackets and mount to wall with stainless steel machine bolts and wall anchors. Where shelf abuts walls or fixtures, the edge shall be turned up 1½" on a minimum of ⅜" coved radius.

Equipment manufactured by Great Lakes Stainless and Fred, Inc. shall be considered an approved equal providing the equipment conforms with the same physical requirements, capacities, and dimensions which are specified and/or shown on the drawings.

ITEM NO. 10 - DISPOSER
QUANTITY - ONE
MFG. AND MODEL: IN SINK ERATOR SS-200 / CC-101
ELEC. REQ'M'TS: 208-3

Provide disposer with removable safety baffle, stainless steel cone welded to the table top and a control assembly attached to the underside of the table top. Mount disposer, cone and control assembly in accordance with manufacturer's instructions. The furnishing and installation of all piping and wiring and the installation of all related components furnished with the disposer shall be the responsibility of Divisions 22 and 26. Refer to disposer piping diagram for method of installation.

Control assembly shall consist of a NEMA 4 stainless steel watertight control box, automatic reversing magnetic contactors, 24 volt solid state control circuit with transformer, optional timed run or continuous run, post water flush with adjustable timer set for 30 seconds, water tight start-stop buttons, solenoid valve, and a line disconnect switch interlocked with cover. Provide an InSinkEerator Aqua Saver® add-on module with the control assembly. Division 22 to install module as shown in the manufacturer's piping diagram.

Provide a T & S Brass Model 457 or 458 vacuum breaker assembly and flow control valves as required.

Salvajor model 150-SA-ARSS and Hobart model FD3-125-B-3 shall be considered approved equals providing the equipment conforms with the same physical requirements, capacities, and dimensions which are specified and/or shown in the drawings.

ITEM NO. 11 – HOT DOG WARMER
QUANTITY - TWO
MFG. AND MODEL: APW HR50S/SG-50/BW-50
ELEC. REQ'M'TS: 120V1

Provide food warmer with thermostat, indicator light, a roll warmer adapter, cord and plug set, and 4" high SS legs.

Star and Hatco shall be considered approved equals providing the equipment conforms with the same physical requirements, capacities, and dimensions which are specified and/or shown in the drawings.

ITEM NO. 12 – POPCORN POPPER - EXISTING
QUANTITY – ONE

Existing, relocate to new position as shown on the drawings.

ITEM NO. 13 – NACHO CABINET WARMER
QUANTITY - ONE
MFG. AND MODEL: APW HDC-4P (NOT SHOWN ON PLAN)
ELEC. REQ'M'TS: 120V1

Not in Kitchen Equipment Contract. Unit to be furnished and installed by Owner.

ITEM NO. 14 – CHEESE WARMER – BY OWNER
QUANTITY – TWO

Not in Kitchen Equipment Contract. Unit to be furnished and installed by Owner.

ITEM NO. 15 - POPCORN MACHINE
QUANTITY - ONE
MFG. AND MODEL: APW DMXD-54S (NOT SHOWN ON PLAN) OWNER TO LOCATE.
ELEC. REQ'M'TS: 120V1

Popcorn machine shall be equipped with 8 oz. aluminum kettle with SS shell, top and bottom corn fresheners, SS corn pan and drop serving panel, sealed self-lubricating motor, control panel with indicator light and a cord and plug set.

ITEM NO. 16- COLD FOOD PASS-THRU
QUANTITY - TWO
MFG. AND MODEL: TRUE GDM-23PT (ONE NOT SHOWN ON PLAN)
ELEC. REQ'M'TS: 120-1

Provide unit with self-contained refrigeration system with compressor, thermometer, automatic condensate evaporator, and cord and plug set.

Doors shall be hinged as indicated on the drawings and equipped with stainless steel hinges, magnetic gasket, pull handle and cylinder lock and two keys.

Controls, thermometers, temperature gauges, on-off switches and indicator lights shall be mounted on the "kitchen side" of the cabinet.

Exterior shall be stainless steel where exposed. Interior of unit shall be fitted with stainless steel pull out shelves. Mount on 5" diameter casters equipped with top mounting plate and brakes on two casters.

Victory model RS-2D-S7-PT and Beverage Air model PRD48 S shall be considered approved equals providing the equipment conforms with the same physical requirements, capacities, and dimensions which are specified and/or shown in the drawings.

ITEM NO. 17 - COFFEE MAKER
QUANTITY - ONE
MFG. AND MODEL: BUNN DUAL SH
ELEC. REQ'M'TS: 120/208-1

Provide coffee brewer with water line filter, brewing funnel, paper filters, cord and plug set, and 4" high SS legs.

Curtis and Bloomfield shall be considered approved equals providing the equipment conforms with the same physical requirements, capacities, and dimensions which are specified and/or shown in the drawings.

ITEM NO. 18 - COFFEE SERVER
QUANTITY - ONE
MFG. AND MODEL: BUNN 27875.0003
ELEC. REQ'M'TS: 120-1

Provide coffee warmer, cord and plug set, and 4" high SS legs.

Curtis and Bloomfield shall be considered approved equals providing the equipment conforms with the same physical requirements, capacities, and dimensions which are specified and/or shown in the drawings.

ITEM NO. 19 - COFFEE SERVER
QUANTITY - FOUR
MFG. AND MODEL: BUNN 27825.0003
ELEC. REQ'M'TS: 120-1

Provide coffee warmer, cord and plug set, and 4" high SS legs.

Curtis and Bloomfield shall be considered approved equals providing the equipment conforms with the same physical requirements, capacities, and dimensions which are specified and/or shown in the drawings.

ITEM NO. 20 - BACK COUNTER
QUANTITY - ONE
MFG. AND MODEL: EAGLE GROUP SPEC FAB

Top shall be the size and shape as shown on the drawings, constructed of 14 gauge stainless steel and reinforced on the underside with 12 gauge steel channels. Sound deaden the underside. Openings in the top shall be die stamped and completely finished.

Cabinet base shall be located below the top as shown on the drawings and constructed of 16 gauge stainless steel with all seams welded and ground to a smooth finish.

Provide a tier of three (3) drawers. Cabinet base enclosing the drawers shall have the back, bottom and ends enclosed.

Hinged doors enclosing cabinet base shall be provided where shown. Doors shall be the same finish as the face of the cabinet body. Provide door with CHG M27-2490, FMP, or Kason spring catch, door locks, and CHG P63-1012, FMP, or Kason die-stamped pull.

Bottom and intermediate shelves shall be constructed of 16 gauge stainless steel with front edge turned down 1-1/2" and back 1/2" at a 45° angle. Turn back and sides up 1-1/2" and seal to the cabinet body.

Mount cabinet on 1 5/8" diameter × 16 gauge stainless steel legs equipped with top mounting plate and stainless steel adjustable bullet type feet.

Equipment manufactured by Great Lakes Stainless and Fred, Inc. shall be considered an approved equal providing the equipment conforms with the same physical requirements, capacities, and dimensions which are specified and/or shown on the drawings.

ITEM NO. 21 - HAND SINK
QUANTITY -

Not in Kitchen Equipment Contract. Unit to be furnished and installed by Division 22.

ITEM NO. 22 - MOP SINK
QUANTITY - ONE

Not in Kitchen Equipment Contract. Unit to be furnished and installed by Division 22.

ITEM NO. 23 - ICE MAKER W/ BIN - EXISTING
QUANTITY - ONE
MFG. AND MODEL: MANITOWOC
ELEC. REQ'M'TS: 120-1

Kec shall reconnect existing water filter system.

ITEM NO. 24 – EQUIPMENT BY OWNER
QUANTITY - FOUR

Not in Kitchen Equipment Contract. Unit to be furnished and installed by Owner.

ITEM NO. 25 – SODA DISPENSER
QUANTITY - TWO

Not in Kitchen Equipment Contract. Unit to be furnished and installed by Vendor.

END OF SECTION 11 40 00

- A. Exterior scoreboards shall be designed to withstand local windload requirements. See structural drawings. Submit design analysis and supporting calculations performed in support of specified signage.
- B. Environmental limitations: Do not install scoreboard equipment until mounting structure is secure and concrete has ample time to cure.
- B. Field measurements: Verify position and elevation of structure and its layout for scoreboard equipment. Verify dimensions by field measurements.
- C. Verify mounting structure is capable of supporting the scoreboard's weight and windload in addition to the auxiliary equipment.
- D. Installation may proceed within acceptable weather conditions.

1.06 QUALITY ASSURANCE

- A. Units to be designed for outdoor use
- B. Source Limitations: Obtain each type of scoring or related equipment through one source from a single manufacturer.
- C. Submit certification that scoreboard and console was tested and approved in plant prior to shipping.
- D. ETL listed to UL Standards 48 and 1433
- E. NEC and FCC compliant
- F. Scoreboard: Meets all FCC Class A requirements
900 MHz wireless transmitter: FCC Part 15 certified
900 MHz wireless receiver: Meets all FCC Part 15 requirements
- G. Exterior scoreboards and support structures shall be designed to withstand local windload requirements. See structural drawings. Submit design analysis and supporting calculations.
- H. Obtain and pay for all required permits, inspections and fees. Arrange for and make required inspections and tests. Obtain certificates and permits and turn over to Construction Manager upon acceptance of work.

1.07 WARRANTY

- A. Provide manufacturer's 5 year warranty.

PART 2 PRODUCTS

2.01 BASEBALL AND SOFTBALL SCOREBOARDS

- A. Manufacturers: ELECTROMECH, DAKTRONICS, FAIR-PLAY, VARSITY

SCOREBOARDS.

B. General information

1. Dimensions: Approximately 8'-0" high, 16'-0" wide, 0'-8" deep.
2. Weight: 500 lb maximum
3. Power requirement: 20 amp, 120 V.
4. Colors: As selected by Architect.
5. Logo (mascot graphic) to be provided

C. Scoring Information Displayed

1. RAIDERS: 2-digit displays, 0-99
2. GUEST: 2-digit displays, 0-99
3. INNING: 2-digit displays, 0-99
4. RUNS, HITS: 2-digit displays, 0-99
5. BALL, STRIKE, ERROR, OUT: 1-digit displays 0-9

D. Captions

1. RAIDERS and GUEST: 12" tall
2. INNING: 9.0" tall
3. BALL, STRIKE and OUT: 9.0" tall
4. RUNS, HIT and ERROR: 8.5" tall
5. Logo (mascot graphic) to be provided

E. Displays

1. RAIDERS, GUEST, INNING, and AT BAT Displays: 15.0" tall, 160° visibility, red, 100,000 hour-rated, outdoor Super-Bright LED displays. Provide Impact resistant acrylic protective digit shields and adjustable LED intensity.
2. BALL, STRIKE, OUT and RUNS, HITS AND ERROR Displays
15.0" tall, 160° visibility, red, 100,000 hour-rated, outdoor Super-Bright LED (light emitting diode) displays. Impact resistant acrylic protective digit shields and adjustable LED intensity.

F. Scoring Console 900 MHz Wireless System: provide for each required.

1. (1) Universal LCD keyboard controller - internal battery pack with built-in charger.
2. (3) BASEBALL/SOFTBALL keypad inserts
3. (1) 12-volt DC wall transformer
4. (1) 900 MHz transmitter - connect to keyboard controller via supplied interface cable.
5. (1) 900 MHz receiver - connects to the scoreboard.

G. Support Structure: Provide in galvanized structural steel shapes required for loading requirements. Provide all attachments and framing. Bottom of scoreboard to be 10'-0" above grade.

1. Structural Steel: Section 05 12 00
2. Cast in Place Concrete: Section 03 30 00

PART 3 EXECUTION

3.01 EXAMINATION

- A. Coordinate and verify mounting structure column spacing is acceptable to receive scoreboard attachment devices.
- B. Verify that mounting structure is ready to receive scoreboard(s). Verify that placement of conduit and junction boxes are as specified and indicated in plans and shop drawings. Verify concrete has cured adequately according to specifications.

3.02 INSTALLATION

- A. All power and control cables to scoreboards and displays will be routed in conduit, power to the scoreboards/displays as well as raceways shown on electrical plans by the Electrical Contractor.
- B. Install scoreboards and exterior displays to beams in location detailed and in accordance with manufacturer's instructions. Verify unit is plumb and level.

3.03 INSTALLATION - CONTROL CENTER

- A. Provide boxes; cover plates and jacks in locations per plans.
- B. Test connect control unit to all jacks and check for proper operation of control unit, scoreboard and all features. Leave control unit in carrying case and other loose accessories with owner's designated representative.
- C. Verify earth ground does not exceed 15 ohms.

END OF SECTION

SECTION 11 66 00
ATHLETIC EQUIPMENT

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Section includes:
 - 1. Dugout benches
 - 2. Baseball bases – pitching board

1.02 RELATED SECTIONS

- A. Miscellaneous Metals: Section 05 50 00.

1.03 REFERENCES

- A. NFHS – National Federation of State High School Associations (NFHS).
- B. OSHAA – Ohio State High School Athletic Association (OSHAA) rules and regulations.

1.04 SUBMITTALS

- A. Submit manufacturer's product data and installation instructions in accordance with the requirement of the General Conditions and Section 01 33 00.

1.05 PROJECT CONDITIONS

- A. Loose items of equipment shall be turned over to the School District Board after unpackaging or uncrating, and checking for proper type, material, size, and fit of each accessory. Obtain receipt from School District Board for items turned over. No claim may be made for items turned over to the School District Board without obtaining a receipt.

1.06 PRODUCT HANDLING AND INSTALLATION

- A. Exercise care so as not to damage material.
- B. Install in strict accordance with manufacturer's installation instructions and approved shop drawings.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Dugout Benches
 - 1. Seat Planks and Back Rest - 10'W aluminum 6003-T6 alloy, with 204R1 anodized finish. Features a ribbed non-slip surface, and minimum .078" wall thickness
 - 2. Understructure - Mill finished aluminum, 6061-T6 alloy with all joints mig welded
 - 3. Channel End Caps - Fitted aluminum for all ends. Eliminates sharp edges
 - 4. Capacity - 21' seats 14
 - 5. Manufacturers: HOOVER, SOUTHERN BLEACHER COMPANY, ALL-STAR BLEACHERS, BLEACHERS INTERNATIONAL, INC., STURDI STEEL, AMERICAN ALUMINUM SEATING or DANT CLAYTON CORP.

- B. Softball Bases, Home Plate, Pitching Rubber
 - 1. Removable Bases: 15 x 15 x 2 ½" rubber compound with honeycomb reinforced interior and beveled edges. Provide with integral metal base plugs and 8" x 1 ½" x 1 ½" ground sleeves. Set of three bases.
 - 2. Removable Home Plate: Rubber compound with honeycomb reinforced interior and beveled edges. Provide with integral metal base plug and 8" x 1 ½" x 1 ½" ground sleeve.
 - 3. Pitching Rubber: Molded rubber compound. Provide 24" removable stepdown type.
 - 4. Manufacturers: DOUGLAS, MACGREGOR, SCHUTT.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install equipment in accordance with the manufacturer's printed instructions, drawings, specifications, and final shop drawings.
- B. Provide all miscellaneous mounting members and fasteners as required, and of sufficient strength to bear imposed loads of the equipment.
- C. Loose equipment shall be removed from packaging or crating, cleaned, and tested for proper operation before turning over to School District Board.

3.02 DEMONSTRATION

- A. Work under this Section shall include demonstrating the proper use and operation of equipment to the School District Board as may be required.

END OF SECTION