2.10.2 Minimum working pressure 6" w.g.

2.10.3 Maximum length-10 feet.

2.10.4 Supports shall be spaced maximum 3 feet, support band min. 2 in. wide. Use Wiremold duct collars and galvanized strap clamps or equal as approved by Engineer.

2.10.5 Spin in fittings shall be Metal Masters Model MS1-6G or equal as approved by Engineer.

2.10.6 Approved products:

Flexmaster TL-M
Insulated Metalflex V-250-UL
Thermo-Fin Type A-300

2.11. Duct Leakage Loss:

2.11.1 Each system shall meet SMACNA and ASHRAE leakage class 3. This leakage will be determined by the test and balance consultant.

2.11.2 Loss exceeding leakage class 3 requirements shall be corrected by the HVAC Contractor prior to acceptance by Publix.

2.12. Duct Hangers:

2.12.1 Duct hangers shall be threaded rods or metal straps with metal bands or angles see details in the mechanical drawings.

2.12.2 Preferred Method for Exposed Ductwork system: Load-rated cable suspension system. The system shall have a specified manufacturer's safe working load (SWL) and supplementary safety factor of at least five times the SWL. The system shall be verified by SMACNA Testing & Research and shall be in compliance with SMACNA Duct Construction Standards guidelines.

2.12.3 Approved System: Gripple Hang-Fast.

2.12.4 Seismic bracing and design to comply with local conditions.

2.13. Grease Hoods: Owner furnished, contractor installed.

2.13.1 Install UL classified range hoods as indicated on the Drawings and in accordance with NFPA 96. Hoods shall be 18 gage (stainless steel to be specified on drawings), liquid tight welds, grease extractors, vapor proof lights and factory pre-piped fire suppression system.

2.13.2 Grade of stainless steel to be listed in the mechanical drawings.

2.14 Fire Suppression

2.14.1 Provide fire protection system (specified Section 15355-Automatic Fire Suppression System) for all grease-laden air removal hoods (Designated GH-). Shall conform to NFPA 17.

2.14.2 Fire dampers shall be at the supply air inlets.

2.15 Grease Hood Exhaust Duct

2.15.1 Fabricate kitchen hood ducts from 16 ga. galvanized steel sheets, 18 ga. stainless steel where exposed. Conform to NFPA 96. All joints and seams shall be welded liquid tight. Provide a flange for duct at top of exhaust fan curb.

2.15.2. Access doors shall be U.L. listed.

Ductmate, F2
Flame Gard
Acudor Products Inc.

2.16 Prefabricated Oven, Grease and Engine Exhaust Venting

2.16.1 Approved Manufacturers

Metal- Fab
Selkirk
Captive Aire

2.16.2 Type B Venting

2.16.2.1 Provide a complete insulated double wall gas venting system (U.L. Listed #103),1400 degrees F. rating and draft hood for the gas fired equipment and bakery ovens where indicated.

2.16.2.2 Thimbles, flashing, rain cap as required.

2.16.2.3 Air Intake: Single wall construction.

2.16.3 Grease Duct

2.16.3.1 Provide complete doublewall, fiber insulated exhaust system as listed and compliant with NFPA 96

2.16.3.2 Use manufacturers sealants and support system and components for a complete system.

2.16.3.3 Exhaust piping shall terminate per local code or as required by NFPA 96.

2.16.3.4 Minimum 10 year warranty

2.16.4 Engine Exhaust

2.16.4.1 Provide complete double wall fiber insulated exhaust system with insulation thickness as listed on the project plans

2.16.4.2 Use manufacturers sealants and support system and components for a complete system.

2.16.4.3 Exhaust piping shall terminate per local code or as required by NFPA 37

2.16.4.4 Minimum 10 year Warranty.

2.17. Devices and other miscellaneous items:

2.17.1 Dampers: Opposed blade, butterfly type, or splitter, all factory made as indicated. Each shall have a locking quadrant accessible for adjustment, with extension sleeve for duct wrap insulation.

2.17.2 Air Turning Device for Registers: Titus model AG-45 or similar device as approved by Architect.

2.17.3 Radiation Dampers. UL listed and installed where indicated

2.17.4 Piping System for Condensate: Schedule 40 PVC.

2.18. Insulation:

2.18.1 Concealed HVAC Ductwork:

2.18.1.1 Insulate externally with foil scrim kraft (FSK) fiberglass blanket type insulation, ASTM C1136, thickness and R value as indicated on the Drawings.

2.18.1.2 Comply with ASHRAE 90.1 and energy code requirements of the AHJ.

2.18.1.3 Materials shall have flamespread less than 25, and smoke developed less than 50.

2.18.1.4 Approved manufacturers:

Johns Manville
CertainTeed
Owens Corning
Knauf

2.18.1.5 Neatly cut and fit insulation to the duct surface with all duct joints overlapped 2" minimum, secured with outward-clinch staples 4" on center each way.

2.18.1.6 On ducts 24" or greater in width the insulation on the underside of the duct shall be secured to the sheet metal surface with Foster'S #85-20, or equal, adhesive, and secured mechanically with sheet metal screws and caps, or mechanical fasteners adhered to the duct on not more than 18" centers each way.

2.18.1.7 All transverse and longitudinal seams, and penetrations of the vapor barrier facing shall be covered with SMACNA rated foil backed tape applied in and sealed with Foster's #30-80 or #30-65, or equal, vapor barrier mastic

2.18.2 Where indicated, exposed double wall HVAC duct work shall be internally insulated with fiberglass.

2.18.2.1 Insulate internally with fiberglass rigid board type insulation and retaining fabric, ASTM C1136, thickness and R value as indicated on the Drawings.

2.18.2.2 Materials shall have flamespread less than 25, and smoke develo[illegible] less than 50.

2.18.2.3 Approved manufacturers:

Johns Manville
CertainTeed
Owens Corning
Knauf

2.18.3 Where indicated, exposed rectangular ductwork shall be inte[illegible]ned.

2.18.3.1 Flexible duct liner shall be glass fibers bon[illegible] a thermo-setting resin.

2.18.3.2 Airstream surface shall be protected by a fle[illegible]lass mat coating.

2.18.[illegible]dges, joints and seam[illegible] using m[illegible]turer's [illegible]proved coating/se[illegible].

2.18.4 Fire-res[illegible] Grease Duct W[illegible]p

2.18.4.1 A[illegible]ve to 1 an[illegible] fire resistant rat[illegible] gypsum [illegible] Product[illegible] be a flexible, 0" c[illegible]rance, n[illegible]-asbestos sys[illegible] encapsulated [illegible] a scrim re-enfo[illegible] foil, no flame, no smoke [illegible]eristics [illegible] blanket [illegible]all per manufacturer's guideline[illegible]

2.18.4.2 Follow the m[illegible]cturer's guidelines for securing duct wrap, welded stickpins only [illegible] and sealers.

2.18.4.3 Approved Manu[illegible]rs:

[illegible]Wrap E[illegible] Unifrax
[illegible] Ductwrap 15A, 3M
FastWrap+, Thermal Ceramics FireMaster

2.19 Ductwork accessories:

2.19.1 Control Dampers

2.19.1.1 Provide dampers with parallel blades for 2 position control, or opposed blades for modulating control.

2.19.1.2 All metal parts galvanized steel, Blades: 16ga., bearings: Heavy duty molded nylon, axles: 1/2" dia. steel, 9" OC.

2.19.1.3 Steel Frames:

2.19.1.3.1 Up to 25 sq. ft.: 2"X1/2"X1/8"

2.19.1.3.2 Over 25 sq. ft.: 4"X1 1/4"X16ga.

2.19.1.4 Acceptable Manufacturers:

Greenheck
Ruskin

2.19.2 Fire Dampers:

2.19.2.1 Fire dampers shall be rated where indicated and shall be UL 555 listed.

2.19.2.2 2 All metal parts galvanized steel, dynamically tested, casings: 20 ga., blades: 24 ga., fusible Link: 160 - 165 deg. F.

2.19.2.3 Damper: Positive lock type with curtain type blade, positive lock in closed position, with curtain 100% out of airstream.

2.19.2.4 Steel Frames:

2.19.2.4.1 Up to 25 sq. ft.: 2"X1/2"X1/8"

2.19.2.4.2 Over 25 sq. ft.: 4"X1 1/4"X16ga

2.19.2.5 Acceptable Manufacturers:

Greenheck
Ruskin

2.19.3 Duct access doors:

2.19.3.1 Construct of same gauge or heavier as ductwork served. Provide insulated doors for insulated ductwork. Provide flush frames for un-insulated ductwork, extended frames for externally insulated ductwork. Provide one side hinged, other side with one handle type cam latch for all doors. If space is limited for a hinged door swing, then provide a two handle type cam latch door.

2.19.3.2 Door sizes shall accommodate to allow fire dampers and other devices to be accessed for repair or reset to normal position after being activated

Largest Dimension of Duct	Access Door Nom. Dimension
Up to 10"	6"X6"
10" to 16"	8"X8"
17" to 24"	12"X12"
25" to 36"	16"X16"
37" and larger	24"X16"

2.19.3.3 Acceptable manufacturers:

Greenheck
Ruskin

3. Execution:

3.1. General

3.1.1 Neatness counts. Make all joints, connections, unions, etc. with proper care to insure that tight connections are made without excess material, well secured to supports.

3.1.2 Install duct with runs straight, shop formed radiuses at bends, and adequate supports.

3.1.3 Verify all field dimensions and locations of equipment and fixtures within the layout to ensure close, neat fit, with other trades work.

3.2. Installation:

3.2.1 All equipment shall be protected from dust, moisture and odors by sealing all openings with plastic sheeting before and during installation.

3.2.2 Installation of rooftop A.C. units:

3.2.2.1 Publix will furnish factory fabricated steel roof curbs complete with wood nailer strips. Curbs are shipped fully assembled and tapered to fit roof slope.

3.2.2.2 Provide materials and coordination with other trades required to ensure that curbs are installed properly and level. Use gasket material provided by curb manufacturer for sealing A/C equipment to roof curbs.

3.2.2.3 Attach units to curbs as indicated on the Drawings.

3.2.2.4 Lift all A/C units with spreader bars to prevent cable damage to cabinets and components.

3.2.2.5 Publix will accept only those units which are in new condition without dents or other damage. Scratches or paint damage are to be re-painted with manufacturer's paint.

3.2.2.6 In the event that field repair involves the refrigeration circuit of any unit, such repair is to be made by the unit manufacturer or their representative.

3.2.2.7 Provide each unit with a PVC condensate drain trap in accordance with Drawings and unit manufacturer's recommendation.

3.2.2.8 Piping of unit mounted heat reclaim coil(s) will be by the refrigeration contractor.

3.2.3 Installation of rooftop fans:

3.2.3.1 Publix will furnish factory fabricated steel roof curbs complete with wood nailer strips. Curbs are shipped fully assembled and pre-sloped. Additional slope accommodation is through steel frame provided under other sections.

3.2.3.2 Provide materials and coordination with other trades required to ensure that curbs are installed properly and level.

3.2.3.3 Attach fans to curbs as indicated on the Drawings.

3.2.4 Installation of Ductwork:

3.2.4.1 Comply: with SMACNA Duct Cleanliness for New Construction Guidelines Intermediate Level.Protect ductwork during shipment, delivery to the jobsite and storage on site.Sections to be clear of debris before installing Protect risers from entry of the debri and moisture into the duct.

3.2.4.2 Run straight and level or slope with roof as indicated in Construction Drawings.

3.2.4.3 Hanger for ductwork shall attach to the top chord of the bar joist.

3.2.4.4 Install seismic bracing as required to comply with local conditions.

3.3. Equipment Start-Up:

3.3.1 All rooftop A.C. units shall be started and adjusted for proper operation by the manufacturer or his representative. No equipment shall be run prior to this start-up. All units shall be made ready for start-up at the same time.

3.3.2 Contractor shall have qualified personnel in attendance to coordinate ductwork and electrical aspects of the start-up.

3.3.3 While in operation during construction, all returns in areas under construction shall be closed off or have filters installed over openings or grilles to minimize contamination.

3.3.4 Prior to test and balance, contractor is to replace all air filters.

3.4. Substantial Completion Inspection

3.4.1 All of the following items must be completed prior to Substantial Completion Inspections. No exceptions will be made and no payment will be made until all items are completed.

3.4.2 Cleaning Equipment and Premises:

3.4.2.1 Thoroughly clean all parts of the apparatus and equipment. Exposed parts which are to be painted shall be thoroughly cleaned of cement, plaster, and other material and all oil and grease spots shall be removed. Repaint or touch up as required to make look like new. Surfaces shall be carefully wiped and all cracks and corners scraped out.

3.4.2.2 Exposed metal work shall be carefully brushed down with steel brushes to remove rust and other spots and touched up with [illegible]

3.4.3 Testing and Balancing Systems

3.4.3.1 Publix will provide a test and balance contracto[illegible]rvice will be done in the presence of the HVAC Sub- Cont[illegible]at deficiencies can be noted.

3.4.3.2 C[illegible] with "Standards fo[illegible]ment and [illegible]ntations" Form N[illegible] 81266 V[illegible] One, as pub[illegible] by the Ass[illegible] Air Balance [illegible]ncil.

3.4.3.3 Subm[illegible] (3) copies [illegible] comp[illegible]te te[illegible]rts to the Pu[illegible] Refriger[illegible] Department prior to [illegible]nal Acc[illegible]e of the Pr[illegible]

3.4.3.4 Provide su[illegible] time before t[illegible]ompletion [illegible] at testing and balancing ca[illegible] accomplished [illegible] remedia[illegible]

3.4.3.5 [illegible]ut all HVAC e[illegible]ent into [illegible] and continue operation during each work[illegible] of testing [illegible]ancing.

3.4.3.6 All dampers shall be [illegible] open or neutral position prior to test and balance of the system.

3.4.3.7 Implement changes [illegible]ommended by the testing and balancing contractor, including pulley changes, balancing dampers and other items as required to obtain proper system balance as judged by the testing and balancing contractor and the Publix Engineer

3.4.3.8 [illegible]aintain operation of the system for a minimum of 24 hours after balance has been obtained. Notify Publix Architect so that he may inspect the system under operating conditions

3.5. Prior to requesting a Final Inspection, submit a typed schedule or a marked up set of Drawings indicating the observed velocity of each grille, register or outlet. These test data shall be final readings after balancing the system.

3.6. Dust streaking on exposed duct systems: After 6 months, examine all exposed ductwork for dust streaking. Where streaking has occurred, the causes of the streaking shall be determined and repaired. Streaked surfaces shall be cleaned and touched up to match the original finish.

Section 26 00 00

Electrical
V10092017

1. General

1.1. Summary

1.1.1 Comply with requirements of Sections 01 11 00, 01 33 00, 01 50 00, 01 77 00, 01 78 39.

1.1.2 Provide all materials and equipment and perform all labor required to install electrical systems complete as indicated, as required by code, and as specified herein.

1.1.3 Obtain and pay for all permits, bonds, inspection. Coordinate inspections with work as it progresses.

1.1.3.1 Provide services necessary to coordinate work with work of others. Notify concerned parties before proceeding with work that will affect them.

1.1.3.2 Provide electric service to connect with site utilities at a point outside the building as shown on the Drawings.

1.1.3.3 Coordinate with Utilities all requirements for utility transformer and Metering.Furnish and install all utility requirements for electrical service (ie. transformer pad, CT compartment, meter base and pedestal)

1.1.3.4 Furnish and install all panel-boards, and contactors at the locations shown on the Drawings and specified herein.

1.1.3.5 All spare, empty conduit and junction boxes to have pull string.

1.1.3.6 Furnish and install all conduit and conductors between the load side of the feeder breakers to the branch panels.

1.1.3.7 Furnish and install all branch circuits between the panel-boards and the final terminal as shown on the Drawings and specified herein.

1.1.3.8 Furnish and install all secondary service between the power company transformer to the main switch as indicated on the Drawings.

1.1.3.9 Receive, store, install and make final electrical connections to all lighting fixtures as shown on the Drawings and specified herein.

1.1.3.10 Furnish and install conduit and boxes only for the public address system and telephone outlets.

1.1.3.11 Make electrical connections to the electric door operators as shown on the Drawings and specified herein.

1.1.3.12 Make all electrical connections to equipment supplied by Publix. Electrical Contractor to verify all manufacturer equipment requirements prior to connection. Any conflicts or deviation in design to be brought to the attention of the Engineer.

1.1.3.13 Make all electrical connections to refrigerated display cases and walk-in boxes as shown on the Drawings and specified herein.

1.1.3.14 Make all electrical connections between the main switchboard and the refrigeration compressors and condensing equipment as shown on the Drawings and specified herein.

1.1.3.15 Furnish and install all motor starters, disconnect devices, conduit and conductors for control and power wiring.

1.1.3.16 Make all electrical connections between the main switchboard and the air conditioning compressors, air handling units, package units and strip heaters as shown on the Drawings and specified herein.

1.1.3.17 Make all electrical connections between the machine rooms mounted refrigeration equipment and the refrigerated display cases, walk-in freezers and coolers as shown on the Drawings and specified herein.

1.1.3.18 Furnish and install all conduit and conductors to totally electrically connect all controls as specified herein.

1.1.3.19 Furnish and install all electrical work required for the dry chemical fire extinguisher system in the grease exhaust hoods. in compliance with NFPA Bulletins #17, #96, and with local codes.

1.1.3.20 Furnish and install all electrical wiring devices as shown on the Drawings and specified herein.

1.1.3.21 Furnish and install all conduit, conductors, disconnect devices and flexible metal conduit to completely wire all supply and exhaust fans as shown on the Drawings and specified herein.

1.1.3.22 The Electrical Contractor is fully responsible and liable for damaged and lost materials furnished by Publix. It shall be required that he sign for the materials supplied by Publix.

1.1.3.23 Panels for A/C and refrigeration mechanical systems, as furnished pre-wired internally by others, shall be mounted and connected by the Electrical Contractor. Refer to Drawings and Specifications for air conditioning.

1.1.3.24 Furnish and install all electrical service and controls for fans installed by others.

1.1.3.25 Furnish and install power wiring to each HVAC unit including the safety disconnect switch and other required electrical devices to make the unit operational as shown on the Drawings and specified herein.

1.1.3.26 Install Optional Standby generator and Nexgear transfer switch complete, as furnished by Publix.

1.1.3.27 Install conduit/boxes with pull string for fire alarm and burglar alarm system, as furnished by Publix per note on Electrical Drawings.

1.1.3.28 Install and connect air conditioning control panel, energy management system, supplied by Publix.

1.1.3.29 Install conduit, conductors and make connections to "Publix" sign, and all other facade signs and under-canopy signs (signs supplied and installed by Sign Contractor).

1.1.3.30 Security and fire alarm systems or combined system: the Electrical Contractor shall supply and install conduit, boxes, and pull strings as shown on Drawings. Power supply, station controls and complete final hook-up by Fire Alarm Contractor/Security Alarm Contractor as noted on Drawings (as hired as sub-contractor to the Electrical Contractor). The Electrical Contractor may or may not be the Fire Alarm Contractor/ Security Alarm Contractor based on their licensure.

1.1.4 Related Work by Other Contractors:

1.1.4.1 Setting and roofing in of all curbs and pitch pockets by Roofing Contractor. (setting of A/C curb only shall be by A/C Contractor)

1.1.4.2 Setting of water heaters, ovens, kitchen equipment, gondolas, cash equipment, facade signs and other miscellaneous equipment by others. Final electrical connection by Electrical Contractor.

1.1.4.3 Kitchen Hood Fire Protection System by Others.

1.1.5 Publix reserves the right to furnish some items of electrical equipment to the Electrical Contractor. If this is done the Electrical Contractor shall install the equipment and deduct the cost of the equipment from his contract. Cost adjustment will be made by Change Order.

1.1.6 All apparatus shall be installed at exact height and locations as shown on the Drawings, or if not shown, at heights and locations determined by applicable codes and laws.

1.1.7 Perform all excavation and backfill required for services, and for all conduit and work inside and outside the building. Cutting of curbs, walks, concrete and paving required for excavation shall be done by appropriate trade.

1.1.8 All store cases, coolers, and freezers will be furnished and set in place by Publix. Check Equipment Drawings against Drawings in order to verify exact locations.

1.2. Definitions: Explanation and Precedence of Documents:

1.2.1 For purposes of clarity and legibility, Electrical Drawings are essentially diagrammatic and, although size and location of equipment are drawn to scale wherever possible, Electrical Contractor shall make use of all Contract Documents

1.2.2 The Drawings indicate size, connect[illegible] points and routes of [illegible]duit and equipment. It is not intended, ho[illegible]ver, that all offsets, rises and [illegible]ps are shown. Install all items as req[illegible] to fit structure, avoi[illegible] obstructio[illegible] and retain clearance, headroom, [illegible]penings and passagew[illegible]

1.2.3 Remodels: Carefully exa[illegible] all existing [illegible] work in [illegible]ace and premises and compa[illegible] the drawings w[illegible] the exist[illegible] conditions. S[illegible]mittal of bid indicates that the [illegible] Contr[illegible] has exam[illegible] the Site and Drawings and has inclu[illegible] all required [illegible]k in his bid. [illegible]llowances [illegible]ill be made for any error resu[illegible] from Cont[illegible]r's failure to [illegible] Job Site [illegible]nd to review Drawings/Docu[illegible]ts.

1.2.4 Conflicts, discrepancies, [illegible]erferences a[illegible]issions i[illegible] Documents shall be brought to the attention of [illegible] Engineer f[illegible]ification prior to commencement of Work.

1.3. [illegible]s:

1.3.1 Submit LOI in accordance with Sect[illegible]1 33 00 Submittal Proce[illegible]es.

1.3.2 W[illegible]0 days of Contract Commencement (Authorization to Proceed), submit [illegible]ngineer's approval:

1.3.2.1 L[illegible]f materials intended for use in the Project.

1.3.2.2 M[illegible]ufacturer's catalogue cuts of materials intended for use in the [illegible]roject. LOI's not acceptable.

1.3.2.3 Submittals to include: Switchgear, breakers, panel boards, starters, disconnects, relays, walkerduct, wire channel system, conduit, wire, boxes, wiring devices, receptacles, switches.

1.3.2.4 Copies of licenses of key personnel if requested by Publix

1.3.2.5 Samples of materials if requested by Publix

1.3.2.6 Other items required to complete the Work

1.3.3 Submit three identical bound copies of all items. Arrange categories in order listed above.

1.3.4 All cuts for the above shall have rough-in dimensions, connection sizes, and any special installation requirements. In addition, furnish motor horsepower voltage and phase for all equipment.

1.3.5 Close Out Documents:

1.3.5.1 Comply with applicable provisions of Section 01 78 39 Project Record Documents.

1.3.5.2 Provide a complete set of manufacturer's warranties and warranty certificates.

1.3.5.3 A copy of the final approval from the local building department.

1.4 Quality:

1.4.1 Subcontractor:

1.4.1.1 The Electrical Subcontractor shall be a reputable firm regularly engaged in this type of work, employing skilled workmen, and with proper equipment.

1.4.1.2 Upon request Subcontractor shall show evidence of at least two similar jobs, of comparable size and character, installed and operating within the previous two years prior to bid opening.

1.4.1.3 Publix reserves the right to refuse any Subcontractor with or without cause.

1.4.2 Personnel:

1.4.2.1 Employ an experienced superintendent to oversee all operation.

1.4.2.2 Work shall not proceed without adequate supervision present at all times.

1.4.2.3 Work shall be accomplished by workers certified in their trade as masters, journeymen, and apprentices in accordance with regulations of the governing authority or customary practice. Utilize workers with skills in proportion to complexity of tasks required.

1.4.2.4 Publix reserves the right to reject personnel with or without cause.

1.4.3 Quality Standards

1.4.3.1 Work shall be accomplished to ensure safety to all personnel during installation and after occupancy.

1.4.3.2 Work will be judged by Publix in comparison to work of similar types. Substandard construction as judged by Publix Representative will not be accepted.

1.4.3.3 Neatness counts. Make all joints, connections, unions, etc. with proper care to insure that tight connections are made without excess material, well secured to supports

1.4.3.4 Install conduit with runs straight, accurately formed radiuses at bends, and adequate supports.

1.4.4 Regulations: Comply with applicable provisions of the following codes (latest version adopted by governing agencies):

National Fire Protection Association (NFPA)
National Electrical Code
Local Utility Code
Local Building Code
Safety Code for Mechanical Refrigeration.
Conform to governing codes, ordinances and regulations of city, county and state having jurisdiction. Where local codes are not applicable, conform to National Electric Code/State Electric Code where Project is located.
OSHA - for construction

1.4.5 Test the entire system. The solid neutral wire shall be tested for thorough grounding and all hot wiring shall be tested for shorts and grounding.

1.4.6 Participate in the Pre-Construction Conference.

1.4.7 Substitutions: Comply with Section 01 25 00 Product Options and Substitutions. In general, substitutions are not allowed.

1.5. Sequencing:

1.5.1 Notify General Contractor, or any others, of all required chases, sleeves and openings required so that the work can be accomplished without delay. Provide necessary sleeves, etc., to be installed. Otherwise, Electrical Sub-Contractor shall pay for appropriate trades to perform cutting and patching.

1.5.2 Joists, girders, beams, columns or reinforcing steel shall not be cut.

1.5.3 Where construction necessitates the routing of conduit through structural members, framing or under or through footings, permission to make such installation shall first be obtained from the Structural Engineer.

1.6. Temporary Operation:

1.6.1 The Owner may require operation of parts or all of the installation prior to Final Acceptance.

1.6.2 Cost of utilities for such operation shall be paid by the Contractor. This operation does not constitute acceptance of the Contractor's Work.

1.6.3 All electricity used for construction shall be paid for by the General Contractor Furnish and install temporary electrical connection and meter for construction purposes. Remove temporary service when use is no longer required. Clean up and landscape as required.

1.7. Emergency Repairs: The Owner reserves the right to make emergency repairs as required to keep equipment in operation without voiding the Contractor's guarantee nor relieving the Contractor of his responsibilities during the guarantee period.

1.8. Operating Instructions and Service Manual:

1.8.1 Provide two (2) neatly bound copies of maintenance and instructions book, parts lists pertaining to all equipment furnished.

1.8.2 Each section shall be indexed and include parts lists, instruction books, suppliers' phone numbers and addresses, and individual equipment guarantees all in separate sections.

1.8.3 Representatives of the Owner shall be instructed by the Contractor as to complete care and operation of the electrical system. Inform the Engineer in writing as to the persons who received the instructions and the date that this was done.

2. Products:

2.1. Materials:

2.1.1 All materials shall be new, of the best quality.

2.1.2 All similar materials such as switches, panelboards, starters, contactors, fuses, circuit breakers, junction boxes, and other classes of equipment shall be of the same type and manufacturer.

2.1.3 All equipment and materials shall be furnished in strict accordance with the equipment schedule and Specification requirements.

2.2. Panelboards

2.2.1 The panelboards shall be dead-front, totally enclosed, with locking doors, with quick-lab ambient corrected bolt-in type circuit breakers in one, two or three pole common trip units as noted on the Drawings, UL approved. The panelboards shall be 3 phase, 4 wire, solid neutral, ground buss, voltage and number of poles as noted on the Drawings. Panelboards shall have copper bussing. The circuits shall be connected to individual poles of the panel [illegible] as shown on the Drawings, and the panel shall be provided with a typewritten directory.

2.2.2 All panels shall be factory assembled.

2.2.3 Ground fault circuit interrupters shall be provided on each [illegible] required by the NEC or where specified on the Dra[illegible]ngs.

2.2.4 Provide all panels sized as noted [illegible]ngs or as required.

2.2.5 Circuit breakers supplyin[illegible]gh Intensity [illegible] (HID) shall [illegible] equipp[illegible] with HID compensa[illegible]ers.

2.2.6 Equipment ground bus and [illegible]tral bus to be copper [illegible] typ[illegible]ugs.

2.2.7 All [illegible]s noted on drawing[illegible] with isolated ground circuits [illegible] copper [illegible]ound bus in additi[illegible] to equipment ground bus.

2.2.8 Accep[illegible]nufacturers:

G[illegible]
S[illegible]re - [illegible]
ITE Div. of [illegible]

2.3. Serv[illegible] Switchb[illegible]rd

2.3.1 Sec[illegible] entrance shall b[illegible] indicated on the Drawings, and shall be:

2.3.1.1 [illegible]ted transformer

2.3.1.2 Coord[illegible] Publix drawings with site electrical drawings. Conflicts are to be brought to the Engineer for clarification/resolution.

2.3.2 Verify method of service with local utility company and obtain written approval from Publix Representative before commencement of work.

2.3.3 Obtain all utility requirements for commercial service installation. Electrical Contractor must provide all requirements of the utility for a complete and operational system.

2.3.4 System shall be grounded in conformance with NEC. and as shown on Drawings.

2.3.5 All switchgear and panels shall be sized as noted on the Drawings or as required.

G.E.
Square - D
ITE Div. of Siemens-Allis,

2.4. Main Switchboard

2.4.1 General: Furnish and install the service entrance distribution switchboard as herein specified and shown on the Drawings.

2.4.2 The switchboard shall meet Underwriters' Laboratories enclosure requirements and be furnished with an Underwriters' Laboratories label

2.4.3 Construction: Square D Busstack construction or approved equal.

2.4.4 Enclosure Construction

2.4.4.1 The switchboard framework shall consist of steel channels welded or bolted to the frame to rigidly support the entire shipping section for moving on rollers and floor mounting. The framework is to be formed, code gauge steel, rigidly welded and bolted together to support all cover plates, bussing and component devices during shipment and installation.

2.4.4.2 Each switchboard section shall have an open bottom and individual removable top plate for installation and termination of conduit. top and bottom Conduit areas are to be clearly shown and dimensioned on the Shop Drawings. Switchboards are to be front access only.The wireway front covers are to be hinged to permit access to the branch switch load side terminals without removing the covers. All enclosure plates shall be screw removable and small enough for easy handling by one man. The paint finish shall be gray enamel over a rust-inhibiting phosphate primer.

2.4.5 Bussing:

2.4.5.1 The switchboard bussing shall be plated and of sufficient cross-sectional area to continuously conduct amperage as indicated on Drawings with a maximum average temperature rise of 50 degrees c. above an ambient temperature of 25 degrees c

2.4.5.2 The buss shall be aluminum with 100% neutral with an integrated equipment rating of 100,000 amps (sym) A.I.C. at 240V, 65,000 amps (sym) A.I.C. at 480V.

2.4.5.3 The buss shall extend the full length of the available feeder area.

2.4.6 Withstand Rating:

2.4.6.1 The switchboard, as a complete unit, shall be given a single withstand short circuit current rating by the manufacturer. The withstand short circuit current rating shall certify that all equipment is capable of withstanding the stress of a fault equal to the interrupting rating of the least overcurrent protective device contained therein. Such rating shall be established by actual tests by the manufacturer on equipment constructed similarly to the subject switchboard This test data shall be available and shall be furnished to the Engineer, if requested, with or before the submittal of Approval Drawings.

2.4.6.2 The complete unit shall have interrupting rating of not less than 100,000 amps rms symmetrical at 240 volts,65000 amps RMS symmetrical at 480V.

2.4.6.3 All devices in the switchboard to be fully rated. Series rating is unacceptable.

2.4.7 Main Switch (Two-step stored energy electronic trip molded case circuit breaker):

2.4.7.1 Individually fixed mounted through contact type, equipped with an electric trip device for remote shunt trip operation.

2.4.7.2 Circuit breakers shall have power terminals to accommodate either cable or bolted buss connections.

2.4.7.3 Circuit protective devices shall be two-step stored energy type circuit breaker, UL listed for 100% continuous current when applied in QED switchboards. Sensor ampere ratings shall be as shown on the drawings or as otherwise indicated.

2.4.7.4 Provide a fixed instantaneous (High Level Selective Override) circuit on breaker(s). The circuit shall have a defeatable instantaneous adjustment to allow the breaker to remain closed for up to 30 cycles during overcurrents below the rms symmetrical short in withstand ratings. The circuit shall trip instantaneously when current levels exceed applicable withstand ratings.

2.4.7.5 Circuit breakers shall be factory sealed and shall have a date code on its face. Poles shall be labeled with respective phase designs

2.4.7.6 Breaker faceplate shall indicate rated ampacity. Breaker faceplate shall indicate UL and IEC certification standards with applicable voltage systems and corresponding AIC ratings.

2.4.7.7 Each circuit breaker shall be equipped with a push-to-trip button to operate the trip mechanism mechanically.

2.4.7.8 Provide local control push buttons to OPEN and CLOSE circuit breaker. Color coded visual indication of contact position (OPEN or CLOSED) shall be provided on the front of the breaker. Provide for local manual charging following CLOSE operation, with color coded visual indicating of charging status. Visual indicator shall indicate CHARGED only when closing springs are completely charged.

2.4.8 The main switch shall be as manufactured by Square "D" or equal as approved by Publix Engineer 100% rated at specified amps - no substitutes.

2.4.9 Bus Duct: (When Used)

2.4.9.1 Service entrance bus duct shall be amps as shown on Drawings, 3 phase, full neutral, suitable for 120/208 volts service, inside-outside location.

2.4.9.2 The bus duct shall be complete with all necessary elbows, transformer taps, fire stops, wall flange for fittings and supports to provide a satisfactory installation as indicated on the Drawings.

2.4.9.3 The bus duct shall be of the same manufacturer as the main switchboard.

2.4.9.4 The bus duct shall have the same interrupting rating as the main switchboard.

2.4.9.5 Support for bus duct by General Contractor.

2.4.10 Fusible Switches:

2.4.10.1 The fusible switches shall be quick-make, quick-break and suitable for use on the services described by the size shown on the associated Drawings. The units shall be listed and approved by Underwriters' Laboratories for heavy duty entrance use and where applicable, shall be dual horsepower rated for both standard one-time or dual-element fuses. The fusible switches shall be group mounted in panel-type construction. Each switch shall be equipped with Class 'R' rejection type fuse clips per Bussman or Littlefuse KTN-R, Class "R" type

2.4.10.2 Each switch is to be enclosed in a separate steel enclosure. The enclosure shall employ a hinged cover for access to the fuses which shall be interlocked with the operating handle to prevent opening the cover when the switch is in the on position. This interlock shall be constructed so that it can be released with a standard electrician's tool for testing fuses without interrupting service. The units shall have padlocking provisions in the off position and the operating handle position shall give positive switch position indication, i.e. horizontal off, diagonal on. Switches shall pass industry standard I2T with standability tests and fuse race tests as described elsewhere in the Specifications.

2.4.10.3 All fusing as manufactured by Bussman or Littlefuse, dual-element and current limiting as shown on the Drawings.

2.5. Contactors

2.5.1 Contactors shall be manufactured by Square 'D', Siemens, or General [illegible]lectric; or others as approved by Publix in writing specifically for this pr[illegible]

2.5.2 Contactors shall be designed to carry the full rated curre[illegible]inuous basis.

2.5.3 Contactors shall be electrically operated, mechanically held, and [illegible] for remote operation. The mechanically held contactors shall be suppl[illegible] coil clearing contacts which disconnec[illegible]e magnet coil when operated to [illegible]ate any AC magnetic hum.

2.5.4 Contactors shall be as sized as sho[illegible] on the Drawings and be installed in [illegible] NEMA 1 enclos[illegible]

2.6. Wire and Cabl[illegible]

2.6.1 All wires sha[illegible]N/THWN cop[illegible] unless otherwise noted. No wire shall be smaller than [illegible] except con[illegible] wire. No aluminum wir[illegible] will be permitted, unless [illegible]ted.

2.6.2 [illegible]t as noted, no [illegible] #12 AWG shall be used. #10 [illegible]ail be used [illegible] runs of [illegible] unless otherwise noted.

2.6.3 In no [illegible] the nu[illegible]ber of condu[illegible]talled in conduits exceed the maximum [illegible] the NEC. Shou[illegible] occur on the Drawings, the Electrical C[illegible] inform the Engineer before installation. Conductors shall not be insta[illegible]th the heating equipment foundations.

2.6.4 Control wire for the a[illegible]ditioning and refrigeration equipment shall be type THHN stranded and no smaller than #14 or where indicated on Drawings.

2.6.5 Pull boxes are allowed only when required by code. Wire must be in one unspliced run to all secondary panel feeders, and in one unspliced run to all air conditioning and refrigeration units.

2.6.6 Install all phase conductors, neutral conductor, and ground conductor from panel board to the equipment connection junction box. If the neutral conductor is not needed it shall be taped and identified in the J.B. for future use.

2.7. Conduits and Raceways

2.7.1 PVC: Schedule 40 conduit may be used under floor slab. Riser shall be heavy wall hot dipped galvanized steel.

2.7.2 No PVC shall be installed above floor slab.

2.7.3 GRC 90's shall be used on all runs over 50'.

2.7.4 Underfloor Duct:

2.7.4.1 Shall be "Walkerduct" (no substitutes) as manufactured by Walker/ Textron Company, Parkersburg, West Virginia. Install complete service fittings, blanking plates, junction boxes, covers, etc., with threaded fittings. Use standard No. 2 and No. 4 duct with #2-24 x 2 x 2 or #2-12 x 2 x 2 inserts as shown on Drawings. adaptors #1126a-3/ 4", for cable. Install Walker Duct junction boxes with brass tops recessed to receive terrazzo/methyl methacrylate. Verify locations of duct with Drawings.

2.7.4.2 Top of cut insert shall be 3/4" below finish floor line.

2.7.5 Raceways concealed in wall or ceiling spaces shall be standard weight hot dipped galvanized EMT with compression couplings or as specified below.

2.7.6 All "L'S" used to turn up through concrete slabs shall be thick wall galvanized conduit & couplings.

2.8. Time Switches

2.8.1 Provide time switches as manufactured by Intermatic (no substitutes)

2.8.2 Time switches shall be DPST, 40 amperes, 120 volt, AC motor and astronomic dial, spring-wound carry-over.

2.8.3 Time clocks shall be labeled

2.9. Outlet Boxes, Fittings, and Connectors

2.9.1 Unless hereinafter specifically noted or shown on the Drawings, the minimum size of branch circuit outlet boxes for concealed work shall be 4"x4"x1 1/2" for square boxes and 4"x1 1/2" for octagon boxes.

2.9.2 Boxes shall be provided with plaster covers of sufficient depth to bring the face of the outlet substantially flush with the finished wall or ceiling. The box shall not project beyond the finished wall or ceiling line.

2.9.3 Outlets in concrete block, or other hollow masonry walls:

2.9.3.1 Openings in concrete block walls for outlets shall be cut to exact size with a masonry saw.

2.9.3.2 Switch and receptacle mounting heights, as specified or noted may be adjusted so that the bottom of the outlet box may rest on the top of the wall block at the nearest mortar joint

2.9.3.3 All unused outlets shall be provided with blank covers.

2.9.4 Where conduits 1" or larger enter outlet boxes, the boxes shall be 4 11/16"x4 - 11/16"x2 1/4" minimum. Boxes shall be of ample size to provide conductor spaces as required by the National Electric Code.

2.9.5 "Handy", utility or sectional boxes will not be permitted in masonry walls.

2.9.6 When more than one switch or device is shown ganged at any location a one-piece box of suitable size shall be installed.

2.9.7 Outlet boxes intended for the installation of lighting fixtures shall be equipped with 3/8" "No-Bolt" or equal fixture studs.

2.9.8 Unless otherwise noted, all switches, receptacles and devices shown on the exterior of building walls shall be installed in flush mounted boxes provided with weatherproof gaskets.

2.9.9 All conduit fittings (condulets) shall be of the cast metal threaded hub type, Crouse-Hinds, or Appleton.

2.9.10 All rigid conduits entering panels, cabinets, outlet boxes, etc., shall be provided with locknuts on both sides of such devices driven tight so as to maintain positive electrical and mechanical continuity throughout the conduit system. Insulated bushings shall be installed on the inside of the termination

2.9.11 Threadless couplings shall not be used for rigid conduit.

2.9.12 All EMT couplings and box connectors shall be of the set screw or compression type. Compression type shall be used in all coolers/freezers, or in outdoor applications. Cast connectors or couplings will be allowed.

2.9.13 All flex conduit shall be steel w/steel fittings, and shall extend a maximum of 10 ft. unless approved by Publix.

2.9.14 All receptacles labeled GFI on drawings to be supplied as GFI receptacles Feed through series GFI circuit is unacceptable.

2.9.15 All receptacles labeled IG (isolated ground) shall be IG listed and shall get a separate (from other equipment ground) green with yellow stripe isolated ground conductor. All isolated ground circuits to include equipment ground conductor.

2.9.16 All conduits to have an equipment ground conductor in addition to conductors shown on drawings.

2.10. Junction Boxes: Wiring shall be neatly arranged, bundled and laced in proper groups.

2.11. Pull Boxes

2.11.1 Pull boxes shall be installed in conduit system where needed whether or not they are shown on the Drawings.

2.11.2 Boxes shall be constructed of code gauge galvanized steel with screw covers.

2.12. Safety Switches

2.12.1 The basis of design and quality standards is Square - D.

2.12.2 All units shall be of the same manufacturer.

2.12.3 Safety switches shall be fusible, solid neutral, 277 volt, quick-make and quick-break with visible blades, single throw, general duty, of size and fusing as shown on the Drawings, or required for application. switches mounted out of doors shall be weatherproof, heavy duty type with protective barrier over hot lugs.

2.12.4 Exterior units shall be in rain tight enclosure. (NEMA 3R)

2.13. Wall Switches

2.13.1 Switches shall be flush mounted, quiet tumbler type, 250 volts, 20 amp. rated.

2.13.2 Wall plates shall be smooth, 302 stainless steel, one piece as indicated on the Drawings.

2.13.3 Switches shall be installed on the "strike" side of the door swing

2.13.4 Switches shown near doors shall be not less than two inches and not more than twelve (12) inches from the trim.

2.14. Receptacles

2.14.1 All units shall be totally enclosed composition with side and rear connections. All units shall be equipped with ears and have a rating as listed below. All devices shall be Hubbel, Pass and Seymour or Leviton. See symbol schedule on construction drawings.

2.14.2 Duplex convenience outlets with ground shall be 20 amp, 125 volt parallel slot, "U"-shaped ground, heavy duty "T" rated.

2.14.3 120/208 volt, 3 wire receptacles with ground shall be single 3 wire polarized receptacles with grounding terminal.

2.14.4 Weatherproof receptacles shall be duplex, 20 amp, 125 volt parallel slot receptacle with "U" shaped grounding slot in flush, weatherproof box with gasketed cover and self closing, spring door.

2.14.5 Floor outlets shall be 20 amp, 125 volts single or duplex parallel slot receptacles with "U" shaped grounding slot as called for, located as shown on the Drawings. Provide slotted brass flush cap for sealing when no[illegible] in use.

2.14.6 All device cover plates shall be smooth 302 stainless steel, [illegible] piece.

2.15. Lighting Fixtures

2.15.1 All lighting fixtures shall be furnished by P[illegible]lix and install[illegible]ppropriate trade. in-line fuses are included with a[illegible]rescent and meta[illegible] fixtures.

2.15.2 In areas of suspended ceilings (t[illegible]s per fixture will b[illegible]ied and hung by the suspended ceiling Subcontr[illegible] Electrical Subco[illegible] shall tie fixtures in areas of suspended ceilings [illegible] (2) #10 wire up [illegible] joists per fixture.

2.16. Electric Door [illegible] shall be [illegible]d and installed by others bu[illegible]ed with two (2) 115 [illegible]mp, 3 wire [illegible] control box at the top [illegible] door

2.17. Inte[illegible]usic/Paging System

2.17.1 [illegible]ractor shall supply and ins[illegible]nd outlets, co[illegible]nd junction bo[illegible] equipment as shown on t[illegible]wings (includ[illegible] architectural ceili[illegible]plan).

2.17.2 The ou[illegible]s shall be standard [illegible] provided with blank covers.

2.17.3 The condu[illegible] be not less tha[illegible]2".

2.18. Telephone Outlets

2.18.1 Prov[illegible]de outlets [illegible]ted on Drawings.

2.18.2 Se[illegible]awings for location and size of conduit runs.

2.18.3 [illegible]de stainless steel outlet boxes and cover plates.

2.18.4 Locate telephone control box inside telephone equipment room.

2.18.5 Provide outlets for wall phones at indicated locations.

2.19. Standby Electric-Emergency Generator and Transfer Switch

2.19.1 Emergency generator and automatic load transfer switch will be furnished by Publix and shall be set in place and connected by the contractor.

2.20. Grounding

2.20.1 All wiring system shall be grounded in accordance with article 250 of the NEC. All items of electrical equipment not connected directly and mechanically to the conduit system shall be connected thereto with a jumper of suitable size. All breaks in the continuity of the conduit system shall be bridged with a jumper of the proper size between the next adjacent outlet or junction boxes regardless of the information on the drawings.

2.20.2 All conduit runs shall include an equipment ground cnductor appropriately sized for the associated circuits.

2.20.3 Due care must be taken as not to interchange circuit neutrals, as over heating of the panel board may occur

2.20.4 A green THHN/THWN insulated stranded 12 AWG conductor shall run unbroken from the system ground through the conduit system to the ground connections at all receptacles, switches and lights. Appliance outlets shall be in accordance with NEC. Table 250-95.

2.20.5 Isolated ground, as required in the drawings, shall be a green THHN/THWN insulated stranded 12 AWG (min.) with yellow tracer line along the entire length.

2.21. Tests

2.21.1 The Electrical Contractor shall test all wiring and equipment for grounds, continuity and proper operation.

2.21.2 The Electrical Contractor shall demonstrate by use of a 500 volt megger, the insulation resistance of any circuit or group of circuits as noted in the plans. Parallel conductor uniformity of resistance shall also be verified.

2.21.3 Where such tests indicate the possibility of faulty insulation, the Electrical Contractor shall locate the point or points of such faulty insulation and shall pull out the faulty conductor or conductors, replace same with new and demonstrate the elimination of faults.

2.21.4 Cables shall be considered defective if they do not pass test and inspections and shall be replaced at no cost to the Owner.

3. Execution

3.1. General:

3.1.1 Temporary Electric Service: Install and maintain 120/240 volt, 1 phase, 3 wire, 200 amp temporary service. power Consumption cost only paid by Contractor. Installation shall comply with OSHA; NEC; and all local requirements.

3.1.2 The locations of the outlets, switches and convenience outlets shall be approximately as shown on the drawings and as specified, but exact locations shall be as directed by Publix Field Representative. The running of all circuits, switch legs and conduits is purely diagrammatic. Do not scale from Drawings.

3.1.3 Rigging and hoisting that is incidental to the electrical portion of the Work shall be performed by the Electrical Contractor. This shall include the hoisting of equipment supplied by both the Electrical Contractor and Publix that are installed by the Electrical Contractor.

3.1.4 Coordinate this work with other trades so that interference between the trades can be avoided.

3.1.5 All channels, angles and other members for the installation and support of the electrical equipment shall be furnished and installed by the Electrical Contractor.

3.1.6 The attachment of boxes, conduit, hangers, etc. shall be by machine screws or through bolts on steel, expansion bolts in concrete and masonry, and wood screws in wood. Wood composition plugs shall not be used.

3.2. Excavation and Backfilling:

3.2.1 Do all excavating required to install any underground conduit and after the same are in place and tested and approved, Thoroughly tamp earth around conduits and remove earth from premises as directed.

3.2.2 Underground conduit must be covered by a minimum of three (3) inches of underslab fill.

3.3. Conduit, Raceways, Etc.

3.3.1 All metallic non-current carrying components and enclosures of the electrical wiring system are to be bonded and grounded.

3.3.2 Furnish all necessary fittings and supports to make the raceways or busways fit the building structure and equipment. Raceway size shown or called for are minimum. The Electrical Contractor shall verify all raceway sizes with the dimensions of the particular cable to be installed.

3.3.3 All exposed raceways and conduit shall be neatly installed perpendicular or parallel to walls and floors. No exposed conduit is allowed in sales area or work rooms (except where required in exposed structure areas of stores without ceilings.)

3.3.4 All raceways shall be supported by approved types of galvanized wall brackets, ceiling trapeze hangers, pipe hangers or pipe straps. Perforated metal strap or tie wire shall not be used for any conduit or raceway.

3.3.5 All conduit located above ceilings shall be EMT or ERC, and must be installed within the area provided for on Drawings.

3.3.6 Areas for work of various trades: Conform to locations as defined in Section 01 11 00 Summary of Work.

3.3.7 All conduit located underground may be PVC Schedule 40, except service entrance which may be concrete encased PVC schedule 40 or heavy wall rigid conduit, or weather proof buss duct as shown. Underground conduit lengths greater than 50' shall include GRC 90.

3.3.8 All job cut threads shall be given a coat of rust-inhibitive paint.

3.3.9 Caulk where conduit passes through walls, providing approved fire-stopping system where required. Caulk where conduit passes through walk-in freezers and coolers. All cutting in block work must be done with carborundum saw; no chisel or hammer work will be accepted.

3.4. Circuit Identification: Label all panels by approved means to identify circuits. Install equipment in cans, as per Drawings. Mark all panels, time clocks, starters, contactors, disconnect devices and main panels on the outside with riveted or approved attached plastic laminated labels 1" minimum high w/ 3/4" minimum letters of contrasting colors. All circuits shall be identified by typed lettering of contrasting color to tags & covered w/approved plastic cover.

3.5. All panelboards shall include a typed directory of all associated loads. Refrigeration circuits shall be labeled with associated refrigeration system number.

3.6. Installation of Items Supplied by Others:

3.6.1 All store fixtures and equipment, including shelf gondolas and check out stands, will be furnished and set in place by Publix, or others, and this Contractor shall make all required electrical connections. Verify items and their locations with Publix's Representative.

3.6.2 Meat and Deli Department equipment will all be with plug-in connectors. Do not wire direct. (unless directed by Publix's Representative).

3.6.3 All wiring and mounting shall be in cooperation with and under the direction of the Publix's Representative.

3.6.4 Make connection to electric water heaters as furnished by Publix.

3.7. Control of Outlets:

3.7.1 Branch lighting circuits controlled at panels by a switch shall be located at the Manager's Office, unless indicated otherwise.

3.7.2 Convenience outlets shall have no intermediate control between panels and outlets unless noted on the drawings.

3.8. Connection of Conductors: All joints between conductors shall be connected with approved pressure type, connectors and insulated with scotch 33 tape and friction tape, if insulation is not provided in pressure type connector used.

3.9. Sleeves at Fire Retardant Lumber: If fire treated lumber is [illegible]ired by local codes and ordinances, the Electrical Contractor shall provide PV[illegible] and piping that penetrate the fire resistant lumber. If the PVC comp[illegible]nts are n[illegible]oved by local code, other approved methods must be used to pro[illegible] against th[illegible]alt in the fire resistant lumber.

3.10. Final Inspection. All of the fol[illegible] items must [illegible]ompleted prior to fi[illegible]spection. No exceptions w[illegible]d no fina[illegible]ent will be ma[illegible]ntil all [illegible]s are completed.

3.10.1 Thoroughl[illegible] parts of the a[illegible]us and equ[illegible]sed parts which are to be [illegible] shall be thor[illegible] cleaned of cement, plaster, and o[illegible] material and [illegible] and grease sp[illegible]ll be removed repaint or touch up as [illegible]uired to make [illegible]like new. Such [illegible] shall be carefully wiped and al[illegible]s and corners [illegible]ed out.

3.10.2 Exp[illegible]etal work sha[illegible]ly brushed down with steel brushes to remov[illegible]nd other sp[illegible] touched up with primer.

[illegible]End of Section 26 00 00

Section 31 20 00

Earth Moving
V02022015

1. General

1.1. Prepared Pad (Not In Contract)

1.1.1 Pad preparation and Field Density Testing of the Pad are not part of the Work of this Contract

1.1.2 On projects for which Publix Super Markets, Inc. is the sole Owner, part or all of the Site Work may be part of this Contract; see Bid Forms and Contract for definitive list.

1.1.3 The slab sub-grade material will be based on the geotechnical engineer's recommendation for this site. Any changes from the original geotech report must be submitted, in writing, from the geotechnical engineer to the Publix structural engineer, for approval. The geotechnical recommendation is noted on the Publix foundation plan, for reference only.

1.1.3.1 Where the recommended slab sub-grade is native soils or compacted fill, the pad preparation will be brought up to an elevation of four and five eights (4-5/8") inches below finished floor by the work of another contract.

1.1.3.2 Where the recommended slab sub-grade is a porous fill, the pad preparation will be brought up to an elevation of eight and five eights (8-5/8")inches below finished floor by the work of another contract.

1.1.3.3 Porous fill shall be clean sand, stone, gravel, or crushed rock. Porous fill under slabs shall have a maximum aggregate size of 1 1/2 inches.

1.1.4

1.2. Field Density Tests and Samples

1.2.1 The Contractor shall employ a testing laboratory acceptable to the Owner for testing of footing and foundation excavations, for testing of other areas where the prepared pad is disturbed by the Work of this Contract, and for testing of the underslab porous fill where said porous fill is part of the Work of this Contract.

1.2.2 Sample specimens shall be recovered by the "Shelby Tube" or the "Sand Cone" method, or as otherwise directed by Engineer

1.2.3 Density Tests shall be secured at 50 ft. intervals in linear footing excavations, and at every spread footing

1.2.4 Density Tests shall be secured in areas of backfill and recompaction at vertical intervals not exceeding 12 in. and at a horizontal frequency of one per 4000 sq. ft. Also, density tests are required every 50 linear feet in utility trenches at vertical intervals not exceeding 12 in. Areas requiring compacted fill that support small independent slabs shall have density tests at vertical intervals of 18" in the event this is a separate compaction procedure.

1.2.5 Densities shall conform to those specified in the Pad Preparation Contract, based on a Geotechnical Report and Publix' design criteria of 2000 psf minimum soil bearing capacity.

1.3. Testing and Remediation:

1.3.1 Any test result which does not conform to the requirements of the Contract shall be furnished verbally to both Engineer and Contractor within 24 hours after sampling. Written test results shall be distributed as specified in Section 01340 - Submittals, and shall include horizontal and vertical location, test number, dry density, moisture content, percent compaction and Proctor Compaction Curve to which each test is referenced. The Testing Laboratory shall also call attention, by a separate symbol, to those tests which do not conform with these Specifications.

1.3.2 Field Density Tests and Samples. In the event of Test Results not in conformance with the Contract Requirements, Publix will obtain a Soils Engineer's recommendation for remedial measures. Remedial measures will be part of the Work of this Contract if they are required by activities of the Contractor after his receipt of a properly prepared pad. Remedial measures required by pre-existing conditions will be part of the Work of this Contract only by Change Order.

1.4. Termite Treatment

1.4.1 This Section contains information normally found in Section 31 31 16 Termite Control.

1.4.2 Submit LOI in accordance with Section 01 33 00 Submittal Procedures.

1.4.3 Guarantee of Treatment: Upon completion of the Soil Treatment and as a condition for its Final Acceptance, the Contractor shall furnish to the Owner a written Guarantee stating that the Applicator guarantees the effectiveness of the soil treatment against termite infestation for a period of not less than five years from date of treatment. Any evidence of re-infestation within the Guarantee Period will require treatment without cost to the Owner.

2. Products

2.1. Termite Treatment: Provide pesticides approved for use by Federal and local authorities:

ProBuild TC
Premise
Dragnet
Bifen I/T (Alabama ONLY)

3. Execution

3.1. Excavation

3.1.1 Perform all excavation and cutting necessary to accommodate the work shown on the plan. Forms may be omitted if soil is suitable to provide accurate and stable trenches for concrete pours.

3.1.2 Bottom of excavations shall be true and level to provide level bearing.

3.1.3 Notify Publix' Representative should debris or deleterious materials be encountered during excavations. Publix will obtain a Soils Engineer's recommendation for remedial measures which will be part of the work of this Contract by appropriate Change Order if desired by Publix.

3.1.4 Backfill under concrete floor slabs, walks, ramps, etc., where required by disturbance of the prepared pad shall be deposited in lifts not exceeding twelve (12) inches with each layer thoroughly compacted. Tamping and puddling shall be done at least 24 hours before concrete is laid. Re-compaction shall reach the compaction specified in the separate Contract which covers Pad Preparation, or the compaction actually achieved for the prepared pad, whichever is greater

3.1.5 Additional requirements for excavation and backfilling for underground utilities may be found in other sections.

3.2. Termite Treatment:

3.2.1 Mixing and application: Adhere strictly to manufacturer's written instructions for concentrations and application rates, and for methods of application.

3.2.2 Treat on top of pad under the slabs over the entire area of Publix store including loading docks, and along both sides of foundation walls, along interior foundations, and around plumbing and electrical penetrations, and under sidewalks and all other paved areas within five feet of the building.

End of Section 31 20 00

End of Project Manual

V07262018

Publix
SUPER MARKETS

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PUBLI[illegible] FACI[illegible]ES
DESIG[illegible] DEPARTM[illegible]NT

DAV[illegible] TAULBEE, [illegible]
ARCHIT[illegible] FL REG. [illegible]18

[illegible]AVID RUB[illegible]N
ARCHITEC[illegible] [illegible]EG. [illegible]2557
[illegible] 11881
SC [illegible] 7477
AL REG. 6234
TN REG. 103497
NC REG. 12432
VA REG. 0401017097

[illegible]N W. KITCHENS, PE
CIVIL/STRUCTURAL FL REG. 45277
GA REG. 020251
SC REG. 16340
AL REG. 20382
TN REG. 101507

PAUL C. HARMAN, PE
STRUCTURAL FL REG. 51959
GA REG. 27740
SC REG. 21754
AL REG. 24905
TN REG. 107882
NC REG. 39673
VA REG. 0402055022

JOHN J. CARAMALIS, PE
MECHANICAL FL REG. 43889
GA REG. 021246
SC REG. 16521
AL REG. 20581
TN REG. 108507
VA REG. 0402055478

ANTHONY CLEMENTI, PE
MECHANICAL FL REG. 54781
GA REG. 31882
SC REG. 25591
AL REG. 28469
TN REG. 111382
NC REG. 039664
VA REG. 0402056137

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GA REG. 025636
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PLOT DATE:
August, 21 2018

No.	Description	Date

STORE NUMBER
1687
Tattersall Park

US 280 & Highway 19
Hoover
Shelby Co., AL

48.10
V0514-2018

SIENNA LITE
~~PROJECT MANUAL~~

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