```
LIGHTING CONTACTORS
                                                                                                             PART 2 - PRODUCTS
                              Lighting contactors shall be normally open type with 120 volt coils.
                                                                                                                      DESCRIPTION
                             Quantity of poles shall be as specified on the plan drawings but
                                                                                                                       All Equipment and associated installation and wiring of equipment shall be
                              not less than 4 per contactor.
                                                                                                                       done by owner vendor. Contractor shall have an on site meeting with owner vendor
                              Separate contactors shall be provided for 277 volt lighting and 120
                                                                                                                       prior to rough-in and installation of any raceways and backboxes for vendor
                                                                                                                       system. Entire installation shall be fully coordinated as to exact location
                              Interface lighting contactors with Novar system as indicated on drawings.
                                                                                                                       and requirements.
                                                                                                             PART 3 - EXECUTION
                              Acceptable manufacturers are Cutler Hammer, Square D, General Electric
                              and Siemens ITE. Contactors shall match panelboard manufacturer.
                                                                                                             3.01 RELATED DOCUMENTS
PART 3 - EXECUTION
                                                                                                                                Performance:
3.01 INSTALLATION
                                                                                                                                           Installation shall meet approval of the EAS system vendor and shall
                    Electrical service, metering and main distribution shall be as shown on
                                                                                                                                           be in accordance with their requirements.
                    the Drawings and as herein specified.
                                                                                                                                 All conduit and wiring requirements shall conform with Section 16100,
                    System Grounding: Shall be in strict accordance with the National Electrical
                                                                                                                                 "Basic Materials and Methods" of this Specification.
                    Code, Local Governing Authorities and in accordance with the recommendations
                                                                                                                       END OF SECTION
                                                                                                                       SECTION 16630
                    of the Utility Company.
                                                                                                                       CLOSED CIRCUIT TELEVISION (CCTV) SYSTEMS
                    Electrical Service:
                             Electrical service shall be from the Utility Company's transformer
                                                                                                             PART 1 - GENERAL
                              at 3 phase, 4 wire, 60 hertz with voltage as specified on the Drawings.
                                                                                                             1.01 DESCRIPTION
                             Furnish and install the secondary service from transformer to the
                              current transformer cabinet and into the main service switches as
                                                                                                                                           Provide necessary conduit and power for alarm and detection systems.
                              shown on the Drawings. Leave sufficient slack cable, at the transformer
                                                                                                                                           This shall include the following:
                              locations for connection of the secondary conductors to the transformer
                                                                                                                                                     Dedicated 20 Amp., 120 Volt circuit (s).
                              by the Utility Company.
                                                                                                                                                     3/4" conduit with associated wiring to each camera and monitor
                              This Contractor shall contact the Utility Company to obtain all information
                                                                                                                                                      location. Refer to floor plans for locations.
                                                                                                                                                              Low voltage cabling from CCTV head end location to each
                              necessary for the work, incorporate their instructions into the work,
                                                                                                                                                               camera and monitor for final termination to devices by owners 1.03
                              and obtain their approval of all work and material. Include all contractor
                              related costs in base bid.
                                                                                                             PART 2 - PRODUCTS
                             Provide transformer support pad in accordance with the Utility Company's
                              standards. Work shall include pad, trench for ground wire, conduits,
                                                                                                                       All Equipment and associated installation and termination of wiring to equipment
                              ells and miscellaneous hardware.
                                                                                                                       shall be done by owner vendor. Contractor shall have an on site meeting with
                             The Utility Company will furnish, install and connect all primary
                                                                                                                       owner vendor prior to rough-in and installation of all raceways, wiring and
                              service conductors. Unless specifically noted otherwise.
                                                                                                                       backboxes for vendor system. Entire installation shall be fully coordinated
                    NOTE TO DESIGNER: Modify specification for proper scope of work in relation
                    to the landlord provided elements.
                                                                                                                       as to exact location and requirements.
                    Grounding:
                                                                                                             PART 3 - EXECUTION
                                                                                                             3.01 RELATED DOCUMENTS
                             Provide an electrically continuous ground system from service to
                                                                                                                                Performance:
                              all points of utilization. In general, all pieces of electrical equipment
                                                                                                                                           Installation shall meet approval of the CCTV system vendor and shall
                              shall be grounded as required by Federal, State and Local Codes and
                              regulations, but special attention is called to the following items
                                                                                                                                           be in accordance with their requirements.
                              to be grounded as indicated:
                                                                                                                                 All conduit and wiring requirements shall conform with Section 16100,
                                      All distribution equipment including switchboard, transformer
                                                                                                                                 "Basic Materials and Methods" of this Specification.
                                        and panelboards.
                                       Conduit and other metallic raceways.
                                                                                                                       SECTION 16640
                                                                                                                       SOUND SYSTEM
                             In general where grounding wire is shown use green color.
                                                                                                             PART 1 - GENERAL
                             Provide complete isolated ground system for cash register and telephone
                                                                                                                      DESCRIPTION
                              system and other systems as indicated on drawings. All circuits serving
                              cash registers and POS system shall be isolated and segregated from
                              other circuits.
                                                                                                                                           Provide necessary conduit and power for sound system. This shall
          SECTION 16500
                                                                                                                                                     Dedicated 20 Amp., 120 Volt circuit (s) within office for amplifier
          LIGHTING SYSTEMS AND CONTROLS
                                                                                                                                                      and sound rack and on sales floor for DJ rack where required.
PART 1 - GENERAL
                                                                                                                                                    3/4" conduit with pull wire to speaker and device location.
         DESCRIPTION
                                                                                                                                                      Refer to floor plans for locations. Each speaker does not require
                    Work Included:
                                                                                                                                                     an independent conduit home run to the office equipment.
                                                                                                                                                              Provide a 1" conduit from office rack to each building
                              Receiving, Installing and wiring lighting fixtures as shown on Drawings,
                              Lighting Fixture Schedule, and as furnished by the Owner.
                                                                                                                                                               floor sales floor for speaker wiring on that floor.
                              All fixtures shall be received, unloaded, inventoried, handled, stored,
                                                                                                             PART 2 - PRODUCTS
                                                                                                                      DESCRIPTION
                              protected, uncrated, installed, wired, lamped etc. by the electrical
                              contractor (EC). Contractor shall confirm condition, quantity, and
                                                                                                                       All Equipment and associated installation and wiring to equipment shall be
                                                                                                                       done by owner vendor. Contractor shall have an on site meeting with owner vendor
                              specification of fixtures upon receipt. Contractor shall immediately
                                                                                                                       prior to rough-in and installation of all raceways, wiring and backboxes for
                              report any damage, missing items, deviation from spec.
                              Installation of lighting fixtures shall be carefully coordinated
                                                                                                                       vendor system. Entire installation shall be fully coordinated as to exact location
                              with architectural, structural, mechanical and sprinkler drawings
                                                                                                                       and requirements.
                              to avoid conflicts. If conflicts should arise, Contractor shall clarify
                                                                                                             PART 3 - EXECUTION
                                                                                                             3.01 RELATED DOCUMENTS
                              with architect prior to proceeding with installation.
                             Refer to the Architectural Room Finish Schedules and Architectural
                                                                                                                                Performance:
                              and Structural details to determine conditions and finishes affecting
                                                                                                                                          Installation shall meet approval of the sound system vendor and shall
                              the installation of the work. Include, to the full intent and meaning
                                                                                                                                           be in accordance with their requirements.
                              of these Specifications, all items of labor and materials necessary
                                                                                                                                 All conduit and wiring requirements shall conform with Section 16100,
                                                                                                                                 "Basic Materials and Methods" of this Specification.
                              for design, detailing or adjustment of fixtures due to surrounding
                              finishes and construction.
PART 2 - PRODUCTS
                                                                                                                       SECTION 16650
                                                                                                                       TELEPHONE SYSTEM
2.01 MATERIALS
                                                                                                             PART 1 - GENERAL
                    All lighting fixtures and lamps shall be furnished by Owner unless specifically
                                                                                                             1.01 DESCRIPTION
                    noted otherwise.
 PART 3 - EXECUTION
                                                                                                                                 Work Included:
        INSTALLATION
                                                                                                                                           Provide necessary conduit and power for telephone system. This shall
                    Fixtures: An outlet is to be provided for each fixture. All fixtures
                                                                                                                                           include the following
                    shall be located to suit the Architectural details of the areas involved.
                                                                                                                                                    Dedicated 20 Amp., 120 Volt circuit (s) for telephone equipment
                    Unpack, assemble, wire and install all fixtures at the proper locations
                                                                                                                                                      at telephone backboard.
                                                                                                                                                     3/4" conduit with pull wire to each telephone location. Refer
                     indicated on the Drawings.
                    Recessed Fixture Installation: Recessed fixtures shall be of type suitable
                                                                                                                                                      to floor plans for locations.
                    for mounting in the type of ceiling as scheduled on the Drawings. Variations
                                                                                                                                                    1 1/4" conduit with pull wire to each cash wrap location. Refer
                    to catalog numbers indicated shall be made to assure proper mounting and
                                                                                                                                                     to floor plans for locations.
                    fitting arrangements, prior to fabrication. Changes to be made by this
                                                                                                                                                              Provide ground lug at telephone board and ground to electrical
                    Division Contractor must have prior written approval from the Architect.
                                                                                                                                                                service ground location if present within tenant space or
                    Supports:
                                                                                                                                                               to grounded building steel.
                             Each lighting fixture shall be rigidly supported from the building
                                                                                                                                 Work by Telephone vendor
                              construction. Provide suspension hangers, stems and extra steel work
                                                                                                                                           All wiring, jacks and terminations for telephone instruments.
                              for fixture support where required.
                                                                                                                                          All telephone equipment.
                             Confer with Ceiling Contractor to determine modifications required
                                                                                                                                Work by landlord:
                              to make fixtures suitable for ceiling as installed.
                                                                                                                                           Landlord shall provide a 2" empty conduit raceway to point of telephone
                              Where recessed fixtures are called for, each shall be provided with
                                                                                                                                           utility connection to rear of tenant space.
                              the proper plaster frame or suitable adapter to receive the finished
                                                                                                             PART 2 - PRODUCTS
                                                                                                             2.01 MATERIALS
                              ceiling construction.
                              Where suspended acoustic tile ceilings on steel channels occur, outlets
                                                                                                                                Conduits, fittings, and outlet boxes shall be as hereinbefore specified
                              and fixtures shall be supported on members resting on the channel
                                                                                                                                 in Section 16100.
                              framework. In no case shall fixtures be supported from plaster or
                                                                                                                                 Wall boxes to be flush, 4" square, with extension ring.
                                                                                                                                 Plates shall be furnished and installed with jacks by owners low voltage
                              acoustic material.
                              Suspended fixtures shall be hung on suspension hangers furnished
                                                                                                                                 telephone vendor.
                                                                                                             PART 3 - EXECUTION
                              by the fixture manufacturer and shall be adjusted as necessary during
                                                                                                             3.01 INSTALLATION
                              installation to insure that all fixtures in the same room or area
                              are at a uniform height from the floor. Mounting height shall be
                                                                                                                                 Performance
                                                                                                                                           Installation shall meet approval of the telephone vendor and shall
                              as specified, detailed or noted on the Drawings.
                             Any electrical lighting fixture which weighs more than 50 pounds
                                                                                                                                           be in accordance with their requirements.
                              shall be supported independently of the outlet box.
                                                                                                                                 All conduit and wiring requirements shall conform with Section 16100,
                              All fixtures with pendant lengths greater than 24" shall have two
                                                                                                                                 "Basic Materials and Methods" of this Specification.
                              supports or be provided with a swivel type stem.
                                                                                                                       SECTION 16660
                   Fixture Wiring:
                                                                                                                       DATA/POS SYSTEM
                             Fixtures shall be wired with white wire for the neutral and colored
                                                                                                             PART 1 - GENERAL
                              wire for phase wires, see Section 16100.
                                                                                                             1.01
                                                                                                                    DESCRIPTION
                              Housing of all fixtures must be grounded to conduit system.
                              Each fixture to be complete with holders, screws, sockets, wires,
                                                                                                                                 Work Included:
                              lamps, etc., as is necessary for a complete installation
                                                                                                                                           Provide necessary conduit and power for telephone system. This shall
                   Operation and Controls:
                                                                                                                                           include the following:
                                                                                                                                                    Dedicated 20 Amp., 120 Volt circuit (s) within office for POS/DATA
                              Local switches as shown and wired.
                              Exit and directional signs shall be constantly on, and wired as shown.
                                                                                                                                                    1 1/4" conduit with pull wire to each cash wrap location. Refer
          SECTION 16600
                                                                                                                                                     to floor plans for locations.
          SECURITY SYSTEM
                                                                                                                                                              1" interconnecting conduit between each section of cashwrap.
 PART 1 - GENERAL
                                                                                                                                 Work by POS system vendor:
        DESCRIPTION
                                                                                                                                           All wiring, jacks and terminations for POS system.
                                                                                                                                           All POS equipment.
                   Work Included:
                                                                                                            PART 2 - PRODUCTS
                             Provide necessary conduit and power for alarm and detection systems.
                                                                                                             2.01 MATERIALS
                              This shall include the following:
                                        Dedicated 20 Amp., 120 Volt circuit (s).
                                                                                                                                Conduits, fittings, and outlet boxes shall be as hereinbefore specified
                                        3/4" conduit with pull wire to each door contact, sound detection,
                                                                                                                                 in Section 16100.
                                        silent duress alarm, infrared sensor etc.
                                                                                                                                 Wall boxes to be flush, 4" square, with extension ring.
 PART 2 - PRODUCTS
                                                                                                                                 Plates shall be furnished and installed with jacks by owners low voltage
2.01 DESCRIPTION
                                                                                                                                 POS system vendor.
                    All Equipment and associated installation and wiring of equipment shall
                                                                                                             PART 3 - EXECUTION
                                                                                                             3.01 INSTALLATION
                    be done by owner vendor. Contractor shall have an on site meeting with
                                                                                                                              Performance:
                    owner vendor prior to rough-in and installation of any raceways and backboxes
                    for vendor system. Entire installation shall be fully coordinated as to
                                                                                                                                           Installation shall meet approval of the POS system vendor and shall
                    exact location and requirements.
                                                                                                                                           be in accordance with their requirements.
 PART 3 - EXECUTION
                                                                                                                                 All conduit and wiring requirements shall conform with Section 16100,
3.01 RELATED DOCUMENTS
                                                                                                                                 "Basic Materials and Methods" of this Specification.
                   Performance:
                             Installation shall meet approval of the security system vendor and
                                                                                                                       SECTION 16721
                                                                                                                       FIRE ALARM SYSTEM
                              shall be in accordance with their requirements.
                                                                                                             PART 1 - GENERAL
                    All conduit and wiring requirements shall conform with Section 16100,
                                                                                                             1.01 DESCRIPTION
                    "Basic Materials and Methods" of this Specification.
                                                                                                                                Work Includes:
          SECTION 16620
                                                                                                                                           The contractor shall furnish and install a complete 24 VDC, electrically
          ELECTRONIC ARTICLE SURVEILLANCE (EAS) SYSTEMS
                                                                                                                                           supervised, conventional / addressable fire alarm system as specified
 PART 1 - GENERAL
                                                                                                                                           herein and indicated on the drawings. The system shall include but
         DESCRIPTION
                                                                                                                                           not be limited to all control panels, power supplies, initiating devices,
                   Work Included:
                                                                                                                                           audible and visual notification appliances, alarm devices, and all
                              Provide necessary conduit and power for alarm and detection systems.
                                                                                                                                           accessories required to provide a complete operating fire alarm system.
                              This shall include the following:
                                                                                                                                           Furnishing and installing a complete extension of the existing fire
                                        Dedicated 20 Amp., 120 Volt circuit (s).
                                                                                                                                           alarm system for the tenant spaces, including all equipment, wiring,
```

3/4" conduit with pull wire to floor mounted detector at sales

floor entrance/exit.

3.01

The annunciator battery standby power and auxiliary output. Power Supply and Charger: as shown on the Drawings. Thermodetectors 135° RR & FT per local requirements. system through a new addressible interface module. by Underwriters Laboratories Inc. and ADA. or full wave rectified power. 2.02 of the work. Elevator (IF APPLICABLE) degree heads. heads shall be 212 degree heads. PART 3 EXECUTION 3.01 SYSTEM WIRING

Furnishing and installing a complete Fire alarm system for the tenant

spaces, including all equipment, wiring, conduit, outlet and junction

Submit Drawings and receive approval from the Landlord and the Local Fire

The entire fire alarm system shall meet or exceed all State and/or Local

Village of Anywhere USA Fire Prevention Bureau.

All equipment furnished for this project shall be new and unused. All

accessories, devices and other facilities covered by this specification

If any of the equipment provided under this specification is provided by

different manufacturers, then that equipment shall be "Listed" as to its

compatibility by Underwriters Laboratories (UL), if such compatibility

Furnish a conduit and wiring riser diagram of the fire alarm system and

service technician from the manufacturer of the fire alarm equipment.

The technician shall be U.L. certified and have had a minimum of two(2)

The manufacturer's service technician shall be responsible for the following

and verify method by which the system should be wired.

Pre-installation visit to the job site to review equipment submittals

Upon completion of wiring, final connections shall be made under

At the time of final checkout, technician shall give operational

as well as any Urban Outfitter representative.

Shop drawings for the complete fire alarm system shall be submitted for

Catalog Data: Manufacturer's literature and illustrations.

Manufacturer's installation and operation instructions.

The act of manually operating a manual station or the automatic operation

of a thermodetector, smoke detector, or water flow switch shall cause the

Visually indicate at the fire alarm control/annunciator panel the

to the system until the system has been restored to normal.

Automatically disengage all magnetic door holders.

to the fire station or Central monitoring system.

The fire alarm control panel shall indicate both trouble and/or alarm

Continuously sound all fire alarm audible and visual devices connected

Automatically shut down air handling units, as indicated on the Drawings

The general alarm devices may be silenced by entering a locked control

be arranged to transmit a fire alarm or trouble condition automatically

cabinet and operating the proper silence switch. Operation of this

switch shall be indicated by a trouble light and audible signal

When a device indicates any alarm condition the control panel must respond

light and the LCD should prompt the user as to the current events. The

alarm information must be stored in event memory for later review. When

to be manually reset to clear the alarm condition, except that the alarms

if another event should occur (subsequent alarm feature). When alarms

When a device indicates a trouble condition, the control panel System

review. When the device in trouble is restored to normal, the control

panel shall be automatically reset. The trouble restore information must

at the main control or entering a code and pushing the silence button on

the remote annunciators shall silence a trouble. When silenced, this shall

not prevent the resounding of subsequent events if another event should

Each multiplex buss loop shall be electrically supervised for opens and

ground faults in the circuit wiring, and shall be so arranged that a fault

every addressable device connected to the multiplex buss will be supervised

condition on any loop will not cause an alarm to sound. Additionally,

and individually identified if in a fault condition. The occurrence of

any fault will light a trouble LED and sound the system trouble sounder,

but will not interfere with the proper operation of any circuit which does

not have a fault condition. Each indicating appliance circuit shall be

electrically supervised for opens, grounds and short circuit faults, on

the circuit wiring, and shall be so arranged that a fault condition on

any indicating appliance circuit or group of circuits will not cause an

operation of any circuit which does not have a fault condition.

in the existing fire alarm control panel.

Existing fire alarm system is manufactured by...

Fire Alarm Vendor Representative.

and loss of communication.

Each multiplex buss shall

addressable detectors.

FPLP approved wiring.

fire zones and 247 addressable points.

protocol on the multiplex buss loop must be digital.

annunciators/keypads connected in the field.

and also comply with article 760 of the NEC.

alarm, System trouble, System Silence and Power.

Fire Alarm Control Panel; existing

Fire Alarm Control Panel; New

PART 2 PRODUCTS

A. (if

existing

system)

NEW

conduit, outlet and junction boxes and all accessories required.

system)

2.01 MATERIALS

alarm to sound. The occurrence of any fault will light the trouble LED

and sound the system trouble sounder, but will not interfere with the proper

Provide new power supples to support required peripheral devices

Installation shall be under the direct supervision of the Landlord's

All programming shall be done by the Landlord's Fire Alarm Vendor

connected expander modules that supervise low battery, loss of AC

The FACP must be capable of supporting up to eight (8) conventional

The panel must have a built in 32 character LCD annunciator/keypad

The FACP must have a built in UL approved digital communicator. The

communicator must allow local and remote up/downloading of system

The main communication bus shall be capable of Class A or Class B

The multiplex buss and Data Communication Bus (options bus) shall

All FACP screw terminals shall be capable of accepting 14 AWG (1.8

be wired with standard NEC 760 compliant wiring, no twisted, shielded

mm) to 18 AWG (1.2 mm) wire. All system wiring shall be in accordance

with the requirements of NFPA 70, the National Electrical Code (NEC)

Power Limited Wiring; for Power Limited wiring, use FPL, FPLR or

Annunciator; the main control must have a built in annunciator

with a 32 character LCD display and feature LED's for General

operating options, event history, and detector sensitivity data for

configuration with a total bus length of 5,900 feet (1,798 m).

or mid capacitance wiring is required for standard installations.

with the capability of having an additional four supervised remote

The FACP must be capable of expansion to a maximum of 16 total amps via bus

be capable of supporting a maximum of 128 devices each. The communication

and those related costs shall be this Contractors responsibility.

be stored in event memory for later review. Pushing the silence button

shall remain lit, until the alarmed device is returned to normal.

the alarmed device is restored to normal, the control panel shall be required

may be silenced as programmed. An alarm shall be silenced by the silenced

When silenced, this shall not prevent the resounding of subsequent events

button at the main or by using a code and a button on the remote annunciators

Trouble LED should light and the LCD should prompt the user as to the current

events. The trouble information must be stored in event memory for later

are silenced the silenced LED on the control panel, and on any remote annunciators

within three seconds. The General Alarm LED on the annunciator(s) should

During job progress make periodic job site visits to verify installation

the supervision of this technician and final checkout and certification

instructions to the electrician, landlord and construction manager

Complete wiring diagrams. Including point to point Wiring diagrams.

service equipment as installed in the tenant remodeled spaces.

A. The following supervision of installation shall be provided by a trained

years of service experience in the fire alarm industry.

and wiring of system.

Shop drawings shall include the following data:

Dimensions of equipment.

Voltage drop calculations.

Battery calculations for system.

Method of Operation document.

area zone initiating the alarm.

or noted on the contract drawings and installation specification shall

components shall be designed for uninterrupted duty. All equipment, materials,

be best suited for the intended use and shall be provided by a single manufacturer.

boxes and all accessories required.

Fire alarm system shall be in compliance with the following:

Americans With Disabilities Act (ADA)

National Electrical Code (NEC)

International Building Code.

International fire code

NFPA Standards No. 70, 72, 101

Prevention Bureau.

Codes and ordinances.

is required by UL standards.

REQUIREMENTS OF REGULATORY AGENCIES:

1.02 QUALITY ASSURANCE

1.04 MANUFACTURER'S SERVICES:

must be able to silence and reset alarms through the use of a keypad entered code, or by just pushing the desired function key, depending on how the system is configured. The annunciators must have three levels of user codes that will allow the limitation of operating system programming to authorized individuals. The digital communicator must be an integral part of the control panel and be capable of reporting all points and all zones of alarm, supervisory, and trouble as well as all system status information such as loss of AC, low battery, ground fault, loss of supervision to any remote devices with individual and distinct messages to a central station or remote station. The communicator must also be capable of up/downloading of all system programming options, Event history and Sensitivity compliance information to a PC on site or at a remote The FACP will have two form "C" dry contacts that can be programmed for alarm, trouble notification, water flow, and supervisory. A ground fault detection circuit shall be provided to detect positive and negative grounds on all field wiring. The ground fault detector shall operate the general trouble devices as specified but shall not cause an alarm to be sounded. A single ground fault will not interfere with the normal operation, such as alarm, or other trouble conditions. All low voltage circuits will be protected by microprocessor controlled circuit breakers or has a self restoring circuit breaker for the following: smoke detector power, main power supply, indicating appliance circuits, The entire system shall operate on 24 VDC power supply with the rated current available of 4 Amps. The FACP must have a battery charging circuit capable of complying with the following requirements: a. (60) hours of battery standby with five (5) minutes of alarm signaling at the end of this sixty (60) hour period (as required per NFPA 72 remote station signaling requirements) using rechargeable batteries with automatic charger to maintain standby sealed lead-acid batteries in a fully charged condition. The power supply shall comply with UL Standard 864 for power limiting. The FACP will indicate a trouble condition if there is a loss of AC power or if the batteries are missing or of insufficient capacity to support proper system operation in the event of AC failure. A "Battery Test" will be performed automatically every three minutes to check the integrity of the batteries. The test must disconnect the batteries from the charging circuit and place a load on the battery to verify the battery condition. In the event that it is necessary to provide additional power one or more of the model D7038 Distributed Modules shall be used to accomplish this purpose. Signal Initiating Devices; furnish and install signal initiating devices Smoke Detectors with addressable base. Provide smoke detectors with auxiliary The detector shall be UL listed compatible with the fire alarm control panel. The smoke detector shall have a flashing status LED for visual supervision. When the detector is actuated, the flashing LED will latch on solid. The LED shall flash at a 1/sec rate if the chamber is out of calibration range. The detector may be reset by actuating the control panel's reset switch. The vandal security-locking feature shall be used in those areas as indicated on the drawing. The locking feature shall be field selectable when required. All detectors shall have the "Chamber Check" feature with the addressable detectors sending a contaminated chamber signal to the FACP. Manual Fire Alarm Stations shall be non-coded, break glass, double action type, with a key operated test-reset lock in order that they may be tested, and so designed that after actual Emergency Operation, they cannot be restored to normal except by use of a key. An operated station shall automatically condition itself so as to be visually detected, as operated, at a minimum distance of fifty feet, front or side. Manual Stations shall be constructed of die cast metal with clearly visible operating instructions on the front of the stations in raised letters. Stations shall be suitable for surface mounting on matching back box, or semi-flush mounting on a standard single-gang box, and shall be installed within the limits defined by the Americans with Disabilities Act (ADA) dependent on Manual Station accessibility or Duct Photoelectric Smoke Detectors are furnished preinstalled in roof top units and wired by electrical contractor. Interface with fire alarm Water flow and tamper switches are to be furnished under another Section but wired by this Contractor and provided with addressable monitor modules. Provide and install visual devices in all public use areas and in non public areas, such as work areas and as indicated on the drawings. The visible and audible/visible signal shall be Bosch Multi-candela signal devices with field selectable settings of 15, 30, 75, 110cd and be listed The notification appliance (combination audible/visible units only) shall produce a peak sound output of 90dba or greater as measured in an anechoic chamber. The signaling appliance shall also have the capability to silence the audible signal while leaving the visible signal energized with the use of a single pair of wires. All visual devices shall be synchronized. The visible signaling appliance shall maintain a minimum flash rate of 1 Hz or greater regardless of power input voltage. The appliance shall meet the candela requirements of the blueprints presented by the Engineer The appliance shall be polarized to allow for electrical supervision of the system wiring. The unit shall be provided with terminals with barriers for input/output wiring and be able to mount to a single gang or double gang box or double workbox with the use of an adapter plate. The unit shall have an input voltage range of 16 - 33 Volts with either direct current Furnish and install as shown on the Drawings, slave fan shutdown relays. Magnetic Door Holders - Furnish and install as shown on the Drawings, semi-flush wall mounted magnetic door holders. Where wall unit is not possible to install, furnish and install closure mounted on door(s) frame. Sprinkler water flow valves and tamper switches are furnished by other Divisions and shall be wired to the fire alarm system by this Division Interface fire alarm with elevator and elevator recall system. Provide addressable interface modules for each floor recall system. Activation of smoke detector in machine room or at top or bottom of shaft shall initiate elevator recall to first floor. Activation of smoke detector on first floor shall initiate elevator recall to second floor and activation of smoke detector on second floor shall initiate elevator recall to first Heat detector shall be provided in machine room where sprinkled, within two feet of each sprinkler head. Interface with elevator disconnect switch to shut down power to elevator on sense of heat in machine room. Heat detectors shall operate at 135 Degrees F and sprinkler heads shall be 212 Heat detector shall be provided at top and bottom of elevator shaft room where sprinkled. Provide within two feet of each sprinkler head. Interface with elevator disconnect switch to shut down power to elevator on sense of heat in shaft. Heat detectors shall operate at 135 Degrees F and sprinkler A. All final connections shall be made under direct supervision of Manufacturer's factory engineer. After final checkout, Owner's personnel shall be verbally instructed in use and operation of system, and shall be provided with four(4) copies of written instructions. Color Coding: For fire alarm system shall match existing Building standards. Prepare conduit and wiring risers, (point to point) for construction and records. Submit to municipality Fire Prevention Bureau and Landlord for approval prior to start of any work. The installer shall coordinate the installation of the fire alarm equipment. All conductors and wiring shall be installed according to the manufacturer's recommendations. It shall be the installer's responsibility to coordinate

with the supplier, regarding the correct wiring procedures before installing

Electrical Code, local and state regulations, the requirements of the fire

department and other applicable authorities having jurisdiction (AHJ).

All wire used on the fire alarm system shall be UL Listed as fire alarm

protection signaling circuit cable per National Electrical Code, Article

760. The use of FPL, FPLR or FPLP wiring for power limited applications.

System components shall be installed in accordance with the latest revisions

of the appropriate NFPA pamphlets, the requirements contained herein, National

any conduits or conductors.

WARRANTY & FINAL TEST

The contractor shall warrant all equipment and wiring free from inherent mechanical and electrical defects for one year (365 days) from the date of final acceptance. Before the installation shall be considered completed and acceptable by

the awarding authority, a test of the system shall be performed as follows: 1. The contractor's job foreman, a representative of the owner, and the fire department shall operate every building fire alarm device to ensure proper operation and correct annunciation at the control

At least one half of all tests shall be Performed on battery standby Where application of heat would destroy any detector, it may be manually

The communication loops and the indicating appliance circuits shall be opened in at least two (2) locations per circuit to check for the presence

of correct supervision circuitry. When the testing has been completed to the satisfaction of both the contractor's job foreman and construction manager, a notarized letter cosigned by each attesting to the satisfactory completion of said testing shall be forwarded

The contractor shall leave the fire alarm system in proper working order, and, without additional expense to the owner, shall replace any defective materials or equipment provided by him under this contract within one year (365 days) from the date of final acceptance by the awarding authority. Prior to final test the fire department must be notified in accordance with local requirements.

to the owner and the fire department.

AS BUILT DRAWINGS, TESTING, AND MAINTENANCE INSTRUCTIONS A complete set of reproducible "as-built" drawings showing installed wiring, color coding, and wire tag notations for exact locations of all installed equipment, specific interconnections between all equipment, and internal wiring of the equipment shall be delivered to the owner upon completion

Operating and instruction manuals shall be submitted prior to testing of the system. Three (3) complete sets of operating and instruction manuals shall be delivered to the owner upon completion. User operating instructions shall be provided prominently displayed on a separate sheet located next to the control unit in accordance with UL Standard 864.

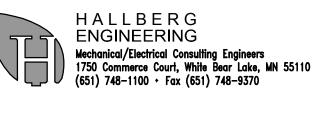
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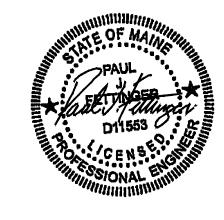
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SHEET TITLE: **ELECTRICAL**

SPECIFICATIONS

SHEET NO: