DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

CITY OF PORTLAND

BUILDING PERMIT

This is to certify that CLAPP MARY J E DEVS

Located At 443 CONGRESS ST

Job ID: 2011-04-865-OPB

CBL: 027 - - B - 002 - 001 - - - - -

has permission to install a master box fire alarm system

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statues of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of the buildings and structures, and of the application on file in the department.

Notification of inspection and written permission procured before this building or part thereof is lathed or otherwise closed-in. 48 HOUR NOTICE IS REQUIRED.	A final inspection must be completed by owner before this building or part thereof is occupied. If a certificate of occupancy is required, it must be

BJ Arnold Jr. (58) 5/16/11

Fire Prevention Officer

Code Enforcement Officer / Plan Reviewer

THIS CARD MUST BE POSTED ON THE STREET SIDE OF THE PROPERTY

PENALTY FOR REMOVING THIS CARD

BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or 874-8693 (ONLY)

or email: buildinginspections@portlandmaine.gov

With the issuance of this permit, the owner, builder or their designee is required to provide adequate notice to the city of Portland Inspections Services for the following inspections. Appointments must be requested 48 to 72 hours in advance of the required inspection. The inspection date will need to be confirmed by this office.

- **Please read the conditions of approval that is attached to this permit!! Contact this office if you have any questions.**
- **Permits expire in 6 months. If the project is not started or ceases for 6 months.**
- **If the inspection requirements are not followed as stated below additional fees may be incurred due to the issuance of a "Stop Work Order" and subsequent release to continue.**

The project cannot move to the next phase prior to the required inspection and approval to continue, REGARDLESS OF THE NOTICE OF CIRCUMSTANCES.

IF THE PERMIT REQUIRES A CERTIFICATE OF OCCUPANCY, IT MUST BE PAID FOR AND ISSUED TO THE OWNER OR DESIGNEE BEFORE THE SPACE MAY BE OCCU0PIED.

PORTLAND MAINE

Strengthening a Remarkable City, Building a Community for Life • www.portlandmaine.gov

Director of Planning and Urban Development
Penny St. Louis

Job ID: 2011-04-865-OPB **Located At:** 443 CONGRESS ST **CBL:** 027 - - B - 002 - 001 - - - - -

Conditions of Approval:

Zoning

1. ANY exterior work requires a separate review and approval thru Historic Preservation. This property is located within an Historic District.
2. This permit is being approved on the basis of plans submitted. Any deviations shall require a separate approval before starting that work.

Fire

The fire alarm system shall comply with the City of Portland Standard for Signaling Systems for the Protection of Life and Property. All fire alarm installation and servicing companies shall have a Certificate of Fitness from the Fire Department.

In field installation shall be installed per code as conditions dictate.

Records cabinet, FACP, annunciator(s), and pull stations shall be keyed alike.

Central Station monitoring for addressable fire alarm systems shall be by point.

All fire alarm records required by NFPA 72 should be stored in an approved cabinet located at the FACP labeled "FIRE ALARM RECORDS".

Installation of a Fire Alarm system requires a Knox Box to be installed per city ordinance.

System acceptance and commissioning must be coordinated with alarm and suppression system contractors and the Fire Department. Call 874-8703 to schedule.

Fire Alarm system shall be maintained. If system is to be off line over 4 hours a fire watch shall be in place. Dispatch notification required 874-8576.

Fire alarm system requires a wireless master box connection per city ordinance. Masterbox design and installation shall be as approved be City Electrical Division.

AES zones shall be as follows:

Zone 1: water flow

Zone 2: city disconnect

Zone 3: Basement through Floor 3 pull stations and detectors

Zone 4: Floor 4 through penthouse pull stations and detectors

Zone 8: non-alarm AES tamper

When the silence switch is activated the horns shall silence and the strobes will continue to flash.

Water flow will be silenceable as required above.

Duct detectors shall be supervisory devices.

Master Box Approval

Applicant: Northland Enterprises, LLC
App Phone #: (207)780-0223
Building Name: Clapp Building
Building Address: 443 Congress St
Occupancy: Existing Business
Assembly OL>300, 20 unit apartment building, etc.

Emergency Contact: Joshua Benthien
Emergency phone #: (207)780-0223
Date of Application:
Billing Address: 1 City Center
Portland, ME 04101
Comments:

Applicant completes red box and submits with Fire Alarm Permit

1

FIRE PREVENTION: ☑ Approved ☐ Denied

05/16/2011
Date

BJ Arnold Jr. (58)
Fire Prevention Officer

Comments: See attached zone list.

2

FIRE ALARM: Box #:_____

ELECTRICAL DIVISION: ☐ Approved ☐ Denied

3

Box Type: AES Radio Box / _____
New Other

Test Date: ____/____/____ **In Service Date:** ____/____/____ _____
Fire Alarm Technician

AES

Circuit if applicable:

FIRE ALARM: **Same Running Assignment As Box:** _____

4

Notifications: ☐ All Stations ☐ Run Books ☐ Digitizer ☐ Computer ☐ Cad Box Test

☐ South Portland ☐ _____ _____
Other Dispatcher

5

BILLING: ☐ Entered _____
Financial Officer

6

FIRE PREVENTION: ☐ Filed ____/____/____
Date

5/16/2011

443 Congress St – Clapp Building

AES Zone list

1) Water Flow
2) City Disconnect
3) Basement through 3rd floor - pull stations and detectors
4) 4th floor through penthouse – pull stations and detectors
5) Unassigned
6) Unassigned
7) Unassigned
8) AES door tamper – non-alarm

Approved revision

SECTION 16721 – FIRE ALARM SYSTEM

198-POINT INTELLIGENT COMMUNICATING FIRE DETECTION SYSTEM

PART 1.0 - GENERAL

1.1 DESCRIPTION:

A. This section of the specification includes the furnishing, installation, connection and testing of the microprocessor controlled, intelligent reporting fire alarm equipment required to form a complete, operative, coordinated system. It shall include, but not be limited to, alarm initiating devices, alarm notification appliances, Fire Alarm Control Panel (FACP), auxiliary control devices, annunciators, Ethernet and/or digital alarm communications to central stations and wiring as shown on the drawings and specified herein.

B. The fire alarm system shall comply with requirements of NFPA Standard No. 72 for Local Protected Premises Signaling Systems except as modified and supplemented by this specification. The system field wiring shall be supervised either electrically or by software-directed polling of field devices.
   1. The Secondary Power Source of the fire alarm control panel will be capable of providing at least 24 hours of backup power with the ability to sustain 5 minutes in alarm at the end of the backup period.

C. The fire alarm system shall be manufactured by an ISO 9001 certified company and meet the requirements of BS EN9001: ANSI/ASQC Q9001-1994.

D. The FACP and peripheral devices shall be manufactured or supplied 100% by a single U.S. manufacturer (or division thereof).

E. Underwriters Laboratories Inc. (UL) - USA:
   1. No. 38 Manually Actuated Signaling Boxes
   2. No. 50 Cabinets and Boxes
   3. No. 864 Control Units for Fire Protective Signaling Systems
   4. No. 268 Smoke Detectors for Fire Protective Signaling Systems
   5. No. 268A Smoke Detectors for Duct Applications
   6. No. 346 Waterflow Indicators for Fire Protective Signaling Systems
   7. No. 464 Audible Signaling Appliances
   8. No. 521 Heat Detectors for Fire Protective Signaling Systems
   9. No. 1971 Visual Notification Appliances

F. The installing company shall employ NICET (minimum Level II Fire Alarm Technology) technicians on site to guide the final check-out and to ensure the systems integrity.

G. The FACP shall meet requirements of UL ANSI 864 Ninth Edition.

3. For equipment other than that specified, the contractor shall supply proof that such substitute equipment equals or exceeds the features, functions, performance, and quality of the specified equipment.

B. Shop Drawings:
   1. Sufficient information, clearly presented, shall be included to determine compliance with drawings and specifications.
   2. Include manufacturer's name(s), model numbers, ratings, power requirements, equipment layout, device arrangement, complete wiring point-to-point diagrams, and conduit layouts.
   3. Show annunciator layout, configurations, and terminations.

C. Manuals:
   1. Submit simultaneously with the shop drawings, complete operating and maintenance manuals listing the manufacturer's name(s), including technical data sheets.
   2. Wiring diagrams shall indicate internal wiring for each device and the interconnections between the items of equipment.
   3. Provide a clear and concise description of operation that gives, in detail, the information required to properly operate the equipment and system.

D. Software Modifications
   1. Provide the services of a qualified technician to perform all system software modifications, upgrades or changes.
   2. Provide all hardware, software, programming tools and documentation necessary to modify the fire alarm system on site. Modification includes addition and deletion of devices, circuits, zones and changes to system operation and custom label changes for devices or zones. The system structure and software shall place no limit on the type or extent of software modifications on-site. Modification of software shall not require power-down of the system or loss of system fire protection while modifications are being made.

1.5 GUARANTY:

A. All work performed and all material and equipment furnished under this contract shall be free from defects and shall remain so for a period of at least one (1) year from the date of acceptance. The full cost of maintenance, labor and materials required to correct any defect during this one year period shall be included in the submittal bid.

1.6 POST CONTRACT EXPANSIONS:

A. The contractor shall have the ability to provide parts and labor to expand the system specified, if so requested, for a period of five (5) years from the date of acceptance.

1.7 APPLICABLE STANDARDS AND SPECIFICATIONS:

A. The specifications and standards listed below form a part of this specification. The

A. All equipment and components shall be new, and the manufacturer's current model. The materials, appliances, equipment and devices shall be tested and listed by a nationally recognized approvals agency for use as part of a fire protective signaling system, meeting the National Fire Alarm Code.

B. All equipment and components shall be installed in strict compliance with manufacturers' recommendations. Consult the manufacturer's installation manuals for all wiring diagrams, schematics, physical equipment sizes, etc., before beginning system installation.

C. All equipment shall be attached to walls and ceiling/floor assemblies and shall be held firmly in place (e.g., detectors shall not be supported solely by suspended ceilings). Fasteners and supports shall be adequate to support the required load.

D. All equipment must be available "over the counter" through the Security Equipment Distributor (SED) market and can be installed by dealerships independent of the manufacturer.

2.2 CONDUIT, SURFACE RACEWAY AND WIRE:

A. Conduit:
1. Rigid Steel Conduit: ANSI C80.1.
2. Fittings and Conduit Bodies: ANSI/NEMA FB 1; threaded type, material to match conduit.

B. Surface Raceway:
1. Surface raceway shall be series 500 as manufactured by *Wiremold*, or equal. All necessary fittings and boxes shall be provided to make a complete raceway system. Surface raceway and boxes shall be painted to match the surface to which it is installed..
2. Raceway fill shall not exceed 40 percent of interior cross sectional area where three or more cables are contained within a single raceway
3. Cable must be separated from any open conductors of power, or Class 1 circuits, and shall not be placed in any conduit, junction box or raceway containing these conductors, per NEC Article 760-29.
4. Wiring for 24 volt DC control, alarm notification, emergency communication and similar power-limited auxiliary functions may be run in the same conduit as initiating and signaling line circuits. All circuits shall be provided with transient suppression devices and the system shall be designed to permit simultaneous operation of all circuits without interference or loss of signals.
5. Raceway shall not enter the fire alarm control panel, or any other remotely mounted control panel equipment or backboxes, except where raceway entry is specified by the FACP manufacturer.

C. Wire:
1. All fire alarm system wiring shall be new.
2. Wiring shall be in accordance with local, state and national codes (e.g., NEC Article

b) Depression of the Acknowledge switch shall also silence all remote annunciator piezo sounders.

2. Alarm Silence Switch: Activation of the alarm silence switch shall cause all programmed alarm notification appliances and relays to return to the normal condition after an alarm condition. The selection of notification circuits and relays that are silenceable by this switch shall be fully field programmable within the confines of all applicable standards. The FACP software shall include silence inhibit and auto-silence timers.
3. Alarm Activate (Drill) Switch: The Alarm Activate switch shall activate all notification appliance circuits. The drill function shall latch until the panel is silenced or reset.
4. System Reset Switch: Activation of the System Reset switch shall cause all electronically-latched initiating devices, appliances or software zones, as well as all associated output devices and circuits, to return to their normal condition.
5. Lamp Test: The Lamp Test switch shall activate all system LEDs and light each segment of the liquid crystal display.

C. System Capacity and General Operation

1. The control panel shall provide, or be capable of, expansion to 198 intelligent/addressable devices.
2. The control panel shall include Form-C Alarm, Trouble and Supervisory relays rated at a minimum of 2.0 amps @ 30 VDC. It shall also include programmable Notification Appliance Circuits (NACs) capable of being wired as NFPA Style Y (Class B) or NFPA Style Z (Class A).
3. The fire alarm control panel shall include an operator interface control and annunciation panel that shall include a backlit Liquid Crystal Display (LCD), individual color-coded system status LEDs, and an alphanumeric keypad for the field programming and control of the fire alarm system.
4. All programming or editing of the existing program in the system shall be achieved without special equipment and without interrupting the alarm monitoring functions of the fire alarm control panel. The system shall be fully programmable, configurable, and expandable in the field without the need for special tools, PROM programmers or PC based programmers. It shall not require replacement of memory ICs to facilitate programming changes. The control unit will support the ability to upgrade its operating program using FLASH memory technology. The unit shall provide the user with the ability to program from either the included keypad, a standard PS2-style PC keyboard or from a computer running upload/download software.
5. The system shall allow the programming of any input to activate any output or group of outputs. Systems which have limited programming (such as general alarm), have complicated programming (such as a diode matrix), are not considered suitable substitutes.
6. The FACP shall provide the following features:
   a) Drift compensation to extend detector accuracy over life. Drift compensation shall also include a smoothing feature, allowing transient noise signals to be filtered out.
   b) Detector sensitivity test, meeting requirements of NFPA 72, Maintenance alert,

and may also be used to program all system operational parameters.

2. The display shall include status information and custom alphanumeric labels for all intelligent detectors, addressable modules, internal panel circuits, and software zones.

3. The display shall contain an alphanumeric, text-type display and dedicated LEDs for the annunciation of AC POWER, FIRE ALARM, SUPERVISORY, TROUBLE, MAINTENANCE, ALARM SILENCED, DISABLED, BATTERY, and GROUND conditions.
4. The display keypad shall be part of the standard system and have the capability to command all system functions, entry of any alphabetic or numeric information, and field programming. Two different password levels shall be provided to prevent unauthorized system control or programming.
5. The display shall include the following operator control switches: ACKNOWLEDGE, ALARM SILENCE, DRILL (alarm activate), and SYSTEM RESET.

G. Signaling Line Circuit (SLC)
1. The SLC interface shall provide power to and communicate with up to 99 intelligent detectors (ionization, photoelectric or thermal) addressable Beam Detectors, and 99 addressable pull stations, intelligent modules (monitor or control) for a system capacity of 198 devices. Each SLC shall be capable of NFPA 72 Style 4, Style 6, or Style 7 (Class A or B) wiring.
2. The CPU shall receive information from all intelligent detectors to be processed to determine whether normal, alarm, pre-alarm, or trouble conditions exist for each detector. The software shall automatically compensate for the accumulation of dust in each detector up to allowable limits. The information shall also be used for automatic detector testing and for the determination of detector maintenance conditions.
3. The detector software shall meet NFPA 72, Chapter 10 requirements and be
   a) certified by UL as a calibrated sensitivity test instrument.

H. Serial Interfaces
1. The system shall provide a means of interfacing to UL Listed Electronic Data Processing (EDP) peripherals using the EIA-232 communications standard.
2. One EIA-232 interface shall be used to connect an UL-Listed 80-column printer. The printer shall communicate with the control panel using an interface complying with Electrical Industries Association standard EIA-232D. Power to the printer shall be 120 VAC @ 60 Hz.

I. The control panel will have the capability of Reverse Polarity Transmission or connection to a Municipal Box for compliance with applicable NFPA standards.

J. Digital Alarm Communicator Transmitter (DACT) and Internet Protocol Digital Alarm Communicator Transmitter (IPDACT). The DACT is an interface for communicating digital information between a fire alarm control panel and a UL- Listed central station. When the optional IPDACT Ethernet module is connected to the on board DACT, the system shall be capable of transmitting contact ID formatted alarms to a central station

4. The cabinet shall accept a chassis containing the PCB and to assist in quick replacement of all the electronics including power supply shall require no more than two bolts to secure the panel to the enclosure back box.

L. Field Charging Power Supply: The FCPS is a device designed for use as either a remote 24-volt power supply or as a booster for powering Notification Appliances.
   1. The FCPS shall offer up to 8.0 amps (6.0 amps continuous) of regulated 24 volt power. It shall include an integral charger designed to charge 18.0 amp hour batteries.
   2. The Field Charging Power Supply shall have two input triggers. The input trigger shall be a Notification Appliance Circuit (from the fire alarm control panel) or a control relay. Four NAC outputs, wired NFPA Style Y or Z, shall be available for connection to the Notification devices.
   3. The FCPS shall optionally provide synchronization of all connected strobes or horn strobe combinations when either System Sensor, Wheelock or Gentex devices are installed.
   4. The FCPS shall function as a sync follower as well as a sync generator.
   5. The FCPS shall include a surface mount backbox.
   6. The Field Charging Power Supply shall include the ability to delay the reporting of an AC fail condition per NFPA requirements.
   7. The FCPS shall provide 24 VDC regulated and power-limited circuitry per UL standards.

M. Power Supply:
   1. The main power supply for the fire alarm control panel shall provide up to 6.0 amps of available power for the control panel and peripheral devices.
   2. Provisions will be made to allow the audio-visual power to be increased as required by adding modular expansion audio-visual power supplies.
   3. Positive-Temperature-Coefficient (PTC) thermistors, circuit breakers, or other over-current protection shall be provided on all power outputs. The power supply shall provide an integral battery charger or may be used with an external battery and charger systems. Battery arrangement may be configured in the field.
   4. The main power supply shall continuously monitor all field wires for earth ground conditions.
   5. The main power supply shall operate on 120 VAC, 60 Hz, and shall provide all necessary power for the FACP.

N. Specific System Operations
   1. Alarm Verification: Each of the intelligent addressable smoke detectors in the system may be independently programmed for verification of alarm signals. The alarm verification time period shall not exceed 2 minutes.
   2. Point Disable: Any addressable device or conventional circuit in the system may be enabled or disabled through the system keypad.
   3. Point Read: The system shall be able to display the following point status diagnostic functions:
      a) Device status
      b) Device type

circuit (notification circuit or relay) to deactivate upon depression of the Signal Silence switch.

12. Non-Alarm Input Operation: Any addressable initiating device in the system may be used as a non-alarm input to monitor normally open contact type devices. Non-alarm functions are a lower priority than fire alarm initiating devices.

2.4 SYSTEM COMPONENTS:

A. Addressable Pull Box (manual station)
   1. Addressable pull boxes shall be as manufactured by *Fire-Lite*, series BG-12LX.
   2. Addressable pull boxes shall, on command from the control panel, send data to the panel representing the state of the manual switch and the addressable communication module status. They shall use a key operated test-reset lock, and shall be designed so that after actual emergency operation, they cannot be restored to normal use except by the use of a key.
   3. All operated stations shall have a positive, visual indication of operation and utilize a key type reset.
   4. Manual pull stations shall be constructed of Lexan with clearly visible operating instructions provided on the cover. The word FIRE shall appear on the front of the stations in raised letters, 1.75 inches (44 mm) or larger.

B. Intelligent Photoelectric Smoke Detector
   1. Intelligent photoelectric smoke detectors shall be as manufactured by *Fire-Lite*, series SD355(A).
   2. The detectors shall use the photoelectric (light-scattering) principal to measure smoke density and shall, on command from the control panel, send data to the panel representing the analog level of smoke density.
   3. The detectors shall be ceiling-mounted.
   4. Each detector shall contain a remote LED output and a built-in test switch.
   5. Detector shall be provided on a twist-lock base.
   6. It shall be possible to perform a calibrated sensitivity and performance test on the detector without the need for the generation of smoke. The test method shall test all detector circuits.
   7. A visual indication of an alarm shall be provided by dual latching Light Emitting Diodes (LEDs), on the detector, which may be seen from ground level over 360 degrees. These LEDs shall periodically flash to indicate that the detector is in communication with the control panel.
   8. The detector shall not go into alarm when exposed to air velocities of up to 1500 feet per minute (fpm).
   9. The detector screen and cover assembly shall be easily removable for field cleaning of the detector chamber.
   10. All field wire connections shall be made to the base through the use of a clamping plate and screw.

C. Intelligent Thermal Detectors
   1. Intelligent thermal detectors shall be as manufactured by *Fire-Lite*, series H355(A).