

SECTION 28 46 00 - FIRE DETECTION AND ALARM SYSTEM - SUPERMARKET

PART 1 - GENERAL

1.1 SUMMARY

- A. **Existing system to remain.** Modify only as required due to demolition and new work.
 - 1. This section is for a completely new fire detection and alarm system. Use only as a guide for new work or to modify the existing system.
- B. Section includes
 - 1. Complete fire detection and alarm system including:
 - a. Installation drawings as required by Authorities Having Jurisdiction (AHJs) for the main grocery store area, the Fred Meyer Jewelry, and the Little Clinic, as applicable.
 - b. Devices as specified.
 - c. Wiring of devices and interconnection to HVAC units for any the required shut down of air handlers.

1.2 REFERENCE STANDARDS

- A. Equipment and installation shall comply with the current applicable provisions of the following reference standards:
 - 1. National Fire Protection Association Standards (including but not limited to):
 - a. NFPA 70 The National Electrical Code (specifically Article 760).
 - b. NFPA 72 National Fire Alarm and Signaling Code.
 - c. NFPA 101 Life Safety Code.
 - 2. Local and state building codes.
 - 3. Requirements of the Local Authority Having Jurisdiction (AHJ).
 - 4. Underwriters Laboratories, Inc.
- B. The system and all components shall be listed by Underwriters Laboratories, Inc. for use in Fire Protective Signaling Systems under the following standards as applicable. Refer to Drawings for more information:
 - 1. UL 864Control Units for Fire Protective Signaling Systems (including UUKL sublisting).
 - 2. UL 268Smoke Detectors for Fire Protective Signaling Systems.
 - 3. UL 268ASmoke Detectors for Duct Applications.
 - 4. UL 217Smoke Detectors, Single and Multiple Station.
 - 5. UL 521Heat Detectors for Fire Protective Signaling Systems.
 - 6. UL 228Door Closers-Holders for Fire Protective Signaling Systems.
 - 7. UL 464Audible Signaling Appliances.

8. UL 1638 Visual Signaling Appliances.
9. UL 1971 Signaling Devices for the Hearing Impaired.
10. UL 38 Manually Actuated Signaling Boxes.
11. UL 346 Water flow Indicators for Fire Protective Signaling Systems.
12. UL 1481 Power supplies for Fire Protective Signaling Systems.
13. UL 609, 1610, 1635 Commercial Fire.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Pre-installation Conference: At least two weeks prior to the start of field work, conduct a web-based conference in conjunction with the Project site (if available) to review the installers schedule along with the project plans and specifications. The Contractor will oversee the meeting and shall take minutes to be distributed to all attendees within 72 hours.
 1. Attendees: General Contractor, electrical contractor, alarm installer, MEP designer of the contract drawings, Owner's construction representative, and Kroger Central Alarm Control (KCAC) Representative (Alarm Monitoring for the Owner).
 2. Agenda
 - a. Review the contact drawings and specs with any approved changes to the installer's shop drawings.
 - b. Schedule for installation and timing of alarm monitoring by KCAC.
 - c. Any local jurisdiction requirements
 - d. Programming and communication requirements.

1.4 SUBMITTALS

- A. Administrative:
 1. Pay application fees and obtain approval of submittals in writing from the State Fire Marshal's office and/or the local authority having jurisdiction prior to submittal to Owner for review.
 2. Submit fire alarm submittals to Owner within 30 calendar days after award of Contract.
 3. Permit Drawings and other Submittals shall be prepared by a fire alarm installer certified by the approved manufacturer of the fire alarm system.
- B. Product Data: Complete documentation for the fire alarm system showing the model number, type, rating, size, style, manufacturer's names, and manufacturer's catalog data sheets for items to ensure compliance with this Section.
- C. Shop Drawings:
 1. Complete set of permit drawings showing conduit sizes and number of conductors required to components plus detailed wiring connections required at each type of device based on the level of the fire alarm system indicated in the Contract Documents.
 2. Detailed Drawings showing the intended location of field devices and their connections to the system along with room identification and a graphic symbol legend. Prepare

submittal drawings utilizing AutoCAD Release 2009 or newer Computer Aided Drafting system. Confirm electronic drawing format with Owner.

3. Detailed wiring diagrams and riser diagrams showing color-coding of wiring per manufacturer recommendations. Include calculations showing adequate capacity of the standby batteries, where applicable, as required by prevailing codes.
- D. Kroger Central Alarm Control Monitoring Data Form: Installer must coordinate the completion of the attached form at least 14 days prior to monitoring of the system with Owner (Kroger Project Manager, Store Manager & Asset Protection Department). Kroger's UL approved monitoring center supports security and fire alarm for all Owner needs.
- E. Monitoring Data Form: If for Fire Certificate of Occupancy, General Contractor information may be substituted for Store Management until Substantial Completion. Complete per the directions and in coordination with Owner and return to the addresses shown a minimum of 30 days prior to system testing and activation.
- F. Qualification Data: For Installer (if not prequalified) and installer's subcontractors.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Experienced, Bosch Certified installer, prequalified by the Owner (typically an installer in good standing with the Kroger Division Construction Manager and Asset Protection Manager). The following installers have been approved to install the fire detection and alarm system. Each installer must submit a list of any subcontractors for prequalification by the Owner:
 1. Consolidated Fire Protection Services (CFP)
 - a. Contact: Steve Schwartz.
 - b. Title: CFP Construction Manager.
 - c. Email: krogergc@cfpfire.com.
 - d. Cell: (949) 289-0327.
 2. Protection 1/ADT
 - a. Contact: James Finley.
 - b. Title: Acct. Manager.
 - c. Email: jfinley@adt.com.
 - d. Cell: (910) 619-4700.
 3. Vector Security
 - a. Contact: Chris Ehmgig.
 - b. Title: Acct. Manager.
 - c. Email: caehmig@vectorsecurity.com.
 - d. Cell: (571) 364-1472.
 4. Securitas
 - a. Contact: Tony Moe

- b. Title: National Account Manager.
- c. Email: tony.moe@securitases.com.
- d. Cell: (612) 414-1852.
- e. Office: (704) -281-2627.

5. ATS (Fred Meyer/QFC)

- a. Contact: Matthew Brines
- b. Email: mbrines@atsdata.com
- c. Phone: 503-684-9611.

- B. Installing and programming technicians shall be individually certified by fire detection and alarm system manufacturer.

1.6 WARRANTY

- A. Alarm Control Panel and Component Warranty: Manufacturer agrees to repair or replace control panel and components that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Three years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SYSTEM DESIGN

A. General:

- 1. Provide a complete addressable fire alarm system throughout the building as shown on the drawings and in accordance with NFPA 72 and authorities having jurisdiction. Equipment shall be UL listed.
- 2. If existing raceways, cables and outlet boxes are suitable for re-use, they may be reused after demonstrating to Owner's representative that they have been tested and proven to be suitable. Include existing material, cable, etc. used in three-year warranty.

- B. The fire alarm system is designed for the minimum compliance and in accordance with the latest edition of NFPA 72. In addition, the fire alarm system design shall meet the requirements of this Section and the authority having jurisdiction (AHJ).

- C. Components, materials, and methods shall be in accordance with NFPA 72 and as listed by Underwriters Laboratories, Inc. (UL) or the requirements of the Owner.

- D. Unless prohibited by the authority having jurisdiction (AHJ). The primary monitoring/communication method for the fire alarm system shall be through a network connection (WAN). A secondary connection as required by AHJ shall provide through a cellular communication module.

- E. Advise Owner and owner UL Certified monitoring center -Kroger Central Alarm Center (KCAC), of any location not permitting network or cellular back up use.

- F. Any approved Design/Shop drawings shall be the property of the Owner.
- G. Combining of the fire alarm system and the security system in one control panel will not be permitted.

2.2 FIRE ALARM SYSTEM OPERATION

- A. When a fire alarm condition is detected by one of the system initiating devices, the following functions shall occur simultaneously.
 - 1. System point shall be shown on the keypad by type of device, location and time of day.
 - 2. The audio-visual alarm devices shall activate throughout out the building.
 - 3. The control/communicator shall notify the owner monitoring company, KCAC, (as listed in the execution portion of this specification) that an alarm condition exists.
 - 4. Shut down all air handlers, unless specifically forbidden by the authority having jurisdiction.
 - 5. If the alarm is generated by a smoke detector involving an elevator system, the applicable elevators shall be captured and returned to the predetermined floor. Refer to Division 14 Sections for further elevator-related requirements.
- B. When a trouble or supervisory condition occurs, the following functions shall occur simultaneously.
 - 1. System point shall be shown on the keypad by type of device, location, and time of day.
 - 2. A distinct trouble sound shall occur at the keypad.
 - 3. The control/communicator shall notify the owner's monitoring company (as listed in the execution portion of this specification) that a trouble or supervisory condition exists.
- C. Whenever a smoke, duct, or heat detector is tripped, alarm verification shall function and a timer shall start. After a program time delay compliant with prevailing codes, the horn strobes shall sound if the detector is still in alarm.
- D. The system shall give a warning message if the smoke or duct detector needs cleaning.
- E. The system shall be fully field-programmable with the equipment on site or using programming software.
 - 1. Other features of the system shall include the following:
 - a. Walk test (ability to place the system in a testing mode that does not send notification signals or allow exterior audible alarms)
 - b. Device Disabling: Feature pass code protected for use by manufacturer's authorized technician only. Pass code not available to end user.
 - c. Read status of any point.
 - d. Field programmable at keypad.
 - e. Multiple password protection (for remote programming).
 - f. Manual on/off for any output point.
 - g. Calibrated smoke detector test.
 - h. Low air pressure monitoring of air compressor of any dry pipe system.

2.3 MANUFACTURERS

- A. Manufacturers: Provide products by Bosch Security and Safety Systems or other manufacturers identified as Basis-of-Design in the articles below. Products to be obtained by the Owner's approved installers listed in section 1.6. (No substitutions are allowed.)

2.4 PANELS

- A. Main Fire Alarm Control Panel (FACP/FAP): Bosch Security and Safety Systems; Model B9512G (elevator recall capable when required by AHJ),
1. Locate main fire alarm control panel in ECR room or as indicated in the drawings.
 2. Digital Communications: Provide system capable of communicating with a digital receiver such as the Bosch/Radionics D6600 receiver.
 3. Remote programming access codes must remain at the factory default code. IT IS FORBIDDEN FOR INSTALLERS TO INSERT THEIR OWN CODES OR A DEALER LOCKOUT CODE.

2.5 PLUG-IN CELL MODULE

- A. Product: Bosch B444-V for use with Verizon cellular network.
- B. Description:
1. WAN Network is required for fire unless not permitted by the authority having jurisdiction (AHJ). Advise Owner and Owner's monitoring center (KCAC) of any location not permitting network use.
 2. Programmed to report to the Owner's UL LISTED CENTRAL STATION, via Network for Primary, and Cellular for Secondary when required.
 3. (KCAC 04002/31A). COMPLETE THE CENTRAL ALARM CONTROL MONITORING DATA FORM INCLUDED AT THE END OF THIS SECTION.
 4. Mounting: Plug into main panel in single equipment housing containing battery charger and battery.
- C. When use of WAN network is approved:
1. Coordinate installation of network jacks, switch port, and certified cabling install for applicable control panels with the Kroger Technology Office prior to installation to prevent delays.
 2. Verify Ethernet (CAT5e/CAT6) cables are run properly and labeled correctly. Identify both ends at the panel and switch. As certain ports may be programmed differently be sure to connect to the port recommended by the Kroger Technology Department.
 3. The use of DHCP is required. The MAC address must be entered into the system prior to install by the Owner's division office, coordinated from step 1. If not, the panel will not come online.
 4. Verify KCAC has the network account programmed into their receivers; ensure signals are being received via primary and backup.
 5. The following settings are required:

IP Communicator Options	
Module Enclosure Tamper	No
IPv6 Mode	No
IPv4 DHCP/Auto-IP Enable	Yes
UPnP Enable	Yes
HTTP Port Number	80
ARP Cache Timeout (sec.)	600
Web/USB Access Enable	No
Firmware Upgrade Enable	No
TCP/UDP Port Number	7700
TCP Keep-Alive Time (sec.)	45
Port 77EE Configuration	No
RPS Over Network	Yes
RPS Address Verification	No
Encryption Enabled	No
Panel Programming Enable	Yes
Web Access Password	KCAC Standard Pw
Panel Wide->Answer	Yes
RPS Port Number	7700
Receiver Supervision Time (seconds)	300
Poll Rate (seconds)	210
Ack Wait Time	15
Retry Count	5

- D. Equip existing conventional fire alarm systems that are being reused with a new communicator and tie to (KCAC).

1. Product: Bosch D9068 DACT.

- E. Where WAN network is not permitted or not available, provide one duplex telephone outlet connected to dedicated telephone line with long distance capability (with two RJ31X connecting block jacks) within **2 feet (610-mm)** of the Fire Alarm Panel/Digital Communicator.

2.6 LOCKABLE METAL CABINETS

- A. Product: Bosch Security Systems; D8109 Fire Enclosure (UL Approved)

1. Color: Red

- B. Lock and Key Set: Bosch Security Systems; D101

2.7 TRANSFORMER ENCLOSURE KIT

- A. Product: Bosch Security Systems; D8004 Enclosure (UL Approved)

1. Color: Gray

- B. Provide for applications that require a remote transformer.

2.8 CIRCUITS AND WIRING

- A. Provide Class B wiring system.
- B. Provide 15 percent capacity for future expansion of A/V alarm device and data loop circuits.
- C. Separate alarm wiring from any open conductors or power, or Class 1 circuits. Do not place in any conduit, junction box or raceway containing these conductors, per NEC Article 760-55.
- D. Wiring for 24-volt DC control, alarm notification, emergency communication and similar power-limited auxiliary function may be run in the same conduit as initiating and signaling line circuits. Provide circuits with transient suppression devices and design system to permit simultaneous operation of all circuits without interference or loss of signals.
- E. Wire:
 - 1. Provide new fire alarm system wiring except where existing alarm wiring in existing facility is to remain in place.
 - 2. Provide wiring meeting local, state and national codes (e.g., NEC Article 760) and as recommended by the manufacturer of the fire alarm system. Provide number and size of conductors as recommended by the fire alarm system manufacturer, but not less than **18 AWG (1.02 mm)**.
 - a. Line Voltage Circuits: Standard 14-gauge copper wire with THHN insulation. (120V)
 - b. Low voltage Circuits: Twisted non-shielded 18 gauge minimum.
 - 3. Provide wire and cable listed and approved by a recognized testing agency for use with a protective signaling system.
 - 4. Provide wire and cable not installed in conduit with a fire resistance rating suitable for the installation as indicated in NFPA 70 (e.g., FPLR).
 - 5. Field wiring shall be electrically supervised for open circuit and ground fault.
- F. Terminal Boxes, Junction Boxes and Cabinets: UL listed for use and purpose.

2.9 MANUAL PULL STATIONS

- A. Product: Bosch Security and Safety Systems; FMM-462-D or FMM-100DATK.
- B. Location: Customer service or an AHJ approved location for building evacuation. Additional pull stations may be required based on AHJ requirements.
- C. The unit shall be dual action (i.e. requiring two motions to activate the station) and shall be addressable for connections to the fire alarm control panel(s).
- D. Unit shall meet UL 38, standard for manually actuated signaling boxes.
- E. Mount **48 inches (1220 mm)** above the finished floor and in accordance with local building codes and as called out in NFPA 72.

2.10 CEILING/WALL SMOKE DETECTORS

- A. Product: Bosch Security and Safety Systems; FAA-350 or applicable base w/applicable FCP-350-P / FCP-350-PTH sensor.
- B. Provide base for applications where auxiliary contacts are required.
- C. Supervise power as required using applicable relay base or as specified by manufacturer installation instructions.

2.11 DUCT SMOKE DETECTORS

- A. Intelligent Addressable Duct Mounted Photoelectric Smoke Detectors:
 - 1. Product: Bosch Security and Safety Systems; FCD-350-DH Photoelectric Duct Smoke Detector Head with FCD-350 Series Duct Detector Housings.
 - 2. Provide UL 268A listed unit with two LEDs that will provide local alarm indication and a remote alarm output will be required for use with auxiliary devices.
 - 3. Operating Velocities: 100 to 4000 feet/minute (30.5 to 1219-m/minute).
 - 4. Provide sampling tube per NFPA, test station and all other required accessories.
 - 5. The shutdown of air handlers shall occur via a signal from the Fire Alarm Panel should any smoke detector be activated, unless specifically forbidden by the authority having jurisdiction, in which case provide auxiliary contact as required to shut down equipment and wire into the stop circuit of all air handlers' starter.
 - 6. Provide remote key activated test station (with status/alarm/trouble indicating LEDs), on the column or wall beneath the duct detector as indicated on Drawings or as determined in field.
 - a. Product: Bosch Security and Safety Systems; D305 Remote Test Kit.
 - b. Provide electrical conduit from duct detector to remote test station for column and wall mounted applications. (Refer to Division 26 Section "Common Work Results for Electrical.")
 - c. Provide engraved (or approved machine-generated equivalent method) plate at each remote station to read: "#### Duct Smoke Detector", where #### is the RTU or AHU identification number used on Drawings.
 - d. Install test stations at 80-inches (2032-mm) above finish floor (AFF).
 - 7. Provide required power and control wiring so that upon detection of smoke, the following sequence of operations occurs where applicable:
 - a. A supervisory signal (except Ohio alarm condition) is sent by the fire alarm control panel to the monitoring central station unless AHJ requires alarm condition.
 - b. All HVAC units shut down (including applicable dampers).
 - c. Associated smoke dampers close (wired to automatically re-open on duct detector reset).

2.12 HEAT DETECTORS

- A. Addressable Heat Detectors:

1. Product: Bosch Security and Safety Systems; FAA-350 or applicable base w/applicable FCH-350-135 sensor.
2. Provide both rate of rise and fixed temperature with 135 degrees F. (57 degrees C.) alarm threshold.

2.13 FIRE ALARM NOTIFICATION DEVICES

A. General:

1. Comply with requirements of NEC and NFPA-72.
2. Provide weather resistant back boxes for units installed in refrigerated rooms and freezers to diminish the risk of damage due to condensation.

B. Horn/Strobe Units

1. Manufacturers:
 - a. Cooper Industries; Wheelock Brand.
 - b. System Sensor.
2. Comply with ANSI S3.41 temporal code, when required by authority having jurisdiction.
3. Synchronize strobe units.
4. Color: Red
5. Strobe Luminous Intensity: ADA-compliant.
 - a. Main Sales Area: Minimum 75 candela.
 - b. Smaller Areas: Minimum candela units as required to comply with ADA and the equivalent NFPA 72 requirements resulting in the minimum number of devices.
6. Mounting: Semi-flush mounting plates, ceiling or bottom of open steel structure whenever possible, wall mounted (only when required) at 80-inches (2032-mm) as shown on Drawings.
7. Provide weatherproof devices for any walk-in cooler or freezer applications.

C. Strobe-Only Units

1. Manufacturers:
 - a. Cooper Industries; Wheelock Brand.
 - b. System Sensor.
2. Comply with ANSI S3.41 temporal code, when required by authority having jurisdiction.
3. Synchronize strobe units.
4. Color: Red.
5. Luminous Intensity: ADA-compliant.
 - a. Main Sales Area: Minimum 75 candelas.
 - b. Smaller Areas: Minimum candela units as required to comply with ADA and the equivalent NFPA 72 requirements resulting in the minimum number of devices.

6. Mounting: On ceiling or to the bottom of open steel structure whenever possible, Wall mounted (only when required) at 80-inches (2032-mm) as shown on Drawings.
7. Provide weatherproof devices for any walk-in cooler or freezer applications.

2.14 ACCESSORY DEVICES

A. Remote Annunciators

1. Product: Bosch Security and Safety Systems; Model B926F Fire Keypad. Provide 1257RB (SDI only) Fire Annunciator if remote viewing of events is required with no system control.
2. Locate remote annunciator in customer service area, exact location shall be coordinated with Owner and local fire department.
3. Locate additional remote annunciator in or near the main entrance when required by the local fire department.
4. Mount remote annunciator on wall 60 inches (1524 mm) above finish floor to center of unit or as required by local fire department.

B. Fire Protection Devices

1. Fire protection tamper and flow switches will be provided by the fire protection installer.
2. Where fire protection is required for fuel center canopy, provide monitor flow/activation or tamper switches associated with either dry chemical or wet system protection.

C. Input Modules (B208 or D9127U)

1. Provide as required to interface "non-addressable" devices into the system as shown on the Drawings (i.e. Sprinkler Flow Switches, Tamper Switches, Pressure Switches, Kitchen Hoods, etc. as applicable).
 - a. Provide electrical conduit for wall mounted applications, and for ceiling mounted applications if the above-ceiling space acts as a plenum return. (Refer to Division 26 Section "Common Work Results for Electrical.")
 - b. Provide B299 Expansion Modules when D9127U POPITS are used with B9512G control panel. One B299 accommodates up to 100 POPITS and can be used on the SDI2 data bus up to 1000 feet (30.5 m) from panel. B208 Input Modules provide eight inputs and can be connected directly to the SDI2 data bus and located up to 1000 feet (30.5 m) from panel.
 - c. Provide B600 Retrofit Module when reusing legacy modules such as D8125 Zone Expansion Modules, D8129 Octo-relay Modules and D8128 Octo-input Modules.
 - d. D9127T tampered POPITs are not allowed.

D. Provide required relays for auxiliary devices including door closures and supervised control functions such as air handler shut-downs.

E. Provide alarm wiring and connection to tamper switch on emergency key cabinet (Knox box).

PART 3 - EXECUTION

3.1 GENERAL

- A. The Authority Having Jurisdiction (AHJ) shall be notified prior to installation or alteration of equipment and wiring.
- B. Existing fire alarm systems should remain in operation during remodel projects to insure protection.
- C. Should a fire alarm system need to be shut down or taken off-line for more than an hour (or as required by the AHJ), a standard fire watch must be put in place by the contractor until the system is reactivated. All system outages must have Owner's prior written permission and it will be the Contractor's responsibility to notify the local fire department, Authority Having Jurisdiction (AHJ) and owner's monitoring center (KCAC) prior to shut down. Notify KCAC when systems are being reactivated.

3.2 INSTALLATION

- A. General:
 - 1. Install equipment in accordance with the NEC, NFPA 72, local and state codes, as shown on the Drawings, and as recommended by the manufacturer. Refer to Division Section "Low Voltage Electrical Power Conductors and Cables" for additional recommendations.
 - 2. Conceal wiring, cabling, conduit, junction boxes, conduit supports and hangers from view in finished ceiling areas and remain exposed in open structure areas. Place alarm wiring in conduit when installed down a column and unfinished walls in backroom areas.
 - 3. Do not install smoke detectors prior to the system programming and test period. If construction is ongoing during this period, protect smoke detectors from contamination and physical damage.
 - 4. Flush mount fire detection and alarm system devices, control panels and remote annunciators when located in finished areas. Devices may be surface mounted when located in unfinished areas.
 - 5. Install equipment at heights and locations as specified below or in Part 2 of this Section.
- B. Connect 120VAC power for fire alarm equipment to emergency panels where applicable.
 - 1. Install a D8004 enclosure over the transformer to prevent the transformer of the fire alarm panel from being disconnected.
- C. Provide required 20A/120VAC power as required to energize components of the fire alarm system. Include home-runs for fire alarm control panels as well as home-runs and wiring for any accessory devices such as remote power supplies/panels, printer, dialer, etc. as applicable.
 - 1. This requirement applies whether or not such power work is shown on the Drawings.
 - 2. Dedicate branch circuits serving fire alarm equipment to fire alarm equipment only. Label circuit at the main power distribution panel as FIRE ALARM. Ground control panel cabinet securely to either a cold water pipe or a grounding rod.

3. Provide machine generated label at FACP and intrusion control panel indicating location of breaker box and circuit number.

D. Smoke or Heat Detector Locations:

1. Do not exceed the rated coverage of the detector.
2. Install no more than **15-feet (4.6-m)** from a wall or **30-feet (9-m)** apart.
3. Do not install within **3-feet (1-m)** of a supply air diffuser.

E. Duct Smoke Detector Installation:

1. Duct smoke detectors are typically shown schematically at the respective air handling unit on the Drawings, but shall be installed maximizing the distances between ductwork offsets, and installed ahead of the first branch duct take-off. Coordinate with HVAC installer and fire alarm manufacturer's representative in field.
2. In fully ducted systems, install duct smoke detectors in the appropriate side of air handling equipment as required by the authority having jurisdiction. Where more than one detector is indicated associated with a particular piece of air handling equipment, there are special reasons for the additional detectors (i.e. split returns, return risers serving multiple floors, etc.); coordinate all locations for same with the HVAC installer.

F. Digital Communicator (Dialer) Installation

1. The onboard ethernet port is the primary communication via network connection.
 - a. Coordinate installation of network jacks, switch port, and certified cabling install for applicable control panels with the Kroger Technology Office prior to installation to prevent delays.
 - b. Verify that Ethernet (CAT5e/CAT6) cables are run properly and labeled correctly. Identify both ends at the panel and switch. As certain ports may be programmed differently be sure to connect to the port recommended by the Kroger Technology Office.
 - c. Utilize cellular module for backup communication purposes.
 - d. Verify that KCAC has the network account programmed into their receivers; ensure signals are being received via network and cellular module back-up.

3.3 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust field-assembled components and equipment installation, including connections, and to assist in field testing.
- B. Upon completion of installation, the system shall be checked and tested by a fire alarm inspector that is State-Licensed, NICET Level II Certified, or approved equivalent. Contact system manufacturer for this service if installer cannot provide on their own.
- C. After making tests and corrections, conduct a system demonstration for Owner and the authority having jurisdiction.

3.4 ADJUSTING

- A. Occupancy Adjustments: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two visits to Project outside normal occupancy hours for this purpose.
- B. Follow-Up Tests and Inspections: After date of Substantial Completion, test the fire alarm system complying with testing and visual inspection requirements in NFPA 72. Perform tests and inspections listed for three monthly, and one quarterly, periods.

3.5 DEMONSTRATION AND TECHNICAL SUPPORT

- A. Engage a manufacturer certified service representative to train Owner's personnel to operate the fire alarm system.
 - 1. Provide onsite training and User Guide documentation at no cost to Owner. Training includes but is not limited to:
 - a. How to check point status and identify faults on the Fire system.
 - b. How to silence a trouble signal on the Fire system.
 - c. How to silence the horns on the Fire system.
 - d. How to reset the smoke and/or duct detectors on the Fire system.
 - e. How to reset a pull station on the Fire system.
 - f. How to identify phone line, A/C power, and battery fails on the Fire system.
 - 2. Provide 24 hour/7 days per week/365 days per year technical support for one year at no cost to Owner.

3.6 RECORD DRAWINGS

- A. Provide Owner record drawings noting any "as-built" changes to the work.

3.7 ATTACHMENTS

- A. Alarm Panel WAN Compatibility Matrix (For designer reference).
- B. Kroger Central Alarm Control Monitoring Data Form.

(See following pages)

Alarm Panel WAN Compatibility Matrix				
	Replace	Upgrade	B426	Onboard
BOSCH D7024	X			
BOSCH D7212	X			
BOSCH D7212GV2	X	Version 7.06+	X	
BOSCH D7212GV3 v8.00 - 8.09	X	Version 7.06+	X	
BOSCH D7212GV3 v8.10+	X	Version 7.06+	X	
BOSCH D7212GV4 v1.00 - 1.99	X	Version 7.06+		
BOSCH D7412GV2		Version 7.06+	X	
BOSCH D7412GV3 v8.00 - 8.09			X	
BOSCH D7412GV3 v8.10+			X	
BOSCH D7412GV4 v1.00 - 1.99			X	
BOSCH D9412	X			
BOSCH D9412GV2		Version 7.06+	X	
BOSCH D9412GV3 v8.10+			X	
BOSCH D9412GV4 v1.00 - 1.99			X	
BOSCH B4512	X			
BOSCH B9512G			X	X**
BOSCH B8512G				X
BOSCH FPD-7024	X		X	
BOSCH FPA-1000	X			
DETECTION SYS	X			
DSC	X			
DSC PC 1832	X			
EDWARDS	X			
EDWARDS FIRESHIELD	X			
FIRELITE	X			
FIRELITE 5210	X			
FIRELITE MS5024	X			
FIRELITE MS9050	X			
FIRELITE MS9200	X			
NAPCO	X			
NAPCO GEMP1632	X			
NAPCO GEMP3200	X			
NAPCO GEMP816	X			
NAPCO GEMP9600	X			
NAPCO MA1008E	X			
NAPCO MA3000	X			
NAPCO MS5210 UD	X			
NAPCO P1632	X			
NOTIFIER 500	X			
RSI VIDEOFIED	X			
RSI XTIP 630	X			
SIEMANS	X			
SILENT KNIGHT	X			
SILENT KNIGHT 5104	X			
SILENT KNIGHT 5208	X			
SILENT KNIGHT 5700	X			
SIMPLEX	X			

*Approved for use with on-board NIC. **B426 is required



Kroger Central Alarm Control Monitoring Data Form

To schedule Conversion/Programming Audit, call 503-797-5411

All fields marked with * must be completed to enable monitoring service PLEASE TYPE/PRINT

*Is this a Brand New Location Y/N?: _____ Grand Opening Date: _____

*Store Name: _____ *Division #: _____ *Store _____

*Address: _____ *Zone/District _____ *Time Zone _____

*City: _____ *State: _____ *Zip: _____

*Township (if required for Dispatch): _____

*Does your jurisdiction require an alarm permit? _____ If Yes, permit # _____

*Store Main Phone Number: _____

*Pharmacy Phone #: _____ *RX Dr.'s line _____

*Fuel kiosk direct phone # _____ or Fuel kiosk extension # _____

Fuel Separate Address from Main Store? _____

*Liquor direct phone # _____ or Liquor extension # _____

*Local Fire Dispatch phone # (Not 911): _____

*Local Police Dispatch phone # (Not 911): _____

Secondary Police and/or Fire Dispatch # if available: _____

*Business Hours: _____ *Are Associates inside 24 hours a day? _____

Emergency Call List: These people will be notified if no one is contacted at the store or in an emergency

*1st Responder/Store Manager Name: _____ EUID: _____

Home # _____ Cell #: _____

*2nd Responder (Name and Position) _____ EUID: _____

Home # _____ Cell #: _____

*3rd Responder (Name and Position) _____ EUID: _____

Home # _____ Cell #: _____

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JSA Project No. 23058

Kroger Store No. D-365
Ann Arbor, Michigan

*4th Responder (Name and Position) _____ EUID: _____

Home # _____ Cell #: _____

Name of person completing form ***Please TYPE/Print:*** _____

*Position of person completing form ***Please TYPE/Print:*** _____

Date: _____

Please E-mail this completed form to:
alarmprogramming@kroger.com
KCAC Programming and Conversion Coordinators
can be reached at 503-797-5411
Mon-Fri 0730-1700 Pacific Time
KCAC Monitoring 1-800-982-2749
Reba Phillips, KCAC Manager

END OF SECTION 28 46 00

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