

SECTION 28 16 00

INTRUSION DETECTION

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes intrusion detection devices, alarm control panel, signaling devices, and signal wiring.
- B. Related Sections:
 - 1. Division 08 - Door Hardware.
 - 2. Division 26 - Low-Voltage Electrical Power Conductors and Cables.
 - 3. Division 26 - Grounding and Bonding for Electrical Systems.
 - 4. Division 28 - Identification for Electronic Safety and Security.

1.02 REFERENCES

- A. National Fire Protection Association:
 - 1. NFPA 72 - National Fire Alarm Code.
 - 2. NFPA 262 - Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces.

1.03 SYSTEM DESCRIPTION

- A. Intrusion Detection System: Protect building and selected areas from intrusion during SECURE hours.
- B. Alarm Sequence of Operation:
 - 1. Actuation of intrusion detecting device causes the following operations:
 - a. Local alarm signaling devices sound and display with non-coded signal.
- C. Zone-coded signal transmits to municipal connection.
- D. Location of actuated device indicates on control panel and on remote annunciator panel.
- E. Zoning: As required per program.

1.04 SUBMITTALS

- A. Division 01 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings: Indicate system wiring diagram showing each device and wiring connection; indicate annunciator layout.
- C. Product Data: Submit catalog data showing electrical characteristics and connection requirements.
- D. Test Reports: Indicate procedures and results for specified field testing and inspection.
- E. Manufacturer's Field Reports: Indicate activities on site, adverse findings, and recommendations.

1.05 CLOSEOUT SUBMITTALS

- A. Division 01 - Execution and Closeout Requirements: Closeout procedures.

- B. Project Record Documents: Record actual locations of intrusion detection equipment.
- C. Operation and Maintenance Data: Submit manufacturer's standard operating and maintenance instructions.

1.06 QUALITY ASSURANCE

- A. Provide wiring materials located in plenums with peak optical density not greater than 0.5, average optical density not greater than 0.15, and flame spread not greater than 5 feet (1.5 m) when tested in accordance with NFPA 262.
- B. Maintain one copy of each document on site.

1.07 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience, and with service facilities within 100 miles of project.
- B. Installer: Certified security system installer with service facilities within 100 miles of Project.

1.08 MAINTENANCE SERVICE

- A. Division 01 - Execution and Closeout Requirements: Maintenance service.
- B. Furnish service and maintenance of intrusion detection system for one year from Date of Substantial Completion.

1.09 MAINTENANCE MATERIALS

- A. Division 01 - Execution and Closeout Requirements: Spare parts and maintenance products.
- B. Furnish six keys of each type.

PART 2 PRODUCTS

2.01 CONTROL PANEL

- A. Manufacturers: Per County Standards
- B. Product Description: Modular control panel with surface wall-mounted enclosure.
- C. Power supply: Adequate to serve control panel modules, remote annunciators and alarm signaling devices. Furnish battery-operated emergency power supply with capacity for operating system in standby mode for 24 hours.
- D. System Supervision: Furnish electrically supervised system, with supervised alarm initiating and alarm signaling circuits. Component or power supply failure places system in alarm mode.
- E. Initiating Circuits: Supervised zone module with alarm and trouble indication.
- F. Signal Circuits: Supervised zone coded signal module, sufficient for signal devices connected to system; occurrence of single ground or open condition places circuit in trouble mode and does not disable circuit from transmitting alarm.
- G. Remote Station Signal Transmitter: Electrically supervised, capable of transmitting alarm and trouble signals over telephone lines to central station receiver.

- H. Auxiliary Relays: Furnish sufficient SPDT auxiliary relay contacts for each detection zone to provide accessory functions specified.
- I. Occupied/Unoccupied Selector: Keyed switch
- J. Zone Bypass Switch: Keyed switch.
- K. System Bypass Switch: Keyed switch.
- L. Alarm Reset: Key-accessible reset function resets alarm system out of alarm when alarm initiating circuits have cleared.
- M. Lamp Test: Manual lamp test function causes alarm indication at each zone at control panel and at annunciator panel.
- N. Entry and Exit Time Delays: Adjustable

2.02 MAGNETIC SWITCH

- A. Manufacturers: Per County Standards

2.03 PROXIMITY SWITCH

- A. Manufacturers: Per County Standards

2.04 MOTION DETECTOR

- A. Manufacturers: Per County Standards

2.05 PHOTOELECTRIC DETECTOR

- A. Manufacturers: Per County Standards

2.06 REMOTE ANNUNCIATOR

- A. Manufacturers: Per County Standards

2.07 WIRE AND CABLE

- A. Manufacturers: Per County Standards

PART 3 EXECUTION

3.01 EXAMINATION

- A. Division 01 - Administrative Requirements: Coordination and project conditions.
- B. Verify surfaces to receive detection devices are ready for installation.

3.02 EXISTING WORK

- A. Remove exposed abandoned intrusion detection wiring, including abandoned wiring above accessible ceiling finishes. Cut cable flush with walls and floors, and patch surfaces.
- B. Disconnect and remove abandoned intrusion detection equipment.

- C. Maintain access to existing intrusion detection equipment and other installations remaining active and requiring access. Modify installation or provide access panel.
- D. Extend existing intrusion detection installations using materials and methods compatible with existing installations, or as specified.
- E. Clean and repair existing intrusion detection equipment remaining or to be reinstalled.

3.03 INSTALLATION

- A. Install 18 AWG minimum size conductors for detection and signal circuit conductors. Install wiring in conduit.
- B. Make conduit and wiring connections to door hardware devices.
- C. Install engraved plastic nameplates in accordance with Division 28.
- D. Ground and bond intrusion detection equipment and circuits in accordance with Division 26.

3.04 FIELD QUALITY CONTROL

- A. Division 01 - Quality Requirements and Execution and Closeout Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Test in accordance with NFPA 72 and manufacturer's recommendations.

3.05 MANUFACTURER'S FIELD SERVICES

- A. Division 01 - Quality Requirements: Manufacturer's field services.
- B. Furnish services of technician to supervise installation, adjustments, final connections, system testing, and County training.

3.06 DEMONSTRATION AND TRAINING

- A. Furnish two hours of instruction each for two persons, to be conducted at project site with manufacturer's representative.

END OF SECTION