SECTION 284602 - DOOR ALARM SYSTEM

See information at end of section.

1. GENERAL
   * + 1. SYSTEM DESCRIPTION
          1. The door alarm system shall operate as a supervised zoned system which detects security violations at doors within secured areas. The system operation is summarized as follows:

An attendant at the control panel in the security office monitors the status of the doors within the secured areas. Each single door and each set of double doors are individual zones.

* + - * 1. Indicate where control panel is located.

Each zone has 2 modes (bypass and secure). Each zone may be independently placed in either bypass or secure mode by means of a selector switch.

When a zone is placed in the access mode, a zone light illuminates (yellow) and flashes indicating the access mode.

When a zone is placed in the secure mode, the flashing yellow access light extinguishes and another zone light illuminates (green) indicating closed door position and all zone functions normal.

When a zone is in the secure mode and the associated door is opened, the red zone light illuminates and an audible alarm signal sounds in the control panel and remotely in the room indicating a security violation.

* + - * 1. Indicate where the remote alarm signal is to sound. Omit if not required.

An acknowledge switch in the control panel allows the attendant to silence the audible alarm signal. Subsequent security violations from other zones cause the audible alarm signal to resound.

The red zone alarm light remains illuminated until the security violation is cleared (door closed) and the system is reset.

Supervision of wiring indicates trouble conditions at the control panel. Trouble conditions are indicated by an audible trouble signal and system trouble indicating light (yellow), also zone trouble indicating lights (yellow) illuminate to indicate zone trouble conditions. The audible trouble signal may be silenced by operating a reset switch. The visual indications remain until the system is restored to normal condition.

Monitoring of ground fault conditions indicates a separate trouble condition and a system trouble condition at the control panel.

Failure of the ac operating power automatically transfers the system to the secondary standby power supply (batteries). The secondary standby power supply operates the system under maximum normal load conditions for 24 hours.

* + - 1. SUBMITTALS
         1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
         2. Manufacturer’s installation instructions shall be provided along with product data.
         3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
         4. Waiver of Submittals: The “Waiver of Certain Submittal Requirements” in Section 013300 does not apply to this Section.
         5. Submittals Package: Submit the shop drawings, product data, and quality control submittals specified below at the same time as a package.
         6. Shop Drawings:

Bill of materials.

Composite wiring and/or schematic diagrams of the complete system as proposed to be installed (standard diagrams will not be acceptable).

Total electrical load of the complete system in supervisory and alarm conditions.

Detailed description of system operation (format similar to SYSTEM DESCRIPTION).

* + - * 1. Product Data:

Catalog sheets, specifications and installation instructions.

Name, address and telephone number of nearest fully equipped service organization.

* + - * 1. Quality Control Submittals:

Company Field Advisor Data: Include:

Name, business address and telephone number of Company Field Advisor secured for the required services.

Certified statement from the Company listing the qualifications of the Company Field Advisor.

Services and each product for which authorization is given by the Company, listed specifically for this project.

* + - * 1. Contract Closeout Submittals:

Test Report: System acceptance test report.

Certificate: Affidavit, signed by the Company Field Advisor and notarized, certifying that the system meets the contract requirements and is operating properly.

Operation and Maintenance Data: Deliver 2 copies to the Director’s Representative, covering the installed products. Include name, address and telephone number of the nearest fully equipped service organization.

* + - 1. QUALITY ASSURANCE
         1. Equipment Qualifications For Products Other Than Those Specified:

At the time of submission provide written notice to the Director of the intent to propose an “or equal” for products other than those specified. Make the “or equal” submission in a timely manner to allow the Director sufficient time to review the proposed product, perform inspections and witness test demonstrations.

If products other than those specified are proposed for use furnish the name, address, and telephone numbers of at least 5 comparable installations that can prove the proposed products have performed satisfactorily for 3 years. Certify in writing that the owners of the 5 comparable installations will allow inspection of their installation by the Director's Representative and the Company Field Advisor.

Make arrangements with the owners of 2 installations (selected by the Director) for inspection of the installations by the Director's Representative. Also obtain the services of the Company Field Advisor for the proposed products to be present. Notify the Director a minimum of 3 weeks prior to the availability of the installations for the inspection, and provide at least one alternative date for each inspection.

Only references from the actual owner or owner’s representative (Security Supervisor, Maintenance Supervisor, etc.) will be accepted. References from dealers, system installers or others, who are not the actual owners of the proposed products, are not acceptable.

Verify the accuracy of all references submitted prior to submission and certify in writing that the accuracy of the information has been confirmed.

The product manufacturer shall have test facilities available that can demonstrate that the proposed products meet the contract requirements.

Make arrangements with the test facility for the Director's Representative to witness test demonstrations. Also obtain the services of the Company Field Advisor for the proposed product to be present at the test facility. Notify the Director a minimum of 3 weeks prior to the availability of the test facility, and provide at least one alternative date for the testing.

Provide written certification from the manufacturer that the proposed products are compatible for use with all other equipment proposed for use for this system and meet all contract requirements.

* + - * 1. Testing Facility: The Company producing the system shall have test facilities available which can demonstrate that the proposed system meets contract requirements.
        2. Company Field Advisor: Secure the services of a Company Field Advisor for a minimum of 16 working hours for the following:

Render advice regarding installation and final adjustment of the system.

Witness final system test and then certify with an affidavit that the system is installed in accordance with the contract documents and is operating properly.

Train facility personnel on the operation and maintenance of the system (minimum of two 1 hour sessions).

Explain available service programs to facility supervisory personnel for their consideration.

* + - 1. MAINTENANCE
         1. Service Availability: A fully equipped service organization capable of guaranteeing response time within 24 hours to service calls shall be available to service the completed Work.
         2. Spare Parts:

50 percent spare of each type fuse.

30 percent spare of each type lamp (except LED type).

* + - * 1. Edit number of magnetic switches to suit.

4 spare magnetic switches.

1. PRODUCTS
   * + 1. DOOR ALARM SYSTEM
          1. Control Panel: Honeywell Inc.’s Multizone Fire & Security System Model W940C, or Simplex Time Recorder Co.’s Security Alarm System 2001-8002 Series, with:

Input circuits suitable for operation on 120 vac circuit and 24 vdc battery standby.

24 vdc signal initiating circuits and 24 vdc alarm indicating circuits.

Surface mounted cabinet with control switches behind hinged and locked door, windows for visibility of system functions. Furnish 2 keys.

Accessories to perform the functions summarized in SYSTEM DESCRIPTION.

* + - * 1. Magnetic Switches: Honeywell’s ADM39-2, or Simplex’s Type 39-2.
        2. Remote Audible Alarm Devices:

Chimes: Honeywell’s Model SC806E, or Simplex’s Modular Chimes.

* + - * 1. Secondary Standby Power Supply: Sealed, lead-acid gelled electrolyte or maintenance free lead-calcium batteries; Eagle-Picher’s Carefree Magnum, Gates’ Sealed Rechargeable Batteries 0800, 0810, 0820 (plastic case), Globe’s Gel/Cell GC, or Gould’s Gelyte PB, with:

Ampere-hour capacity to operate the system under conditions specified in SYSTEM DESCRIPTION.

Two rate automatic battery charger with charging characteristics as recommended by battery manufacturer.

Batteries and charger integrally mounted in control panel or separate cabinet mounted as recommended by the Company producing the system.

* + - * 1. Terminal Strip Cabinets:

Lockable, vandal resistant, 14 gage steel, surface mounted, size as recommended by the Company producing the system.

Barrier type double screw terminals with identification strips, tags or labels for each wire.

* + - * 1. Wiring: Insulated conductors shall meet requirements of Section 260519 and the following:

Signal Initiating Circuits: Minimum No. 16 AWG type XHHW, THWN or THHN.

Audible Alarm Indicating Circuits: Minimum No. 14 AWG type RHW, THW, XHHW, THWN or THHN.

Wiring shall be shielded or unshielded as recommended by the Company producing the system.

Number of conductors and conductor size as recommended by the Company producing the system, except that conductor size shall not be less than previously specified.

* + - * 1. Zone Locator: Card holder with aluminum or stainless steel frame, plexiglass front and sheet aluminum card backing plate. Print floor plan graphically on card, showing each zone. More than one card and card holder may be used provided the zones are clearly defined. Minimum size card 8 x 10 inches.
        2. Zone Labels: Embossed, self adhesive tape, minimum 1/4 inch wide, color of tape similar to color of equipment to be labeled (DYMO Labelmaker System).

1. EXECUTION
   * + 1. INSTALLATION
          1. Install system in accordance with the Company’s printed instructions.
          2. Zone Locator: Install adjacent to control panel.
          3. Zone Labels: Install on each magnetic switch a label stating “ZONE” and number (Zone 1, etc.).
       2. FIELD QUALITY CONTROL
          1. Preliminary System Test:

Preparation: Have the Company Field Advisor adjust the completed system and then operate it long enough to assure that it is performing properly.

Run a preliminary test for the purpose of:

Determining whether the system is in a suitable condition to conduct an acceptance test.

Checking and adjusting equipment.

Training facility personnel.

* + - * 1. System Acceptance Test:

Preparation: Notify the Director’s Representative at least 3 working days prior to the test so arrangements can be made to have a Facility Representative witness the test.

Make the following tests:

Individually test each door.

Test audible alarm devices.

Test each system function step by step as summarized under SYSTEM DESCRIPTION.

Supply all equipment necessary for system adjustment and testing.

Submit written report of test results signed by Company Field Advisor and the Director’s Representative. Mount a copy of the final report in a plexiglass enclosed frame assembly adjacent to the control panel.

END OF SECTION 284602

THE REMAINDER OF THIS SECTION IS FOR INFORMATION ONLY. NOT TO BE INCLUDED IN PROJECT SPECIFICATIONS.

The door alarm system as specified is not considered a high security alarm system, but is usually adequate for the average security project. The system will meet UL requirements for Grade A operation (responds to both an increase and a decrease in circuit resistance or current). The change in resistance or current flow in the protection circuit required to produce an alarm shall not exceed + 50 percent of normal. This is called a 50 percent sensitive system). More sensitive systems utilizing 10 percent sensitive circuits are available for special applications. Also other type systems are available for high security applications which utilize random digital or high speed digital interrogation/response type signals to render the circuits more difficult to compromise.

2. UL has a list of companies that can issue certificates for alarm systems. The requirement that the installer must be a UL listed “Installing Company” should be added to the section on appropriate projects. The requirement should also be noted on the Notice to Bidders (Sample available from previous projects).

The following codes and standards govern the installation of security systems:

National Electrical Code Art. 725 (these systems normally operate within the limits of Class 2 remote-control and signal circuits).

UL 681 - Installation and Classification of Mercantile and Bank Burglar-Alarm Systems.

UL 1076 - Proprietary Burglar Alarm System Units and Systems.

UL 609 - Local Burglar Alarm Units and Systems.

UL 611 - Central-Station Burglar Alarm Systems.

UL 634 - Connectors and Switches for Use with Burglar-Alarm Systems.

UL 636 - Holdup Alarm Units and Systems.

UL 639 - Intrusion-Detection Units.

UL 606 - Linings and Screens for Use with Burglar-Alarm Systems.

UL 603 - Power Supplies for Use with Burglar-Alarm Systems.

UL 365 - Police Station Connected Burglar Alarm Units and Systems.

Show one line diagram of complete alarm system, but do not show number or size of wires (See Information at end of Section 260532 indicating alternate methods for showing the risers on the drawings).

Show zones on the drawings (include active and spares).

END OF INFORMATION 284602