SECTION 13711 (28 16 00)

INTRUSION DETECTION SYSTEM

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* NOTE TO SPECIFIER ** Honeywell Commercial Security; security and automation solutions, intrusion detection.

This section is based on the products of Honeywell Commercial Security, which is located at:

715 Peachtree St. N.E.
Atanta, GA 30308
Toll Free Tel: 800-323-4576
Web:http://www.security.honeywell.com

[Click Here] for additional information.

Honeywell is a leading global manufacturer of security and automation solutions for residential and commercial applications. From intrusion, fire and home automation systems, to the latest in IP video and access control, we are focused on technologies that create "connected homes" and "connected buildings."
With our extensive technology portfolio, experienced team and trusted brand, we have been recognized as the "partner of choice" in the security industry. Year after year, a Security Distributing and Marketing magazine reader survey has ranked Honeywell as the industry's preferred channel partner.

PART 1 GENERAL

1.1 SECTION INCLUDES

** NOTE TO SPECIFIER ** Delete items below not required for project.

A. intrusion detection system, including engineering, components, installation and commissioning. (Vindicator)

1.2 RELATED SECTIONS

** NOTE TO SPECIFIER ** Delete any sections below not relevant to this project; add others as required.

A. Section 16050 - Basic Electrical Materials and Methods.

B. Section 13710 - Security Management System.

C. Section 13712 - Video Surveillance System.

1.3 REFERENCES

** NOTE TO SPECIFIER ** Delete references from the list below that are not actually required by the text of the edited section.

A. Federal Communications Commission (FCC):
   1. FCC Part 15, Subpart J, Class A computing devices regarding EMI and RFI.

B. Federal Information Processing Standards (FIPS):
   1. FIPS Pub 46-3 Triple Data Encryption Algorithm (TDEA Option)/

C. Security Industry Association (SIA):
   1. SIA Computer Interface and Digital Communications Standards/

D. Underwriters Laboratories (UL):
   1. UL 294: Access Control System Units.
   2. UL 864: Control Units for Fire Protective Signaling Systems.
   3. UL 1076: Proprietary Burglar-Alarm Units and Systems.
   4. UL Grade AA Line Security Requirements/

E. United States Department of Commerce:
   1. DCID 6/9 paragraph 3.2.8.1 Security Requirements with optional FIPS pub 46-3 AES option.

F. United States Air Force (USAF):
   1. USAF PRSS-ORD for Priority 1, -4 type Resources/

1.4 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data:
   1. Manufacturer's data sheets on each product to be used.
   2. Preparation instructions and recommendations.
   3. Storage and handling requirements and recommendations.
   4. Typical installation methods.

** NOTE TO SPECIFIER ** Delete if not applicable to product type.

C. Verification Samples: Two representative units of each type, size, pattern, and color.

D. Shop Drawings: Submit complete shop drawings including connection diagrams for interfacing equipment, list of connected equipment, and locations for major equipment components.

E. Record Drawings: During construction maintain record drawings indicating location of equipment and wiring. Submit an electronic version of record drawings not later than Substantial Completion of the project.

F. Operation and Maintenance Data: Submit manufacturer’s operation and maintenance data, customized to the system installed. Include system and operator manuals.

G. Field Tests: Submit results of field testing of every device including date, testing personnel, retesting date if applicable, and confirmation that every device passed field testing.

H. Maintenance Service Agreement: Submit a sample copy of the manufacturer’s maintenance service agreement, including cost and services for a one year period for Owner’s review. Maintenance shall include, but not be limited to, labor and materials to repair the system, provide test and adjustments, and regular inspections.

1.5 QUALITY ASSURANCE

A. Manufacturer: Minimum ten years’ experience in manufacturing and maintaining similar systems. Manufacturer shall provide toll-free technical assistance and support available 9 am – 5 pm CST, available via the toll-free number.

B. Installer: Minimum two years' experience installing similar systems, and acceptable to the manufacturer.

C. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

** NOTE TO SPECIFIER ** Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
   1. Finish areas designated by Architect.
   2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
   3. Refinish mock-up area as required to produce acceptable work.

1.6 PRE-INSTALLATION CONFERENCE

A. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store and handle in strict compliance with manufacturer's written instructions and recommendations.

B. Protect from damage due to weather, excessive temperature, and construction operations.

1.8 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.9 WARRANTY

A. Manufacturer's standard limited warranty unless indicated otherwise.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Honeywell Commercial Security, which is located at: 715 Peachtree St. N.E.; Atanta, GA 30308; Toll Free Tel: 800-323-4576; Email: Jenna.Lehning@honeywell.com; Web: http://www.security.honeywell.com

** NOTE TO SPECIFIER ** Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

B. Substitutions: Not permitted.

C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

** NOTE TO SPECIFIER ** Delete article not required.

2.2 INTRUSION DETECTION SYSTEM

A. Basis of Design: Intrusion Detection System: Vindicator V5 IDS Server by Honeywell.
   1. Vindicator Technologies System Server and VCC Server Applications Software, a combination of Vindicator Technologies' tested and DOD certified application software and Microsoft Windows XP and Office Suite Application Software. Software products and applications shall provide capabilities and features including:
      a. Open architecture development.
      b. Third party system interfaces.
      c. Extremely high mean time between failures (MTBF) rate.
      d. Simple operation alarm annunciation.
      e. Power data analysis report generating applications.
   2. Maximum Capacities of each Vindicator V5 IDS Server:
      a. Remote Sites: Any number of remote sites can be deployed, each with multiple V5 IDS Server processor capabilities.
      b. Data Gathering Panels: 1,000.
      c. Alarmed Zones: 50,000.
      d. Transaction storage without Vindicator server link: Base system 50,000 events.
   3. V5 IDS Server System:pIntrusion Detection System Capacity: USAF Approved SMART System architecture.
   4. Sensor Inputs: 20,000 maximum. Sensor inputs are comprised of any combination of transponder inputs, video loss detection, geospatial sensors, access control portal and location events. The system database grows adaptively in support of each individual site requirement.
   5. V5 Multi-state Inputs (Alarm, Tamper, Trouble): 48,000 multi-state inputs with all units provisioned with sensor input modules. Actual site mix of equipment will likely reduce this maximum because this number assumes that all deployed network devices are V5 models.
   6. Multi-state Transponder Inputs: 8,000 multi-state inputs using UHS-1500 transponders UHS Data Transmitters and associated devices, or a combination of both may be installed on a single UHS Network for a total of 1000 devices, maximum. Each multi-state sensor input can typically monitor both an alarm and a tamper contact reduces the overall system sensor input requirement.
   7. UHS Data Transmitter Multi-State Points: 6144 multi-state inputs per network using UHS-1500.
   8. UHS Data Transmitter Alarm Points: 6144 per network using UHS/AES-1500 Data Transmitters.
   9. V5 ACS Transaction Processors: 1000 per network. This number assumes that all deployed network devices are V5 models provisioned for the maximum function. Actual site mix of equipment will likely reduce this maximum.
   10. ACSYS Portals: Up to 1000 portals for IDS monitoring of Forced and Held Door events, Access Denied, and locking control.
   11. CCTV Video Loss: Monitoring of video loss of each specific source when deployed with compatible CCTV equipment.
   12. Video Platforms Supported:
      a. Honeywell MaxPro system.
      b. VICADS platform.
      c. Pelco
      d. Bosch
      e. Broadware.
   13. Geospatial Sensors: Direct interface to PSRS, ARSS and MSTAR sensors with support for user defined sectors. (Requires VCC).
   14. UHS Transponder Relays: 4,000 via UHS-1500 Transponders.
   15. V5 Relays: 24,000 with all units configured with relay modules. This number assumes that all deployed network devices are V5 models provisioned for the maximum function. Actual site mix of equipment will likely reduce this maximum.
   16. Color Graphics: Multiple Maps and/or Color Graphics via VCC and VSC (Vindicator Site Commander) systems.

17. Additional Workstations: Vindicator Server (VS) available with integrated SAW and VCC System Server platform, and VSC.

B. Local Sensor Inputs and Outputs:
   1. Local I/O Module Support: One local site is provided for the Communication I/O module (required) as well as 6 local module sites for installation of any mix of sensor input or relay output modules.
   2. Communication I/O Module: The communication I/O module provides a total of 8 communication ports. Four of these are dedicated RS-485 ports and 4 can be switched between RS-232/RS-485 as required.
   3. Sensor Input Module: Up to a maximum of 6 sensor input modules (SIM) may be installed, providing up to 48 supervised inputs. Inputs are configured for relative resistive load measurements providing Class “B” supervised, multi-state analog inputs.
   4. Relay Output Module: Up to a maximum of 6 relay output modules (ROM) may be installed, providing a maximum of 24 relays. The relays are Form C, S.P.D.T relays that can switch up to 48 VDC at 2A or 48 VAC at 1.5A.

C. Communication Ports:
   1. Serial Ports: Maximum per function. Eight, RS-485 ports - 4 of these can be switched to RS-232 as required. Drivers support any mix of the following functions:
      a. Legacy Detecting Terminal port. Quantity: 1.
      b. Vindicator Security Network port. Quantity: 1.
      c. Proteus Bus for third party equipment like PCs. Quantity: 1.
      d. Redundant IDS Server port. Quantity: 1.
      e. Dedicated report printer port. Quantity: 1.
      f. Logging/Report printer port. Quantity: 1.
      g. CCTV Switcher control port. Quantity: 1.
      h. FLIR Systems WSTI interface port. Quantity: 1.
   2. Ethernet Ports: Standard 4 port 10/100BaseT Ethernet switch. Ethernet supports UHS-Net via UDP Multicast protocol.
   3. Fiber Optic Ethernet Ports: 4 optional (SM or MM) 100BaseFX ports as scheduled. Fiber Optic Ethernet supports UHS-Net via UDP Multicast protocol
   4. Communication Media Compatibility: pHigh-speed Direct Wire.
      a. Standard Vindicator Network -family devices Minimum 22 AWG data-grade dual twisted-pair.
      b. The 9600/10240-baud RS-485 ports (UHS) is not compatible with voice-grade telephone wire.
   5. Ethernet LAN:
      a. 100 BaseT Ethernet ports require CAT-5 cabling or better.
      b. 100 BaseFX fiber optic ports use MT-RJ style full duplex fiber optic connectors.
   6. Nominal Ranges:
      a. 1.4 miles (2.25 Km) on RS-422/485 buses between V5 IDS Server and other Gateways/Transponders.
      b. 328 ft (100 m) for 10/100BaseT Ethernet connections.
      c. 1.2 miles (2.0 Km) for Multi-Mode 100 BaseFX Ethernet connections.
      d. 10.0 Km (6.214 miles) for Single Mode 100 BaseFX Ethernet Connections.
   7. Ethernet Switch Specifications: pEthernet Features.
      a. 9-port 10/100 Mbps switch: 4 ports 100 BaseT, 4 ports 100 FX single or multimode fiber via MT-RJ or LC style connectors as scheduled.
      b. Integrated address lookup engine; supporting up to 1k absolute MAC Addresses.
      c. Automatic address learning, address aging and address migration.
      d. Built in broadcast storm protection.
      e. 10 BaseT, 100 BaseTX and 100 BaseFX modes of operation.
      f. LED Indicators for link, activity, and speed.

g. Supports MDI/MDIX automatic sensing & crossover.

D. Electrical Characteristics:
1. Operating Voltage: 10 to 24 Volts DC / 9 to 17.5 Volts AC.
2. Consumption: 4 A at 9 VAC, 1.5 amperes max at 24 VDC, 3.5 amperes max at 12 VDC.
3. Backup Power: UPS in locations as scheduled.
4. Line Protection: Sensor input, power and serial interface ports protected against 1.2 j 80 us 2400 V 12 Amp peak transients per U.L. 1076.
5. Relay Protection: Switched power limited to U.L. 1076 limits.
6. Input Sensitivity: Individually programmable, 0.0 to 5.0 Volts with 10 bit resolution and 1 percent accuracy. Inputs are configured for relative resistive load measurement.
7. Sensor Self Testing: Automatic, Programmable, Random, or Regular Testing at average intervals of from 2 minutes to 22 days. Failed sensor tests are announced.

E. Environmental Requirements:
1. Environmental Conditions: System shall be designed to function in the following environmental conditions:
   a. Operating Temperature: 32 to 122 degrees F (0 to 50 degrees C).
   b. Storage Temperature: Minus 13 to 149 degrees F (Minus 25 to 65 degrees C).
   c. Humidity: 8 to 90 percent non-condensing.
   d. Vibration Operating: 8 G peak swept-sine with solid-state storage.
   e. Shock Operation: 175 G for 2 ms half-sine.
   f. Shock Non-operating: 1500 G for 1 ms half sine.
2. Mechanical Specifications:pDimensions (LxWxH): 11.1 x 10.5 x 2.9 inches (282 x 267 x 114 mm).
3. Weight: Approximately 5 lb. (2.26 kg).
4. Package: Mounted on sheet metal base plate. Factory NEMA enclosed product in locations as scheduled.
5. Field Wire Connectors: Plug type 5.08 mm Screw Jaw Clamp Terminal Blocks Handles 24 AWG to 12 AWG solid core or stranded wire.

F. Software Specifications
1. Sensor Input Processing: Multi-state processing of all alarm points. Alarm states are:
   a. Secure.
   b. Test Fail.
   c. Test Pass.
   d. Alarm.
   e. Tamper.
   f. Trouble.
   g. Local Access.
2. Special Command Processing: Remote alarm inputs can control individual alarm point status via three command effect algorithms
   a. Acknowledge/Secure.
   b. Access/Secure.
   c. MP-16 One-button operation.
3. Alarm Types:
   a. Standard.
   b. Delayed.
   c. Two-man Access.
   d. Auto-secure.
   e. Watch Tour Step.
   f. Watch Tour Route.
   g. Group Access.
   h. Combined (high priority).
4. Alarm Attributes:

a. Base Priority (of 256 levels).
b. Operator Access Enable.
c. Group Access Enable.
d. Two operator Control over Access and Secure operations (requires redundant IDS Server).
e. Automatic Acknowledge.
f. Subsequent Alarms.
g. Timing parameters.

5. System Configuration:
   a. User-specified configuration for each installation.
   b. Configuration data preserved by integral Flash ROM.
   c. Access Control Alarms: The Vindicator access control subsystem is UL-294 approved. The IDS Server can provide per-portal event display of:pForced door.
   d. Held door.
   e. Access Denied.
   f. Equipment Tamper.
   g. Duress PIN entry.
   h. 32 Auxiliary IDS Alarms.
   i. Procedure violations.
   j. Transaction rollback.
   k. Entry confirmation.
   l. Entrapment.
   m. PIN/Transaction Retry Limits.
6. Relay Outputs:
   a. Manual, automatic, and test. Automatic output activation is fully configurable via control logic.
   b. Relays may be controlled by combinatorial equations, or explicitly activated and deactivated by separate equations. Relays may be latched or pulsed.
7. Graphic Displays and Other Peripherals:
   a. Compatible with Vindicator Command and Control Subsystem (VCC) and Security Archive Workstation (SAW).
   b. Compatible with Vindicator Site Commander Subsystem (VSC).
   c. Direct VXML integration with Honeywell Pro-Watch® Security Management Suite.
   d. Supports UHS transponders UHS-1500.
8. Video:
   a. Supports Honeywell, Bosch, video switching equipment.
   b. Both manual and automatic and programmed switcher CCTV management.
   c. Dynamic video titling for each monitor on a per point basis.
   d. Integrated video loss alarm monitoring.
   e. VXML integration with Honeywell MaxPro VMS and VICADS digital video management platforms.
9. Configuration: Inputs, Outputs, Sensors, Behavioral Responses, Associations, Textual Descriptions and CCTV behavior fully configurable via local terminal or PC SMART PAC terminal emulation software.
10. Other Features:
    a. Two operator control over selected alarm points.
    b. Fully redundant on-line processing (with two IDS Servers).
    c. System status printout.
    d. On-Line help system.
    e. Alarm by localization.
    f. User prioritized alarms.
    g. Scheduled alarm point access.
    h. On-Line operator log entry.
    i. Extensive maintenance and diagnostic interface.

j. Logging printer output.
k. Automatic Site identification of all WAN based events.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly constructed and prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. Intrusion detection system shall be installed and tested in accordance with manufacturer's installation instructions.
1. Coordinate interfaces with Owner's representative where appropriate.
2. Provide backboxes, pullboxes, connectors, supports, conduit, cable, and wire for a complete and reliable installation. Obtain Owner's approval for exact location of all boxes, conduit, and wiring runs prior to installation.
3. Install conduit, cable, and wire parallel and square with building lines, including raised floors areas. Do not exceed forty percent fill in conduits. Gather wires and tie to create an orderly installation.

3.4 FIELD COMMISSIONING AND CERTIFICATION

A. Field Commissioning: Test system as recommended by manufacturer, including the following:
1. Conduct complete inspection and testing of equipment, including verification of operation with connected equipment.
2. Test devices and demonstrate operational features for Owner's representative and authorities having jurisdiction as applicable.
3. Correct deficiencies until satisfactory results are obtained.
4. Submit written copies of test results.

3.5 TRAINING

A. Conduct on-site or factory system training, with the number of sessions and length of sessions as recommended by the manufacturer. Training shall include administration, provisioning, configuration, operation and diagnostics. Trainer must be a Vindicator employee.

3.6 CLEANING AND PROTECTION

A. Clean products in accordance with the manufacturers recommendations.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION