

SECTION 28 13 50 – ACCESS CONTROL SYSTEM

PART 1 - GENERAL

1.1 SYSTEM OVERVIEW

- A. The Access Control System shall consist of an easy-to-use Graphic User Interface (GUI).
 - 1. The existing system shall be expanded and upgraded as required to accommodate the project.
- B. The Access Control system shall meet the following requirements:
 - 1. The system shall be provided with proximity card readers, system controls, alarm displays, etc.
 - 2. The system shall be provided to provide access control at all access control doors and monitor and annunciate all access points to the building.
 - 3. The existing system shall remain and be expanded, including all accessories, components, wiring and programming required.
- C. The system shall be provided with open architecture control hardware wherever possible to allow future system changes without replacement of all parts. The use of proprietary hardware shall be limited wherever possible.
- D. **This is a phase project. All additional accessories, wiring, time, programming, etc. shall be provided as required so that there is a complete and functioning access system at the end of each individual phase. All features of the system shall be available throughout the construction. Refer to the Phasing drawings for a complete understanding of the scope of the phases for the project.**
- E. **The contractor shall contract with the Owner's vendor to provide the Access Control System. The Owner's vendor is Johnson Controls Security Solutions of New Cumberland, PA. Contact Josh Conti at (484) 387-2296.**
- F. Provide start-up, commissioning and owner training as listed in part 3.
- G. Contractor shall be responsible to reprogram existing system as required to accommodate the revised room designations and numbering throughout the entire building. All devices shall be reprogrammed with revised numbering scheme. Coordinate all work with school district.

1.2 QUALITY ASSURANCE

- A. Each item of the systems shall be listed under the appropriate category by Underwriters Laboratories, Inc., and shall bear the UL label.

1.3 EQUIPMENT SUPPLIER

- A. The equipment shall be obtained from an authorized engineering distributor. Distributor shall provide certification as a manufacturer authorized distributor.
- B. The distributor shall be certified to sell, install and program the installed components.

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- C. The manufacturer and/or his authorized distributor shall provide satisfactory evidence of a factory authorized service organization, stocking factory approved replacement parts and capable of furnishing adequate inspection and service to the equipment.
- D. Suppliers employing personnel for local service on a "contract basis" will not be permitted.

1.4 SUBMITTALS

- A. Submit Certification Certificate from the Access Control manufacturer.
- B. Submit shop drawings for all system components. Equipment submittals shall include the following:
 - 1. Complete descriptive data including UL listing for all system components.
 - 2. Complete sequence of operations of the systems.
 - 3. Complete system wiring diagrams for components capable of being connected to the systems and interfaces to associated equipment.
- C. System Operation Description: Include method of operation and supervision of each component and each type of circuit, and sequence of operations for manually and automatically initiated system inputs. Description must cover this specific Project; manufacturer's standard descriptions for generic systems are not acceptable.
- D. Product Certificates: Signed by manufacturers of components certifying that products furnished comply with requirements.
- E. Qualification Data: For firms and persons specified in "Quality Assurance" Article.
- F. Record of field tests of system.
- G. Maintenance Data: For products and system to include in maintenance manuals specified in Division 1. Include data for each type of product, including all features and operating sequences, both automatic and manual. Include user's software data and recommendations for spare parts and components to be stocked at Project site.

1.5 WARRANTY

- A. All equipment and labor provided under this specification section shall be warranted for a period of one (1) year after project completion.
- B. The entire system shall receive a minimum of one (1) year worth of software and service agreements as well as all licensing supporting the equipment.

1.6 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective coverage for storage and identified with labels describing contents.
 - 1. Card Readers: Furnish quantity of two (2) proximity reader.

1.7 USER ACCOUNTS

- A. The system shall utilize the Owner's existing user accounts. Upgrade accounts as required to accommodate system modifications.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. The system shall be manufactured by Brivo to match the district wide system.

2.2 ACCESS CONTROL SYSTEM REQUIREMENTS

- A. The system shall provide a floor plan view that will provide locations of all access points and monitored doors. The floor plan shall also provide alarm indications.
- B. The system shall provide alarm monitoring and logging of the alarms.
- C. The system shall provide email support to distribute alarms.
- D. The system shall support an unlimited quantity of alarm inputs and outputs.
- E. The system shall provide multiple user access levels, including, but not limited to the following:
 - 1. Full access to all buildings and feature sets.
 - 2. Access only to selected buildings.
 - 3. Read only access to view access points and alarms.
- F. The system shall provide visitor badge support for temporary inputs.
- G. The system shall support database segmentation.
- H. The system shall provide a remote "thin" client that is web based. The web based "thin" client shall provide full access to the software.
- I. The system shall allow for programming of individual door locations to be automatically locked and unlocked by:
 - 1. Time of day.
 - 2. Day of week.
 - 3. A minimum of 32 Holidays.
 - 4. Manually locked or unlocked to override the program through the PC.
- J. Digital proximity access readers shall be installed at the locations shown on the drawings. Card readers, keypads, door contacts, request-to-exit sensors, and access-controlled hardware shall be wired to the door controllers and Access Control Units (ACU) that are installed throughout the facility. ACU's shall be installed in common cabinets to include all required power supplies, battery backup, data communications devices and ancillary devices required to integrate the security devices for the area the ACU serves. A conglomeration of cabinets, power supplies and other required ancillary devices mounted separately shall not be allowed. All equipment shall be mounted on a fire-restive backboard and the door shall be lockable with a tamper switch.

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- K. Access to a protected area shall be controlled by proximity card readers for entry into an area. Exit from the protected area shall be controlled by microwave Request-to-exit sensors installed near each protected door. These units place a temporary flag on the system software for a preprogrammed time period so that an alarm does not occur with an authorized exit.
- L. LAN/WAN capability where the remote ACU's and Work Stations operate over standard TCP/IP format.

2.3 ACCESS CONTROL SYSTEM COMPONENTS

- A. Control Panel: Model #ACS6008-E which includes four chassis board, main board, power supply board, battery and transformer.
- B. Expansion Board: Model #ACS6000-DB (2-door expansion board).
- C. Card Readers: Provide HID ProxPro readers matching the readers throughout the district. Exterior card readers shall be vandal resistant and rated for outdoor use. Model #5455BGN00 (gray).
- D. Access Credentials: The Owner shall supply their own credentials.
- E. Door contacts:
 - 1. Man Doors: provided with doors, installed by door hardware installer, wired by Electrical Contractor.
 - 2. Roof Hatches and Existing Man Doors: Sentrol Series No. 1084N surface DPDT door contacts and magnets with finish matching frame.
 - 3. Overhead Doors: Sentrol Series No. 2200 series SPDT stainless steel door contacts and magnets.
- F. Provide all required equipment, wiring and programming to interconnect with door hardware being supplied under the general construction contract.

PART 3 - EXECUTION

3.1 ACCEPTABLE INSTALLERS

- A. Installer must be a certified dealer of the equipment selected.
- B. Installer must have 5 years of experience installing similar systems.

3.2 INSTALLATION

- A. Furnish labor, materials and methods required to provide the complete Access Control System work, in first class condition, as indicated in the Drawings and specified herein, including all devices, conduit, wiring, and connection to normal/emergency 120 VAC sources.
- B. Technical proposal shall include the proposed equipment and configuration.
- C. Verify all dimensions and conditions at job site.
- D. Supply, install, make operative, and test, the system and its components in accordance with applicable codes, local authorities having jurisdiction and manufacturers' recommended practices.

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- E. Furnish documentation, including approved Drawings, product data, test reports, programming sequences, operators, maintenance and installation manuals, and As-Built Drawings, in final "Project Manuals", for Owner's use.
- F. Maintain and service the new equipment for the warranty period indicated previously in the specification.
- G. Produce and update, and submit to the owner or his designated representatives, in accordance with the General Conditions, all work schedules, submittal status, delivery dates, purchase schedules, and contract change orders.
- H. Coordinate with any Owner, City and/or State Inspection Service Departments and Electrical Department the required mounting heights for all camera locations on this project.
- I. Furnish an operational system to include items in this section and other accessory equipment as needed for a completely system.
- J. All cabling shall meet all local, state and National Codes. All 24VAC power cabling shall be a minimum of 14 gauge and sized based on the current draw and distance of the device. Components mounted above ceilings shall be approved for use in plenum spaces.
- K. Coordinate the system programming with the owner. The system shall be fully programmed. Provide initial programming after an initial meeting with the owner. Program tweaking may be performed during one of the training sessions.
- L. All 120 VAC power required shall be from a normal/emergency source. Where the building is furnished with an uninterruptable power supply, provide power from a UPS panel.

3.3 START-UP

- A. Installation of the system shall be supervised by factory trained representatives who shall accompany the Engineer's representative on an inspection of all systems, and shall demonstrate that the systems are functioning properly.
- B. The manufacturer shall train the Owner's designated representative in proper operation of the system. Contractor shall provide a set of operating instruction to the Owner, including circuit diagrams and other information necessary for proper installation, operation and maintenance as part of the Operations and Maintenance manuals.
- C. The supplier of this equipment shall bear complete responsibility for the equipment and services supplied, and also for complete supervision of installation of the system and shall correct any malfunction. The supplier of the equipment shall be responsible for correct operation of the complete system.

3.4 COMMISSIONING

- A. The installer shall fully commission the system to ensure full functionality.

3.5 TRAINING:

- A. Contractor must complete training for the system to the owner. Trainer must be a professional trainer or educator who is trained on the equipment and is employed by the installer. The training sessions shall be broken into a minimum of three (3) sessions, with the first two (2) sessions used to provide admin level training to selected personnel, and user training to a second group. The third session shall be provided 6

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-12 months after substantial completion to finalize any items that are outstanding and address any questions by the owner. Each training session shall be assumed to take a minimum four (4) hours.

END OF SECTION 28 13 50