General Scope:
This project consists of a design-build contract for the following components:

1. Card Access Control System
2. Door /Frame Replacement
3. Door/Frame Repair
4. Burglar Alarm Keypad Modification/Addition
5. Video Surveillance System

The design-builder shall develop drawings and specifications for providing card access control system at the main entrance doors (Entrance/Door #1) of all the school buildings listed on the matrix; replacing doors and glazing systems; repairing /painting doors and glazing system; replacing door hardware; installing door electric strike (Buzzer) with door intercom system; installing video surveillance system and installing new burglar alarm Keypad at the vestibule of the main entrances as indicated in the matrix.

The following are basic guidelines that the design-builder shall consider when developing the design and construction documents:

General Notes:

1. It is the responsibility of the contractor to locate and provide the power supply source for door strike, surveillance camera, burglar alarm keypad and other electrical (high/low voltage) components.
2. Provide all designs and submittals associated with the project and obtain all necessary permits to complete the work
3. The contractor must field verify the existing conditions of each school building
4. The contractor is responsible for coordinating with the Owner's representative to identify the proposed location of any controls associated with the access control systems, the door bells, the card reader power supplies, the burglar alarm keypads and the video surveillance systems.
5. The contractor must comply with all applicable building codes, local ordinances, and regulations and the requirements of the authority having jurisdiction for all parts of this project.
6. The Contractor shall submit design and all pertinent submittals associated with all components of the project for review and approval.
7. Repair all disturbed interior and exterior finishes associated with this project
8. Seal all interior and exterior penetrations with proper sealants
9. Coordinate with the fire alarm contractor to ensure compatibility with the card access system
10. The contractor shall be responsible for all demolition and debris disposal associated with all parts of the project.
11. "Entire door system", as noted on the matrix, means sidelights, transoms, frames, doors, etc.
12. The contractor is responsible for installing the cores
13. Only the exterior doors should be considered in this project, not the interior vestibule or lobby doors.
14. The contractor shall be responsible to reinstall any electrical devices or components currently attached to the doors and/or frames that are to remain.
15. All newly installed conduits and boxes shall be painted to match adjacent surface
16. Work will be performed on 2nd or 3rd shift.

DOOR AND FRAME REPLACEMENT:
Scope:
Wood doors and glazing systems (transoms, sidelights that are noted for replacement shall be substituted by metal and matched the design, size, width, height and color of the existing as close as possible. The work involves the removal and disposal of all demolished doors and frames associated and the replacement of the doors, frames and hardware per noted in the matrix. If abatement of the door or frame is necessary, notify the project manager.

Design Criteria:

A. Doors:
   a. Exterior doors-SDI-100, Grade III, extra heavy-duty, Model 3 or 4, minimum 14-gage faces
   b. The exterior doors shall be fabricated as thermal insulated doors and frames in accordance with ASTM C 230.
   c. All exterior doors and frames shall be shop painted
   d. Exterior frames- Shall be fabricated of minimum 14-gage cold-rolled furniture steel

B. Related Hardware and Frame
   1. Provide kick plates and Armor Plates
   2. Provide door stops and holders
   3. Provide protective trim units
   4. Provide thresholds and set them in full bed of sealant to insure durability
   5. Door closer to comply with NFPA 101
   6. Door face sheets fabricated from metallic-coated steel sheet shall comply with requirements by referencing, extra heavy duty model 2 seamless.
   7. Provide hardware reinforcement that complies with ANSI
   8. The concealed stiffeners and hardware reinforcement shall be fabricated from either cold or hot rolled steel sheet
   9. Hollow metal frames shall be fabricated with mitered corners, as full profile welded and 0.053-inch-thick steel sheet.
   10. Reinforcement for the metal doors shall be of the same material as the frames.

C. Acceptable companies for doors:
   1. Ceco Door Products; an Assa Abloy Group company
   2. Curries Company; an Assa Abloy Group company
   3. Steelcraft; an Ingersoll-Rand company
   4. Windsor Republic Doors
   5. Amweld/Div. American Welding & Mfg. Co.
   6. Mesker Industries, Inc.
   7. Pioneer Bldrs. Product Corp./Div. CORE Industries, Inc.
   8. Tussbilt, Inc.
   9. Republic Builders Products Cor./Subs. Republic Steel.

D. Prepare a door hardware schedule that includes:
   1. Door number, location, hand, fire rating and material of each door and frame
   2. Type, style function, size quantity and finish of each door hardware item
   3. Designation of every item required for each door or opening including name and manufacturer
   4. Fastenings and other pertinent information
   5. Door and frame sizes and materials
   6. Description of each electrified door hardware function, including location, sequence of operation, and interface with existing systems in the building.

E. Provide shop drawings with wiring diagram and the following:
   1. Elevation of each door design
   2. Details of doors, including vertical and horizontal edge details
   3. Frame details for each frame type, including dimensioned profiles
   4. Details and locations of reinforcement and preparations for hardware
   5. Details of each different wall opening condition
   6. Details of anchorages, accessories, joints, and connections
   7. Details of glazing framing and stops showing glazing

8. Detail of conduit and preparations for electrified door hardware and controls

F. Door glazing shall comply with the following:
   1. NFPA 80
   2. NFPA 252
   3. NFPA 257

G. Glass Material:
   1. Provide Kind FT (fully tempered floated glass

H. The acceptable manufacturers for structural seals of the glazing are:
   1. GE Silpruf
   2. GE UltraGlaze SSG4000
   3. Down Corning 795
   4. Down Corning 995

I. Keying
   1. Provide necessary keying and coordinate with the Owner's representative to determine keying requirements.

J. Warranty
   1. Provide special warrantee in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship with specified warranty period.
   2. Provide a three-year warrantee period from date of completion for all electronic devices and 10 years for manual closers.

K. Hinge Material
   a. Entrance door hinges shall be heavy-weight hinges and shall be antifriction-bearing hinges.
   b. Hinge metal shall be stainless steel with stainless-steel pin

L. Hinge Manufacturer
   a. Bommer Industries, Inc.
   b. Hager Companies
   c. IVES, Ingersoll Rand Company

M. Hardware code compliance
   a. NFPA 80
   b. UL 305
   c. NFPA 252
   d. ADA
   e. NFPA 101 and all code requirements.

DOOR/FRAME REPAIR:

Scope:

The existing doors and frame of the schools identified in the matrix need the following repairs:

1. Paint all wood and metal doors and frames noted for repair.
2. Provide door number with paint color to match existing
3. Clean all aluminum framing and doors that will not be replaced.
4. Adjust all door closers
5. Repair or replace all thresholds
6. Replace all rusted hinges
7. Repair/adjust all hardware components that will not be replaced

8. Replace the entire marble trims at the main entrance of Roosevelt High School with wood trims, treated for exterior.

Design Criteria:

A. Exterior and Interior Wood/Metal Door and frame Repair
   1. Repair all imperfections that are visible and sand flush with adjoining surface and spot prime with the prime coat material
   2. Scrape all loose or flaking paint materials and sand smooth prior to applying paint
   3. Where finish carpentry is exposed on exterior, or in areas of high relative humidity, provide fasteners and anchorage with a hot-dipped zinc coating (ASTM A 153)
   4. Furnish highest grade of the species proposed for the project
   5. Match the trim lumber species and grade with the existing doors
   6. Where doors are to be stained, refinish and stain all doors and trims to be consistent in color, species and grade.
   7. Provide trim design and detail for review and approval prior to installation

B. Paint Submittals
   1. Provide primers and undercoat paint produced by the same manufacturer as the finish coats.
   2. Finish coats and thickness of paint for interior and exterior of doors and frames shall be provided in accordance with industry standards.
   3. Quality- Provide the manufacture's best quality trade sale paint material of the various coating types.
   4. Painting not displaying manufacturer's product identification will not be acceptable.
   5. Provide color to match existing or as selected by the Owner's representative.

BURGLAR ALARM KEYPAD RELOCATION:

Scope:

The burglar alarm keypads in most school buildings of the district are located away from the main entrance vestibule or lobby. The contractor shall keep the existing keypads activated in their current location and provide new burglar alarm Keypad at main entrance vestibule or lobby of each school as indicated in the matrix.

Design Criteria:

A. The new keypad device shall be compatible with the existing system
B. All wirings shall be concealed within walls or within metal conduits approved by code.
C. The device color and type shall be provided to the Owner's representative for review and approval

VIDEO SURVEILLANCE

Scope:

Provide a Digital Video Recording System (DVRS) inclusive of IP camera, power supplies, transmitters and receivers, surge suppression and associated equipment and wiring at each school building indicated in the matrix that does not currently have video surveillance. The video surveillance camera will be located only at the main entrance.

Design Criteria:

A. Camera requirements:
   1. All existing cameras, cable, power supplies shall be incorporated into the new system. Provide hardware as required to incorporate existing analog system into the IP based system. All equipment shall be rack mounted in the nearest IDF/MDF.
   2. The new cameras and recorders will reside on the districts existing data network. The district will provide switches with POE output as required.
   3. The bidder is responsible for any additional connectivity, patch panels, jumpers, racks, 120VAC, and wire management in each IDF/MDF.

4. The Video surveillance system shall a video recording system (DVRS). Information supplied from camera source shall be digitally recorded and displayed simultaneously.
5. The DVRS shall support event-based recording and/or shall record continually 24 hours a day.
6. While DVRS is recording video, multiple authorized system operators shall be able to access video from the data network via a LAN or WAN connection.
7. The Digital Video Recording System (DVRS) main storage medium shall be a digital hard drive. All video information shall be stored on the internal hard drive for immediate playback.
8. The DVRS recording system shall capture, digitize, compress, and store video on a digital hard drive. The DVRS shall support Ethernet topology.
9. Each camera shall have the ability to record video to the DVRS based on motion detection of the camera.
10. The DVRS shall allow continuous recording of all cameras at a recording frame rate of up to 15 fps NTSC, 12.5 PAL, per camera. All cameras shall have the capability to be recorded and archived simultaneously at up to 15 fps NTSC or 12.5 PAL. The system shall allow monitoring and playback without interfering with the recording operation.
11. The digital video Recording System shall include a 19" flat panel VGA monitor. System hard drive shall be 500 megabyte. The system shall accommodate cameras of the quantify and characteristics defined herein.
12. Camera shall be ¼-inc CCD format color camera. It shall utilize a solid-state image pickup device and be designed for the NTSC television systems. Resolution shall be no less than 480 horizontal TV lines. And sensitivity shall be no less than 1.2 lux. Signal-to-noise ratio shall be typically 48 dB. The camera shall include a 3.0 to 6.0 mm manual variable focal length lens.
13. Door cameras shall be positioned such that the camera provides a view of the door from the top of the door frame to the floor line as well as the entire width of the door.

B.

C. The Video surveillance system shall comply with the following standards:
1. NTSC standard documents
2. EIA Recommended Standards RS-170 and RS-170A
3. FCC Part 15b, Class A:
4. UL Standard 1950
5. UL 486-A-97
6. ANSI C-1997: National Safety Code
7. 47 CFR- Telecommunication, Chapter I- Federal Communications Commission-1997.

D. All video surveillance components must be obtained from a single source who assumes responsibility for compatibility for system components. The exterior camera shall be installed within a weatherproof housing.

E. Acceptable manufacturers:
1. Sony
2. Panasonic
3. Approved equal

F. The video surveillance system shall comply with the following:
1. 32 channel, rack mount network video recorders
2. Fixed exterior camera
3. 32 port passive UTP receiver HUB
4. 32 port UTP rack mount, Class 2, 24vac power supply
5. Fixed camera passive UTP transmitter
6. Surge Suppression

G. The video surveillance system shall be tested for the following:
1. Real-time recording, frame rated recording (at each frame rate), and back-up archive recording

2. Retrieval of video, both short term and archive video. Test for retrieval of video based on time and date retrieval
3. PTZ control of cameras
4. Scheduled recording
5. Status displays
6. System alerts
7. Alarm review software
8. Video authentication software
9. System security by User login ID
10. Video query
11. Video loss detection
12. Alarm recording
13. On-demand recording
14. Continuous recording
15. Integrity of video storage
16. Logging functions
17. View live video features
18. Alarm review software operation
19. Alarm history integrity

CARD ACCESS CONTROL SYSTEM:

Scope

1. The Card Access Control System reader device shall be located at the main entrance of each building and shall include, but shall not be limited to the following:
2. Computer (CPU, flat panel monitor, mouse, keyboard, etc.), card readers, battery backup, data converters, power supplies, badge printing system to print cards for use by staff and faculty members, all hardware and software required for a complete and ready to operate system.
3. The system shall be a large networked system for multiple school buildings with the capacity to track when card users come and go.
4. The card access control system shall connect to the existing monitored alarm systems and CCTV systems in each school and provide authorized individuals safe and secure access in and out of the building (s) for which their cards are programmed.
5. In addition to each intelligent field panel controller provided in each school, provide one intelligent field panel controller to the security department at 801 north 11th Street. The security department will be the only authority to generate ID cards for all users. That intelligent field panel controller must be able to communicate with all systems for all the schools to allow proper programming of all cards to be generated from one location.
6. It should also provide LAN connection from designated IFP panels to the property for remote monitoring of the access control system.
7. The system shall provide programming of the ACS system software for the door and the interlock functions and provide for integration between the ACS and the fire alarm system.
8. The system shall, upon receipt of fire alarm signals, drop out all locking devices with the alarm zone.

Design Criteria

A. The acceptable manufacturers are:
   1. Continental ACS panel equipment
   2. Mercury Card Readers
   3. Sentrol door contacts
   4. Hoffmann enclosures
   5. Essex Request to Exit pushbuttons
   6. Securitron magnetic locks
   7. Securitron sirens

8. Securitron passive infrared sensor
9. Securitron electronic exit delay systems
10. Altronix power supplies
11. West Penn or Belden cable

B. Components of the access control system
   a. Card Reader
   b. Power Supplies (for ACS active components and any ACS field device powering)
      i. Wall mounted, rugged housing with lockable door
      ii. 120vac input, filtered 12 or 24vdc outputs rated at 2amps minimum
      iii. Separate fused output per door, if more than 1 door
      iv. Battery backup to be provided within housing
      v. Units shall be designed for access control system applications
   c. Intelligent field panel controller
   d. Man Door Balanced Magnetic Switch
   e. Exit Motion Sensor
   f. Electric locks
   g. Magnetic locks
      i. 1200 lb. holding force
      ii. 24V DC
      iii. Fully sealed electronics, tamperproof
      iv. UL listed
      v. Securion
   h. Delayed Egress Delay Exist System
   i. Controls for combination ADA operator/ACS controlled doors
   j. Door Interface box
   k. Cable and Conductors

C. Credential ID cards and Printer
   a. In addition to each intelligent field panel controller provided in each school, provide one intelligent field panel controller to the security department at 801 north 11th Street. The security department will be the only authority to generate ID cards for all users. That intelligent field panel controller must be able to communicate with all systems for all the schools to allow proper programming of all cards to be generated from one location.

Note: Work to be completed on 2nd or 3rd shift when school is in session and 1st shift when school is closed during winter and summer breaks.