SECTION 28 13 00
ACCESS CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Access control system requirements.

B. Access control units and software.

C. Access control point peripherals, including readers.

D. Accessories.

1.02 SCOPE OF WORK

A. Provide all labor and material required to install a complete microprocessor controlled, PC Programmable multi-door access (non-communication) control system for front entrance door as described herein and shown on contract drawings. The system shall include all necessary control boards, power supplies, keypads; card reader and accessories, special mounting boxes, cable, connectors, for a complete operational access system. After the installation the system shall be complete in all respects.

B. Scope of work shall include access by a key fob for up to 3000 users and 8000 access device codes. The Keri-System FOB reader does not provide any voice communication.

C. Provide new Intercom Controller as shown on the drawings, including all required accessories or hardware not shown on the drawings or listed herein that may be required for a complete installation shall be provided.

D. The Intercom System, FOB Reader, Magnetic Locks and Contactors shall be tested as stand alone. Contractor shall demonstrate the overall operation. System shall be capable for future Global NYCHA Layered Access Initiative system.

E. Provide technical training, User/ Maintenance Manuals to NYCHA.

F. Where network infrastructure from LAC building to Management Office is not available provide a Genetec SV32 (SV32-4TB-GSC-OM) per building and a laptop Panasonic Toughbook (CF-54A9011CM) per development with the following specification:

1. Genetec SV32:
    a. Video Specifications
        1) Record up to 32 cameras or 64Mbps
        2) Monitor up to 32 cameras simultaneously
        3) Support for multicast
        4) Multi-streaming support up to 6 streams per camera
        5) H.264 / MPEG-4 / MJPEG / MPEG-2 / Wavelet
        6) Recording mode: continuous, on motion, on events, on alarms, manual
        7) Pre/post recording up to 300 seconds
        8) Video downsampling
        9) Export video sequence in proprietary (G64) or public (ASF) formats
        10) Access Control Specifications
2. Access Control Specifications
    a. Up to 100 readers (maximum reader capacity may vary based on IP device)
    b. Multi-vendor hardware support
    c. Wireless lock integration
    d. Cardholder and visitor management
    e. Access rights and unlock schedule management
    f. Badge design and printing
    g. Antipassback
3. Technical Specifications
    a. OS Windows Standard embedded 7
    b. CPU Intel Core i7-3555LE 64 bit dual core 2.5GHz

c. Memory 8GB DDR3
d. Peripherals 1x RS-232
e. 2x USB 3.0, 5 Gbps
f. 2x USB 2.0, 480 Mbps
g. Display HDMI up to 1920 x 1200
h. DisplayPort up to 2560 x 1600
i. Ethernet 2x GbE ports
j. Audio 7.1 channel S/PDIF

4. Storage
   a. Internal 2TB or 4TB Storage Options; 2.5" SATA hard drives
   b. 60GB mSATA drive
   c. External Network Attached Storage (NAS) or external SATA drive (eSATA)
5. Mechanical and Environmental Specifications
   a. Power 9.5 to 15 volt input
   b. Consumption Up to 35W
   c. Operating Temperature 32°F to 113°F (0°C to 45°C) with HDD
   d. Operating Humidity 10% to 90% (non-condensing)
   e. Dimensions (W×D×H) 10.23× 6.29 × 2.36 in (260 × 160 × 60 mm)
   f. Certifications CE, FCC
6. Panasonic Toughbook CF-54A9011CM
   a. SOFTWARE: Windows® 8.1 Pro, Windows® 7 Professional , Panasonic Utilities (including Dashboard), Recovery Partition DURABILITY, MIL-STD-810G certified (3' drop, shock, vibration, sand, dust, altitude, high/low temperature, high temperature tactical, temperature shock, humidity), IP51 certified, Spill-resistant keyboard , Magnesium alloy case with handle, Hard drive heater, Shock-mounted flex-connect hard drive with quick-release , Dual fans (Performance model), Pre-installed replaceable screen film (Gloved Multi Touch model)
   b. CPU: Intel® Core™ i5-5300U vPro™ Processor2 - 2.3GHz with Turbo Boost up to 2.9GHz - 3MB cache
   c. STORAGE & MEMORY : Memory (RAM) - Performance model3 : 8GB or 16GB SDRAM (DDR3L-1600MHz) - Other models: 4GB, 8GB or 16GB4 SDRAM (DDR3L-1600MHz), Primary Hard Drive (quick-release) - 500GB HDD (5400rpm Lite model; 7200rpm other models)5,6 - Optional 128GB SSD, 256GB SSD, 1TB 7200rpm HDD5,6 - Hard drive heater - Shock-mounted with flex-connect, Optional Second Drive (onboard)4 - 128GB SSD or 256GB SSD5,6 - Hard drive heater - Trained technician removable
   d. DISPLAY: Display Size and Resolution - Gloved Multi Touch model: 14.0" FHD 1920 x 1080 (1000 nit) - Performance model3 : 14.0" FHD 1920 x 1080 - Prime and Lite models: 14.0" HD 1366 x 768 , IPS with direct bonding on FHD displays , Anti-reflective4 and anti-glare screen treatments , Graphics - Intel® HD Graphics 5500 (all models) - AMD FirePro™ M5100 (Performance model), Dual monitor support through HDMI and/or optional VGA, Concealed mode (configurable)
   e. AUDIO: Intel® high-definition audio compliant, Integrated speakers , Keyboard volume and mute controls
   f. KEYBOARD & INPUT : Touch, gestures and optional stylus pen (Gloved Multi Touch model) , 2 user-definable keys (A1/A2), Dashboard , 87-key with dedicated Windows® key , Emissive backlit keyboard4 Electrostatic touchpad with multi touch support
   g. DVD DRIVE: Optional DVD Super MULTI Drive7
   h. CAMERAS : Optional 1080P webcam with mic and camera on/off indicator4
   i. EXPANSION SLOTS : Optional PC card Type II3,4,7 , SD card (SDXC UHS-II)
   j. INTERFACE : Docking Connector 24-pin , HDMI Type A , Optional VGA D-sub 15-pin , Headphones/Mic Mini-jack stereo , Optional Serial (True) D-sub 9-pin4 , USB 3.0 (x 3) Type A - Includes 1 high powered 1.5A USB Always on USB, USB rapid

charging , Optional USB 2.0 (x 1) Type A4,8 , Rugged Fischer® USB (Core Series) 5-pin3,4,8 , 10/100/1000 Ethernet RJ-45 n 10/100/1000 2nd LAN (Ethernet) RJ-453,4,8

k. WIRELESS : Optional integrated 4G LTE multi carrier mobile broadband with satellite GPS , Optional dedicated GPS (u-blox NEO M8N)4,8 , Optional dual high-gain antenna pass-through4 , Optional contactless SmartCard/NFC reader3,4,9 , Intel® Dual Band Wireless-AC 7265 802.11a/b/g/n/ac , Intel® Wireless Display (WiDi) , Bluetooth® v4.0 + EDR (Class 1) ,Security – Authentication: LEAP, WPA, 802.1x, EAP-TLS, EAP-FAST, PEAP – Encryption: CKIP, TKIP, 128-bit and 64-bit WEP, Hardware AES , Slide on/off switch

l. POWER : Li-Ion battery pack10: - Lightweight battery (standard on Lite model): 10.8V, typical 3220mAh, min. 3050mAh - Long life battery (standard on other models): 11.1V, typical 4200mAh, min. 4080mAh - Media bay 2nd battery7 : 11.1V, typical 2960mAh, min. 2860mAh n Battery operation10: - Lite model: 8 hours (15 hours with opt. 2nd battery) - Other models: 11 hours (18 hours with opt. 2nd battery) , Hot-swap with optional media bay 2nd battery , Battery charging time10: 2.5 hours (each battery) , AC Adapter: AC 100V-240V 50/60Hz, auto sensing/switching worldwide power supply , Battery status and battery hot-swap LED indicators

m. POWER MANAGEMENT : Suspend/Resume Function, Hibernation, Standby, ACPI BIOS

G. Provide 1 Cyberlock for each door with a reader.

1.03 RELATED REQUIREMENTS

A. Section 07 84 00 - Firestopping.

B. Section 08 71 00 - Door Hardware: Electrically operated door hardware, for interface with access control system.
   1. Includes door hardware with integral request to exit devices.

C. Section 11 12 00 - Parking Control Equipment: Parking gates, for interface with access control system.

D. Section 14 20 10 - Passenger Elevators: For interface with access control system.

E. Section 26 05 34 - Conduit.

F. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.

G. Section 27 10 05 - Structured Cabling for Voice and Data - Inside-Plant: Data cables for access control system IP network connections.

H. Section 28 16 00 - Intrusion Detection: For interface with access control system.

I. Section 28 23 00 - Video Surveillance: For interface with access control system.

J. Section 28 31 00 - Fire Detection and Alarm: For interface with access control system.

1.04 RELATED WORK

A. Contractor shall coordinate all work with other contractors and trades where necessary.

B. All necessary conduits, raceways, wires, cables, pull boxes, standard boxes, (and special boxes provided by access control manufacturer), shall be installed by the electrical contractor under the supervision of a Licensed Electrician.

C. Installation of the access systems shall be coordinated with the installation of other related systems and in accordance to manufacturer’s recommendation.

1.05 REFERENCE STANDARDS

A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2015.

B. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

C. NFPA 101 - Life Safety Code; 2015.

D. UL 1076 - Proprietary Burglar Alarm Units and Systems; Current Edition, Including All Revisions.

E. Access Control System Controller shall be tested for compliance to UL and shall be LISTED by a Nationally Recognized Testing Laboratory (NRTL).

F. Federal Communications Commission (FCC) DUF6VT-12874-OT-T.

G. Department of Commerce (DOC) (CAN) 1736 4528 A.

1.06 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate the work with other installers to provide suitable door hardware as required for both access control functionality and code compliance.
   2. Coordinate the placement of readers with millwork, furniture, equipment, etc. installed under other sections or by others.
   3. Coordinate the work with other installers to provide power for equipment at required locations.
   4. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.

B. Preinstallation Meetings:
   1. Conduct meeting with facility representative to review reader and equipment locations.
   2. Conduct meeting with facility representative and other related equipment manufacturers to discuss access control system interface requirements.

1.07 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Include plan views indicating locations of system components and proposed size, type, and routing of conduits and/or cables. Include elevations and details of proposed equipment arrangements. Include system interconnection schematic diagrams. Include requirements for interface with other systems.

C. Product Data: Provide manufacturer's standard catalog pages and data sheets for each system component. Include ratings, configurations, standard wiring diagrams, dimensions, finishes, service condition requirements, and installed features.

D. Design Data: Standby battery/UPS calculations.

E. Certify that proposed system design and components meet or exceed specified requirements.

F. Evidence of qualifications for installer.

G. Evidence of qualifications for maintenance contractor (if different entity from installer).

H. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, installation, and operation of product.

I. Manufacturer’s detailed field testing procedures.

J. Field quality control test reports.

K. Maintenance contracts.

L. Project Record Documents: Record actual locations of system components and installed wiring arrangements and routing.

M. Operation and Maintenance Data: Include detailed information on system operation, equipment programming and setup, replacement parts, and recommended maintenance procedures and intervals.
   1. Include contact information for entity that will be providing contract maintenance and trouble call-back service.

N. Warranty: Submit sample of manufacturer's warranty and documentation of final executed warranty completed in Owner's name and registered with manufacturer.

O. Software: One copy of software not resident in read-only memory.

P. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 60 00 - Product Requirements, for additional provisions.
   2. Deliver blank credentials to Owner as directed.

Q. Shall include an equipment list, and data sheet, system description and block diagrams on equipment to be finished.

R. Shall include all data necessary to evaluate design, quality, and configuration of proposed equipment and system.

1.08 QUALITY ASSURANCE

A. Comply with the following:
   1. NFPA 70.
   2. NFPA 101 (Life Safety Code).
   3. The requirements of the local authorities having jurisdiction.
   4. Applicable TIA/EIA standards.
   5. Latest applicable NYC Electrical Code, Building Code, Fire Protection code.

B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.

C. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

D. Installer Qualifications: Company specializing in performing the work of this section with minimum three years documented experience with access control systems of similar size, type, and complexity and providing contract maintenance service as a regular part of their business; authorized manufacturer's representative.
   1. Contract maintenance office located within 100 miles of project site.

E. Maintenance Contractor Qualifications: Same entity as installer.

F. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

G. All equipment shall be new, in current production, and the standard products of a manufacturer of access control equipment.

H. If required, manufacturer shall be able to demonstrate features, functions and operating characteristics.

I. System shall be installed by a factory authorized contractor, with technicians specifically trained in this system.

J. On-site maintenance and repair service shall be available locally and within 4 hours of notification for emergency condition.

K. System shall be capable to interface with other software systems to allow remote PC programming. PC programming in this Contract is limited to demonstrating equipment and system testing.

L. Before starting any physical work the contractor shall first review his/her works plan with the NYCHA representative for this job. He/she shall coordinate his/her works with the contractor for Electromagnetic Mechanical Panic Bar Locking System (EMPLS-RM), Electrical Work, Communication Work (telephony), and Intercom System. All these works shall be done in smooth coordination with one another so that there is no duplication or interruption of works.

1.09 CONTRACT DOCUMENTS

A. All equipment and work specified in this section shall comply with all the General Conditions of the specifications, contract documents, and drawings as indicated

1.10 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

B. Store products in manufacturer's unopened packaging, keep dry and protect from damage until ready for installation.

1.11 FIELD CONDITIONS

A. Maintain field conditions within manufacturer's required service conditions during and after installation.

1.12 WARRANTY

A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

B. Provide minimum 2 year manufacturer warranty covering repair or replacement due to defective materials, workmanship, design, manufacturing and operation.

C. Guarantee: The Contractor shall guarantee all hardware under this Section for a period of two (2) years from date of the Certificate of Final Acceptance of the Work. The Contractor shall replace without additional cost items which prove defective due to improper materials, workmanship or installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Access Control System - Basis of Design: _____.

B. Access Control System - Other Acceptable Manufacturers:
   1. Bosch Security Systems; _____: www.boschsecurity.us.
   2. DoorKing, Inc; _____: www.doorking.com.
   3. Honeywell International, Inc; _____: www.honeywellaccess.com.
   4. _____.

C. Substitutions: See Section 01 60 00 - Product Requirements.

D. Products other than basis of design are subject to compliance with specified requirements and prior approval of Engineer. By using products other than basis of design, Contractor accepts responsibility for costs associated with any necessary modifications to related work, including any design fees.

E. Source Limitations: Where possible, furnish system components and accessories produced by a single manufacturer and obtained from a single supplier.

2.02 PRODUCT REQUIREMENTS

A. All material supplied under this contract shall be new, of the latest model or design as of bid date, UL listed and approved for use in New York City by the Department of Buildings-Electrical Inspection Unit. All the components of the Proximity Key Fob Access System shall be from the same manufacturer for compatibility.

B. The system as described herein is based on the Keri , Securitech and Genetec solution supplied and Integrated by Tomex Electronics (718)-326-1622, www.tomexelectonics.com <http://www.tomexelectonics.com>, Part Number (see attached Tomex Part Number built sample drawing*) as described below or equal will be acceptable. “Or equal” option must be approved by NYCHA Office of Design 5 days prior to bid due date. The multi-door access control system specified shall meet requirements of the specifications.*Note: Tomex Part Number built sample (AIA1-20E_BRA120E_CSHD2-15H_DSHB1-30) description: Front Intercom Door, Rear Reader Door, StairHall A Exit only with maglocks, StairHall B Exit only no maglocks and spring hinges.

2.03 SYSTEM DESCRIPTION

A. The multi - door access controller shall provide access control and shall interface with Keri Entraguard system, described in Section 27 51 23.

B. The scope of the system shall include all necessary components for proper function and include all features and functions described herein and the equipment shown on the drawings. System shall be capable of adding optional features, equipment and interfaces listed in the specifications, even if not initially included or shown on the plans.

C. Proximity access tags shall be Keri Systems or equal, as required by access control manufacturer. Number of tags: 1,100 per building address.

D. After the installation the system shall be complete in all respects. Testing of system is part of Contract.

E. Contractor shall submit a wiring diagram before the installation for approval by NYCHA.

2.04 SYSTEM CONFIGURATION

A. A complete system shall consist of the controller and one or more pieces of the following equipment (see optional equipment); access control devices- Intercom (card readers, keypads, telephone connection, LAN connection) as required; door or gate locking devices (magnetic locks, electric door strikes, door status contactors, etc.) as required; and connecting cables wiring, quick connect terminations, mounting boxes and power supplies required for a complete installation.

B. FOB controller shall be surface mounted as shown on the contract drawings.

2.05 EQUIPMENT

A. TOMEX Electronics Integrated Assembly by door features

1. Tomex Electronics Part Number description:

a.	Mfgr. of server	Software Part Number
b.	Genetec	GSC-Sy-P - Synergis base (1 license per Genetec System)
c.	Genetec	GSC-1SCFED - Federation (1 license per Genetec System)
d.	Genetec	GSC-Sy-S-IMP - Import tool
e.	Genetec	GSC-PM-STD-500 - Plan Manager for up to 500 entities
f.	Door feature	Intercom
g.	Keri	EG-STL-750
h.	Keri	KPS-5-1
i.	Genetec	Sy-SMCV200PW-KIT
j.	Genetec	SMC Keri/COM
k.	Genetec	Sy-S-1KeriEntraguard
l.	Tomex	Keri phone line Status module and Plan Manager 3 level
m.	Tomex	Keri - NXT 4D Controller Relocation
n.	Tomex	SMC battery and Plan Manager 3 level integration
o.	Tomex	NO AC signal integration and Plan Manager 3 level integration
p.	Tomex	Power Supply Network Interface Module (Genetec N2L Mo Module)
q.	Tomex	Initial Tenant upload, key fobs and phone number
r.	Tomex	Lo Battery signal integration and Plan Manager 3 level integration
s.	Tomex	SMC, Keri, Securitech head end interconnects
t.	Tomex	Quick Connects, marking, trough and fittings.
u.	Door Type	Reader (R)
v.	Keri	NXT-4R
w.	Genetec	GSC-Sy-S-1R
x.	Tomex	Reader Plan Manager 3 level integration
y.	Door Type	SH
z.	Tomex	Door Plan Manager 3 level integration

aa. Overall Assembly integration
ab. Tomex all integrated signals displayed in Plan manager will also be federated to NYCHA Office of Security Global Plan Manager

B. TOMEX Electronics Integrated Assembly by Door Hardware

1. Door Hardware A1-20e
   a. Securitech LO-CCMAG20e
   b. Tomex Trim Battery and Plan Manager 3 level integration
   c. Tomex Lock PSS signal integration and Plan Manager 3 level integration.
   d. Tomex LPS Delay alarm integration and Plan Manager 3 level integ integration
   e. Tomex TBS and BBS delay alarm integration and Plan Manager 3 level integration.
   f. Tomex Door open too long alarm integration
2. Door Hardware A1-A01
   a. Securitech LO-CCMAG20-A01
   b. Tomex Trim Battery and Plan Manager addition
   c. Tomex Lock PSS signal integration and Plan Manager 3 level inte integration
   d. Tomex LPS Delay alarm integration and Plan Manager 3 level int integration
   e. Tomex TBS and BBS delay alarm integration and Plan Manager 3 l level integration.
   f. Tomex Door open too long alarm integration
3. Door Hardware A1-A02
   a. Securitech LO-CCMAG20-A02
   b. Tomex Trim Battery and Plan Manager addition
   c. Tomex Lock PSS signal integration and Plan Manager 3 level integration
   d. Tomex LPS Delay alarm integration and Plan Manager 3 level in integration
   e. Tomex TBS and BBS delay alarm integration and Plan Manager 3 level integration
   f. Tomex Door open too long alarm integration
4. Door Hardware A2-10
   a. Securitech LO-CCMAG10
   b. Tomex Trim Battery and Plan Manager addition
   c. Tomex Lock PSS signal integration and Plan Manager 3 level integration
   d. Tomex LPS Delay alarm integration and Plan Manager 3 level integration
   e. Tomex TBS and BBS delay alarm integration and Plan Manager 3 level integration
   f. Tomex Door open too long alarm integration
5. Door Hardware A2-15
   a. Securitech LO-CCMAG15
   b. Tomex Trim Battery and Plan Manager addition
   c. Tomex Lock PSS signal integration and Plan Manager 3 level integration
   d. Tomex LPS Delay alarm integration and Plan Manager 3 level integration
   e. Tomex TBS and BBS delay alarm integration and Plan Manager 3 l level integration
6. Door Hardware B1-30

a. Securitech MB-VREDS-30
b. Tomex LPS Delay alarm integration and Plan Manager 3 level integration
c. Tomex Door open too long alarm integration
d.

7. Door Hardware B1-31
   a. Securitech MB-VREDS-31
   b. Tomex LPS Delay alarm integration and Plan Manager 3 level integration
   c. Tomex Door open too long alarm integration
8. Door Hardware B1-32
   a. Securitech MB-VREDS-32
   b. Tomex LPS Delay alarm integration and Plan Manager 3 level integration
   c. Tomex Door open too long alarm integration
9. Door Hardware B1-35
   a. Securitech MB-VREDS-35
   b. Tomex LPS Delay alarm integration and Plan Manager 3 level integration
   c. Tomex Door open too long alarm integration
10. Door Hardware B2-30H
    a. Securitech MB-VREDS-30H
    b. Tomex LPS Delay alarm integration and Plan Manager 3 level integration
    c. Tomex Door open too long alarm integration
11. Door Hardware B1-31H
    a. Securitech MB-VREDS-31H
    b. Tomex LPS Delay alarm integration and Plan Manager 3 level integration
    c. Tomex Door open too long alarm integration
12. Door Hardware B1-32H
    a. Securitech MB-VREDS-32H
    b. Tomex LPS Delay alarm integration and Plan Manager 3 level integration
    c. Tomex Door open too long alarm integration
13. Door Hardware B1-35H
    a. Securitech MB-VREDS-35H
    b. Tomex LPS Delay alarm integration and Plan Manager 3 level integration
    c. Tomex Door open too long alarm integration
14. Door Hardware D1-15
    a. Securitech MB-VRMED-15
    b. Tomex LPS Delay alarm integration and Plan Manager 3 level integration
    c. Tomex TBS and BBS delay alarm integration and Plan Manager 3 level intrgration
    d. Tomex Door open too long alarm integration
15. Door Hardware D1-10
    a. Securitech MB-VRMED-10
    b. Tomex LPS Delay alarm integration and Plan Manager 3 level integration
    c. Tomex TBS and BBS delay alarm integration and Plan Manager 3 level
    d. Tomex Door open too long alarm integration

16. Door Hardware D2-15H
    a. Securitech MB-VRMED-15H
    b. Tomex LPS Delay alarm integration and Plan Manager 3 level integration
    c. Tomex TBS and BBS delay alarm integration and Plan Manager 3 level integration
    d. Tomex Door open too long alarm integration
17. Door Hardware D2-13H
    a. Securitech MB-VRMED-13H
    b. Tomex LPS Delay alarm integration and Plan Manager 3 level integration
    c. Tomex TBS and BBS delay alarm integration and Plan Manager 3 level integration
    d. Tomex Door open too long alarm integration
18. Door Hardware D2-10H
    a. Securitech MB-VRMED-10H
    b. Tomex LPS Delay alarm integration and Plan Manager 3 level integration
    c. Tomex TBS and BBS delay alarm integration and Plan Manager 3 level integration
    d. Tomex Door open too long alarm integration

2.06 GENETIC SYSNERGIS MASTER CONTROLLER

A. The Intelligent Master Controller (IMC) / GENETEC SMC is an open architecture embedded computer whose main task is to manage on or more access controlled doors. Additional tasks include:
   1. Manage downstream reader interface modules, door controllers, and input/output modules.
   2. Log all access control and IO events in a database.
   3. Downstream device management. The IMC shall control and program downstream devices.
   4. Reader interface modules (IP- or RS485-based devices) with limited access control business logic.

B. Hardware
   1. Onboard Intel Atom N270 1.6GHz CPU
   2. A minimum of 1 GB of SDRAM shall be available, expandable to 2 GB.
   3. A minimum of 8 GB of compact flash memory.
   4. The IMC shall be power by a 12 VDC power supply.
   5. Support for a keyboard and mouse.

C. Communication
   1. Support TCP/IP communications natively. No additional network adapter shall be required.
   2. Ethernet (LAN) controllers for network communications.
   3. Interface with up to 32 downstream dev.
   4. Four RS485 (serial) ports(external module).
   5. Access Control System (ACS) communications.

D. Access Control
   1. Monitor downstream device status and events.
   2. All access control grant/deny decisions and log events.
   3. Lock/unlock doors.
   4. Activate/deactivate unlocking schedules.
   5. Set downstream device settings and par.
   6. Degraded modes of operation.

E. E. Software Specifications
   1. Management software - Security Center 5.1 or higher (monitoring and configuration)
   2. IP addressing - Static or dynamic
   3. Encryption - Min. 128-bit encrypted communications with management software
   4. Web server - On-board, self-hosted pages, used for basic setup and configuration,
      a. Encrypted communications
   5. Memory allocation - Variable, based on configuration and use
   6. Max number of readers** - 64 readers or 64-128 electronic locks
   7. Max number of inputs** - 512 inputs
   8. Max number of outputs** - 384 outputs
   9. Number of cardholders*** - 150,000
   10. Offline event/transaction buffer size*** - 150,000
   11. Number of card formats*** - Unrestricted
   12. Number of credentials per cardholder*** - Unrestricted

2.07 LAYERED ACCESS CONTROL

A. The work includes the supply and installation of all components, specified or not, for a complete and working Layered Access Control (LAC) system. The Work includes, but is not limited to, the supply and installation of:
   1. Access Control System hardware.
   2. Access Control System software.
   3. All necessary Access Control System and OS software Licenses
   4. Access Control System power supplies and accessories.
   5. Workstations for managing and monitoring the system.
   6. All Low Voltage Center (LVC) equipment and enclosures
   7. All required conduit.
   8. Workstations for managing and monitoring the system (If required)
   9. All necessary LAC System and OS software Licenses for integration
   10. All necessary integration licenses.
   11. All necessary racks and rack mount hardware
   12. All necessary electrical power circuits
   13. All necessary room cooling along with the necessary electrical circuits for cooling systems.
   14. All necessary PoE switches
   15. All necessary readers, all of which must be supervised.
   16. All necessary fiber infrastructure
   17. All necessary fiber switches
   18. All necessary network infrastructure, including wireless mesh, and all associated power circuits, licenses, servers and infrastructure.
   19. All necessary lock hardware, and installation
   20. All necessary smart locks, with 5 keys provided and programmed per smart lock
   21. All necessary panels
   22. All necessary telephone entry equipment.
   23. All necessary programming.
   24. Client access must be configured for thick clients, thin clients and web clients for all systems
   25. Any required fire alarm interfaces in order to comply with Local, State and Federal Code.
   26. The Work also includes, but is not limited to:
      a. LAC Software installation and configuration
      b. OS software installation and configuration for all PC and Servers
   27. Staff Training
      a. System Administration
      b. System Operator

28. The supply and installation of system cabling, as needed including fiber and Ethernet cabling.
29. The termination of system cabling, as needed including fiber and Ethernet cable.
30. Providing to NYCHA Keyfobs in a quantity sufficient to accommodate 5 keyfobs per apartment served in each building.
31. Identification and labeling of all system cables.
32. Testing of all devices and cables. All cables and devices must meet manufacturers testing standards and requirements.
33. Providing O & M Manuals
34. Providing test results.

2.08 LAYERED ACCESS CONTROL SYSTEM DESCRIPTION

A. The new Layered Access Control System consists of security equipment such as controllers; card readers, egress devices,magnetic door contacts, telephone entry systems, servers,, networking infrastructure, copper switches, fiber aggregate switches and power supplies that are used to control access to secured areas.

B. Layered Access control will be provided on selected doors as designated by NYCHA.

C. All head-end control components shall be enclosed in the LAC's as distributed according to NYCHA.

D. All power supplies for LAC controls shall be located directly adjacent to the controller panels.

E. Head-end control panels shall be installed in designated LAC's that are locked and secured in appropriate locations in each building.

F. Cabling from the reader controllers to each door shall support reader supervision and shall be home run to the head end panels.

G. All Genetec installers must be certified at the top level for Omnicast and Synergis.

H. All field input points (door contacts, REX switches, auxiliary inputs, door latch monitors, and maglock bond sensors) shall be supervised.

I. Communications for the Access Control Panels shall be by TCP/IP over Local Area Network (LAN) connection furnished by the installer.

J. The ACS panels will contain intelligence for standalone operation of access control functions in the event of loss of communications between the panel and server.

K. The integrator will provide all programming of the layered access control system with coordination of NYCHA. Servers and workstations will also be provided by the integrator (if required or necessary).

L. All readers for the layered access control system shall use vandal resistant readers and lock hardware. The integrator shall be responsible for ensuring that all doors receiving access control security equipment are aligned properly, have the necessary door closing equipment, and also operate properly. If they do not have required hardware, or the hardware is not in condition that it would support LAC, the integrator shall be responsible for replacement of all door equipment.

M. The Security Operations Center (SOC) will have a workstation dedicated to operate and manage the IP access control system. .

N. The SOC must be secured by a CyberLock.

O. The rack in the SOC must be supplied with no less than three feet of clearance front and back.

P. The New York City Housing Authority will be responsible for providing a location for a SOC anytime there is a Layered Access

Q. The access control system shall be seamlessly integrated with the layered access System

R. The telephone entry system will integrate to the access control system to allow personnel or visitors who do not have credentials to gain access.

S. The telephone entry system will have three telephone numbers programmed for each residence served. The integrator shall be responsible for programming.

T. The telephone entry system shall be integrated with the access control and video system.

U. The telephone entry system shall utilize with one telephone line per entryway. NYCHA shall be responsible for the telephone line however the integrator selected shall be responsible for coordinating the installation

2.09 ACCESS CONTROL SYSTEM REQUIREMENTS

A. Provide new access control system consisting of all required equipment, conduit, boxes, wiring, connectors, hardware, supports, accessories, software, system programming, etc. as necessary for a complete operating system that provides the functional intent indicated.

B. System Battery Backup: Provide batteries/uninterruptible power supplies (UPS) as required for _____ minutes full operation.

C. Surge Protection:
   1. Provide surge protection for readers and door strikes/locks.
      a. Product(s):
         1) _____.
   2. Provide equipment power surge protection where electrical distribution system surge protection is not provided.

D. Access Control Points:
   1. See article "ACCESS CONTROL POINT PERIPHERALS" below for device descriptions.
   2. Door Number _____:
      a. Location: _____.
      b. Description: _____.
      c. Function: Operational and emergency.
      d. Access: Controlled entry, free exit.
      e. Peripherals on Unsecure Side:
         1) Reader/Keypad: Contactless smart card reader Type _____.
         2) _____.
      f. Peripherals on Secure Side:
         1) Reader/Keypad: Contactless smart card reader Type _____.
         2) Door position switch.
         3) Integral door hardware request to exit device.
         4) Alarm sounder.
         5) _____.
      g. Locking Device: Electric strike.
         1) Configuration: Fail-secure.
      h. Interface Requirements:
         1) Provide interface with fire alarm system to release door lock upon alarm.
         2) Provide interface with handicapped automatic door operator.
         3) _____.
   3. Parking Gate Number _____:
      a. Location: _____.
      b. Description: _____.
      c. Access: Controlled entry, controlled exit.
      d. Peripherals on Unsecure Side:
         1) Reader/Keypad: Contactless smart card reader Type _____.
         2) _____.
      e. Peripherals on Secure Side:
         1) Reader/Keypad: Contactless smart card reader Type _____.
         2) _____.
   4. Elevator Number _____:

a. Location: _____.
b. Access: Controlled access to elevator call, free access to all floors.
c. Peripherals Inside Elevator:
1) Reader/Keypad: Contactless smart card reader Type _____.
2) _____.
d. Peripherals Outside Elevator on Designated Floors:
1) Reader/Keypad: Contactless smart card reader Type _____.
2) _____.

E. Computers Required:
1. See article "ACCESS CONTROL UNITS AND SOFTWARE" below for product descriptions.
2. Server(s):
a. Quantity: One.
b. Location(s): To be determined.
c. Peripherals required for each server:
1) Mouse and keyboard.
2) Monitor(s): One.
3) Speakers (where not integral with monitor).
4) _____.
3. Workstation Computer(s):
a. Quantity: One.
b. Location(s): To be determined.
c. Peripherals required for each workstation computer:
1) Mouse and keyboard.
2) Monitor(s): One.
3) Speakers (where not integral with monitor).
4) Alarm/report printer.
5) _____.
4. Badging Station Computer(s):
a. Quantity: One.
b. Location(s): To be determined.
c. Peripherals required for each badging station computer:
1) Mouse and keyboard.
2) Monitor(s): One.
3) Speakers (where not integral with monitor).
4) Badging printer.
5) Badging camera.
6) Badging signature tablet.
7) _____.

F. Interface with Other Systems:
1. Provide products compatible with other systems requiring interface with access control system.
2. Interface with electrically operated door hardware as specified in Section 08 71 00.
a. Capable of locking/unlocking/releasing controlled doors.
b. Capable of receiving input from integral door hardware switches.
3. Interface with elevators as specified in Section 14 20 10.
a. Capable of controlling access to elevator.
b. Capable of controlling elevator access to designated floors.
4. Interface with parking control gates as specified in Section 11 12 00.
a. Capable of controlling gate access.
5. Interface with intrusion detection system as specified in Section 28 16 00.
a. Capable of affecting access for controlled doors for selected intrusion detection system events.

b. Capable of affecting intrusion detection system status for selected access control system events.

6. Interface with video surveillance system as specified in Section 28 23 00.
   a. Capable of affecting camera/video operation for selected access control system events.
7. Interface with fire alarm system as specified in Section 28 31 00.
   a. Capable of affecting access for designated doors for selected fire alarm system events.
8. Interface with HVAC controls as specified in Section _____.
   a. Capable of affecting operation of selected HVAC equipment for selected access control system events.
9. Interface with energy management system as specified in Section _____.
   a. Capable of affecting operation of selected HVAC equipment for selected access control system events.
10. Interface with lighting control system as specified in Section _____.
    a. Capable of affecting control of designated lighting for selected access control system events.

2.10 ACCESS CONTROL UNITS AND SOFTWARE

A. Provide access control units and associated software compatible with readers to be connected.

B. Access Control Unit Type _____:
   1. Basis of Design: _____.
   2. Control Capability: _____ doors/ _____ readers.
   3. Database:
      a. Storage Capacity: _____ cardholders; _____ events.
      b. Quantity of Access Codes Supported: _____.
      c. Quantity of Holidays Supported: _____.
      d. Quantity of Time Codes Supported: _____.
      e. Quantity of Site Codes Supported: _____.
      f. Quantity of Card Formats Supported: _____.
   4. Operating Modes Supported:
      a. Card only.
      b. Card and PIN.
      c. Duress.
      d. Anti-passback.
      e. _____.
   5. Alarm Inputs: _____.
   6. Output Relays: _____.
   7. Features:
      a. Dedicated tamper alarm input.
      b. Dedicated power loss alarm input.
      c. Supports database and event exporting.
      d. Supports database backup.
      e. Integral backup battery system.
      f. _____.

C. Computers:
   1. Workstation Computers: Unless otherwise indicated, workstation computer hardware and associated peripherals not furnished by access control system manufacturer to be provided by Contractor as part of work of this section, meeting access control system equipment manufacturer's recommended requirements.
   2. Servers: Unless otherwise indicated, server hardware and associated peripherals not furnished by access control system manufacturer to be provided by Contractor as part of work of this section, meeting access control system equipment manufacturer's recommended requirements.

3. Badging Peripherals: Unless otherwise indicated, badging peripherals not furnished by access control system manufacturer to be provided by Contractor as part of work of this section.
    a. Basis of Design Product(s):
        1) Badging Printer: _____.
        2) Badging Camera: _____.
        3) Badging Signature Tablet: _____.
        4) _____.

D. Software:
1. Unless otherwise indicated, provide all software and licenses required for fully operational system.
2. Access Control System:
    a. Basis of Design: _____.
3. Visitor Management System:
    a. Basis of Design: _____.

2.11 ACCESS CONTROL POINT PERIPHERALS

A. Provide devices compatible with control units.

B. Provide devices suitable for operation under the service conditions at the installed location.

C. Provide readers compatible with credentials to be used.

D. Reader Color: To be selected by Architect from manufacturer's available standard colors.

E. Contactless Smart Card Readers:
1. Utilizes 13.56 Mhz RF communication with compatible credentials.
2. Utilizes 64 bit authentication keys.
3. Supports ISO compliant credentials.
4. Supports data encryption.
5. Contactless Smart Card Reader Type _____:
    a. Basis of Design: _____.
    b. Read Range: Up to _____ inches.
    c. Output Interface: _____.
    d. Features:
        1) Tamper output.
        2) Keypad.
        3) _____.

F. Biometric Readers:
1. Biometric Hand Geometry Reader Type _____:
    a. Basis of Design: _____.
    b. Output Interface: _____.
    c. Stores templates for up to _____ users.
    d. Features:
        1) Integrated proximity card reader.
        2) Tamper output.
        3) _____.

G. Proximity Readers:
1. Utilizes 125 kHz RF communication with compatible credentials.
2. Proximity Reader Type _____:
    a. Basis of Design: _____.
    b. Read Range: Up to _____ inches.
    c. Output Interface: _____.
    d. Features:
        1) Tamper output.
        2) Keypad.

H. Wiegand Readers:

I. Keypads:

J. Bar Code Readers:

K. Door Position Switches:
   1. Magnetic Contacts: Encapsulated reed switch(es) and separate magnet; designed to monitor opened/closed position of doors.

L. Request to Exit Devices:
   1. Motion Sensors: Passive infrared.
   2. Door Hardware with Integral Request to Exit Switches: Comply with Section 08 71 00.

M. Door Locking Devices (Electric Strikes and Magnetic Locks): Comply with Section 08 71 00.

N. Alarm Sounders:

2.12 ACCESSORIES

A. Provide components as indicated or as required for connection of access control system to devices and other systems indicated.

B. Unless otherwise indicated, credentials to be provided by Contractor.
   1. Provide credentials compatible with readers and control units/software to be used.
   2. Credential Type: _____.
      a. Basis of Design Product(s):
         1) _____.
      b. Quantity: _____.

C. Unless otherwise indicated, network switches required for network connections to system components to be provided by Contractor.
   1. Product(s):
      a. _____.

D. Provide cables as indicated or as required for connections between system components.
   1. Data Cables for IP Network Connections: Unshielded twisted pair (UTP), minimum Category 5e, complying with Section 27 10 05.

E. Provide end-of-line resistors (EOLR) as required for supervision of hardwired connections.

F. Provide accessory racks/cabinets as indicated or as required for equipment mounting.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as shown on the drawings.

B. Verify that ratings and configurations of system components are consistent with the indicated requirements.

C. Verify that mounting surfaces are ready to receive system components.

D. Verify that branch circuit wiring installation is completed, tested, and ready for connection to system.

E. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

A. General:
   1. Shall be installed by qualified technicians who have been factory trained and certified.
   2. Wiring shall be uniform and in accordance with national electric codes (NEC) and manufacturer's instructions.
   3. Conform with the manufacturers written requirements for installation.
   4. Equipment shall be firmly secured, plumb and level.
   5. All splices shall be in easily accessible junction boxes or on terminal boards. Contractor shall use quick connect wire/cable terminations for ease of future maintenance.

6. All cable runs at the main control cabinets, in all auxiliary cabinets and at all phone blocks shall be tagged and identified.
7. Coordinate all work with other effected trades and contractors.
8. Only Factory Trained Integrators and Authorized resellers for Keri, Securitech and Genetec products shall be used on the NYCHA LAC Projects.
9. Only the Genetec Integrator of Record, responsible for the Genetec License in this contract shall be authorized to integrate, configure and modify the system until fully turnover to NYCHA.
10. Genetec Integrator of Record must be Gentec Certified Resource Partner with at least 3 years NYCHA LAC experience.
11. Fastenings:
    a. Fasten on gypsum board wall surfaces with screws into wood or metal blocking, or with bolts or molly anchors, not less than 1/4" diameter. Screwing into gypsum board or plaster will not be acceptable.
    b. Fasten into concrete or masonry with self- drilling masonry anchors Phillips Redhead, Bulldog or Rawl Sabertooth.

B. Specific:
1. Install access control system in accordance with NECA 1 (general workmanship).
2. Install products in accordance with manufacturer's instructions.
3. Wiring Method: Unless otherwise indicated, use cables (not in conduit).
4. Use suitable listed cables in wet locations, including underground raceways.
5. Use suitable listed cables for vertical riser applications.
6. Use listed plenum rated cables in spaces used for environmental air.
7. Install wiring in conduit for the following:
    a. Where required for rough-in.
    b. Where required by authorities having jurisdiction.
    c. Where exposed to damage.
    d. Where installed outside the building.
    e. For exposed connections from outlet boxes to devices.
    f. _____.
8. Conduit: Comply with Section 26 05 34.
9. Conceal all cables unless specifically indicated to be exposed.
10. Use power transfer hinges complying with Section 08 71 00 for concealed connections to door hardware.
11. Cables in the following areas may be exposed, unless otherwise indicated:
    a. Equipment closets.
    b. Within joists in areas with no ceiling.
    c. _____.
12. Route exposed cables parallel or perpendicular to building structural members and surfaces.
13. Do not exceed manufacturer's recommended maximum cable length between components.
14. Provide grounding and bonding in accordance with Section 26 05 26.
15. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 84 00.
16. Identify system wiring and components in accordance with Section 26 05 53.

3.03 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for additional requirements.

B. Provide services of a manufacturer's authorized representative to observe installation and assist in inspection and testing. Include manufacturer's detailed testing procedures and field reports with submittals.

C. Prepare and start system in accordance with manufacturer's instructions.

D. Program system parameters according to requirements of Owner.

E. Test for proper interface with other systems.

F. Correct defective work, adjust for proper operation, and retest until entire system complies with contract documents.

G. Submit detailed reports indicating inspection and testing results and corrective actions taken.

3.04 SYSTEM INITIALIZING AND PROGRAMMING

A. System shall include all software and /or instructions necessary for system configurations.

B. System shall be turned on and adjustment made to meet requirements of specifications and on- site conditions.

C. System shall be programmed to functions as specified.

D. The Contractor shall demonstrate that the installed system functions in stand alone with only the components that are part of this Contract.

E. Genetec-Keri Intercom configuration:
   1. Upload provided tenant list to Genetec Security Desk.
      a. Assign 1 keyfob for each tenant.
      b. Assign a Intercom Directory Code (displayed next to the apartment number on the Intercom) for each head of household with a valid phone number.
      c. Upload the tenant list to the Intercom.

F. Genetec email and alarms configuration:
   1. Setup the email server.
      a. Send email (Techservices) when specific alarms (LPS, TBS, BBS, Door Opened Too Long, AC Fail, Power Status, Keri Entraguard Monitoring) are triggered.

G. Genetec Security Desk - Alarm Monitoring description:
   1. SMC/Entraguard
      a. SMC AC Fail (AC Fail)
      b. SMC Battery Fail (Battery Fail)
      c. SMC Tamper (Tamper)
      d. Keri Entraguard(Intercom) Monitoring (ENT)
   2. I Door
      a. Latch Position Switch (LPS)
      b. Top Magnet Bond Sensor (TBS)
      c. Bottom Magnet Bond Sensor (BBS)
      d. Door Status (Door Opened Too Long)
   3. R/SH Door
      a. Latch Position Switch (LPS)
         1) Top Magnet Bond Sensor (TBS)
         2) Bottom Magnet Bond Sensor (BBS)
         3) Door Status (Door Opened Too Long)
   4. SH Door
      a. Latch Position Switch (LPS)
         1) Door Status (Door Opened Too Long)

3.05 SYSTEM TEST PROCEDURES

A. After the completion of the installation of the Proximity Key Fob Access System and before the final acceptance by NYCHA the contractor shall have the Genetec certified Integrator of Record perform and manage the turnover to NYCHA TSD and Office of Security as required to determine if the system is working properly in compliance of the specifications. If there are any deficiencies the contractor shall fix them all at no additional cost to NYCHA.

B. The Contractor shall keep the working area clean and safe and follow NYC recycling law.

3.06 OWNER INSTRUCTIONS

A. Installation contractor shall conduct up to (4) hours of instruction in use and operation and maintenance of the system to designated owner representative, within (30) days of acceptance.

B. Installation contractor shall conduct up to (4) hours of technical training, in programming, troubleshooting, and service of the system, to designated owner representatives within (90) days of system acceptance.

3.07 MANUALS AND DRAWINGS

A. Contractor shall provide owner with (2) copies of standard factory prepared operation, installation and make maintenance manuals. Manuals shall include typical wiring diagrams.

B. Contractor shall provide owner with (2) copies of any risers, layouts, and special wiring diagrams showing any change to standard drawing, if required on project.

C. Contractor shall provide trouble-shooting and maintenance manuals to Owner.

D. Electronic copies of the manuals and drawings shall be provided. Contractor shall provide two (2) copies in CD's.

E.

3.08 CLEANING

A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

3.09 CLOSEOUT ACTIVITIES

A. See Section 01 78 00 - Closeout Submittals, for closeout submittals.

B. See Section 01 79 00 - Demonstration and Training, for additional requirements.

C. Demonstration: Demonstrate proper operation of system to Owner, and correct deficiencies or make adjustments as directed.

D. Training: Train Owner's personnel on operation, adjustment, and maintenance of system.
   1. Use operation and maintenance manual as training reference, supplemented with additional training materials as required.
   2. Provide minimum of four hours of training.
   3. Instructor: Manufacturer's authorized representative.
   4. Location: At project site.

3.10 PROTECTION

A. Protect installed system components from subsequent construction operations.

3.11 MAINTENANCE

A. See Section 01 70 00 - Execution and Closeout Requirements, for additional requirements relating to maintenance service.

B. Provide to Owner, a proposal as an alternate to the base bid, a separate maintenance contract for the service and maintenance of access control system for two years from date of Substantial Completion; Include a complete description of preventive maintenance, systematic examination, adjustment, cleaning, inspection, and testing, with a detailed schedule.

C. Conduct site visit at least once every three months to perform inspection, testing, and preventive maintenance. Submit report to Owner indicating maintenance performed along with evaluations and recommendations.

D. Provide trouble call-back service upon notification by Owner:
   1. Include allowance for call-back service during normal working hours at no extra cost to Owner.

2. Owner will pay for call-back service outside of normal working hours on an hourly basis, based on actual time spent at site and not including travel time; include hourly rate and definition of normal working hours in maintenance contract.

END OF SECTION