

SECURITY CONSULTING

PERIMETER • ACCESS • ENTERPRISE SECURITY



STRATEGY + SPECIFICATIONS + TECHNOLOGY

Security



Security Solutions

Professional Systems Engineering, a NV5 Company, has over three decades of professional experience in providing consulting and engineering services for security and communication systems. We specialize in large-scale projects in a campus setting, primarily corporate business centers, universities, corrections and justice centers, and municipal complexes. Our expertise is in security master plan development, comprehensive security surveys, risk and needs assessments, security operations and procedures evaluation and program development, systems design and engineering, as well as a full complement of services for individual system components.

Balanced Programs

We offer a balanced team approach by combining the expertise of professionals representing physical hardware and systems, operations, policies, and procedures. Our firm is comprised of security management specialists, security risk experts and planners, communication specialists, engineers, and CAD designers. Backed with the resources of a multi-disciplined team, We provide our clients with well-coordinated security programs that fully integrate physical security hardware components with procedures and operational aspects.

Experience

Our clients' projects have involved protecting facilities and building contents ranging from artifacts to state-of-the-art technologies, proprietary information, systems, and equipment. Our considerable repeat business in airport, corporate, critical infrastructure and hardened security is a testament to the level of expertise our staff has attained.

Policy, Procedures, Post Orders, Training

Led by nationally recognized security, communications, and fire protection experts, Our firm employs a uniquely qualified and technically diverse team. Continually meeting the challenges of sensitive projects, we have earned a national reputation for supplying advanced technologies and maintaining strict project cost and schedule requirements.

Safety Plans and Emergency Evacuation

Our clients' projects have involved protecting facilities and building contents ranging from artifacts to state-of-the-art technologies, proprietary information, systems, and equipment. Currently, our security and communication designs are protecting college students, company executives and employees, government officials, police, judges, inmates, and the public.

Franklin County Courthouse & Secure Parking

Security Planning, Design & Engineering

 Columbus, Ohio



This project consists of the design of a modern court facility for Franklin County Courthouse in Columbus, Ohio. The court system serves a large county population with over 100,000 person-visits per year. The Courthouse will be occupied by a variety of departments having overlapping security needs. The new structure will be integrated with the existing campus of buildings. The security aspects of the integration requirements include high volume screening, blast mitigation reviews, and digital video throughout.

This project consists of the design of a modern court facility for Franklin County Courthouse in Columbus, Ohio. The court system serves a large county population with over 100,000 person-visits per year. The Courthouse is occupied by a variety of departments having overlapping security needs. The new structure/pavilion will be integrated with the existing campus of buildings. The security aspects of the integration requirements include high volume screening, blast mitigation reviews, and digital video throughout.

Professional Systems Engineering, an NV5 Company, applied two key philosophies in the design of the security systems. The first was the concept of simple operational security. The system design focused on not only providing the best level of security but also stresses a "simple to operate" and "easy to maintain system." Our firm believes that if systems are not easy to operate, these systems will not be fully implemented. The end result of a complex security system could be a breakdown in a facility's overall level of security.

Our second key philosophy was the design of integrated systems. Modern security systems incorporate a collection of subsystems. Traditionally, these systems would each be an independent standalone system. The system provided for in this project will call for each subsystem to be interfaced in a manner which will allow the system to share information and automatically respond to events.

Services Provided

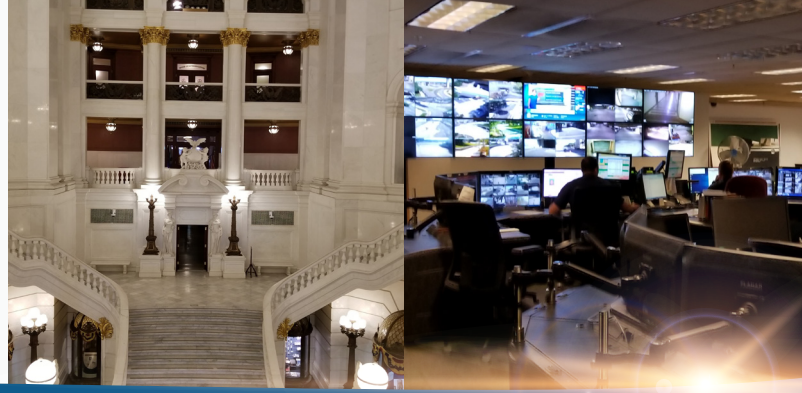
Security Technologies

- IP security system
- PLC system control in holding cells, segregated from courthouse access control system
- Monitoring and controlled access systems
- Card access protection
- Elevator and secure corridor protection
- Digital television surveillance
- Weapons detection and package screening
- Interior building security for door monitoring and control, power backup, interior communications, and duress monitoring stations
- Security intercom system
- Monitoring of critical support systems, such as uninterruptible power supplies (UPS) and fire alarms
- Physical security control and monitoring of exterior access to secure parking and sallyport entrances

PA DGS Capitol Complex and Auxiliary Sites

Security Assessments & Capitol Police Command Center

 Harrisburg, Pennsylvania



Our firm has provided in-depth survey and security assessments, as well as design and engineering services for physical security, video surveillance, access control, and overall enterprise security monitoring and integration.

Professional Systems Engineering, a NV5 Company, provided statewide security upgrades at the Capitol Complex and state-owned sites around the Commonwealth of Pennsylvania. Our firm has provided in-depth survey and security assessments, as well as design and engineering services for physical security, video surveillance, access control, and overall enterprise security monitoring and integration. This project includes a total of 32 buildings in various cities across the state, as well as extensive coordination with various government agencies and stakeholders.

This project won first place in 2019 as an "Outstanding Engineering Achievement" by the Pennsylvania Society of Professional Engineers. The project included five cities, five million square feet under roof with thousands of cameras, card readers, and access-controlled doors.

Services Provided

Enhance Assessment and Study

- Existing electronic security systems
- Existing physical barriers
- Overall building security
- Statewide command and control center

Physical Barrier Controls

- Wedge barriers and popup bollards retrofit
- X-ray package screening
- Guard booths
- Vehicle control gates
- Real-time viewing

Command and Control Upgrade

- Real-time viewing
- Complete electronic security system integration
- Redesign of command center
- Physical Security Information Management (PSIM)

Electronic Security Design

- Access control system and monitoring
- Video surveillance systems
- Security Intercom and communications
- Personal duress

A/V Technology

- Video all for presentations, large displays, and conferencing
- A/V source presentation and selection systems
- Configurable multi-zone controls
- Video/audio/computer distribution
- A/V control system integrated with multiple internal and external sources
- Computer networking
- Program management

Clay Center for the Arts & Sciences

Museum & Performing Arts Security

📍 Charleston, West Virginia



While security is the central focus, its visual prominence blends with the aesthetic to avoid out-of-place disharmony. The result is a safe, welcoming place for young and old alike to enjoy its many offerings.

The Clay Center for the Arts and Sciences is one of the most ambitious cultural and educational projects in the history of West Virginia. It is a culmination of two decades of planning and construction in the state's capital city. The Clay Center includes a premier art museum, a first-class performing arts center featuring a performance hall, a state-of-the-art science center with two floors of exhibit space, a planetarium, a 70-mm large-format film theater, as well as virtual and hands-on educational programs.

While security is the central focus, its visual prominence blends with the aesthetic to avoid out-of-place disharmony. The result is a safe, welcoming place for young and old alike to enjoy its many offerings.

Professional Systems Engineering, a NV5 Company, designed the security system on a fast track schedule. The following planning engineering services and tasks were included in this project.

Planning:

- Secure site analysis
- Physical and electronic security recommendations
- Security report with basis of design guidelines
- Inconspicuous security to assure aesthetic blend
- Coordination with interiors/architectural needs
- Secure planning for varied exhibits and performances

Services:

- Assisted owner during bidding process and aided in evaluation of bids
- Reviewed all schedule of values, subcontractors, shop drawings, product data, samples, applications for payment, and change orders
- Performed job-site inspections during progress meetings
- Determined the dates of substantial and final completion
- Prepared punch lists
- Conducted closeout project site walk-through

Security:

- CCTV surveillance
- Digital recording systems
- Card Access control
- Museum grade CCTV design
- Complete door security/control
- Full motion/heat/acoustical detection systems

Security Conditions and Fitness Assessment



Assessment Services

Our Assessment Services have been utilized to assess a range of properties from an entire city's justice and prison facilities super-maximum detention facilities. Our engineers perform testing for security, communications, and life safety systems.

Our team has surveyed dozens of facilities totaling over 5 million square feet.

Inspection Services

Whether code evaluation and enforcement issues or good practice standards conformance, collaborative efforts of our staff with client and contractors produce safe and effective plans to allow judicious and respectful use of facilities for licensing and inspection. Compliance with local, state, and national codes as adopted is assured with our field-tested staff.

Systems Fitness and Assessment

Our staff knows operations of mission critical facilities for emergency operations, high security detainees, maximum security prisons, nuclear facilities and transportation hubs. Major project coordination for test and acceptance have been accomplished by our staff using iPads and surface tablets for accuracy, reproducibility, and consistency.

Testing Services

- Critical security electronics
- High security hardware
- High security fencing
- Detention electronics
- Programmable logic control
- Duress systems – wireless/wired
- Security intercoms
- Fire alarm/smoke detection
- Emergency evacuation
- Perimeter detection
- Gates, barriers, sallyports
- GUI screens and navigation
- CCTV surveillance and recording

City of Philadelphia Facilities Assessment Project

Security Assessment

📍 Philadelphia, Pennsylvania



Our firm's experts provided the City of Philadelphia an added level of value by addressing the often forgotten security, life safety, and communication disciplines as part of the capital expenditure planning process.

Our direct experience with first responders and public safety helped to align this assessment with real world needs that are not understood by general assessment providers.

Professional Systems Engineering, a NV5 Company, participated in assessing the physical condition of 149 City of Philadelphia department facilities, totaling approximately 3 million square feet. Our findings were conveyed both in hardcopy and dynamic data spreadsheet in an organized, comprehensive format that allowed the City to prioritize and allocate funding for ongoing capital repairs and maintenance.

Our experts provided the City of Philadelphia an added level of value by addressing the often forgotten security, life safety, and communication disciplines as part of the capital expenditure planning process. Our direct experience with first responders and public safety helped to align this assessment with real world needs that are not understood by general assessment providers.

List of Facilities

Facilities for the following City departments were included:

- Police Department -- 32 facilities
- Fire Department -- 66 facilities
- Prison System -- 36 facilities
- Department of Public Health -- 15 facilities
- Interior of City Hall

Assessments

The assessment information was stored in a data system that enables Pennsylvania Intergovernmental Cooperation Authority (PICA) and the City to effectively evaluate and approve annual five-year financial plans with prioritized funding for future renovations. The facility conditions assessment process included the following elements:

- | | | |
|------------------------------------|---------------------------|----------------------------|
| • Building (Structure and Systems) | • Telecommunications | • On-site paved surfaces |
| • Roofing | • Plumbing systems | • Perimeter paved surfaces |
| • Exterior walls | • Air conditioning system | • Site structures |
| • Exterior building lighting | • Fire protection systems | • Site furnishings |
| • Interior finishes | • ADA ramps, lifts | • Site drainage |
| • Heating system | • Site support structures | • Interior fencing |
| • Electrical power distribution | | • Landscaping |

Data Collection

Our firm was responsible for the 36 prison facilities assessing their security systems including perimeter security, fire protection/detection system and tele/data communication systems. For this project, we entered field data collection into the software for integration and data quality assurance management. Data collected from the physical inspection teams was entered into a database -- Microsoft Access. The data was transferred to the database integrator who merged the data into master files where it was classified by building systems; finally prioritized, assigned associated costs, and checked for accuracy.

Johnson & Johnson McNeil Consumer Healthcare

Site Security Study

📍 Fort Washington, Pennsylvania



Our firm was selected by Johnson & Johnson McNeil Consumer Healthcare to perform a Site Security Study of their Fort Washington facility for improving the security of their staff, visitors, and product production alike.

Professional Systems Engineering, a NV5 Company, was selected by Johnson & Johnson McNeil Consumer Healthcare to perform a Site Security Study of their Fort Washington facility for improving the security of their staff, visitors, and product production alike. Our firm provided a site security assessment of the 109 acre McNeil Consumer Healthcare Facility. The assessment included a detailed analysis of existing perimeter security with particular attention to the vehicle entrances and the security enhancements proposed for these portals.

As part of this assessment, we conducted site visits to survey the perimeter of the facility which included the site perimeter, building service areas, vehicle loading docks, and pedestrian access to the buildings, building perimeters, child development center, treatment/pumping station, power substation, and parking areas. Additional visits made by the consultant prior to sunrise to observe the lighting conditions at the site entrances, parking areas, building perimeters, and the overall site took place. At vehicle entrance points, Our firm reviewed existing entrances and access roads, as well as met with the architect's team to review the new proposed site access, control gates, security control booth, and selected fencing.

Report Recommendations

- Upgrade of card access control system to enterprise level
- Improvements to existing surveillance CCTV system
- Implementation of new security fencing at site entrances
- Implementation of card access at site entrances
- Addition of emergency call boxes to parking areas
- Improved building perimeter lighting

Philadelphia International Airport

Homeland Security & Airport Perimeter Designs

📍 Philadelphia, Pennsylvania



The goal of this project is to improve security and correct inefficiencies and delays at this high-volume gate where delivery trucks enter the airport. Our firm performed operational studies and vehicle monitoring as part of the planning process.

Professional Systems Engineering, a NV5 Company, provided engineering services for the redesign of Air Side Gate Access. Our firm also provided engineering redesign for secondary gates, providing alternate entrance to the airport. The goal of this project is to improve security and correct inefficiencies and delays at this high-volume gate where delivery trucks enter the airport. We performed operational studies and vehicle monitoring as part of the planning process.

Our firm redesigned these secondary gates to be monitored and controlled by means of card readers, infrared detectors, and video surveillance. This project also includes designing a canopy system for the pre-screening and screening areas for protection from environmental elements. This canopy system will include fire alarm, fire protection, and an intercom/paging system. In addition to providing security access control, we be provided design options for snow melt systems for the gates.

Our Scope of Work

- Surveys of existing gates areas
- Determine legacy infrastructure including fiber, electrical, communications, ductbanks, etc.
- Determine legacy security system (integration requirements including access control, CCTV, alarm monitoring, PLC networks, etc.
- Investigate all existing service infrastructure including sewer, water, power, communications, and storm water
- Review standards and codes
- Generate narrative outlining of all findings and recommendations
- Develop phasing plans for temporary access, construction, and system
- Provide drawings of the proposed designs for gates areas
- Provide narrative specifications
- Screening Building will check for authorized credentials and will also include vehicle and personnel searches using back scatter x-ray technology and undercarriage video detection
- Nuclear Materials screened
- Pre-screening building to serve as the credential verifiers and providers for individuals requiring access into the airport operations area

Physical & Electronic Security Technologies

With proper procedures and controls, our clients' staff, facilities, and operations perform to their full potential. Supplying solutions that properly safeguard facilities, property, and people yields an improved work environment, mitigated losses, and reduced liability for our clients.

Security Management

- CPTED Crime Prevention Through Environmental Design
- Crime Exposure and Risk/Threat Assessments
- Site Surveys/Studies, Analyses and Recommendations
- Security Design and Planning for Critical Facilities
- Personnel Screening
- Baggage Screening
- Mail Screening
- Contingency Planning and Procedures
- Applications Design and Engineering
- Specification Preparation
- Bid Analysis
- Personnel Procedures and Training
- Security Systems Integration and Design
- Perimeter Security Measures
- Automatic Parking Ramp Controls
- Security Safety Programs and Training

Hardware Consulting

- ASTM Grade 1-4 Detention
- UL Tool-Attack Resistance
- ANSI/BHMA 1-3
- Magnetic Locking
- Strikes/Bolts/Locks
- Hollow Metal Design
- Polycarbonate Evaluation
- Motorized Locking
- Secure Openings Consulting
- Electronic Controls
- Life Safety Operations
- Life Safety 101 Egress

Physical Security

- Barriers
- Virtually Impenetrable Fencing
- Site and Border Fencing to 100 Acres or 100 Miles
- Sallyports
- Special Gate Design
- PLC Controls
- Optical/Physical Turnstiles
- Mantraps/Enclosures
- Locking Systems
- Pneumatic/Electro-Mechanical

Systems Management

- Systems Integration
- Security Communications
- Secure Site Analysis™
- Enterprise Level Card Access
- GUI/Touch Screen Door Control
- Digital CCTV/DVR
- Intrusion Detection
- Correctional Systems
- Motion Detection
- Elevator Control
- Systems Testing
- Proprietary Monitoring

Security Specialties

- Museums/Cultural
- Healthcare/Laboratories
- Hospitality/Casinos
- Nuclear Site Protection
- Corporate
- Airport/Gates/SIDA
- Train/Concourse
- Juvenile Justice
- Jails/Corrections
- Forensic Facilities
- K-12/Magnet/Private Schools
- Parking
- High-Rise Office/Residential

Philadelphia Zoological Gardens

Enterprise-wide Technology Projects

Philadelphia, Pennsylvania



Our firm was selected to perform design & engineering for site-wide safety and communications upgrades for America's First Zoo.

The fiber optic infrastructure incorporates voice, data, video, security, and point-of-purchase systems.

The Philadelphia Zoological Gardens project was part of the on-going effort to provide fire protection for the Zoo including installation of smoke and fire detection and alarm systems. The long-term goal was a central site-wide fire alarm monitoring system. Professional Systems Engineering, a NV5 Company, was selected to perform design & engineering for site-wide safety and communications upgrades for America's First Zoo.

The fiber optic infrastructure incorporates voice, data, video, security, and point-of-purchase systems. Our firm helped to form the foundation supporting the Zoo's Master Plan calling for the rehabilitation of buildings and other support infrastructure.

Our firm provided new telecom/data site backbone network infrastructure, security, fire alarm, and audio for this 35-acre historical landmark. A keen sensitivity of site surroundings was required to blend systems with animal, vegetation, and human environments in America's first zoo.

We supported the Zoo's mission by providing investigative reporting, program development, design, bid documentation, award review, and construction services including testing, inspection, and commissioning.

Services Provided

Telecom/Data Infrastructure

- Aerial messenger backbone
- Underground duct bank
- Telephone, IDF, MDF
- Data network
- CAT 3, 5E, and fiber optics

Point-of-Purchase

- High-speed fiber
- Credit/sale integrity

Fire Alarm

- Networked
- Central command
- ADA audio/visual
- External audio with override
- VESDA smoke sensitive areas

Security

- CCTV
- Digital video/recording
- Network video
- Master control
- Integrated systems

Lighting

- Perimeter enhancement low intensity
- Visitor pathway lighting

Audio

- Wireless audio
- Site-wide distribution horns
- 800 MHz spread spectrum
- Recorded messages
- Frequency hopping

19th Judicial District Courthouse

Information Technology & Secure
Communications

📍 Parish of East Baton Rouge, Louisiana



This state-of-the-art 12-story, 360,000 SF courthouse has the latest in networking and high-tech audio-video systems inside courtrooms, including a transcription recording system and touch screens used to control audio and video.

Cyber security designs involved intrusion protection firewall and virtual access hardening of the 10 gigabit capacity network infrastructure.

This state-of-the-art 12-story, 360,000 SF courthouse design included networking and high-tech audio-video systems inside courtrooms, including a transcription recording system and touch screens used to control audio and video. Cyber security designs involved intrusion protection firewall and virtual access hardening of the 10 gigabit capacity network infrastructure.

Professional Systems Engineering, a NV5 Company, developed and prepared the RFPs and equipment purchase lists required to purchase the courts Information Technology and Communications FF&E Technology package. This included the courts telephone system, data network, computers, servers, and distributed antenna system.

Our firm found, while reviewing the 19th JDC's legacy systems, the courts relied on multiple single core servers. We presented a technology plan that employed a virtual server cluster to greatly reduce data center's space, power, and cooling requirements.

We filled a unique role acting as technical liaison for the Administrative office of the Courts. Our firm demonstrated a unique ability to translate the highly technical into easy to manage concepts. This helped the AOC and project architect to stay on top of the project and make informed decisions throughout the project.

Courtroom Technologies

- Integration of CourtSmart system with courtroom A/V system
- Server consolidation and design of virtualized multi-server cluster
- Data center planning and design

Telecommunications

- Full fiber optic outside plant design serving all law enforcement and court branched within the city
- Multi-tenant VoIP system
- Interactive Voice Response system
- E911 requirements coordination for VoIP systems
- Emergency communication systems

Information Technology

- OSP fiber links for extension of existing tenant networks into the new facility
- VLAN coordination and assignment
- WiFi coverage for public areas and public access
- Migration of legacy data system

In Building RF Distribution System

- Multi-carrier In-Building Cellular
- Hybrid 700 MHz/800MHz public safety radio coverage includes full coverage holding areas and fire towers

County of Delaware

Enterprise Security Planning & Design/Construction Services

 Delaware County, Pennsylvania



After a complete facility review with the sheriff and the Administrative Office of the Courts Division, Our firm implemented a multi-phase, government-wide, restructuring of access and security for many of the County's facilities.

One-by-one, each site became better equipped to function operationally while securing public, staff, law enforcement, and those held in a diversity of custody/detention situations. The County remains an active client after more than 20 years.

In 1986, the County of Delaware was one of the first counties in the country to pursue "government-wide" security vulnerability and threat defense implementation of security operational and access requirements for its buildings. This increased alignment of departments, improved public access in secure environments, and even today meets the requirements of homeland security since the events of 2001.

After a complete facility assessment and recommendations review with the sheriff and the Administrative Office of the Courts Division, Our firm implemented a multi-phase, government-wide, restructuring of access and security for many of the County's facilities.

One-by-one, each site became better equipped to function operationally while securing public, staff, law enforcement, and those held in a diversity of custody/detention situations. The County remains an active client after more than 30 years.

Justice Center/ Government Buildings, Court House, 9-1-1 Center, and Sheriff

- Facilities assessment
- Complete electronic renovations to courthouse and government agency buildings (renovation of an existing 48,690 sq. ft., 4-story building with the construction of an additional 28,776 sq. ft. building)
- Audio, CCTV surveillance, security intercoms, duress alarms, master control center, card access, and parking control
- Judges' chamber protection system for 120,000 sq. ft. facility

Orphans (Domestic) Courts

- Full assessment of department alignment
- Policy and security project implementation

County-wide

- Security/panic systems

County Corrections

- Perimeter Security
- Touch controls
- Locking upgrades
- Control centers
- Hand held radio
- Networks
- Video Surveillance

Juvenile Detention Center

- Facilities assessment
- Needs/space analysis
- Facility expansion planning
- Development of department policies, procedures, and post orders
- Master planning, design, and engineering
- Fencing, central control, and communications
- Site security, central control, and emergency procedures
- Transition team – policies and procedures
- Life Safety improvements

Secured Parking

- Judges secured parking for additional privacy and control with direct courts card access
- Administration and staff underground parking in totally secured 80,000 sq. ft. automatically controlled facility

3rd Party Security Commissioning Inspections



Without good design and 3rd party conformance owners maybe liable for enforcement actions and significant fines by DHS and TSA entities. Our inspection services have been utilized to assess a range of properties from a 45-story building under fire code violation to a maximum security/limited access site valued at over \$130 million in California. Our engineers perform testing for critical power plants, life safety systems, and 200 kilowatts of lighting in corrosive environments. Our commissioning efforts save clients time and money.

Inspection Services

Whether code evaluation and enforcement issues or homeland security standards conformance, collaborative efforts of our staff with client and contractors produce safe and effective plans to allow judicious and respectful use of facilities for licensing and inspection. Compliance with local, state, and national codes as adopted is assured with our field-tested staff.

Systems Testing and Commissioning

Our staff holds advanced educational degrees and provides years of experience with building and site systems. Projects having significant complexities, as well as those costing over \$400 million, have been tested and commissioned, yielding smooth occupancy transition with minimal readjustment.

Testing Services

- K-rated access/perimeter fencing
- Linear intrusion detection
- Volumetric intrusion detection
- Intelligent video assessment
- Fire alarm/smoke detection
- Access control/alarm monitoring
- Command/control/communication
- Emergency evacuation/mass notification
- Control systems – pneumatic and electro-mechanical

3rd Party Programs

Deployment of gear and equipment in most technical facilities demands conformance to testing and certification programs for assurance of capital expenditures, life cycle cost maximization, least cost maintenance programs, operational requirements, and warranty response issues. Certification of contractors include 3rd party review of life safety, security, data and communications, acoustical, and noise and vibration control issues.

North Branch Correctional Institution

Maximum Security Prison Designs & Commissioning

 Cumberland, Maryland



Our security and wireless duress alarm designs were recently featured on National Geographic's "MegaStructures" television program as the "most advanced security in the United States" as well as in "Maxim" magazine.

Our high security fencing and perimeter design is considered the "Best-Practice" model throughout the world.

Professional Systems Engineering, a NV5 Company, provided corrections master planning services, systems design for support services/site connectivity study and schematics; construction documents, administration, management; as well as certification testing/inspection and commissioning services for this 60-acre site. Our firm spent 7 months meticulously reviewing and verifying/testing system and device functionality.

The security and communications systems are integrated with redundant computers and programmable logic control systems. This allows flexible operation through multiple local and central consoles that may be activated as needed. Life safety monitoring and evacuations system are fiber connected and computer controlled for meeting Maryland State Fire Marshal and NFPS regulations.

Operator interfacing is through touch control terminals and graphic control panels. Site-wide communication is provided through multi-mode and single-mode fiber optic networks. Communication within buildings is through structured category and specialized cabling.

Our security and wireless duress alarm designs were recently featured on National Geographic's "MegaStructures" television program as the "most advanced security in the United States" as well as in "Maxim" magazine. Our high security fencing and perimeter design is considered the "Best-Practice"

Services Provided

Site-wide Design

- High security fencing and gates
- Wireless RF duress/panic alarm
- Site-wide control/fire alarm monitoring
- Satellite television distribution system
- Maximum security design
- Detention door and gate control
- All site lighting designs

Integrated Systems

- Lighting control
- Video surveillance and digital recording
- Intercom/paging/nurse call
- Multiple perimeter intrusion systems
- Sophisticated Perimeter detection with RF mobile maps
- Communication systems for various buildings

Rikers Island Correctional Facility

Perimeter Security Design & Commissioning

📍 New York, NY



A \$15+ million perimeter project involving 6 miles of linear perimeter detection sensors and fencing was added to the west site with design documents prepared to New York City design standards.

Professional Systems Engineering, a NV5 Company, continues to serve as the perimeter security engineer of record and commissioning partner for; perimeter security electronics and detection monitoring center, and site infrastructure design on the \$6.8 million renovation for Rikers Islands West Perimeter. A \$15+ million perimeter project involving 6 miles of linear perimeter detection sensors and fencing was added to the west site with design documents prepared to New York City design standards.

Our firm's involvement with the Rikers Island started with an evaluation of the contract documents related to the a previous perimeter security improvement project at the request of the NY DDC to determine if the equipment provided met contract requirements. As a result of our recommendations this initial project was expanded to include testing of the shaker devices currently used at Rikers Island and investigation of alternative perimeter security systems. The final west perimeter design includes a 1.8 miles perimeter, 1.8 miles of razor ribbon integrated detection system, with dozens of microwave

Perimeter Security Electronics

- Zone layout
- Detection device mounting
- Fence detection systems
- Microwave detection approach systems
- Gate monitoring
- Alarm monitoring system

Perimeter Fencing and Infrastructure

- Fencing system coordination
- Gate system coordination
- Razor ribbon/ barbed wire
- Dog run/ "No-Mans" Land treatment
- Ductbanks
- Alternative conduit systems

Control Center

- Integrated multi-system alarm monitoring
- Ergonomic console layout
- Integration of new and existing equipment
- Graphical user interface (GUI) design
- System servers
- Security network
- Touch screen computers

Systems Evaluation, Contract Evaluation, and Systems Testing

- Contract documents review
- Contractor performance review
- Site survey
- Device testing
- Perimeter system investigation
- Migration planning

Delaware County Emergency Services

Emergency Operations Center Consulting
& Design Coordination

📍 Delaware County, Pennsylvania



An Emergency Operations Center (EOC) is a complex facility that serves as a nerve center during both small emergencies and large disasters. Our firm EOC designs employ the latest state-of-the-art technology, to provide flexibility and technological resources to manage an incident effectively while keeping the operation simple and easy to manage.

An Emergency Operations Center (EOC) is a complex facility that serves as a nerve center during both small emergencies and large disasters. Professional Systems Engineering, a NV5 Company, EOC designs employ the latest state-of-the-art technology, to provide flexibility and technological resources to manage an incident effectively while keeping the operation simple and easy to manage.

Our firm provided consulting and design coordination services through the Pennsylvania Emergency Management Agency (PEMA) to provide an Emergency Operations Center fit out to meet the needs of Delaware County, Pennsylvania in the event of a local, state, or federal emergency. The goal was to provide the capability of a scalable response to incidents ranging from small-scale fires and accidents to a countywide disaster response. By using the latest state of the art design, our design allowed for the phased sequential escalation of response based on the requirements of the incident. This approach followed the Delaware County (DelCo) EOC Renovation Theory in that it separated the Unified Command group from the Operations and Planning group and the Logistics and Finance group. Senior elected officials will be sequestered from the Command group. News media and some liaison groups will be separated from the remainder by keeping them in a briefing area thus allowing for better management of the incident.

The following rooms were utilized for the deployment of multimedia and communications technology: Privacy and Sequestering Room, EOC First Stage Activation Room, Unified Command/Joint Command Group Room and the EOC Full Activation Room. A multimedia control and feed was also provided to the DelCo 9-1-1 Emergency Response Center within the facility.

Multimedia Management System

- Multiple touch screen A/V controllers
- Live broadcast feeds
- Internet broadcast beeds
- Multimedia switching capability
- Voice and data distribution
- Large flat LCD screen and multimedia projection displays
- Fixed and mobile video conferencing system

Tele/Data Infrastructure

- Equipment rack layouts
- Structured cabling and conduit
- Ethernet and Wi-Fi switch deployment
- Wireless laptop cart system
- UPS system
- Systems integration

Howard County Circuit Courthouse & Parking Garage

Security Systems, Tele/Data Communications, A/V & Court Technologies

📍 Ellicott City, MD



This new \$175 facility is public-private partnership (P3) project that is replacing the 175-year-old Thomas Dorey Building. The new facility is an upgrade that not only enhance public safety but the overall building security.

Professional System Engineering, LLC provided bridging documents and consulting services for security, communications, audio/visual systems for this public-private partnership (P3) project. The new, \$175M facility is replacing the 175-year-old Thomas Dorey Building, which no longer meets the county's standards or needs. The new facility is an upgrade that not only enhance public safety but the overall building security. It is a fully self-contained and designed to be a state-of-the-art courthouse that is approximately 238,000 SF and includes eight courtrooms, three hearing rooms, and a parking garage for 682 cars. The courthouse also includes office space for Howard County State's Attorney, Howard County Sheriff, Howard County Bar Associates, Maryland Public Defender, Clerk of Courts, and Register of Wills.

The project won multiple awards from P3 Bulletin including Best Social Infrastructure Project, Best Financial Structure, and Government Agency of the Year. The court will be the largest capital project in Howard County's history and will be LEED Gold certified upon completion.

Services Provided

Security

- Access control
- Security intercom
- Video surveillance
- Paging
- Duress alarms
- Door Control/Monitoring for secure holding cells
- Monitoring and Control Stations

Communications

- Tele/Data Communications Horizontal Cabling System
- Distribution Backbone Design
- Incoming Network Services
- Telephone outlets
- Data outlets
- Equipment racks

Audio/Video

- Courtroom technology
- A/V presentation system for Conference Rooms and Training Rooms
- Digital Signage