PSE PROFESSIONAL SYSTEMS ENGINEERING AN NV5 COMPANY

FIRE PROTECTION
LIFE SAFETY

ALARM • SPRINKLER • CODES • LIFE SAFETY

STRATEGY + SPECIFICATIONS + TECHNOLOGY

PROFESSIONAL SYSTEMS ENGINEERING, AN NV5 COMPANY 1-800-839-5060 WWW.PROFSYSENG.COM

Firm Profile

Alarm | Sprinkler | Codes | Life Safety

Fire Protection and Life Safety Systems

Professional Systems Engineering, an NV5 Company, provides consulting engineering and design services for complete fire detection, suppression, and life safety systems. Our services encompass signaling, sprinklers, monitoring, proprietary command centers, NFPA code requirements, and related components.

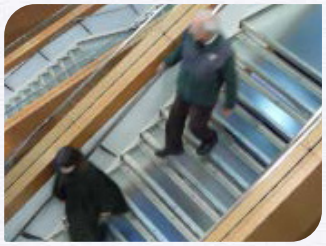
Led by nationally recognized fire protection experts, Our firm employs a uniquely qualified and technically diverse team. Our specialties include both new and renovated systems, multi-system integration, infrastructure design, and centralized control systems. We do not sell, supply, or represent any equipment manufacturer or vendor.

We specialize in systems design for major building campuses, theaters, high-rises, and unique building envelopes. Our firm has considerable experience in universities, corporate campuses, performing arts centers, justice and government facilities. We are in our third decade of providing solutions for:

- Large-scale, networked fire detection system renovations
- Fire alarm specifications that meet or exceed NFPA codes
- Proper phasing of large-scale fire alarm/fire suppression projects
- Seamless phased replacement of existing systems to new systems
- Construction administration expertise
- Thorough surveys encompassing all systems and requirements

Our team specializes in developing comprehensive Emergency Management Services. We ensure our clients are prepared to continue operating after a disaster or other emergency event. Our capabilities extend to operational support which includes: Continuity of Operations Planning (COOP), Emergency Operations and Preparedness, Contingency Planning, Policy and Procedures, and Training, Exercises, Drills, and Evacuation Floor Plans.

Our ability to meet the demands required by for Safety Planning and Evacuation Preparations are a testament to the capabilities we provide. By meeting the best practices and performance based standards required in each sector, Our firm is capable of providing specific recommendations and operational documents. Our services ensure new and existing sites are prepared for natural and manmade disasters and crisis recovery regardless of the situation.



Life & Property Safety

Professional Systems Engineering, an NV5 Company, provides a wide range of services for life safety and property protection including consulting, engineering, system design, construction administration, inspections and testing, and other related services. Our firm designs fire and life safety systems that protect our clients from loss from fire, security issues, and other emergency situations.

Code Compliance/Evaluation

- IBC Architectural Evaluation
- Building Fire Code Analysis
- Fire and Life Safety Analysis
- JCAHO Standards Compliance Including Statement of Conditions
- Life Safety Plans
- Product Proof-of-Performance Evaluations and Claim Management

Life Safety

- High-Rise Compliance
- Fire Alarm
- Mass Evacuation
- Biological Hazards
- Chemical Agents
- Command Centers
- Stair Pressurization
- Smoke Containment
- Smoke Evacuation
- Smoke Detection
- Addressable Monitoring
- Evacuation Plans
- Brigade Manuals
- Commissioning and Testing

Alarm/Evacuation

- Audio Evacuation
- Wireless Mass Notification
- Bio/Chem Hazard
- LEL/LFL Alarms
- Nuclear Alert
- Audio Messaging
- Pager Integration
- Synthesized Response

Detection Systems

- Pharma and Electronics Fabrication
- Process Gas/Detection and Alarm Systems
- Bio/Chemical Introduction
- Organic/Inorganic Gases
- Smoke/Heat/Fire/Incipient
- Explosion Inerting

Fire Protection

- Wet Sprinkler
- Dry Sprinkler
- Standpipes
- Fire Pumps
- "Green" Inerting Gases
- Carbon Dioxide
- Purge Control
- Pre-Action/Single and Double Interlock
- Deluge

Systems Management

- Systems Integration
- Egress Plans Production
- Proprietary Monitoring
- Radio Control/Transmission
- Dispatch/Control Center
- Door Control
- Digital CCTV
- Card Access
- Intrusion Detection
- Correctional Systems
- Parking Controls
- Fencing Systems
- Systems Testing

Richard Stockton University - Cultural Arts & Theater

Fire Alarm & Fire Suppression System Design/Commissioning

Pomona , New Jersey

Our firm completed over $2 million of work including construction oversight for installation of systems in Housing Units I, II, and III, and all cultural, arts, theater, and academic buildings. Project concluded under budget and ahead of original project schedule.

Professional Systems Engineering, an NV5 Company, met the project objective of installing a code-compliant fire suppression system on a tight schedule for theater, student library, media center, student residential facilities and academic buildings. All systems are concealed to reflect the aesthetic nature of the properties. Our firm provided significant construction management expertise through full commissioning of all systems.

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Cultural, arts, and theater projects were installed and commissioned during full occupancy Housing Unit I consists of 255 garden apartments contained in 16, two-story buildings constructed in 1971 to house 1,020 students. Housing Unit II is a three-story dormitory that provides housing for 525 students. The complex consists of 11 connected modules. Housing Unit III is a three-story dormitory consisting of five modules housing 300 students. Academic buildings are comprised of over 200,000 SF of space that was renovated during full occupancy.

This project consisted of three phases:

Planning/Testing: Conducted study to develop conceptual planning document including testing flows for campus' potable water systems, hydraulic calculations, descriptions and plans for installation of required fire suppression infrastructure with costs and time schedules. Hydrat/supply testing was included.

Phase I: Design and development of contract documents for installation of automatic fire suppression system in Housing Units II and III during a three-month period.

Phase II: Design and development of contract documents for installation of automatic fire suppression system in Housing Unit I. Fire pump deficiencies were corrected.

Services Provided

Fire Protection / Suppression

- Fire suppression infrastructure
- Potable water systems
- Hydraulic calculations
- Hydrant/supply testing
- Fire alarm interconnections
- Fire pump redesign
- Design for installation of automatic fire suppression system

Services

- Program/study
- Schematics final design
- Bid/award
- Water supply flow test
- Electric supply test
- Water supply redesign
- Permitting
- Construction administration

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, an 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 support 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

Fire Alarm

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

Audio

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

Security

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

Integrated systems

Lighting

- Perimeter enhancement low intensity
- Visitor pathway lighting

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

Rose: Residences, Juilliard, American Ballet – Lincoln Center

Residential, Studio & Theater Fire Protection & Life Safety Engineering

New York, New York

Our firm provides fire alarm and life safety engineering services for Lincoln Center in New York City. This challenging environment requires in depth knowledge of public assembly theater spaces, classrooms, studios, and high-rise 31-story student housing requirements.

Professional Systems Engineering, an NV5 Company, provided fire protection consulting engineer for the Rose Building Tower, which houses the student and administrative offices of The Juilliard School and the School of American Ballet, the balance of which houses students in the 31-story residential tower. Our firm served as both fire protection and life safety consultant and the dormitory/high-rise classroom safety consultant for elevators, life safety, and evacuation controls. This challenging environment requires in depth knowledge of public assembly theater spaces, classrooms, studios, and high-rise 31-story student housing requirements. The square footage of the space totals 445,000 SF and the project budget is approximately $4 million.

Specially protected spaces include black box performance theater, ballet practice studios, rehearsal studios, and executive offices. Apartment suites are clustered on each of the high-rise floors.

Our firm provided an in-depth program study evaluating new NYC 2014 codes, applying NFPA72 codes for new fire alarm engineering requirements. Evaluations included new infrastructure requirements, controls and cabling needs, and opinions of probable cost.

Services Provided

Life Safety/Fire Protection

- Fire detection systems
- New addressable fire alarm control panels
- Addressable initiating devices
- ADA horn/strobes
- Remote annunciators
- Computer networking/ interface system
- Site-wide fiber optic network
- Access control review
- Proprietary receiving alarm system design meeting NFPA and UL
- Smoke evacuation control
- HVAC remote controls
- New fire command center layout/design
- New security desk design recommendations

Plan & Code Review

The firm has been providing Plan and Code Review since 1980s, having served the Philadelphia High Rise Fire Board and Licensing and Inspection. Our cross training of engineering disciplines allows a thorough platform for protection and continuity of operations even under the most serious natural or man-made events. Since 1986, Professional Systems Engineering, an NV5 Company, developed our practice into a nationally recognized life safety, public safety, security and communications consulting and engineering firm. Our senior staff includes five Fire Alarm/ Protection Engineer's, Professional Engineering registration in electrical, controls and computer software, four communications engineers, both NICET wet sprinkler design and fire alarm design certifications, and CISCO Enterprise Network certification.

Life and Property Safety

- Fire and smoke detection, containment, and suppression systems are the first line of defense in today's building codes. No era in history has so remarkably changed the expectations and actions demanded of our fire protection, smoke and fire alarm systems, water pumps, emergency lighting, and exiting signage systems. Demands of code enforcement require a thorough and practical knowledge of systems, operation, and human interaction to demonstrate full compliance with legislative acts that bind a community with safe construction practices.

- Electrical systems and subsystems, power generation, grounding, and lightning protection systems now present enormous undertakings for the typical agency or department that has the knowledge, but lacks the manpower, to thoroughly inspect for unpredictable emergency events. It is just these events that challenge chances of blackouts and power losses at a site where personal safety is of utmost importance.

Mechanical Standards and Regulations

- Compliance with ASHRAE, NSA, local codes, and health standards predicates planning, evaluation, and support for smooth construction compliance. Especially difficult to analyze are control systems that can promote harmful or even fatal bacteriological or environmental conditions in buildings that had too little inspection by knowledgeable, trained technicians. Individual team members apply best practices to minimize the probability of conditions leading to restricted occupancy or closure.

USAID Headquarters at the Ronald Reagan Building

Security, Communications & A/V, and Fire Alarm & Protection

Washington D.C.

Our firm provided a design to incorporate lessons learned from Phase I of this project. We prepared separate bid documentation for the office space and Ops Center with coordination between the spaces. All documents included demo and phasing information.

Professional Systems Engineering, an NV5 Company, provided design services for fire alarm, sprinkler, security, tele/data communications, audio/visual, and sound masking design services for this project for the International Communications Command and Control Center as well as Mobility Design Lab Phase 2 project. The project included the renovation of approximately 40,000 SF on the 7th floor of the Ronald Reagan Building which required both demolition and new construction plans. In addition to user workstations, collaboration space, and conference rooms, the project also included secure network rooms, SCIF spaces, and a new USAID Operations Center to monitor, provide situational awareness, and rescue coordination in spontaneous international events.

The renovations allow for a more flexible modern office work space that supports mobile users, yet allows for secure work spaces required by USAID's various departments in addition to the entirely new operations command center.

Our firm provided a design to incorporate lessons learned from Phase I of this project. Our team prepared separate bid documentation for the office space and Ops Center with coordination between the spaces. All documents included demo and phasing information.

Services Provided

Fire Alarm

- P100 GSA Standards-compliant
- Notification and initiating devices
- Integration into existing panels
- Secure network room requirements
- Input/output matrix

Fire Protection

- Sprinkler head location
- Phased demo and install to existing mains and standpipes
- Secure network room requirements

Audio Visual/Acoustics

- Video conferencing
- Sound masking system
- Conference room A/V systems

Communications

- VoIP and data structured cabling system
- Fiber risers
- Multi-network

Operations Center

- Video wall
- A/V switching system
- A/V control system
- Sound reinforcement, audio selection
- Multi-source inputs
- Secure use indication lights

Security

- Access control hardware
- Card readers and keypads
- Video surveillance
- Motion detection
- Integration with existing systems

Alice Tully Hall – Lincoln Center

Fire Protection Analysis & Renovations

New York, New York

Our firm provides fire alarm and life safety engineering services for Lincoln Center in New York City. Diverse code requirements of building plan approval date, NYC fire codes, and NYC building codes required sifting through plans and system designs to appraise design concept.

Professional Systems Engineering, an NV5 Company, was the fire protection consulting engineer for Alice Tully Hall's fire curtain deluge system possible deactivation due to possibly detrimental activation in a false occurrence. The systems design was analyzed, as well as all detection systems as the activation would transition motorized acoustical clouds vertically, possibly causing operator interference.

Our firm provided fire alarm and life safety engineering services for Lincoln Center in New York City. Diverse code requirements of building plan approval date, NYC fire codes, and NYC building codes required sifting through plans and system designs to appraise design concept.

In addition to the potential threat to operators, false activation of the deluge system would undoubtedly damage the rare materials used in construction. Through thorough research into the New York City Building and Fire Codes and in addition to fire modeling and response time calculations, a plan of action was developed and will be reviewed by FDNY and NYC DOB officials. The proposed actions, when brought to fruition, will mitigate the current risks without reducing the level of protection for the

Services Provided

Fire Protection Analysis and Renovations

- Fire curtains analysis
- Fire detection systems analysis
- Deluge sprinkler analysis
- Incipient smoke detention review
- Sprinkler and heat detector activation calculations
- NYC BC F1, F2, and A building code review

Testing, Commissioning & Inspections

Our Inspection Services have been utilized to assess a range of properties from a 45-story building under fire code violation to a super-maximum detention facility. 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. For example, our recently completed services at a $130 million California-based court facility saved the client approximately $10 million.

Inspection Services

Whether code evaluation and enforcement issues or 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 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.

Testing Services

- Fire alarm/smoke detection
- Fire pumps and sprinkler pipe/assemblies
- Water Service Smoke Evacuation
- Emergency generators
- Switchgear and electrical distribution
- Emergency lighting
- Emergency evacuation
- Acoustical ratings
- Noise and vibration

Certification 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 includes life safety, security, data and communications, acoustical and noise and vibration control issues.

Hicksville Underground Parking Facility

Security, Technology & Fire Detection/Protection

Town of Oyster Bay, Long Island, New York

Our firm provided secure, safe, code-compliant state-of-the-art designs for this multi-tier underground parking facility that supports the Hicksville, Long Island, New York community and the Long Island Metropolitan Transportation Authority (MTA) Station. The designs consist of the latest IP-based video surveillance, access control, and emergency call systems as well as a Distributed Antenna

Professional Systems Engineering, an NV5 Company, provided secure, safe, code-compliant state-of-the-art designs for this multi-tier underground parking facility that supports the Hicksville, Long Island, New York community and the Long Island Metropolitan Transportation Authority (MTA) Station. The designs consist of the latest IP-based video surveillance, access control, and emergency call systems as well as a Distributed Antenna System (DAS).

Our firm provided design of fire detection, fire pump with multiple dry-pipe fire suppression systems, radio systems, and security for the Town of Oyster Bay's Hicksville New Parking Facility. The facility is a 4-tier structure of approximately 122,000 SF per tier for a total of 488,000 SF The new structure has two levels below ground, one at grade level, and one above ground. It parks approximately 1,400 vehicles. The ground level contains offices for town officials who operate the parking garage, and contains the security control room and a security electronics equipment room. The equipment room houses the tele/data equipment, the telephone service, and Wide Area Network equipment.

Services Provided

Fire Detection

- Addressable fire alarm system
- Addressable smoke and CO detectors coordination
- Master fire alarm control panel designed to the latest NFPA 72, IBC, State of New York, and local standards for fire command

Fire Protection

- Class I standpipe system
- Dry pipe fire sprinkler systems
- Fire pump and fire pump controller system
- Dry deluge valve designs
- Supervised dry piping

Distributed Antenna System (DAS)

- Provided full cellular telephone services to parking areas and stair towers
- Provided public safety radio 2-way communication throughout the facility

Communications

- VoIP phone system
- Intercom paging emergency call
- Tele/data communications cabling infrastructure
- A full IP-based emergency call system with paging
- LAN and WAN coordination and link to the town's public safety building
- 800 MHz in-building public safety/cellular distributed radio antenna system

Security

- Digital CCTV system
- Access control/video surveillance system and digital recording system
- Security gates
- Perimeter CCTV system
- UPS systems coordination
- Elevator security systems

Rutgers, The State University of New Jersey

Fire Safety Upgrades & Life Safety Consulting

Newark, Camden, and New Brunswick, New Jersey

Our firm provided engineering and design services for more than 100 buildings on campus sites throughout New Jersey for over 10 consecutive years including safety for students and staff 24 hours a day seven days a week.

Professional Systems Engineering, an NV5 Company, has served as fire protection engineer and consultant to Rutgers, The State University of New Jersey under a 9-year Uniform Fire Code Retrofit program required by the State of New Jersey. Our firm provided engineering and design services for more than 100 buildings on campus sites throughout New Jersey for over 10 consecutive years including safety for students and staff 24 hours a day seven days a week.

The designs encompassed protection for over 7,000 students in over 3,500 rooms including over 100 low- and high-rise buildings on campuses state-wide. Our firm provided bid documentation for each site, including schematics, design development, and construction documentation. Our quality documentation enabled contractors to install each project on a fast-track basis with no change orders.

- Fire protection design services
- Smoke detection
- Fire alarm/control
- Audio evacuation
- Elevator recall/monitoring
- Command center architecture and operations
- Fire sprinkler
- Fire pump design
- Building fire water service
- Fireman's communication
- ADA compliance
- Asbestos abatement coordination
- Construction management
- Fire code retrofit project management
- Emergency generators
- Generator building design and custom finishing
- Shared fire pump and generator services reduced costs
- Earthquake restraint design for piping
- Test commissioning and observation

Designs represent over $10 million in systems in over $400 million of new and existing facilities for New Brunswick, College Avenue, Newark, Camden, Douglas, and Queens College campus locations.

Saint Elizabeths Hospital

Fire Evacuation Planning, Life Safety & COOP Development & Training

Washington, DC

Our firm's specialized experience in forensic facilities includes the first psychiatric institution in America, Friends Hospital, as well as the nation's first federal psychiatric facility, Saint Elizabeths.

Our experience in secure environments, while being sensitive to humane needs, sets our firm apart from ordinary design firms.

Professional Systems Engineering, an NV5 Company, specialized experience in forensic facilities includes the first psychiatric institution in America, Friends Hospital, as well as the nation's first federal psychiatric facility, Saint Elizabeths. Our experience in secure environments, while being sensitive to humane needs, sets our firm apart from ordinary design firms.

Saint Elizabeths Hospital was established in 1855 as the Government Hospital for the insane. It was the first and only federal mental facility with a national scope. The complex is situated on more than 300 acres, and in the 1940s, housed over 7,000 patients. Professional Systems Engineering, an NV5 Company, staff established functional requirements for a new hospital security system including the grounds, and determined equipment re-use and integration with existing and new systems. The hospital now houses 600 patients.

Our firm provided fire and life safety manuals including evacuation planning and training for the entire hospital. These services included Continuity of Operations Planning (COOP), disaster preparedness, and evacuation preparation. Training with hospital staff was extensive.

Our team provided safety and security policies and procedures including post orders for the Hospital's Safety and Security Department. The policies, procedures, and post orders developed for Saint Elizabeths Hospital met the needs of this special forensic hospital. Our firm has also provided training to the security staff on duty at the hospital on the newly implemented policies, procedures, and post orders. Ongoing training is still being provided to the Hospital's Safety and Security Department.

Services Provided

Life Safety Consulting Services

- Fire safety plan
- Fire evacuation plan and signage
- Keying grouping and Hierarchy planning
- Training

Perimeter Security Designs

- Security fencing and gates
- Redundant perimeter detection systems
- Security lighting
- Site CCTV

Safety and Security Services

- Wifi distribution
- Industrial network
- Data center planning

Physical Security Designs

- Turnstiles
- X-ray package screening
- Personal search equipment

Electronic and Security Designs

- Access control and monitoring
- CCTV and digital video recording
- Security intercom
- Personal duress
- Central control console

Travis County Jail

Smoke Detection & Control Logic for Smoke Evacuation System

Austin, Texas

Our firm, having vast engineering experience in smoke detection, smoke control systems, and life safety code requirements (national, state, and local requirements), was selected by the Sheriff's Office of Travis County.

Professional Systems Engineering, an NV5 Company, having 35 years engineering experience in smoke detection, smoke control systems, and life safety code requirements (national, state, and local requirements), was selected by the Sheriff's Office of Travis County to design smoke detection for each cell to meet jail standards test requirements this was no small talk as the detection and evacuation process must start in 60 seconds or less.

The Travis County Jail (TCJ) was opened to house 286 pre-trial detainees. They have recently upgraded their facility's smoke evacuation system to be in compliance with state codes and standards. Our firm was commissioned to provide engineering and consulting services to design a smoke detection system with control logic to control the smoke evacuation system and meet stringent state code requirements.

The following is a summary of our scope of services provided for this project:

- Survey the existing conditions that would affect the project
- Recommend and pre-test the solution to assure adequate smoke detection coverage in each cell
- Test all systems prior to design, and provide mock-up tests to verify the detection system will function properly before detailed designs
- Provide all Design Development and Construction documentation to ensure the Contractor complies with all these standards
- Provide test procedures to verify system meets code
- Provide full Construction Administrative Services including shop drawing review, site visits and progress meetings, final acceptance testing and closeout documentation as per contract requirements
- Evaluate and participate in its acceptance by jail standards

Garden State Youth Correctional Facility

Fire Detection & Alarm Systems

Yardville, New Jersey

This project consisted of upgrading the Garden State Youth Correctional Facility fire detention and fire alarm systems to current code compliance. Work included networking the new fire alarm control panels to the main fire alarm panel and the proprietary supervisory graphic fire command station in Central Control through fiber optic links.

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Professional Systems Engineering, an NV5 Company, provided consulting, design, engineering, and services for replacement and upgrade of fire detection and fire alarm systems for the Garden State Youth Correctional Facility. The design consisted of replacing the existing fire alarm panels for 12 different buildings with new computerized Fire Alarm Control Panels (FACP) and new addressable smoke and heat detectors, new pull stations, and strobe horns. It also included upgrading the remote annunciators and master FACP, and all panel networking. The design also included control of door holders, air handling fan shut-down, and fire/smoke damper operations.

The designs were in compliance with all state, federal, and local code requirements, and met NFPA 72, NFPA 101, and IBC standards.

Services Provided

Fire Protection Design Services

- Design new main fire alarm panel
- New proprietary supervisory graphic fire command station in central control
- Demolition of old fire alarm control panel phasing documents
- Replace all existing FACPs for housing units, administration building, gym, auditorium, and support buildings
- Design fiber optic network linking all FACPs to Center Control
- Smoke detectors
- Heat detectors
- Duct smoke detectors
- Audio/Visual notification appliances meeting ADA requirements
- Remote annunciator
- Air handlers shut down and fire/smoke damper control
- Interface to sprinkler system
- Asbestos abatement coordination

Lincoln University

Security, Life Safety & Site-wide Fiber Design

Pennsylvania

The first African American university in the United States required more than $2 million in fire and security upgrades, including card access, video surveillance, fiber network panels, and dormitory room call systems. Engineered with quality and technology, Our firm saved the State over $400,000 in construction costs.

Professional Systems Engineering, an NV5 Company, provided design services including complete construction documents and construction administration services for all dormitories and campus academic buildings.

The general scope of work consisted of replacing and modernizing the fire alarm systems, adding new security systems, and a site-wide fiber optic network for Lincoln University's buildings. Our firm established requirements for a site-wide fiber optic network that links all the new fire alarm panels, the video surveillance system, and access control to the security operations center located in the security office. Our firm also designed new emergency lighting, exit lights, and exit signs. The program included installation of networked and computerized addressable fire alarm systems, access control, and security systems.

Services Provided

Life Safety/Fire Protection

- Fire detection systems
- New addressable fire alarm control panels
- Addressable initiating devices
- ADA horn/strobes
- Remote annunciators
- Computer networking/ interface system
- Site-wide fiber optic network
- Proprietary receiving alarm system design meeting NFPA and UL

Security

- Video surveillance systems
- Proximity card access
- Electrified locks
- Electronic telephone directory system
- Monitors and badging systems
- Replacement of the emergency lighting and exit signs
- Security operations center design/architecture

Rutgers, The State University of New Jersey

Historic Old Queens Administration Building

New Brunswick, New Jersey

Our firm served as life safety, historic impact, and fire alarm consultant. Our firm provided documentation and design under this renovation project which kept the historically registered title to the buildings intact.

This is the first state school in New Jersey, named after the Queen of England in 1724. Renovations to life safety systems were integrated to avoid any finished surface alterations throughout the building. The building is very complex due to original materials. The last addition dates back to the 18th century (1729), making infrastructure design a difficult task, but one which rendered a minimum of impact to the property. As the President's primary office, the result was well received by all at Rutgers University.

Historically registered (Circa 1652), Professional Systems Engineering, an NV5 Company, provided concept designs, construction documents, and construction services for all life safety, smoke detection, and fire alarm systems.

Our firm served as life safety, historic impact, and fire alarm consultant. We provided documentation and design under this renovation project which kept the historically registered title to the buildings

Services Provided

Fire Alarm

- Detection survey
- Historic wall construction analysis
- Minimum impact construction
- Infrastructure retrofit
- Hidden space heat detection

Life Safety

- Smoke concentration study
- Evacuation requirements
- ADA compliance