



Lehigh Carbon
COMMUNITY COLLEGE

REQUEST FOR PROPOSAL

FOR

SECURITY SYSTEM

Proposal Due Date-January 24, 2020 @2PM

Table of Contents

	Page
Cover Page	1
Table of Contents	2
Introduction	3
RFP Timeline	3
Contact Information	3
General Instructions for Proposal	3
Submission of Proposal	4
General Information	4
Criteria for Evaluation	4
Scope Specification-Part 1 General	5-16
Scope Specification-Part 2 Products	17-33
Scope Specification-Part 3 Execution	33-40
Attachment List	41
Vendor Proposal Form	42
Non-collusion Affidavit	43
Independent Contractor Agreement	44-48

Introduction

Lehigh Carbon Community College (LCCC) is initiating a process for the selection of a Security Contractor to provide a fully designed, coordinated, engineered and installed Security Data Communications System (SDCS), Security Management System (SMS), Closed Circuit Television (CCTV) System, and Security Communications System (SCS) at Lehigh Carbon County College.

The Request for Proposal (RFP) is part of a competitive process, which will be undertaken in order to serve the College's best interests and provide vendors with a fair opportunity for their professional services to be considered. Representatives from the College will evaluate the proposals based upon a number of factors including, but not limited to fees, services, and qualifications. The final determination will be based on the proposal which, in the opinion of the selection committee and the College, best serves the interest of the College. The College reserves the right to reject any or all proposals or select a single item from any proposal.

All parties interested in providing services requested in this proposal must fulfill the requirements defined herein and accept terms and conditions as stated in the college's "Independent Contractor Agreement."

RFP Timeline

Date of Issue:	December 14, 2019
Mandatory Pre-proposal Meeting	January 8, 2020 9AM Community Service Center CSC201A
Clarifying Questions Deadline	January 14, 2020
Proposal Due Date	January 24, 2020 2PM
Estimated Award Date	February 17, 2020
Project Start Date	March 16, 2020

Contact Information

Questions concerning the RFP should be directed to:
Susan Lindenmuth, Purchasing & Contract Manager
slindenmuth@lccc.edu
Phone: 610-799-1151

General Instructions for Proposal

- a) Proposal Content-A complete proposal must contain the following:
- Requirements of Proposal
 - Proposal Form-completed by an individual authorized to bind the vendor. All proposals submitted without a proposal form may be deemed inadequate.
 - Non-collusion Affidavit
 - References
 - Itemized pricing for all equipment, software, services, etc. on included Excel template.

Submission of Proposal

Written proposals are to be received no later than 2 PM on January 24, 2020 at the office of the Purchasing & Contracts Manager, Lehigh Carbon Community College, 4525 Education Park Dr., Schnecksville, PA 18078, (Attention: Ms. Susan Lindenmuth). Three (3) paper copies and one (1) electronic copy of the proposals must be in a sealed envelope marked "Security Systems".

General Information

Lehigh Carbon Community College is a community college with the main campus in Schnecksville, Pa., and sites in Jim Thorpe, Tamaqua and Allentown, Pa. Classes in the aviation program are offered at the Lehigh Valley International Airport. The college was founded in 1966 and offers associate's degrees and certificates, as well as, workforce training and community education. Whether students are taking their first two years of their bachelor's degree, preparing for immediate employment or just exploring a new interest, LCCC offers programs for everyone, including more than 90 degrees, certificates and specialized programs.

The college serves more than 10,000 credit and 4,300 noncredit students annually and employs more than 260 full-time staff, administrators and faculty, and more than 580 part-time employees and adjunct faculty.

Criteria for Evaluation

Proposals will be evaluated based on:

- Comprehensive scope of project and fulfillment of requirements of the proposal
- Experience and certifications of Security Contractor and Sub-contractors
- Proposed completion schedule
- Training and customer support provided
- Cost (1st year and recurring)
- Warranty and support
- Maintenance
- References

A committee representing Public Safety, Information Technology, Facilities and Finance will review the proposals.

Section 28100

Security Systems

PART 1 - GENERAL

1.1 Summary

A. Contract Documents

1. All work shall comply with the College's Independent Contract Agreement (terms/conditions).
2. Contract documents shall include:
 - a. This Specification
 - b. Photos of the reader-controlled doors
 - c. Floor and Site plans
 - d. Reader schedule
 - e. Details as required by the College

B. Scope of Work

1. The Security Contractor shall provide a fully designed, coordinated, engineered and installed Security Data Communications System (SDCS), Security Management System (SMS), Closed Circuit Television (CCTV) System, and Security Communications System (SCS) Lehigh Carbon County College. The locations included within this project are:
 - a. The main campus located at 4525 Education Park Drive, Schnecksville, North Whitehall, PA 18078
 - b. The Allentown campus (Donley Center) located at 718 Hamilton Street, Allentown, PA 18101
 - c. The Tamaqua campus (Morgan Center) located at 234 High Street, Tamaqua, PA 18252
2. The project is a turnkey system (equipment, installation, electrical, door hardware, automatic doors, wireless networking, permitting, etc.) with the exception of those exclusions specifically identified in this document. The Security Contractor shall be the lead and is expected to provide a team that shall include representatives from all the above trades and suppliers, as well as, all support and coordination necessary to ensure a successful project.
3. The project shall be divided into the following different pricing alternatives:
 - a. The main project shall include the SMS, replacing all the existing cameras, the new cameras attached to the buildings and support

equipment including network switches and network video recorders (NVR), the access cards and all other items specified or not that are required for a complete and functional system.

- b. Alternate 1 - The pole mounted wireless data links, pole mounted cameras and associated equipment.
 - c. Alternate 2 - The replacing and adding exterior emergency cellular phone towers.
- 4. The SDCS is divided into two parts, the security system network switches with UPS and as part of Alternate 1, the light pole mounted wireless data links. The security switches shall connect the cameras and access panels with a bridge to the LCCC network for viewing and administration. Equipment to be provided under Alternate 1 shall include pole and building mounted point-to-point data links, cable and devices, CAT 6 cable jumper cables, and labor as required.
- 5. The SMS shall be a server based access control and alarm monitoring system using IP communications to communicate to the panels and workstations through the Security Network. The server and workstations shall be provided by LCCC per the requirements provided by the Security Contractor.
- 6. The SMS data gathering panels (DGPS) shall be provided in the locations, IDFs for the most part, as shown on the drawings and identified in this RFP. The input and output boards shall connect to the panels through RS485 communications.
- 7. The SMS shall support a future ID system that shall share the personnel database with the access control. Future integration with the LCCC Banner software shall be required for importing personnel records.
- 8. The CCTV System shall incorporate new fixed IP cameras, network video recorders (NVR) and software to create a "virtual matrix". The NVR's shall be located in each building to reduce network traffic. The security network connected to the LCCC network shall allow the remote viewing of live or recorded video. IP to Coax Converters shall be used to repurpose the infrastructure for the existing analog CCTV system.
- 9. The (SCS) emergency telephone towers (Alternate 2) shall be solar powered and communicate through a 4G cellular network.
- 10. All electrical work, both high and low voltage, shall be included. This will include power for the power supplies, installing all cable and conduit, tapping into the light pole power for the SDCS (Alternate 1), mounting devices, high lifts, etc.
- 11. All electrical door hardware shall be provided. Hardware recommendations have been provided within these documents. The Security Contractor's door

hardware subcontractor shall be required to survey each location and evaluate the best method to achieve the goal.

12. The security system shall interface to the auto door operators so that the exterior actuator is inactive anytime the door is locked, active again when unlocked whether through card read or time program. The current LCCC auto operator service provider is: Advance Door Service, Pat Colflesh, Service Manager, 800-492-2392 Ext. 0214
13. The security management system server shall be installed in the data center located in the Student Services Center and two (2) other locations.
14. Monitoring for both the SMS and CCTV shall take place at the Public Safety Office in Student Services Center and two (2) other locations.
15. The Security Contractor shall provide, install, connect, program, and test all security devices as outlined in this RFP. The Security Contractor shall provide training to LCCC staff as noted in this RFP.
16. All devices shall be centrally powered from the panel locations indicated on the drawings through low voltage power supplies. The Security Contractor's electrical subcontractor shall distribute the power as needed per the Security Contractor.
17. Provide exact server, workstation and video card requirements to the College for each application noted.

C. Related Work

1. The Security Contractor team, coordinating with one another for the related work. The team shall include, but not limited to, the following:
 - a. Electrical (high and low voltage)
 - b. ADA Operator
 - c. Network/IT
 - d. Door Hardware

1.2 General Requirements

- A. The College's Independent Contractor Agreement, the Drawings, this RFP, any amendment/addendum or accepted bulletin shall become part of the contract for this project.
- B. If any item is in conflict, the most stringent or of greater value shall take precedent.
- C. The Security Contractor shall identify any item that the vendor believes is unclear or in conflict. Any item or condition shall be brought to the attention of the College prior

to submitting a proposal. Any item not clarified prior to that time shall become the decision of the College.

- D. It is the intent of this RFP to provide the LCCC with a fully installed and operational security system. Any item not specifically shown on the drawings or outlined in this RFP, but inferred or required to provide a fully functional system as outlined shall be considered as included in the contract. This shall hold true whether identified on the drawings or the specification.
- E. Prior to submitting a proposal, the Security Contractor and his/her team shall be required perform a detailed review of the site and buildings, all drawings, device applications, confirm exact device and quantity and note any issues to the College.
- F. The Security Contractor shall fully manage the project including inspecting the work being installed by his/her sub-contractors at regular intervals and identify any issues.
- G. The Security Contractor shall verify the location of all equipment and devices prior to installation.
- H. This project is the installation of a security system under existing conditions. As such, the Security Contractor is expected to be flexible in achieving the intended goal at no additional cost to the College. Any items in question must be brought to the attention of the College prior to installation.
 - 1. The conduit must be coordinated with the College for final approval.
- I. The Security Contractor shall provide detailed engineering submittals to, supervise, and generally assist in all ways necessary their subcontractors selected by them to perform the work. The Security Contractor shall be responsible for mounting and terminating the panels and devices, either directly or through his/her subcontractor.
 - 1. All work shall comply with the requirements set forth the national codes as applicable.
- J. No Security Contractor's names or logos shall be allowed to appear on any equipment or device in the public areas.

1.3 Definitions

- A. The College is Lehigh Carbon County College (LCCC) sometimes referred to as "the College"
- B. The term "Security Contractor" refers to the firm contracting with the College to provide the Work and includes all sub-contractors. Terms Security Contractor and Security Integrator shall be interchangeable.
- C. The Work is all the equipment, labor, engineering, supervision, material and services necessary to engineer, construct and complete the Systems in accordance with the Contract Documents. "Provide" shall mean to engineer, supply, transport, install,

oversee, program, test and any other action required to turn over to the College a fully operational system.

1.4 References

- A. The Work shall be in accordance with all applicable national, state and local codes including but not limited to the following:
1. Americans with Disabilities Act (ADA) and ANSI A117.1
 2. International Building Code (IBC)
 3. National Electric Code (NEC) and NFPA 70
 4. Local Governing Codes and Standards to include the Local Authority having Jurisdiction (AHJ)
 5. National Fire Protection Association, National Electrical Code (NFPA 70)
 6. National Fire Protection Association Life Safety Code (NFPA 101)
 7. Underwriters Laboratories Applicable Standards (UL) including 60950, E218113, 294, and PB4982
 8. IEEE802.3 and IETF Standards
 9. EN 55022 ITE (1994), EN 55024 Immunity Standard (1998), CFR47 Part 15B (1995)
 10. Power over Ethernet Standard 802.3AF and 802.3AT
 11. H.264 Standard ISO 14496-4 & 14496-10
 12. The hardware manufacturer shall be an ISO 9001:2000 registered company

1.5 Quality Assurance

- A. Security Contractor's Qualifications
1. The Security Contractor shall have a minimum of seven (7) years' experience in the fabrication, assembly and installation of systems of greater or equal magnitude and quality as that being specified herein. This experience relates to the office performing the work and not the company on a national basis.
 2. The Security Contractor must be the highest level certification for the SMS such as Enterprise for Software House or Value Added Reseller (VAR) for Lenel as well as certified business partner in good standing for the products proposed.
 3. The Security Contractor shall supply information attesting to the fact that their installation and service technicians are competent factory trained and

certified personnel capable of maintaining the system and providing reasonable service time.

4. The Security Contractor shall provide a minimum of three (3) references whose systems are of similar complexity and have been installed and maintained by the security system integrator in the last five (5) years. The reference shall be projects of similar scope and size and must be within a two hour radius of the project and include company name, contact name and contact telephone number.
5. The Security Contractor shall assign a project manager to the project. The project manager's resume shall be included with the bid proposal. If at any time the College believes the project manager is not performing his/her duties to the betterment of the project, the Security Contractor shall replace the project manager upon formal notification.
6. The Security Contractor shall maintain a 24-hour local service center, with adequate parts supply for all major components within three (3) hours or 150 miles of college. The service center shall be staffed and adequately equipped to provide service within four (4) hours after being called during normal business hours and emergency service after hours.
7. The Security Contractor shall have in-house engineering and CAD (v.2017 or better) capabilities and include a sample of engineering drawings with the proposal.

B. Product Standards

1. Within the RFP, certain equipment manufacturers are listed. These manufacturers are for example purposes only (unless followed by "No Exceptions"). The Security Contractor may substitute manufacturers in their bid that may be more readily available or cost effective. All substitutions shall meet or exceed the minimum specifications of the products listed and are subject to approval. It is the responsibility of the Security Contractor to prove the substitution meets or exceeds the item specified. Once the proposal is accepted, the Security Contractor shall not be permitted to vary from the equipment proposed without written permission from the College.
2. The Security Contractor shall provide at the time of installation the latest available version of all software and equipment. Discontinued software and equipment shall not be accepted. All equipment shall be new. No refurbished/reused equipment shall be accepted.
3. The Security Contractor shall, within his/her proposal identify any item with which they cannot comply or comply by different means, fully explaining this difference. Any item not specifically cited shall be assumed to comply and the Security Contractor shall be strictly held to the performance described in these documents.

1.6 Submittals

- A. The Security Contractor shall submit to the College for approval, pre-installation submittals consisting of drawings and product data. Partial submittals shall not be accepted. The Security Contractor shall not be relieved from responsibility for any deviation from the requirements of the Contract Documents by the College's approval of prefabrication submittals unless the Security Contractor has specifically informed the College in writing of such deviation at the time of submission and the College's has given written approval to the specific deviation. All work shall be in accordance with approved submittals.
1. The submittals shall illustrate the Security Contractor's clear understanding of the project that shall allow for evaluation of said understanding by the College. Anything less shall be deemed "Unacceptable".
 2. The Security Contractor shall review the documents with the subcontractors (floor plans, riser, details, etc.) to ensure the scope is accurately and fully understood. The Security Contractor shall bring any discrepancies to the attention of the College.
 3. Should the submittals be rejected by the College more than twice as inadequate or not meeting the requirements set forth in this RFP, the College may seek a third party to complete the documents and charge the Security Contractor any related fees.
- B. Schedule
1. A final detailed completion schedule, coordinated with the College, shall be provided. The schedule shall highlight the milestones of the installation such as head-end, panel and device installation. The schedule should also depict critical dates for the Security Contractor to complete the Work such as power, network, hardware, etc.
 2. The schedule for the buildings is as follows:
 - a. Allentown Campus
 - b. Tamaqua Campus
 - c. Main Campus starting with the Student Services Center
 3. The Security Contractor shall start by establishing the security network and connection with the LCCC network, followed by server and NVR installation, the panels then the field devices.
 4. Security Contractor shall be cognizant of any interruption of classes and student traffic whether caused by paths being blocked or noise levels that are disruptive. Coordinate this work with the College.

C. Shop Drawings

1. Submit four (4) copies of each of the following:
 - a. Provide floor plans identifying all devices along with mounting requirements.
 - b. Provide a riser depicting the cabling required from each device to point of final termination.
 - c. Provide device connection details showing all field components and the typical connections between them and the major components such as the DGPs, input panels, output panels, NVRS, power supplies, etc. All security components and the cable connections are to be illustrated including to other systems such as the College's network and ADA Operators.
 - d. Provide detail drawings for each system showing the connection of all inputs and outputs for each piece of equipment including end of line resistors. The detail must trace each device and wire from inception to point of final termination.
 - 1) Provide a spreadsheet or drawing showing the point assignments for all readers, inputs, outputs, cameras, etc.
 - e. Provide a detail showing panel wall layouts with dimensions including wire trough, coordinated with the work of other trades, to ensure the panels fit in the space provided.
 - f. Conduit layout for any conduit or wire-mold exposed to the Public.
 - g. Provide a detail showing rack layout with the rack unit requirements for each piece of equipment.
 - h. Any other drawing or schedule the Security Contractor believes necessary to fully illustrate the Work to the electrical subcontractor.

D. Product Data

1. Submit four (4) sets of the following:
 - a. Equipment schedules listing all system components, the manufacturer, exact model number and quantity of each.
 - b. Manufacturer's literature sheets for all system components as well as any warranty information. Indicate on the sheet the unit to be provided if multiple items are shown.

E. Samples

1. None required at this time

1.7 Delivery Storage and Handling

- A. The Security Contractor shall be responsible for coordinating the delivery of all products to the site with the College.
- B. The Security Contractor shall ensure that all products and equipment stored on site and/or in the Security Contractor's facilities are protected from theft or damage. The Security Contractor shall be responsible for all equipment until final acceptance and sign off by the College. Coordinate with the College for a secured storage area.

1.8 Sequencing and Scheduling

- A. The Security Contractor shall schedule all site activities with the College. Pertinent schedule milestones are as follows unless a revised schedule is received from the College:
 1. Request for Proposal (RFP) Dated – December 14, 2019
 2. Bids Due from Security Contractors – January 24, 2020
 3. Estimated Contract Award – February 17, 2020
 4. Project Start – March 16, 2020
 5. Security Submittals Due – within 20 working days of contract award
 6. Network and panels Installed and communicating - Per Security Contractor's Approved Schedule
 7. Floor-by-Floor Installation – Per Security Contractor's Approved Schedule
 8. Completion – Submit anticipated schedule with the submittal coordinated with College

1.9 Warranty

- A. The Security Contractor shall warrant the equipment, installation and programming, with the exception of the items supplied by others, for a period of one year following the date of final acceptance of the entire system by the College. Obtain an official sign-off or acceptance of the Work prior to establishing the start of the warranty.
- B. Preventative maintenance shall be performed during the one-year warranty period and shall include, but not be limited to, a semi-annual maintenance check of all system components, which shall include cleaning, adjustments and necessary repairs.
- C. The Security Contractor shall provide written notice to the Public Safety Director documenting any work performed during the one-year warranty period. Loaner

equipment shall be provided for any equipment supplied by the Security Contractor not field repairable.

- D. The Security Contractor shall include one year of software support updates for the SMS and CCTV system at the highest level available.
- E. Repair or replacement service during the warranty period shall be performed 8-hours a day (normal work hours), five days a week, with a four hour response time. **All required high lifts shall be included for the warranty.**

1.10 Maintenance and Software Support

Provide a price for maintenance and software support for years 2 through 4 with escalation as required. The maintenance shall comply with the requirements detailed in 1.9

1.11 Pricing

- A. Submit pricing in accordance with the "General Instructions for Proposal" provided by the College however, the following detail must be included with the pricing. The pricing shall be divided into the base project and the two alternatives. The base project into separate sections: SDCS, SMS, CCTV, and Alternates. Provide only the equipment listed for that section in that section. No single line total price shall be accepted.

- 1. Quantity
- 2. Exact make/model
- 3. Unit price followed by aggregate price
- 4. Example:

Qty	Description	Make/Model	Unit Price	Extended Price
10	Concealed contacts	Sentrol 1078	\$ 6.00	\$ 60.00

- B. Each subcontractor's cost shall be listed for the base and alternates to include material and labor to allow the College to identify those costs.
 - 1. The pricing for Alternate 1, SDCS wireless links shall be provided with LCCC standard HP Aruba solution.
 - 2. The pricing for Alternate 2, Assistance Phones shall include cement mounting bases per manufacturer.
 - 3. The pricing for Alternate 3, Reader upgrade to mobile device capable, shall include price per 100 credentials.

- C. Pricing shall include all material, labor, permits, lifts, engineering, supervision, training, programming, warranties, freight, and all project requirements as specified in the Contract Documents.
- D. The project is tax free. Documentation shall be submitted after award.
- E. Use the following format per the included the excel template for the summary of pricing for the project:

	Project Cost Summary		
Equipment Costs			
	SDCS	\$	
	SMS	\$	-
	CCTV	\$	-
			-
Equipment Total			\$ -
	Freight		\$ -
	Warranty		\$ -
Security Integrator labor			
	Project Management	\$	-
	Technical Assistance	\$	-
	Engineering	\$	-
	Training	\$	-
Integrator labor Total			\$ -
Subcontractor Labor & Materials (for each)			
	Materials	\$	-
	Labor	\$	-
		\$	-
Total Each Subcontractor			\$ -
Project Total			\$ -
Alternate 1 Pole Mounted Cameras			\$
Alternate 2 Solar Powered Phones			\$
Alternate 3 Mobile Readers			\$

[illegible]

PART 2 - PRODUCTS

2.1 Security Data Communication System (SDCS) and Alternate 1

A. System Description

1. The Security Data Communication System (SDCS) shall be comprised of two parts, the security network and Alternate 1, the point to point data links, the power source, and the cameras.
2. The security network shall consist of 8 and 24-port POE gigabit network switches for each building or in some cases, each floor of each building. The size of the switch shall be dictated by the devices required to connect to it. These could include the following:
 - a. One port for each IP to coax 16-channel receiver
 - b. NVR
 - c. SMS panel
 - d. One port for each new camera
 - e. LCCC network
 - f. Wireless Link (Alternate)
3. The security network switches shall provide POE power to the cameras and links as needed.
4. Switches shall be rack mounted. Security Contactor shall coordinate existing space availability with College.
5. Provide a UPS for each switch provided. The UPS shall clean the power and sustain the switch and NVR for ten minutes during loss of primary power. UPS shall plug into the 115V outlet and be rack mounted if rack space is available. UPS shall provide 5-15R receptacles. Assume a 1000W load.
6. The transmitter for the datalink shall be mounted to the light poles as noted and powered POE. The receivers shall be wall mounted on the buildings and in direct line of sight to the transmitters. The receivers shall be connected to the LCCC network for POE power and communication to the NVR's for recording.
7. In one case, a dual band datalink shall be used to redirect the signal around an obstruction.
8. Links shall provide connections for one to four cameras through a hardened POE switch at the pole end. One location must be relayed from the camera

pole to a second pole (dual radio) before transmitting to the building receiver.

- a. Equipment related to the pole mounted links shall be housed in the enclosure for the power bridge described in this section.
9. Power for the wireless links as well as the cameras shall be provided by power bridge. The Security Contractor shall be required to tap into the power circuit for the light post rated at 277V 3-phase. The power bridge enclosure shall be pole mounted and include sealed gel type batteries to store power in times when the lights are off to ensure the cameras and links operate.
- a. Power shall be converted from 277V to power for use with the POE cameras and wireless link. Security Contractor must inform College the length of time lights must be on daily to ensure a full battery charge.
 - b. To ensure correct design, provide the manufacturer of the power bridge the exact make and model of all pole mounted devices requiring power. Obtain from the manufacturer the amount of time the lights must remain on to adequately power the devices.
 - c. Provide weight load needs of light pole or camera mount as part of the proposal to allow College to evaluate impact.
10. All equipment shall be key locked in a pole mounted NEMA enclosure. All enclosures keyways shall match

B. Technical Requirements

1. The Security Network Switch shall be an HPE 2930-8G-POE+ (125W) for the 8-port and HPE 2930-24G-POE+ (370W) for the 24-port. Include power supplies or any other additional cabling requirements from this equipment to LCCC infrastructure. (No Exceptions)
2. The UPS shall be an APC Smart UPS SRT1000RMXLA-NC
3. The wireless data links shall include, but not be limited to, the following components for the HP Aruba solution. In addition, vendor must include one AP license, one RFProtect license, one PEF license for every access point installation, power supplies, hardened switches, and connectors as required. (No Exceptions)

JZ173A	Aruba AP-375 (US) Outdoor 11ac AP
HB0Q1E	Aruba 1Y FC NBD Exch AP-375 SVC [for JZ173A]

JW053A	AP-270-MNT-V2 AP-270 Series Outdoor Pole/Wall Short Mount Kit
JW620A	PD-MOUNT-OD Outdoor PoE Midspan Injectors Pole/Mast Mount Kit
JW061A	AP-LAR-1 Nm to Nf Outdoor DC to 6 GHz In-line Coaxial Lightning Arrestor
JZ183A	Aruba AP-377 (US) Outdoor 11ac AP
H9QJ9E	Aruba 1Y FC NBD Exch AP-377 SVC [for JZ183A]
JW052A	AP-270-MNT-V1 AP-270 Series Outdoor Pole/Wall Long Mount Kit
JW061A	AP-LAR-1 Nm to Nf Outdoor DC to 6 GHz In-line Coaxial Lightning Arrestor
JZ183A	Aruba AP-377 (US) Outdoor 11ac AP
H9QJ9E	Aruba 1Y FC NBD Exch AP-377 SVC [for JZ183A]
JW053A	AP-270-MNT-V2 AP-270 Series Outdoor Pole/Wall Short Mount Kit
JW620A	PD-MOUNT-OD Outdoor PoE Midspan Injectors Pole/Mast Mount Kit
JW061A	AP-LAR-1 Nm to Nf Outdoor DC to 6 GHz In-line Coaxial Lightning Arrestor

4. The Power bridge shall be a Solis Energy Power Bridge CPB1240-312 or CPB4850-314 as designed to meet the specifications.
 - a. Unit shall house the power supply and hardened switch for the wireless link. Provide all part numbers to Solis Energy to ensure proper design.
5. The cameras for the pole mounted applications shall be specified under the CCTV Section.
6. Provide all mounting hardware, connecting cables etc. as required.

7. All datalink equipment including the power supply and hardened switch shall be located in the Power Bridge enclosure.

2.2 Security Management System (SMS)

A. System Description

1. The SMS shall be an integrated system that utilizes a single, industry-standard relational database management system for the storage and manipulation of related data. The SMS shall include a virtual server with operating system and applications software. The virtual server, operator and administrator workstations shall be supplied by the College. The server/workstations shall have appropriate SMS software installed by the Security Contractor. Security Contractor shall provide the College with the system requirements to ensure the workstations/server meets those requirements. The security devices shall communicate with the field panels via the dedicated Security Network with a bridge to the LCCC network. The field panels shall communicate to the server via a Ethernet 10/100/1000 full-duplex IP network. Downfield input and output boards shall communicate via a serial (RS-232/ RS-485) connection.
2. The Security Management System (SMS) shall have a minimum capacity of the following with the ability to double the requirements with just a software upgrade:
 - a. 128 online readers
 - b. 5,000 online inputs
 - c. 5,000 online outputs
 - d. 45,000 credentials
 - e. 20 simultaneous clients
 - f. 2 Badging Clients
3. The server shall be provided by the College for the SMS shall have the minimum features:
 - a. Intel Xenon E3 3.5GHz Processor
 - b. Dual SSD drives of 1GB each
 - c. 32 GB Memory
 - d. SQL 2015 64bit
 - e. Windows server operating system 2016

- f. Provide the College with system server and workstation requirements
- 4. The SMS shall consist of card readers, alarm input points from devices and output relays to devices, connected to reader, input and output boards.
- 5. Provide any network connecting devices required to ensure a complete and operational communication between the SMS DGP and the server through the network.
- 6. The SMS server shall act as the fileserver for the database and the central processor for the system issuing instructions to the panels, collecting and processing information, communicating with the panels and workstations as instructed and maintaining a history of all transactions.
- 7. The SMS shall have the following capabilities:
 - a. Partitioning the data base for personnel and alarm point monitoring
 - b. Ability to shift monitoring from one station to another based on time schedule or operator command
 - c. Ability to create "Privileges" defined as restricting the ability of any operator on the system to the commands determined by the system administrator
 - d. Provide a graphical user interface (GUI) using a mouse and keyboard as the primary operator interface with the system. The interface shall utilize a 'tree structure' similar to Windows Explorer.
 - e. Ability to view video from the IP CCTV system within the same GUI
 - f. Employ an Administration Operator Interface to control all functions of the system
 - g. Contain a user-customizable monitoring component to display the current state of any object in the system.
- 8. Install the SMS software on at least four workstations of the College's choosing. Configure the station for privileges as dictated by the College.
- 9. The SMS shall be Thin Client capable for remote access to the SMS Server via a web browser. The Thin Client shall support Microsoft® Windows 10 and Mozilla Firefox®. The Thin Client shall support 128-bit AES encryption to the SMS Server. The Thin Client shall allow the following operations provided the user has the correct Privileges:

- a. Personnel
 - b. Activity
 - c. Manual actions
 - d. Queries and reports
10. The system shall provide graphical maps with interactive icons for the buildings and site. The maps shall be able to be downloaded using any of the following file formats:
- a. AutoCAD (.DWG)
 - b. SVG
 - c. DXF
 - d. DWF
 - e. Windows Meta File (WMF)
 - f. TIFF (.TIF)
 - g. JPEG (.JPG)
 - h. PNG
 - i. Windows Bitmap (.BMP)
 - j. GIF
11. All programmed information, as well as transactional history, shall be automatically stored in the database for later retrieval and backup. The SMS shall support configurations where the SMS database(s) may be installed on a hard drive on the SMS server, on an independent database server, or in an existing corporate database server. Initially, the SMS shall use the hard drive on the SMS server. The SMS shall be capable of backing up, restoring and transferring all system data and transactional history.
12. The system shall incorporate intelligent, distributed processing through the Data Gathering Panel (DGP). The DGP shall provide an interface between card reader-controlled doors, monitoring input boards, relay output boards, and the SMS server. The DGP shall collect alarm input point status and card reader transactions, multiplex the information, transmit that data back to the server and perform preprogrammed operations. The Drawings identify all panel mounting locations. Panels shall be sized as required for the operation as listed in the panel chart. All final connections shall be by the Security Contractor.
- a. Panel sizes:

Panel Layout Main Campus			Panel Layout Allentown Campus		
IDF Location	Panel	Power Supply	IDF Location	Panel	Power Supply
SSC Grnd.	ULTRA 8	FP150-250C8D8E2	Donley 2	ULTRA 8	FP150-250C8D8E2
SSC Main	ESTAR004	FP150-B100C4D8E2			
Tech Ctr. 1	ESTAR004	FP150-B100C4D8E2	Panel Layout Tamaqua Campus		
Tech Ctr. 2	ESTAR004	FP150-B100C4D8E2	IDF Location	Panel	Power Supply
BH LL	ESTAR004	FP150-B100C4D8E2	Morgan 1	ESTAR004RM	FP150-B100C4D8E2
BH UL	ESTAR004	FP150-B100C4D8E2	SSC LL	ESTAR004	FP150-B100C4D8E2
ARC 1	ESTAR004	FP150-B100C4D8E2			
ARC 2	ESTAR004	FP150-B100C4D8E2			
SH Grnd.	ESTAR004	FP150-B100C4D8E2			
SH Main	ESTAR004	FP150-B100C4D8E2			
CSC 1	ESTAR004RM	FP150-B100C4D8E2			
CSC 2	ESTAR004	FP150-B100C4D8E2			
RL LL	ESTAR004	FP150-B100C4D8E2			
RL UL	ESTAR004	FP150-B100C4D8E2			

- b. Panels are listed as Software House as the basis of design. The Security Contractor may substitute panels that meet or exceed those listed.
13. The DGP shall be equipped with the following minimum capabilities:
 - a. 64 MB of memory capacity
 - b. 85,000 credentials
 - c. Direct network Ethernet Port 100 base T
14. The DGP shall use supervised alarm input boards to monitor the status of alarm devices and report any change in status to the server.
15. The panel shall provide reader connection as well as supervised inputs for the door contact and request-to-exit devices associated with a card reader controlled door. Each supervised input shall require a separate end-of-line resistor located at the device. Each input shall be supervised for the following conditions:
 - a. Contact Open
 - b. Contact Closed
 - c. Short Circuit
 - d. Open Circuit
16. The DGP and devices shall be equipped with a separate power supplies with battery backup capable of providing reserve power for a minimum of four (4) hours. (See Panel Chart) All power supplies shall be individually fused for each point. Provide any additional transformers or other equipment to ensure a clean and protected power source. The DGP and device power supplies shall be tampered and annunciate as one point per location. They

shall be located as indicated on the drawings to provide power to the devices served by that panel.

- a. Combination 12VDC/24VDC power supplies housed in one cabinet shall be used to minimize wall space.
17. The DGP shall communicate directly through the network to the server using static IP addressing. The Security Contractor shall provide and install patch panels, transition devices, network patch cables, etc. to connect the DGP at the mounting location to the designated IP hub.
18. The communications between the server and the DGP, between the DGP and input/output boards, and between the DGP and card readers shall be supervised. A loss of communication on any of these circuits shall immediately initiate a communications failure alarm to the server.
19. Proximity readers and devices shall be installed as indicated on the Drawings and connect to the panels along with the other associated door control devices.
20. Each card reader controlled door, as indicated on the Drawings, shall be provided with request-to-exit (RTE) motion sensor, door and an electric locking mechanism supplied by the Security Contractor. Doors shall relock after closing regardless of exit timing.
21. The door hardware subcontractor for the project shall survey each door. Although recommendations are provided in the Card Reader Chart, the door hardware shall provide, in his expert opinion, the best hardware for each application, minimizing cost and renovations to the existing doors/frames. The hardware supplied shall meet the following requirements:
 - 1) All door hardware shall be 24VDC.
 - 2) Maximum in-rush for any door lock shall not exceed 1Amp.
 - 3) Hardware shall provide for free the latch for automatic door operation.
 - 4) Door hardware shall match finish and style of the existing hardware.
 - 5) No electromagnetic locks allowed on perimeter doors.
22. Most doors selected for access control are equipped with ADA door operators. In most cases, these operators use wireless actuator push-pads. The auto door subcontractor shall survey each operator application and provide whatever devices/labor necessary to provide the following operation:

- 1) During normal operating hours, the SMS system shall remove the latch and shunt the door contact to allow free access per programming by the College.
 - 2) Use of either auto door actuator shall open the door
 - 3) After hours, the door shall be locked, and the contacts armed. The SMS system shall disconnect the exterior ADA door operator actuator push-pad through a relay output as not to allow the operator to attempt to open the door while locked.
 - 4) The electric locking system for door shall be wired through the timed circuitry of the ADA operator to control the sequence of events so the doors shall release the latch prior to opening.
 - 5) Use of a valid card shall reconnect the exterior actuator and release the latch allowing entry. Use of the actuator after a valid card read shall open the door.
 - 6) The interior actuator shall remain active and activate the timed sequence as described.
 - 7) A request to exit signal integral from the egress sensor shall shunt the alarm contact with use of the hardware or the actuator.
23. Request to exit motion sensors for detecting authorized exits through card reader controlled doors shall be provided as indicated on the Reader Chart. For doors that are free exiting such as those equipped with electromechanical locks, the RTE signal shall be wired to the request to exit input of the DGP and shall only shunt the intrusion alarm and shall not unlock the lock.
24. Provide new UL listed, individually fused, 24VDC lock power supplies for all locks including electromechanical exit devices. Current draw for time delay and exit devices is less than 1 amp. All power supplies shall be monitored for low battery and power failure.
25. Rewire existing door release buttons for the reception door at Donley. Buttons are located on desks adjacent to the door.
26. No hardware provided shall require a fire relay for failsafe release per code. All hardware shall be free exiting.
27. Door contacts, either concealed or surface mounted shall be used to monitor the status of the reader doors on the Reader Chart. The Security Contractor shall prep all doors and frames to fit the concealed door contacts as listed. This includes glass and aluminum doors where the cable must run through the mullion.

28. All enclosures shall be monitored for tamper. Panels in one closet can annunciate as one point.
29. All alarm points shall be programmed as events to annunciate to full screen upon alarm with point description and response. Assist the College with the required information.

B. Technical Specifications

1. Software House is the basis of design. Other acceptable manufacturers are Lenel and Genetec.
2. The SMS system shall be Software House Model 9000 P System with the software interface to the CCTV system.
3. The DGP panels shall be:
 - a. Software House I*Star Ultra 8-reader with 64MB memory as indicated on the Panel Chart
 - b. Software House I*Star Edge with 64MB memory configured for 4 readers or four readers with RM boards as indicated on the Panel Chart
4. The combined lock and device Power Supply shall be an Life Safety Power with hours battery back-up as listed in the panel chart:
 - a. The 8 DGP shall use a FP150-250C8D8E2.
 - b. The 2 and 4 reader DGP shall use a FP150-B100C4D8E2.
 - c. No more than one lock shall be connected to any one relay point.
5. The Card Reader shall be an HID R40 SE I-Class for standard applications and the R15 SE for mullion applications.
 - a. The mobile device compatible reader for Alternate 3 shall be HID 910NMNNEKMA001 for the R15 and 920NMNNEKMA001 for the R40.
6. The Concealed Door Contact shall be a Interlogix model 1078.
7. The Surface Mounted Door Contact shall be a Interlogix model 2505A.
8. The Wall Mounted Exit Motion Sensor shall be a Detection Systems DSI-160.
9. The Tamper Switch for the panels not already equipped with a tamper switch shall be a Interlogix Model 3025.
10. Provide 1,500 HID iClass cards with 2K memory

2.3 Closed Circuit Television System (CCTV)

A. Functional Requirements

1. The CCTV system shall be comprised of color fixed interior and exterior rated IP cameras, network video recorders (NVR), recording software using H.264 compression and virtual matrix switching software. The system shall provide for recording, monitoring, and playback of all video over College provided workstations connected to the same network. The system shall be capable of simultaneous recording, viewing and historical playback.
2. The system shall be configured for the requirements of the project including all camera and workstation licensing, if applicable.
3. There shall be one NVR per building and configured and sized for the cameras in that building including any wireless cameras connecting through receivers mounted on the building plus a 20% expansion.
4. If any building requires more than one NVR, no more than 64 cameras shall be installed on any one NVR, the system load shall be distributed evenly between the two NVR's.
5. The NVR shall be located in the IDF serving the most cameras in each of the buildings.
6. The NVR shall be designed for continuous operation (24/7) using high grade SATA hot swappable hard drives (SAS) utilizing RAID 5. An internal management system shall ensure optimum functionality. The system shall allow administrator configuration such as compression levels, resolution and bit rates. The system shall be self-monitoring as to the health of the components to include video loss on any camera, hard drive or NVR power supply failure and network interruptions of a predetermined setting. Alerts shall be sent to the monitoring station.
7. The NVR shall be equipped with dual power supplies.
8. The system shall allow recording to DVD/thumb-drive in both a standard format viewable from most workstations without special software (AVI) and a secured format with watermark or similar authentication to preclude tampering with the video. Viewing in a secured format shall require special software from the manufacturer.
9. System shall include basic analytics such as motion detection and be capable of full analytics by adding a software module. No additional hardware shall be required.

10. The NVRS shall connect and record all cameras in the system. The remote viewing software shall be installed on the Public Safety workstation, as well as, two other workstation of the College's choosing. Coordinate with College for workstation and video card requirements.
11. The video storage space required shall be based on the following parameters:
 - a. Recording 24 hours a day
 - 1) 7-8 FPS during normal activity
 - 2) 1 FPS with no activity
 - b. Activity - 50% interior and 100% exterior
 - c. Maximum allowable per camera resolution during activity
 - d. Compression ratio of not greater than 30%
 - e. 30 days (minimum) of recorded video before overwriting. System shall overwrite oldest video first with the exception of anything marked by the administrator as to be protected.
 - f. 20% Storage in excess and minimal 1TB dedicated to RAID
12. The NVRS' set-up monitor, keyboard and mouse shall be a flip-up rack-mounted unit to allow programming of the NVR. The monitor/keyboard shall be mounted in the same rack. Provide all rack mounting hardware.
13. The existing analog cameras shall be replaced with IP cameras. The existing coax cable shall be reused through the use of IP to Coax converters. The existing NVR's shall be replaced with desktop style IP-coax receivers that shall also provide power to the cameras (POE) over the coax. The existing analog camera power supplies shall be removed.
 - a. The IP-coax transmitter shall be hidden above the accessible ceiling with a Cat-6 jumper from the module to the camera. This includes the cameras replaced that are on the exterior of the buildings. The Security Contractor shall trace the coax and install the IP-coax module at the first point of access interior to buildings.
 - b. The receivers shall connect to the network to transmit the video to the NVRS through the security network switch.
 - c. Existing analog camera count is:

Analog Camera Counts				
Main Campus				
Building	NVR 1	NVR 2	NVR 3	Notes
SSC	28 Indoor - 4 Outdoor	16 Indoor	32 Indoor	
ARC	17 Indoor - 7 Outdoor	16 Indoor		
BH	27 Indoor - 5 Outdoor			
CSC	32 Indoor			
RL	32 Indoor	16 Indoor		
Science	32 Indoor	13 Indoor - 3 Outdoor		NVR2 at stay n' play
TC	28 Indoor - 4 Outdoor			Outdoor at roof
Allentown				
DC	32 Indoor	31 Indoor - 1 outdoor		
Tamaqua				
Morgan	14 Indoor - 2 Outdoor			
Scheller	10 Indoor - 6 Outdoor			

- d. For scope, assume one transmitter per camera and one receiver per 16 cameras. Use the same list for camera replacement differentiating between indoor and outdoor.
14. Provide the following types of high resolution cameras with vary-focal lenses as indicated on the self-contained outdoor dome IP cameras. All cameras shall have day/night technology with integral LED illuminators. Outdoor cameras shall be equipped remote focus-zoom lenses. The cameras shall be surface, wall, pole or flush mounted as indicated:
 - a. Self-contained flush mounted indoor IP dome cameras. Standard lens for cameras shall be 3 to 6 mm. The cameras shall be surface, wall or flush mounted as indicated.
 - b. Self-contained outdoor dome IP cameras mounted to view entryways and close areas. Outdoor cameras shall be equipped with 3 to 10mm lenses. The cameras shall be surface, wall or flush mounted as indicated.
 - c. Self-contained outdoor megapixel IP camera shall be installed on the buildings to view the parking areas or the Mall. Camera is to be used for the Pole mounted Alternate 1. Cameras shall be equipped with 4 to 9 mm lenses.
 15. Pole mounted and cameras mounted on the buildings to view the parking lots and Mall shall be equipped with surge suppressors.
 16. Cameras shall maintain clarity and resolution under varying lighting conditions.
 17. Cameras shall provide automated autofocus feature to allow remote focusing.

18. The cameras shall incorporate on-board security to protect the video from unauthorized access through hacking. Operator commands shall be tracked through a built-in audit trail.
19. The system shall provide tools to assist in investigations of incidents including date/time parameters and after the fact activity detection.
20. All cameras shall be powered POE from switches, IP coax modules provided by the Security Contractor and shall not exceed 12 watts maximum.
21. Provide surge protectors for all cameras mounted to the exterior of the buildings or poles (Alternate).
22. System shall provide a hierarchy of control levels as dictated by the system administrator. Hierarchy shall include camera changes, viewing, recording, etc. System shall provide partitioning so that only selected cameras can be viewed on selected workstations as dictated by the system administrator.
23. Provide the virtual matrix software. The Virtual matrix shall allow for full CCTV controller-style functionality of the CCTV system to include:
 - a. Alpha-numeric labeling of each camera with the ability to locate the title anywhere on the screen as not to interfere with critical areas
 - b. Full or multi-view format of any camera on the system on any monitor using consecutive numbering
 - c. Click and drag configuration of both display format and cameras
 - d. Alarm call-up of the camera closest to a point in alarm on the SMS
 - e. Sequencing, tours or salvos of cameras
 - f. Routing specific cameras to specific workstations upon alarm
 - g. Future PTZ control using industry standard protocols and a display PTZ controller
 - h. Viewing shall be at the performance level of the camera
24. Install the CCTV software on the workstations for the Public Safety Office and two other location of the College's choosing. Configure the station for privileges as dictated by the College.

B. Equipment Requirements

1. The basis of design is Exacqvision. Other acceptable manufacturers are Genetec and Milestone.
2. The CCTV IP Recording Software shall be Exacqvision with client licenses, if required.
3. Include all camera licenses.
4. The CCTV Network Video Recorder shall be dual power supplies with Raid 5 and rack mount kit if applicable. NVR shall be sized for the requirements of the project using the design parameters listed for each building.
5. The rack-mounted monitor/keyboard/mouse shall be an Tripp-Lite B020-V08-19-K.
6. The IP CCTV cameras shall be:
 - a. Axis M4206-LV for indoor applications
 - 1) Tile mount for grid ceilings shall be an Axis T91A23
 - 2) Wall mount shall be an Axis TM3101
 - b. Axis P3225-LVE for outdoor close applications
 - 1) Pendant cap shall be an Axis T94T01D
 - 2) Wall mount shall be a T91E61
 - c. Axis Q3617-VE for parking lot and pole alternate applications
 - 1) Pendant cap shall be an Axis T94V01D
 - 2) Wall mount shall be an Axis T91E61
 - 3) Pole adaptor shall be an Axis T91B47
7. IP to Coax Converter shall be a Nitek:
 - a. ET1543C for the transmitter
 - b. ER16500C for the receiver
8. The Surge Protector shall be a Nitek IPPWR1 for CAT 6 circuits.

2.4 Wire and Cable

A. System Description

1. The Security Contractor shall provide all wire and cable including all rack cabling. Provide all jumpers, mini-coax, monitor/keyboard connectors, etc. as required.
2. The Security Contractor shall coordinate with its electrical subcontractor to ensure the following:
 - a. All wire and cable specified on the engineering drawings shall meet equipment manufacturer's requirements, national, state and local code requirements and shall be UL listed for their application.
 - b. Plenum rated cable shall be used in all return air plenum spaces and where required by code.
 - c. All wire and cable specified on the engineering drawings shall meet equipment manufacturer's requirements, national, state and local code requirements and shall be UL listed for their application.
 - d. Cable shall be shielded, as required by the equipment manufacturer or where necessary, for interference-free signals.
 - e. Provide outdoor rated cable where required.

B. Technical Specification

1. Cable shall be as listed in the following cable chart and in the riser with the following typical applications:
 - a. "A" cable shall be used for alarm points, exit alarm power, etc.
 - b. "B" cable shall be used egress sensors, exit alarms, intrusion detectors, etc.
 - c. "D" cable for card readers in dual reader locations
 - d. "F" cable for lock power and device power over 100'
 - e. "H" cable for network and camera connections
 - f. "N" cable from hardware supplied lock power supplies to the exit devices
 - g. "X" for reader-controlled doors
2. Cable Chart Indoor

CABLE TYPES

CABLE DESCRIPTION	PART NUMBER
A – 2 COND/18 AWG/STRD/TWST	West Penn #25224
B – 4 COND/18 AWG/STRD/TWST	West Penn #25244
C – 2 PR/24 AWG/STRD/TWST/SHLD w/DRAIN	Manhattan #M63995
D – 6 COND/22 AWG/STRD/TWST/SHLD w/DRAIN	West Penn #253270
E – 1 PR/22 AWG/STRD/TWST/SHLD w/DRAIN	Belden #89182
F – 2 COND/16 AWG/STRD/TWST	West Penn #25225
G – RG-59U COAX	West Penn #25815
H – CATEGORY 6 LAN CABLE	West Penn #254246
I – 4 COND/18 AWG/STRD/TWST/SHLD w/DRAIN	West Penn #25440
J – 2 PR/22AWG/STRD/TWST/SHLD w/DRAIN	West Penn #D25510
K – CABLE PROVIDED WITH SYSTEM(S)	–
L – 4 COND/18AWG PARALLEL MID-CAP	Aiphone #87180450C
M – 2 COND/22AWG/STRD/TWST	West Penn #25221
N – 2 COND/14AWG/STRD/TWST	West Penn #25226B
X – 4 INDIVIDUALLY JACKETED CABLES W/OVERALL PLENUM JACKET COMPOSITE CABLE X1 – 1 PR/22AWG/STRD/TWST/SHLD X2 – 3 PR/22AWG/STRD/TWST/SHLD w/DRAIN X3 – 2 PR/22AWG/STRD/TWST/SHLD w/DRAIN X4 – 2 PR/18AWG/STRD/TWST	BELDEN B658AFS
COND – CONDUCTOR TWST – TWISTED PR – PAIR SHLD – SHIELDED STRD – STRANDED AWG – WIRE GAUGE	

3. Cable Chart Outdoor

OUTDOOR RATED CABLE TYPES

CABLE DESCRIPTION	PART NUMBER
P – CATEGORY 6 OUTDOOR LAN CABLE	COMMScope 4665904/10 OR BERK-TEK 10139885
R – RG-59U COAX	West Penn #AQC 806
S – 4 COND/18 AWG/STRD/TWST	West Penn #AQC 244
T – 4 COND/18 AWG/STRD/TWST/SHLD w/DRAIN	West Penn #AQC 3244
U – 6 COND/18 AWG/STRD/TWST/SHLD w/DRAIN	West Penn #AQC 3186
V – 2 COND/18 AWG/STRD/TWST	West Penn #AQC 224
W – OUTDOOR RATE CATEGORY 6 JUMPER CABLE	COMMScope C015582-01
COND – CONDUCTOR TWST – TWISTED PR – PAIR SHLD – SHIELDED STRD – STRANDED AWG – WIRE GAUGE	

4. Cable Manufacturers

- a. Belden
- b. West Penn

PART 3 - EXECUTION

3.1 Installation

A. Equipment

Ensure the following:

1. All equipment and software is installed in accordance with the manufacturer's requirements and instructions.

2. Verify and coordinate exact locations for all devices with the College, drawings, elevations, and reflected ceiling plans. Bring any conflict to the attention of the College.
3. All equipment to be installed in the data center, IDF closets and at the panel rooms shall be assembled, mounted, and tested in a neat and clean fashion. Notify the College if all equipment cannot fit in the space allotted.
4. Survey all equipment locations. Ensure equipment clearance and identify all conflicts.
5. Prep for recessed door contacts at the top of the door as noted in the Door Chart. Drill a 1" (exact) hole in the top of the doorframe. Install the contact. Install the magnet so the magnet aligns with the contact in the frame. Drill a hole at the top of the door if the magnet requires additional space.
6. Verify and receive approval for the exact mounting locations of all equipment and devices with the College/College prior to installation.
7. Provide supports for all equipment, devices and cable to be mounted on or through accessible ceilings.
8. Provide tamper proof fasteners on all equipment and devices in public areas including surface mounted door contacts.
9. Provide tamper switches for all equipment cabinet doors and power supplies. Panels in the same location may be monitored as one point.
10. Provide unobstructed, focused camera views in coordination with the College. All cameras shall provide clear pictures at specified resolutions and recording rates.
11. Mount all switches in racks or using back-board, uni-strut or other solid mounting methods.
12. Determine and document camera intent prior to mounting. Ensure camera view is not blocked.

B. Conduit and Boxes

1. Conduit or wire-mold is required to protect the integrity of the system in all locations where cable cannot be concealed within walls or frames, above accessible ceilings or in wire management systems.
2. All conduits shall be installed by the Security Contractor's electrical sub-contractor under this contract. Review the plans and survey to ensure all requirements are both coordinated and adequate. Any area in question is to be brought to the attention of the College. Color matching wire-mold may be used in interior locations.

3. Conduit shall be provided for all security devices and connections using the following as a guide:
 - a. Provide all building penetrations, trenching and outdoor rated conduit to the site cameras as well as other security equipment.
 - b. Provide all conduit and penetrations to the exterior cameras and wireless devices mounted on the building. Once in the building, the camera cable may be installed without conduit if above accessible ceiling or out of public spaces. All penetrations must be weather-sealed.
 - c. Provide conduit for all devices including doors as required. Note most construction is concrete so allow for penetration of the frame for the electric locks and door contacts.
 - d. Device rings and pull-strings may be used in the any area that the cable can be run within the wall. Conduit is required for any device to be mounted below 10' that the vertical cable cannot be protected by the drywall.
 - e. Coordinate with the glass storefront the cable required to be installed within the frames and mullions for the entry doors.
4. The Security Contractor shall provide all Panduit for the system within the closets and security equipment room as indicated and needed for a complete and protected system.
5. The Security Contractor shall seal all penetrations used for the security system against environmental infiltration to ensure the integrity of the cable and system.
6. All penetrations, whether for cable or conduit, through fire rated partitions shall be fire-stopped per code.

C. Wiring

1. All wire and cable installed by the Security Contractor and must be done in accordance with the equipment manufacturer's requirements and instructions, national, state and local code requirements. In addition, the Security Contractor shall ensure their low voltage firm complies with the following:
 - a. All wiring not in conduit is to be run concealed above accessible ceilings, within wire trays or at ceiling height for areas not scheduled to have ceilings. All cables run exposed in the closets are to be bundled, neatly run and fastened to the structure at least every three feet (or run in Panduit). All cables run exposed at ceilings are to be bundled, neatly run at 90° angles and

fastened to the structure at least every 10 feet. The cabling is not to be fastened to the work of others (e.g. sprinkler lines). All routing is to be approved by the College prior to installation.

- b. All cable within wire trays shall be bundled together, separated from other cable and identified as security.
- c. Code compliant fireproofing techniques are to be provided by for all penetrations of fire rated partitions and slabs, where the penetrations are made by or used by the Security System.
- d. All cable must be run continuous from device location to the final point of termination. No mid-run cable splices are to be allowed with the exception of cables being provided by others.
- e. All wiring connections are to be made without soldering. Connections are to be mechanically and electrically secure in accordance with manufacturer's requirements.
- f. A single "system ground" point is to be established for the system. This system ground is to consist of a single grounding point to which all grounds in the system are connected. Under no conditions is to the AC neutral either in a power panel or in receptacle outlets be used for a reference ground. The Security Contractor shall be responsible for working with the electrical firm in establishing the ground point and insuring that no ground loops are created.
- g. All cable shall be labeled in a permanent method and protected such as a P-Touch labeler. Writing on the cable is unacceptable. The label designation must be on both ends of all cables and match the as-built documentation. Label cable in several places in hard to read tight spaces such as the DPG.

D. Power Requirements

- 1. Power is noted on the drawings. Most power exists as an outlet. Power (120VAC 20A circuit) for the system shall be provided by the Security Contractor at one location. The electrical panels are located in the same room, but must be connected for the power circuit.
 - a. Camera poles – Power is outlined in that section for the Alternate.
- 2. Coordinate connections with the College.
- 3. The Security Contractor's electrical subcontractor, under the direction of the Security Contractor, shall connect to the power source and distribute the power as required including any conduit required to meet code.

4. Coordinate with the College to ensure that the 120VAC locations for the security system have been provided as required. Any additional power other than listed that is required for the system must be brought to the attention of the College.
 5. Provide protection against spikes, surges, noise, and other line problems for all system equipment and components as required.
- E. Fire System Interface
1. Not required.
- F. Network Interface
1. Coordinate with the College's IT representative to identify IP address, subnet, gateway, and port assignment for connections to the College's network. Coordinate IP addressing so no duplication with the College's scheme.

3.2 System Start-Up

- A. All systems shall be completed and ready to operate prior to final acceptance testing. The SMS system and CCTV system shall be programmed by the Security Contractor based on information provided by the College. The Security Contractor shall work hand in hand with the College to assure all systems are programmed correctly and the interface to other systems is functional. The Security Contractor shall be responsible for preparing all systems for user operation by performing the following:
1. Coordinate and assure proper connections.
 2. Coordinate and assure proper software programming for the functionality described.
 3. Load the entire SMS database including, but not limited to, reader data, alarm point data, control relay data; camera call-up assignments, and users with control levels per the College's instructions. Document the reader/alarm point/relay output assignments in an easily usable format to promote error free programming.
 4. Load the CCTV database including, but not limited to camera titles, coordinating camera call-up assignments, tours, camera tree, network recorder frame rates and users with control levels per the specifications and College's input. The College shall assist in establishing procedural guidelines and in defining terminology and conditions unique to the College's operation. Provide the CCTV APPS to the College for two mobile devices.
 5. Obtain the IP addresses from IT for coordination with the SDCS network.

6. The systems shall be fully functional to the College's satisfaction. The Security Contractor shall continually work with the College until this requirement is met.

B. Training

1. The Security Contractor shall provide a minimum of 32 hours of operator/administrator training for the systems to representatives of the College. Training shall be distributed as follows:
 - a. Four hours at Morgan Center with an overlap between regular and after-hours
 - b. Four hours at Tamaqua campus with an overlap between regular and after-hours
 - c. Remainder at Main campus regular hours, after-hours and one Saturday.
 - d. College reserves the right to use training hours not initially used for refresher training during the warranty year.
2. The Security Contractor shall also be on-call during the warranty period to answer any questions made by the College's representative.
3. The Security Contractor shall submit for approval a training agenda listing the schedule and subjects to be covered for approval prior to any training begins. The Security Contractor shall keep an on-going record of the dates of the training, attendees, and subjects covered.
4. Sufficient training shall take place prior to the College's first day of beneficial use to allow the College to fully use the systems to secure the facility. Any training time not initially used shall be carried over to allow the College to use the time for refresher courses over the warranty period.

C. System Acceptance

1. The College shall conduct final point-to-point acceptance testing of the system. For the test, the Security Contractor shall provide two qualified persons with communication devices. One shall accompany the College on the testing rounds and the other shall monitor the systems providing feedback on the devices tested. Items tested may include, but shall not be limited to:
 - a. Reader functioning and invalid card alarms
 - b. Door forced and door held alarms
 - c. ADA Operator interface

- d. Proper naming of points
 - e. Camera views, call-ups and matrix operation
 - f. Recording and playback
 - g. Alternates
 - 1) Emergency phone operation
 - 2) Camera video from poles
2. Prior to the final acceptance test, the Security Contractor shall conduct a complete test of the entire system and shall provide the College with a written report on the results. Morgan Center and Tamaqua Campus must be tested after completion.
 3. Upon written notification from the Security Contractor that the system is complete and operational, the College shall conduct a final acceptance test of the entire system.
 4. If during the acceptance test, the system is found to be incomplete to the extent that an adequate test cannot be performed, the Security Contractor shall be held responsible for the costs incurred for a retest.
 5. A follow-up retest shall be conducted on all punch-list items after the Security Contractor rectifies all issues. All items must be corrected in a timely fashion.
 6. Upon successful completion of the final acceptance test (or subsequent punch-list retest), the College shall issue a letter of final acceptance. The warranty period shall begin upon issuance of the final acceptance letter.
 7. A 15-Day and a 30-Day system check shall be performed and any adjustments to the system shall be made. A record of the adjustments shall be submitted to the Director of Facilities.
 8. A waiver of lien for all suppliers and/or subcontractors must be received prior to final payment.

3.3 Record Documentation

- A. Upon final acceptance of the Work, the Security Contractor shall submit three (3) sets of preliminary Record Documentation to the College. Final documentation is due within 30 days from the date of final acceptance. Record Documentation shall include the following:

1. Product Data

- a. Final equipment schedules listing all system components, the manufacturer, model number, serial number and quantity of each.
- b. Any updates to the manufacturer's literature sheets for all system components, including any warranty information.
- c. Cable and wiring types
- d. All system/equipment manuals

2. Drawings (on V2017 CAD or better with two hard copies)

The drawings shall be complete in every way and include interconnection with other systems such as the ADA operators.

- a. Updated System riser with all device and panel locations, wire runs and wire designations
- b. Updated wiring diagrams for the system defining the interconnection of all inputs and outputs for all equipment
- c. Updated final panel layouts with dimensions

End of Document

Attachments List

FLOOR PLANS & DOOR IMAGES

LCCC Door Images

SD-ARC-1

SD-ARC-2

SD-ARC-3

SD-BH-01

SD-BH-02

SD-CSC-01

SD-CSC-2

SD-DC-01

SD-DC-02

SD-DOC-UPDATE

SD-DT-01

SD-MC-01

SD-RL-01

SD-RL-02

SD-SC-01

SD-SCH-01

SD-SCH-02

SD-SH-01

SD-SH-02

SD-SITE PLAN-Layout2

SD-SSC-01

SD-SSC-02

SD-TC-01

SD-TC-02

SD-WX-01

Pricing Excel Spreadsheet

Vendor Proposal Form

TO: LEHIGH CARBON COMMUNITY COLLEGE

We, the Undersigned, having examined the specifications and all other documents and, being familiar with the various conditions under which these services and/or supplies are to be used, agree to furnish, install, and warrant all labor, materials, equipment, and any other required services to fulfill the requirements of the Request for Proposal.

COMPANY NAME: _____

ADDRESS: _____

AUTHORIZED SIGNATURE: _____

PRINTED NAME: _____

TITLE: _____

FEDERAL I.D.#: _____

EMAIL _____

PHONE NUMBER _____

Verify receipt of:	Addendum No. _____	Date Received _____
	Addendum No. _____	Date Received _____
	Addendum No. _____	Date Received _____

Checklist: Requirements of Proposal
 Vendor Proposal Form
 Non-collusion Affidavit
 Three References
 Excel Spreadsheet

NON-COLLUSION AFFIDAVIT

State of _____:

County of _____: S.S.

I state that I am the _____ (Title) of _____ (Name of Firm) and that I am authorized to make this affidavit on behalf of my firm, and its owners, directors, and officers. I am the person responsible in my firm for the prices(s) and the amount of this proposal.

I state that:

1. The price(s) and amount of this proposal have been arrived at independently and without consultation, communication or agreement with any other contractor, proposer or potential proposer.
2. Neither the price(s) nor the amount of this proposal, and neither the approximate price(s) nor approximate amount of this proposal, have been disclosed to any other firm or person who is a proposer or potential proposer, and they will not be disclosed before the proposal submission date.
3. No attempt has been made or will be made to induce any firm or person to refrain from proposing on this contract, or to submit a proposal higher than this proposal, or to submit any intentionally high or noncompetitive proposal or other form of complementary proposal.
4. The proposal of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or other noncompetitive proposal.
5. _____ (Name of Firm) its affiliates, subsidiaries, officers, directors, and employees are not currently under investigation by any governmental agency and have not in the last four years been convicted or found liable for any act prohibited by state or federal law in any jurisdiction, involving conspiracy or collusion with respect to proposing and/or bidding on any public contract, except as follows:

I state that _____ (Name of Firm) understands and acknowledges that the above representations are material and important, and will be relied upon by the Department of General Services in awarding the contract(s) for which this proposal is submitted. I understand and my firm understands that any misstatement in this affidavit is and shall be treated as fraudulent concealment from the Department of General Services of the true facts relating to the submission of this proposal.

(Signature)

(Signatory's Printed Name)

(Signatory's Title)
Lehigh Carbon County College
Security System

**SWORN TO AND SUBSCRIBED
BEFORE ME THIS _____ DAY OF**

_____,
20_____

Notary Public

My Commission Expires _____
December 14, 2019
28100-43

INDEPENDENT CONTRACTOR AGREEMENT

THIS INDEPENDENT CONTRACTOR AGREEMENT (the “Agreement”) is made and entered into as of the ____ day of _____, by and between LEHIGH CARBON COMMUNITY COLLEGE, with its principal office at 4525 Education Park Drive, Schnecksville, PA 18078, (the “College”), and _____, of _____ (the “Contractor”).

BACKGROUND

WHEREAS, Contractor has extensive expertise and training in _____; and

WHEREAS, the College desires to engage Contractor to provide _____ services to the College upon the terms and conditions set forth herein; and

WHEREAS, Contractor is willing to provide _____ services to the College upon the terms and conditions set forth herein.

NOW, THEREFORE, the parties, intending to be legally bound, and in consideration of the mutual covenants and promises contained in this Agreement, do hereby agree as follows:

1. **RECITALS.** The recitals set forth above are incorporated herein as if fully set forth at length.

2. **SERVICES.** Contractor hereby agrees to be retained by the College, as an independent contractor, to provide _____ services to the College as set forth on Schedule “A” attached hereto and incorporated herein.

A. Contractor shall supply, at Contractor’s sole expense, all equipment, materials and/or supplies required to perform the duties and responsibilities of Contractor hereunder, and shall determine, in Contractor’s discretion, but subject to the rules and requirements of the College, the times, daily schedule, itinerary and hours Contractor shall devote to the duties of Contractor hereunder.

B. Contractor hereby represents and warrants to the College that Contractor has, and will at all times hereunder have, the requisite certifications, expertise, experience, personnel and equipment to perform the services required hereunder.

3. **COMPENSATION.** The Contractor’s compensation for services rendered hereunder shall be as set forth on Schedule “B” attached hereto. Contractor shall not be entitled to reimbursement for any expenses incurred by Contractor in performing Contractor’s services hereunder except for those expressly set forth on Schedule “B” attached hereto.

4. TERM AND TERMINATION.

A. Term. The term of this Agreement shall commence on _____ and end on _____, unless otherwise terminated by either party in accordance with this Agreement.

B. Termination. The College or the Contractor may terminate this Agreement by giving the other party at least sixty (60) days prior written notice of such termination. Upon termination hereunder, all obligations, duties and responsibilities of the parties shall immediately cease except as follows: (1) the College shall remain obligated to pay any compensation earned by Contractor prior to the date of termination; and (2) any obligations, promises or covenants in this Agreement that are expressly made to extend beyond termination of this Agreement shall remain in effect.

5. AFFIRMATIVE COVENANTS OF CONTRACTOR. During the term of this Agreement, Contractor shall:

A. Provide and perform the services required of Contractor hereunder in accordance with all federal, state and local laws and regulations;

B. Identify Contractor as being an independent contractor associated with the College; and

C. Maintain and keep current all licenses and certifications necessary for Contractor to provide and perform the services required of Contractor hereunder.

6. CONTRACTOR'S REPRESENTATIONS AND WARRANTIES. Contractor represents and warrants to the College that: (a) there are no restrictions, by law, regulation, or otherwise, which would prevent or make unlawful Contractor's execution of this Agreement, Contractor's engagement hereunder or the performance of Contractor's services hereunder; (b) Contractor's execution of this Agreement and Contractor's engagement hereunder do not constitute a breach of any other contract, agreement or understanding, oral or written, to which Contractor is a party or by which Contractor is bound; and (c) Contractor is free and able to enter into this Agreement with the College, and to perform all of Contractor's duties contemplated hereby. Contractor hereby agrees to indemnify, defend and hold harmless the College from and against all claims, judgments, losses, damages, settlements, costs and expenses incurred or suffered by the College as a result of a breach by Contractor under this Section.

7. INDEPENDENT CONTRACTOR. It is hereby understood and agreed that Contractor in performing the services pursuant to this agreement is acting in the capacity of an independent contractor, and that Contractor is not an agent, servant, partner, joint venture, or employee of the College. Contractor shall be solely responsible to pay all employment taxes, all withholdings, unemployment compensation contributions and other employment related matters applicable to any of Contractor's employees. Notwithstanding the foregoing, Contractor shall

devote the appropriate amount of time necessary to provide the services described herein, and will operate within the rules and policies of the College as may be amended from time to time. Contractor shall maintain such child abuse history and/or criminal history background checks for Contractor, and any other individuals who may be providing services to the College pursuant to this Agreement, as may be required by the College and by Pennsylvania law. The College acknowledges that as an independent contractor, Contractor may, during the term of this Agreement, be engaged in other business activity rendering the same or similar services to other organizations.

8. INDEMNIFICATION. Contractor hereby agrees to defend, indemnify, protect and hold harmless the College from and against any and all claims, suits, damages and liabilities of any kind arising as a result of, or caused by, the negligence of Contractor, Contractor's agents, officers, employees or contractors, and/or the breach by Contractor of any of Contractor's obligations hereunder.

9. INSURANCE. Contractor shall at all times hereunder maintain general liability insurance of not less than \$1,000,000.00 combined single limit coverage, and professional liability insurance of not less than \$1,000,000.00 combined single limit coverage, with the College and its employees listed on each such insurance policy as additional named insureds. Prior to commencement of the term of this Agreement, and thereafter upon reasonable request, Contractor shall provide the College with a Certificate of Insurance reflecting the aforesaid insurance coverage requirements. Contractor shall notify the College in writing within thirty (30) days of any change in said coverage, and within three (3) business days of receiving any notice of termination of said coverage.

10. CONFIDENTIALITY. Contractor acknowledges and agrees that this Agreement creates a relationship of confidence and trust on the part of Contractor for the benefit of the College. During the term of this Agreement, Contractor may be responsible, in whole or in part, for the creation of, or may acquire, certain confidential information of the College, including but not limited to education records, and Contractor acknowledges that the College would not have entered into this Agreement unless it were assured that all confidential information would be held in confidence by Contractor for the sole benefit of the College. Therefore, during the term of this Agreement and at all times thereafter, Contractor will keep all of such confidential information in confidence and will not disclose any of the same to any other person, except to such persons designated in writing by the College. Contractor will not cause, suffer or permit the confidential information to be used for the gain or benefit of any party other than the College, or for Contractor's personal gain or benefit outside the scope of Contractor's engagement by the College hereunder. The Contractor shall take all reasonable action that the College deems necessary or appropriate to prevent the unauthorized use or disclosure of, or to protect the College's interests in, such confidential information.

A. Contractor acknowledges and agrees that any and all technologies, documents, lists, software, systems, disks, tapes, designs, inventions, processes, enhancements, improvements, theories, discoveries, materials and/or creations, whether or not confidential information, made or created, in whole or in part, by Contractor, in the course of or relating to

Contractor's engagement with the College (individually a "Creation" and collectively "Creations") were, are and shall each be treated as and shall remain a "work for hire" by Contractor for and on behalf of the College.

B. Contractor shall and does hereby unconditionally and irrevocably assign to the College any and all right, title and interest that Contractor, had, has and/or from and after the date hereof may have in or to any of such Creations, without any additional compensation, and free of any and all liens, interests and/or encumbrances of any form, nature or type. Upon discovery and/or conception of any Creation, Contractor shall, at the request and cost of the College, sign, execute, make and deliver any and all such deeds, assignments, documents and other instruments, and do any and all such acts and things, as the College may reasonably require, (i) to apply for, obtain and/or vest in the name of the College alone (unless the College otherwise so directs in writing) letters, patent, copyrights and/or any other analogous protection in the United States of America or any other country; and, when and as so obtained or, vested, to renew and restore the same; and (ii) to defend any opposition proceedings in respect of any such applications and any opposition proceedings or petitions or applications for revocation of any such letters patent, copyright and/or other analogous protections. Contractor further covenants and agrees that the compensation and benefits to which Contractor may be entitled pursuant to this Agreement includes payment for Contractor's assignment of any and all such rights, title and interests to the College, including any and all copyrights, patent rights, patent applications, and any and all other intellectual property rights of Contractor in and to any of the Creations.

11. SURVIVAL. Sections 6, 7, 8, and 10 of this Agreement shall survive termination of this Agreement.

12. MISCELLANEOUS.

A. Binding Effect. This Agreement shall inure to the benefit of and be binding upon the College, its successors and assigns, and upon Contractor, Contractor's successors, heirs, executors, administrators and legal representatives.

B. Controlling Law. This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania.

C. Assignment. This Agreement may not be assigned by either party without the prior written consent of the other party.

D. Entire Agreement. This Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof, and supersedes all prior agreements, understandings, or commitments between the parties. This Agreement may only be modified by a written agreement signed by both parties hereto with the approval of the Board of Directors of the College.

E. Notices. Any notice required or permitted to be given hereunder shall be sufficient if in writing and delivered (i) in person, or (ii) by nationally recognized courier including (but not limited to) FedEx, UPS or USPS via a delivery confirmation service, to the

parties at the addresses first set forth herein, or at such other address as either party may designate in writing. All notices hereunder shall be deemed delivered when received by the party to whom it was sent.

F. Waiver. The waiver by either party of a breach of any provision of this Agreement by the other party shall not be construed as a waiver of any subsequent breach by said party.

G. Headings. The headings of the Sections herein are for reference only; they form no part of this Agreement and shall not in any way affect its meaning or interpretation.

H. Execution and Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original and all of which together shall constitute one and the same instrument.

I. Budget Approval. The College obligation hereunder is subject to approval by its Sponsor of the annual budget. The College covenants to include in its annual budget for approval for the term hereof the amounts payable hereunder. The College does not guarantee approval of the budget.

J. Conflicts. In the event of a conflict between the terms of this Agreement and the terms set forth on any attachment or schedule, the terms of this Agreement shall prevail.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement effective as of the day and year set forth above.

COLLEGE:

LEHIGH CARBON COMMUNITY COLLEGE

By: _____

Title: _____

CONTRACTOR:
