

COLUMBUS METROPOLITAN LIBRARY

Request for Proposal

Security Equipment Sourcing, Configuration and Installation Services

Issue Date: 03/09/2022

RFP Number: CML #22-015

Issued by

Procurement Department
96 S. Grant Ave.
Columbus, OH 43215

Deadline for Submittal

No later than 12:00 NOON EST on 03/23/2022

Procurement@Columbuslibrary.org



REQUEST FOR PROPOSAL COVER SHEET

The Columbus Metropolitan Library (“CML” or “Library”) is issuing this Request for Proposal (“RFP”) to provide Security Equipment Sourcing, Configuration, and Installation Services (“Project”). The RFP Identification Number is: **CML # 22-015**.

Proposals must be received by the Procurement staff at the Columbus Metropolitan Library via email to procurement@columbuslibrary.org **no later than 12:00 PM on 03/23/2022**.

Any Proposal (“Proposal”) arriving after 12:00 PM will be marked late and will receive no consideration for selection to provide the specified services.

All questions or requests for clarifications should be submitted no later than 5:00 p.m., seven (7) days prior to the proposals due date to procurement@columbuslibrary.org. All questions will be answered in the form of an addendum and posted on the CML website.

The proposer declares to have read and understood and agrees to be bound by all the instructions, terms, conditions and specifications of this RFP and agrees to fulfill the requirements of any contract (“Contract”) for which it is selected to provide the specified goods and/or services at the prices proposed.

The proposer certifies, by signature affixed to this Request for Proposal Cover Sheet, that the information provided by it in response to the RFP, including certified statements, is accurate and complete.

Federal Taxpayer Identification Number (TIN)		
Name of person signing the Bid	(Please print or type)	Title
Bidder Name		
Mailing address		
City	State	ZIP
Telephone	Toll Free Telephone	
Contact Person	Fax Number	
E-mail address		
Authorized Signature (Original signature only)		

THIS FORM MUST BE SIGNED AND SUBMITTED WITH THE PROPOSAL

SCOPE OF WORK

I. Introduction

- A. CML is in the process of an aspirational building program with one (1) facility currently in the construction and planning phases (Gahanna) with additional projects under consideration.
- B. CML is currently replacing security equipment, which includes but is not limited to, cameras, panic buttons, card readers, intrusion monitoring equipment and associated hardware/software as the equipment reaches an end of life as defined by the equipment manufacturer.
- C. The Columbus Metropolitan Library (CML) is seeking the services of qualified Contractors to develop a security equipment sourcing, configuration, and installation program at our facilities currently under development and facilities that are set to undergo renovations and/or scheduled equipment upgrades.
- D. CML will make up to three (3) individual contract awards as a result of this RFP. The three (3) contract awards will be for sourcing, configuration, and installation of (1) security cameras and related equipment, (2) access control equipment, and (3) intrusion monitoring equipment.
- E. **Firms may choose to be considered for any or all categories and must indicate which categories they intend to be considered for in their technical response.**

II. Definitions

- A. "Agreement" means this agreement, unless otherwise modified in writing.
- B. "CML" means the Columbus Metropolitan Library, with its principal offices located at 96 South Grant Avenue, Columbus, Ohio 43215.
- C. "CML Authorized Representative" means the CML Director of Capital Planning and Project Management, or designee.
- D. "CML CFO" means the CML Chief Financial Officer with signing authority on behalf of CML.
- E. "CML Facility" means any facility, building, or other location owned, leased, and operated by the Columbus Metropolitan Library.
- F. "Contractor" means the entity providing services in accordance with the terms and conditions of this Agreement.

III. Scope of Work

- A. CML facilities undergo regular repairs, renovations, and reconfigurations to meet operational needs.
- B. CML has previously engaged the services of Korda Nemeth Engineering Services to develop standardized planning and equipment for security at CML Facilities that are currently in operation and others that are scheduled for construction, renovation, or upgrade during the period of this Agreement. (see attachments 1&2)
- C. The Contractor shall be responsible for sourcing, configuration, and installation of CML selected security equipment. All projects will be based upon a work order

issued prior to the commencement of a project. These services shall include but shall not be limited to:

1. Work Order Process

- a. The CML Authorized Representative will contact the Contractor when goods and/or services are required. The Contractor and the CML Authorized Representative will conduct a review of plan documents and/or a physical site inspection prior to the establishment of a work order.
- b. The Contractor shall prepare a work order proposal for review by CML that clearly identifies all materials, configuration services, and installation services that may be required to successfully complete the project. The work order proposal should include, but shall not be limited to, a narrative description of the project, schematics and designs, a bill of materials for installation, and an approximate project timeline for the completion of the Services outlined in the work order.
- c. The work order price proposal shall conform to the rates established in this RFP. Unless otherwise agreed **prior to the commencement of the work**, all payments shall be rendered at the completion of the project. Pre-payment, milestone payments, or other payment schedules may be permitted as long as it is included in the original work order price proposal.
- d. In the event there are additional items required to complete this project (i.e., specialized equipment, lifts, scaffolding, subcontractors, etc), the Contractor shall clearly identify these additional items and provide original supplier quotes for these additional items for consideration by CML.
- e. The CML Authorized Representative will review the price proposal and provide project level approval of the project. However, work may not commence until a CML purchase order is issued, which shall include the written approval of the CML CFO.

2. Sourcing

- a. The Contractor shall utilize industry standard practices for the identification and sourcing of materials for the completion of a CML project.
- b. For all items that exceed one thousand dollars (\$1,000.00), the Contractor shall obtain at least two (2) quotes for all materials required to execute the work specified in the approved work order.
- c. For all items that exceed one hundred dollars (\$100.00), the Contractor shall provide original supplier invoices for materials as part of invoices for payment.

3. Configuration

- a. All equipment shall be delivered to the contractor's facility where it shall be unboxed, inspected and stored on behalf of CML.
- b. The Contractor shall program/configure all equipment at their own facility prior to installation at a CML Facility, to the extent possible, in accordance

- with the work order requirements and the published manufacturer's specifications/operating instructions.
- c. All equipment shall be brought to the CML location fully prepared for installation.
4. Installation
 - a. The Contractor shall install all equipment at the CML location in accordance with the approved work order proposal.
 - b. The Contractor shall coordinate installation activities with the CML Authorized Representative and/or additional contractors who are working at the CML Facility where services are required.
 - c. All work shall be completed by qualified personnel who are sufficiently supervised. All personnel shall be required to maintain a sign-in/sign-out log for each project which shall be available for inspection by CML upon request.
 - D. The Contractor shall supply CML with as-built diagrams of all installed equipment, including the actual equipment installed with notations of equipment IP addresses, installation dates, manufacturer warranty expiration dates, and other pertinent information.
 - E. The Contractor shall invoice CML upon final acceptance of the work outlined in the work order. Final acceptance shall be conveyed in writing by the CML Authorized Representative. A copy of the written final acceptance document shall be included with the invoice for payment.
 - F. The Contractor shall make reasonable efforts to complete its work in a neat and clean manner and shall clean up after themselves at the conclusion of each day.
 - G. CML will provide the contractor with access to its facilities between 8:00 am -5:00 pm, Monday-Friday. If access is required outside of this period, the Contractor shall make a written request to the CML Authorized Representative, which shall be considered on a case-by-case basis.

IV. General Terms and Conditions

- A. All services shall be performed in accordance with best and modern practices using materials and workmanship that meet the highest standards of performance.
- B. The Contractor shall not utilize CML equipment, tools, or supplies.
- C. The Contractor shall bear the cost of any maintenance or repairs resulting from damage caused by the Contractor, its employees, or subcontractors. Any damage shall be reported to the CML Authorized Representative immediately and shall be repaired at no cost to CML within seven (7) days.
- D. The Contractor shall follow all site-specific directions offered by the CML Authorized Representative.
- E. Smoking is not permitted in any CML facilities, loading docks, or parking garages.
- F. In the event the Contractor takes any action that causes a police, fire, or emergency response or a response from the CML fire and/or intrusion monitoring contractor, the Contractor shall be responsible for any fees, costs, fines, or penalties associated with said response. Any fees, costs, fines, or penalties will be deducted from the Contractor's monthly invoice. CML reserves the exclusive right to waive this fee.
- G. The Contractor shall not enter into any agreements with any subcontractors for this engagement without the prior written approval of CML. CML shall have the right to interview and/or conduct background investigations of prospective subcontractors

and reject proposed subcontractors. Any subcontractors shall meet the same experience requirements as the prime contractor.

- H. The Contractor shall monitor all deliverables and services and shall promptly notify the CML Authorized Representative, by telephone or other means, of any failure to provide such deliverables and services in accordance with the contract schedule. CML shall determine if failure to provide deliverables and services have caused or are likely to cause impairment to the operation CML or an inconvenience to CML. If it is determined that such failure to provide deliverables and services has caused or is likely to cause such impairment or inconvenience, then CML shall notify the Contractor in writing, and provide a cure date to the Contractor. The cure date shall provide the Contractor with a time period to cure the situation to avoid liquidated damages. Decisions by CML in this regard shall be final and shall not be arbitrary or capricious.

V. Contractor Qualifications

- A. At the time of the proposal submission, the Contractor shall have a minimum of five (5) years of experience in sourcing, configuration, and installation of security equipment similar to that which is specified in this RFP and shall be currently providing these services.
- B. Experience as an employee or subcontractor of a firm that is not the named proposer shall not count toward meeting these experience requirements.
- C. **For firms that intend to be considered for access control projects**, the firm must be Kantech Gold certified as well as a Kantech Global partner and shall provide proof of certification at the time of the proposal submission.

VI. Warranty

- A. The Contractor shall warrant for a period of one (1) year after final acceptance by CML, all services, including but not limited to labor, installation, and configuration services that all equipment, including components and parts, shall be free from defects and shall operate in accordance with their intended use and the manufacturers' published specifications.
- B. The Contractor shall act as the agent for any equipment warranty services through the equipment manufacturer or manufacturer authorized dealer for the entirety of the warranty period of this equipment, notwithstanding the expiration date of this Agreement.
- C. All equipment warranty repair and/or replacement services shall be processed within fifteen (15) days of written notification by CML, unless otherwise agreed in writing by CML and the Contractor.
- D. All workmanship warranty repair and/or replacement services shall commence within two (2) business days of notification by CML, unless otherwise agreed in writing by CML and the Contractor.

VII. Liquidated Damages

- A. If the Contractor fails to commence or complete Services within the time frames set forth in this Agreement or an approved work order, then the Contractor shall be

subject to fixed and liquidated damages of one hundred dollars (\$100.00) per calendar day or portion thereof that the Contractor fails to complete the work.

- B. All charges for liquidated damages assessed to the Contractor shall be deducted from money that is due or shall become due to the Contractor from CML. In the event there is no money due to the Contractor, then the Contractor shall pay the amount of the charges due to CML within thirty (30) days of such assessment.
- C. Such liquidated damages shall be subject to the cure procedures set forth in Section (IV) (H) of this Agreement.

VIII. Compensation

- A. The contractor shall complete the price proposal form (Appendix A) as provided in its entirety.
- B. Sourcing- For CML approved materials, the Contractor shall use industry standard practices to identify the best prices available for CML approved projects. For all materials, the Contractor shall provide a fixed mark-up factor for all materials purchases. This mark-up factor shall be all inclusive, and shall include but shall not be limited to, labor, equipment, shipping, statutory payroll taxes, Social Security, Medicare, tools, carrying charges, insurance, general and administrative expenses, and Contractor profit. The mark-up factor shall remain fixed for the duration of this Agreement and shall not be subject to adjustments or cost of living increases.
- C. Configuration- For CML approved configuration services, the Contractor shall provide a fixed hourly rate for configuration services. This fixed hourly rate shall be all inclusive, and shall include but shall not be limited to, labor, equipment, shipping, statutory payroll taxes, Social Security, Medicare, tools, carrying charges, insurance, general and administrative expenses, and Contractor profit. The fixed hourly rate shall remain fixed for the duration of this Agreement and shall not be subject to adjustments or cost of living increases.
- D. Installation- For CML approved installation services, the Contractor shall provide a fixed hourly rate for configuration services. This fixed hourly rate shall be all inclusive, and shall include but shall not be limited to, labor, equipment, shipping, statutory payroll taxes, Social Security, Medicare, tools, carrying charges, insurance, general and administrative expenses, and Contractor profit. The fixed hourly rate shall remain fixed for the duration of this Agreement and shall not be subject to adjustments or cost of living increases.
- E. CML does not guarantee a minimum quantity of work. Quantities listed on the price proposal form are for evaluation purposes only. All compensation will be based upon approved work orders issued in accordance with this agreement and the accompanying rates for labor and materials.
- F. CML is a tax-exempt entity.

IX. Term of Agreement

- A. The term of this Agreement shall be for a period of three (3) years, unless otherwise amended by mutual consent of CML and the Contractor.

GENERAL INSTRUCTIONS

The contractor (“Contractor”) shall furnish all labor, materials, equipment services and supervision required to complete the work (“Work”), complying with the scope of work outlined herein.

The Proposer shall be given the opportunity by CML to examine the work site(s) prior to submitting a Proposal.

The Contractor is responsible for all requirements as provided in the RFP documents.

PRE-PROPOSAL CONFERENCE

A pre-Proposal conference will be held **virtually on 03/16/2022 at 1:30 PM** to discuss the requirements of this RFP and answer any questions. Interested proposers will be asked to RSVP to procurement@columbuslibrary.org, at which time they will be provided with a link to the pre-proposal meeting. An edited and annotated summary of the pre-proposal conference will be published in the form of an addendum to the solicitation and will be made available on the Doing Business with CML page of the Columbus Metropolitan Library website, www.columbuslibrary.org.

DIVERSITY

Because Columbus Metropolitan Library serves a diverse central Ohio population, CML has a strong preference for professional service providers to propose teams made up of MBE/DBE/WBE certified staff to provide CML with a diverse professional staff representative of the central Ohio region in which they will be working and of the customers that CML serves every day. Minority Business Enterprises are encouraged to respond to this solicitation.

A completed Proposer’s Diversity & Inclusion Participation Form or documentation of good faith efforts must accompany the completed Proposal. Please refer to Appendix B, *Proposer’s Diversity & Inclusion Participation Form* to submit or denote omission of participation.

COMPLIANCE WITH APPLICABLE LAWS

By submitting a Proposal for Work on the Project, the Proposer acknowledges that it is in compliance with applicable federal, state, and local laws and regulations, including, but not limited to, the following:

Equal Employment Opportunity/Nondiscrimination. The Proposer agrees that if it is awarded a contract that in the hiring of employees for performance of work under the Contract or any subcontract, neither it nor any subcontractor, or any person acting on its behalf or its subcontractor’s behalf, by reason of race, creed, sex, disability as defined in Section 4112.01 of the Ohio Revised Code, or color, shall discriminate against any citizen of the state in the employment of labor or workers who are qualified and available to perform work to which the employment relates. The Proposer further agrees that neither it nor any subcontractor or any person on its behalf or on behalf of any subcontractor, in any manner, shall discriminate against or intimidate any employees hired for the performance of the work under the contract on account of race, creed, sex, disability as defined in Section 4112.01 of the Ohio Revised Code, or color.

Ethics Laws. The Proposer represents that it is familiar with all applicable ethics law requirements, including without limitation Sections 102.04 and 3517.13 of the Ohio Revised Code, and certifies that it is in compliance with such requirements.

PROPOSAL SUBMISSION REQUIREMENTS

1. Contractors are cautioned to carefully review all parts of the RFP. No allowance may be made for any error or negligence of the Contractor.
2. Proposals are to be prepared in such a way as to provide a straightforward, concise description of the Contractor's capabilities to satisfy the requirements of this RFP and provide sufficient information to fully establish the Contractor's ability to perform all of the actions, activities and functions described in this RFP.
3. Emphasis should be on conformance to the RFP instructions, responsiveness to the RFP requirements, completeness and clarity of content and should minimize extraneous marketing materials.
4. Costs for developing the Proposal are entirely the responsibility of the Contractor and shall not be chargeable to the Library.
5. The Proposer must address all of the requirements listed in the Request for Proposal. All Proposals must be emailed to procurement@columbuslibrary.org , with the Proposal Identification Number **CML #22-015**, title, and Contractor name in the subject line of the email and the file names.

PROPOSAL SUBMITTAL

Each Proposer must submit a Technical Proposal and a Cost Proposal as part of its Proposal package. Proposals must be submitted as two (2) separate components – Technical Proposal and Cost Proposal in separate sealed envelopes/packages.

Each Technical Proposal package must be clearly marked "**CML #22-015- Security Equipment Sourcing, Configuration and Installation Services - Technical Proposal**" along with the Contractor's Name in the filename of the Technical Proposal File.

Each Cost Proposal package must be clearly marked "**CML #22-015- Security Equipment Sourcing, Configuration and Installation Services - Cost Proposal**" along with the Contractors Name in the filename of the Technical Proposal File.

IMPORTANT: Technical Proposals must not contain cost or pricing information.

Columbus Metropolitan Library
Attn: Theresa Kauffman-Bidwell,
IT Vendor and Procurement Administrator
96 South Grant Avenue
Columbus, OH 43215
procurement@columbuslibrary.org

Proposal Format and Content

To facilitate comparison of Proposals, Technical Proposals shall be organized into the following marked or tabbed sections:

1. Proposals must include a table of contents listing all sections:
 - a. A cover letter, on the Proposer's letterhead, shall be submitted and shall include, but need not be limited to, the following information:
 - i. The signature of a person authorized to bind the Proposer legally to the extent of work and financial obligation outlined in its Proposal.
 - ii. A statement that the Proposal will be valid for 120 days.
 - iii. Identification of all the material enclosures submitted in response to this RFP.
 - iv. A summary of the submitted Proposal and a brief statement of the Proposer's qualifications to meet all requirements as described in this RFP.
 - v. A statement indicating the firm's preference for consideration for award for security cameras and related equipment, access control and related equipment, and intrusion monitoring equipment.
 - b. Executive level summary of the proposed solution, which shall include but shall not be limited to:
 - i. The Contractor's Work Plan. The Work Plan must address exactly how the Contractor will provide all required services specified in this RFP.
 - ii. A sample project plan including all phases of the project, including development, configuration, deployment, and support.
 - c. Statement as to the Contactor's particular abilities and qualifications to include, but not limited to:
 - i. Brief history of the company.
 - ii. Product and services offerings.
 - iii. Describe the core competencies.
 - iv. The number of years the Contractor has been in business.
 - v. Primary corporate location's address.
 - vi. The geographical area of operations and professional affiliations.
 - vii. Overview of the ownership structure of the company.
 - viii. All alliances and/or strategic partnerships with other companies.
 - ix. Size and composition of the organization.
 - x. Number of current customers.
 - d. A description of the Contractors staffing plan for this project, which shall include but shall not be limited to:
 - i. The name of each team member that will be assigned to this project and the role the assigned role for each location.
 - ii. A resume of experience, certifications, skills and abilities of each team member.
 - iii. A list of current clients that are represented by each of the members of the project team.
 - e. A disclosure of all adverse information that may be publicly available, which shall include but shall not be limited to:

- i. Lawsuits, judgments, liens, bankruptcies, or claims made against the Contractor within five (5) years of the proposal due date.
 - ii. Debarment from entering into Contracts with the State of Ohio, any county in the State of Ohio, or any other government entity within five (5) years of the proposal due date.
- f. If applicable, include a list of proposed Subcontractors for this project. For each Subcontractor listed, identify whether or not the Subcontractor is a certified woman- or minority-owned business. CML reserves the right to reject any Subcontractor not identified within the Contractor's response.
- g. References - The Contractor shall provide at least three (3) references for engagements within three (3) years of the proposal submission date.
- h. Include any other information documentation believed to be pertinent, but not specifically mentioned in this RFP, that may be useful and applicable to this project.
- i. The Contractor must include a completed W-9 Form.
- j. The Contractor must provide a Certificate of Insurance ("COI") with coverage per the terms provided herein and list CML as an Additional Insured. Waiver of Subrogation shall also apply and indicated on the COI.
- k. A completed Acknowledgement of Addenda form.
- l. A list of all assumptions and exceptions to the specifications outlined in the RFP.
2. Completed Acknowledgement of Addenda Form – See Appendix D
-

COST PROPOSAL

The Cost Proposal package shall contain the following items:

1. Completed Price Proposal Form – Appendix A
 - a. Check any/all categories that your firm wishes to be considered
2. Completed Proposer’s Diversity & Inclusion Participation Form –Appendix B

The Proposal shall contain all price information in the format specified on the Cost Proposal Form.

Proposers may not amend, alter or omit any items on the Price Proposal Form or include additional clarifying or contingent language on or attached to the form. Failure to adhere to any of these instructions may result in the Proposal being determined to be non-responsive and rejected by CML. Prices offered shall be all inclusive and shall remain fixed for the duration of the agreement. CML is a tax-exempt entity.

ADDITIONAL INFORMATION

1. Addenda to this RFP will be posted on the Columbus Metropolitan Library Website: www.columbuslibrary.org/about/doing-business at least five (5) business days prior to the RFP opening. Proposers are responsible for any information provided in any and all issued addenda. Proposers are required to acknowledge the receipt of all RFP addenda by using the supplied “Acknowledgement of Addenda” form.
2. Correct and proper invoices will be paid within thirty (30) days of receipt. Invoices are to detail the services provided, the date and detailed costs and are to be submitted on company letterhead, to the e-mail address on the Library’s purchase order. Refer to terms and conditions herein for additional information regarding payment.
3. Times referenced herein are Columbus, Ohio local time.
4. Submission of a Proposal in response to this RFP is the Proposer’s acknowledgement that subjective criteria may be used in the evaluation of Proposals. Award shall be made to the responsive and responsible Proposer determined to be the most advantageous to the Library. Price, although an important consideration, will not be the sole determining factor.

RFP & PROPOSAL QUESTIONS

All questions regarding this RFP must be sent to procurement@columbuslibrary.org and must reference the RFP Identification Number and title of the RFP no later than **5:00 p.m. seven (7) days prior to the proposal due date. CML will post written responses to all properly received questions no later than five (5) days prior to the proposal due date** Answers to all questions will be documented and posted on the “Doing Business with the Library” page of the Library’s Web site at www.columbuslibrary.org/about/doing-business.

PROJECTED TIMELINE

The projected timeline for this RFP process is provided below. The Library may, at its sole discretion, modify the schedule as necessary to allow for thorough and complete analysis of responses.

Activity	Target Completion Date
Issuance of RFP Inquiry Period Begins	03/09/2022
Pre-Proposal Conference	03/16/2022 at 1:30 PM
Inquiry Period Ends	Seven (7) Days prior to the proposal due date
Final Response to Vendor Questions	Five (5) days prior to the proposal due date
Due Date	03/23/2022 at 12:00 PM procurement@columbuslibrary.org
Selection of Successful Proposer	May 2022

*CML reserves the right to modify this schedule at CML’s discretion. Notification of changes in the response due date would be posted on the CML website or as otherwise stated herein. All **times are Eastern Time***

SELECTION PROCESS

A. Selection Process

1. CML will review all proposals and create three (3) different evaluation tools for each potential contract award (security equipment, access control equipment, and intrusion monitoring equipment). Each firm will be technically evaluated for each individual category.
2. CML will form an evaluation committee comprised of CML staff to review and evaluate Contractor proposals. The following criteria will be assigned:
 - a. Quality of the Contractor's Technical Solution – 800 Points
 - b. Cost Score – 200 Points
 - c. Total allowable Points - 1,000 points
3. CML may invite any or all Proposers to present an oral presentation on the specifics of their technical and/or price submission. Proposers will be provided with sufficient notice to prepare. All oral presentations will be conducted virtually.
4. Members of the evaluation committee may choose to retain their original technical score following the oral presentation or may choose to re-score any or all Proposers following oral presentations.
5. The final score will be collected and recorded by CML's procurement staff.

B. Evaluation Criteria

1. Technical Proposal

- a. Members of the evaluation committee will utilize a zero (0) to five (5) scale to evaluate each proposal. Members of the evaluation committee will utilize the evaluation form in Appendix C and apply the scoring formula outlined below:

Zero (0)	Unsatisfactory	Does not conform to requirements.
One (1)	Poor	Conforms to requirements in a limited manner.
Two (2)	Satisfactory	Generally, meets requirements with limitations.
Three (3)	Good	Meets CML requirements as written.
Four (4)	Excellent	Meets and generally exceeds requirements as written.
Five (5)	Outstanding	Exceeds requirements in all aspects.

- b. Members of the evaluation committee will review the completeness and comprehensiveness of all Contractor proposals. Scores will be averaged for each responsiveness criteria to determine a Contractors score. That score will be multiplied by the criteria weight to establish the extended score for that responsiveness criteria. All extended scores will be added together to establish the Contractors weighted technical score.
- c. Emphasis will be placed on the quality and comprehensiveness of the proposal, including the understanding of the requirements by the Contractor, Contractor qualifications, quality of the proposed solution, organizational history and capacity, experience, and references. The evaluation form that will be used can be found in Appendix C.

d. CML will calculate the weighted technical score in the following manner:

Formula:

$(\text{Contractor's Total Score} / \text{Total Maximum Points}) \times 800 \text{ Points} = \text{weighted technical score}$

Example:

$(\text{Contractor's Total Score (60)} / \text{Total Maximum Points (100)}) \times 800 \text{ Points} = 480 \text{ Points (of a possible 800)}$

2. Cost Score

a. The Contractors Total Price shall be calculated based on the quantity of materials multiplied by the net price. The lowest responsive proposal will be awarded the maximum number of points for this category, based upon the formula below.

Formula:

$(\text{Lowest Responsive Price Proposal} / \text{Contractor Proposal Submission}) \times 200 \text{ Points} = \text{Cost Score}$

Example:

$(\text{Lowest Responsive Price Proposal (\$100,000)} / \text{Contractor Proposal Submission (\$110,000)}) \times 200 \text{ Points} = 182 \text{ Points (of a possible 200)}$.

3. The Total Composite Score will be comprised of the Technical Proposal Score + Cost Score which will not exceed 1,000 points.

Contract Award

The Library is not, by virtue of issuing this RFP, obligated to enter into a Contract and reserves the right to not issue a Contract as a result of this solicitation.

CML will enter into negotiations with the Proposer with the highest composite score following the final technical scoring by the evaluation committee for each category. The selected Proposer will be invited to negotiate a contract with CML. The contents of the selected proposal, together with the RFP and any formal questions and answers generated during the proposal process, will be incorporated with, and made part of the final contract as developed by CML. Should negotiations fail to result in a signed contract within ten (10) days, CML reserves the right to terminate negotiations and select the Proposer whose proposal is determined to be the next most advantageous to CML.

All Proposers that respond will receive notification if they have been selected or not.

Contract Terms and Conditions

Contract Components, Entirety, Changes Interpretation

Contract Components: This contract consists of the complete Invitation to Bid (ITB), including the Instructions and Interpretations to Bidder, the Contract Terms and Conditions, the Special Contract Terms and Conditions (if any), the specifications, and any written addenda to the ITB; the completed sealed written Bid, including proper modifications, clarifications and samples; and applicable, valid Columbus Metropolitan Library (CML) purchase orders or other ordering documents (together referred to as the "Contract"). The terms solicitation and Invitation to Bid (ITB) have similar meaning and are used interchangeably, where appropriate.

Entire Agreement; Parties to the Contract: This contract is the entire agreement between the individual or entity selected to provide equipment, supplies and/or services on the basis of a Bid submitted to CML in response to an ITB (referred to as the "Supplier" or the "Contractor" in these Terms and Conditions) and Columbus Metropolitan Library (CML). References to "Vendor" in any of the contract components are deemed to refer to the Supplier or Contractor selected to provide the specified equipment, supplies and/or services that are the subject of the Contract.

Contract Changes: Waivers, Changes or Modifications to this Contract must be made in writing and signed by both parties. If a party to this Contract does not demand strict performance of any item of this Contract, the party has not waived or relinquished any of its rights; the party may at any later time demand strict and complete performance of the term.

Contract Orders: CML will order products, supplies or services under this Contract from the Supplier directly. The Supplier may receive purchase orders by telephone, facsimile, electronically or in person by authorized employees of CML.

Subcontracting: The Contractor may not enter into subcontracts for the Work after award without written approval from CML. The Contractor will not need CML's written approval to subcontract for the purchase of commercial goods that are required for satisfactory completion of the Work. All subcontracts will be at the sole expense of the Contractor unless expressly stated otherwise in the Contract.

CML's approval of the use of subcontractors does not mean that CML will pay for them. The Contractor will be solely responsible for payment of its subcontractor and any claims of subcontractors for any failure of the Contractor or any of its other subcontractors to meet the performance schedule or performance specifications for the Project in a timely and professional manner. The Contractor will hold CML harmless for and will indemnify CML against any such claims.

The Contractor will assume responsibility for all Deliverables whether it, a subcontractor, or third-party manufacturer produces them in whole or in part. Further, CML will consider the Contractor to be the sole point of contact with regard to contractual matters, including payment of all charges resulting from the Contract. The Contractor will be fully responsible for any default by a subcontractor, just as if the Contractor itself had defaulted.

If the Contractor uses any subcontractors, each subcontractor must have a written agreement with the Contractor. That written agreement must incorporate this Contract by reference. The agreement must also pass through to the subcontractor all provisions of this Contract that would be fully effective only if they bind both the subcontractor and the Contractor. Among such provisions are the limitations on the Contractor's remedies, the insurance requirements, record keeping obligations, and audit rights. Some sections of this Contract may limit the need to pass through their requirements to subcontracts to avoid placing cumbersome obligations on minor subcontractors. This exception is applicable only to sections that expressly provide exclusions for small-dollar subcontracts. Should the Contractor fail to pass through any provisions of this Contract to one of its subcontractors and the failure damages CML in any way, the Contractor will indemnify CML for the damage.

Standard Invoice and Payment

Invoice: The Contractor shall submit invoices to Accounts Payable, Finance Department via the following e-mail address: accountspayable@columbuslibrary.org. The invoice must be a proper invoice to receive consideration for payment. A "proper Invoice" is defined as being free of defects, discrepancies, errors, or other improprieties. Improper invoices will be returned to the Supplier noting the areas of discrepancy.

Payment: In consideration for the Supplier's performance, CML will pay the Supplier as invoiced. *Payments will be made by electronic funds transfer (EFT).* For all transactions, the Supplier must have a valid W-9 form on file with the Finance Department. The completed form should be included with the Bid or mailed to: Finance Department, Columbus Metropolitan Library, 96 South Grant Avenue, Columbus, Ohio 43215.

Payment Due Date: CML will pay invoices thirty (30) days after it has received an invoice for products, supplies and services it has received and accepted.

Taxes: Columbus Metropolitan Library is exempt from all federal, state, and local taxes as CML is part of Franklin County Government and has a 501(c)(3) nonprofit status.

Term of Contract: This Contract is effective on the date it is fully executed and will continue until the Project is completed, unless cancelled in accordance with the Terms found herein.

Contract Renewal: This Contract may be renewed solely at the discretion of CML for a period of one (1) month. Any further renewals will be by mutual agreement of both parties, as stated herein. The cumulative time of all renewals may not exceed two (2) years.

Delivery

F.O. B. The Place of Destination: Where applicable, the Supplier must provide the products, supplies or services under this Contract F.O.B., the place of delivery/destination, unless otherwise stated. The address of delivery will be specified by the purchase order or other ordering document. Freight will be prepaid and included, unless otherwise stated.

Time of Delivery: [Not required]

Minimum Orders-Transportation Charges: [Not required]

Contract Cancellation; Termination; Remedies

Contract Cancellation: If a Supplier fails to perform any one of its obligations under this Contract, it will be in default, and CML may cancel this Contract in accordance with this section. The cancellation will be effective on the date delineated by CML.

- A. **Contract Performance is Substantially Endangered:** If the Supplier's default is substantial and cannot be cured within a reasonable time, or if CML determines that the performance of the contract is substantially endangered through no fault of CML, CML may cancel this Contract by written notice to the Supplier.
- B. **Cancellation by Unremedied Default:** If a Supplier's default may be cured with a reasonable time, CML will provide written notice to the Supplier specifying the default and the time within which the Supplier must correct the default. If Supplier fails to cure its default in the time required, CML may cancel this Contract by providing written notice to the Supplier. If CML does not give timely notice of default to Supplier, CML has not waived any of its rights or remedies concerning the default.
- C. **Cancellation by Persistent Default:** CML may cancel this Contract by written notice to Supplier for defaults that are cured but persistent. "Persistent" means three or more defaults. After CML has notified Supplier of its third default, CML may cancel this Contract without providing Supplier with an opportunity to cure, if the Supplier defaults a fourth time. CML shall provide written notice of the termination to the Supplier.
- D. **Cancellation for Financial Instability:** To the extent permitted by law, CML may cancel this Contract by written notice to Supplier if a petition in bankruptcy or similar proceedings has been filed by or against the Supplier.

Contract Termination: CML may terminate this Contract for convenience after issuing thirty (30) days written notice to the Supplier.

Remedies for Default:

- A. Actual Damages. The Supplier is liable to CML for all actual and direct damages caused by the Supplier's default. CML may buy substitute supplies or services, from a third party, for those that were to be provided by the Supplier, and CML may recover the costs associated with acquiring substitute supplies or service, less any expenses or costs saved by the Supplier's default, from the Supplier.
- B. Deduction of Damages for Contract Price. CML may deduct all or any part of the damages resulting from Supplier's default from any part of the price still due on the Contract, after CML has provided prior written notice to Supplier of such default and intent to deduct damages from the Contract Price.

Force Majeure: If CML or Supplier is unable to perform any part of its obligation under this Contract by reason of force majeure, the party is excused from its obligations to the extent that its performance is prevented by force majeure, for the duration of the event. The party must remedy with all reasonable dispatch the cause preventing it from carrying out its obligations under this Contract. The term "force majeure" means without limitation: Acts of God, such as epidemics, lightning, earthquakes, fires, storms, hurricanes, tornadoes, floods, washouts, droughts, and any other severe weather; explosions; arrests; restraint of government and people; strikes; and any other like events or any other cause that could not be reasonable foreseen in the exercise of ordinary care, and that is beyond the reasonable control of the party.

CML Consent to Assign or Delegate. The Supplier may not assign any of its rights under this contract unless CML consents to the assignment or delegation in writing. Any purported assignment or delegation made without CML's written consent is void.

Indemnification: Supplier will indemnify CML, its employees, members of the Board of Trustees, and its Officers and administrators for any and all claims, damages, lawsuits, costs, judgments, expenses, liabilities that may arise out of, or are related to, the Contractor's performance under this Contract, including the performance by Contractor's employees and agents and any individual or entity for which the Contractor is responsible.

Confidentiality: Supplier may learn of information, documents, data, records and other material that is confidential in the performance of this Contract. Supplier may not disclose any information obtained by it as a result of the Contract without written permission from CML. Supplier must assume that all CML information, documents, data, records, or other material are confidential.

Publicity: Supplier and any of its subcontractors may not use or refer to this Contract to promote or solicit Supplier's or subcontractor's supplies or services. Supplier and its subcontractors may not disseminate information regarding this Contract, unless agreed to in writing by CML.

Governing Laws; Severability: The Laws of the State of Ohio govern this Contract, and venue for any dispute will be exclusively with the appropriate court of competent jurisdiction in Franklin County, Ohio. If any provision of the Contract or the application of any provision is held by a court of competent jurisdiction to be contrary to law, the remaining provisions of the Contract will remain in full force and effect to the extent that the remaining provisions continue to make sense.

Workers Compensation: The Supplier shall carry Workers' Compensation Liability Insurance as required by Ohio law for any Work to be performed within the State of Ohio. Failure to maintain Workers Compensation Liability Insurance for the duration of the contract and any renewal hereto will be considered a default.

Automobile and General Liability Requirements: During the term of the Contract and any renewal hereto, the Supplier, and any agent of the Supplier, at its sole cost and expense, shall maintain a policy of automobile liability and commercial general liability insurance as described in this clause. Copies of the respective insurance certificates shall be filed with the Purchasing Division within seven (7) calendar days after notification by the CML of its selection of the Supplier to provide the specified supplies and/or services. Failure to submit the insurance certificates within the time period will result in the Bidder's Bid not being considered. Said certificates are subject to the approval of the CML Manager of Purchasing and shall contain a clause or endorsement providing thirty (30) days prior written notice of cancellation, non-renewal or decrease in coverage will be given to the Manager of Purchasing. Failure of the Supplier to maintain this coverage for the duration of the Contract, and any renewals, thereto may be considered a default.

Automobile Liability: Automobile Insurance is required for anyone coming onto CML branches and/or property to deliver goods or perform services using a vehicle which is owned, leased, hired, or rented by the Supplier. Any Supplier, broker, or subcontractor who will be on CML property, but not delivering goods or performing services, is required to carry Automobile Liability Insurance that complies with the state and federal laws regarding fiscal responsibility. Automobile liability insurance, including hired, owned, and non-owned vehicles used in connection with the Work, shall have a combined single limit coverage covering personal injury, bodily injury (including death) and property damage of not less than \$2,000,000 per accident.

Commercial General Liability: The Supplier shall maintain insurance coverage with a \$2,000,000 annual aggregate and a \$1,000,000 per occurrence limit for

bodily injury, personal injury, wrongful death, and property damage. The defense cost shall be outside of the policy limits. Such policy shall designate CML as an Additional Insured, as its interest may appear. The policy shall also be endorsed to include a blanket waiver of subrogation. The certificate shall be endorsed to reflect a per project/per location General Aggregate limit of \$2,000,000. If the Supplier uses an umbrella/excess policy to meet the required limits, it is understood that the policy shall follow from per project/per location basis. It is agreed upon that the Supplier's commercial general liability insurance shall be primary over any other coverage. The Purchasing Division reserves the right to approve all policy deductibles and levels of self-insurance retention.

Contract Compliance: The participating CML branches and departments will be responsible for the administration of the Contract and will monitor the Supplier's performance and compliance with the terms, conditions and specifications of the Contract. If a branch or department observes any infraction, such infraction shall be documented and conveyed to the Supplier for immediate correction. If the Supplier fails to rectify the infraction, the department/branch will notify the Purchasing Division in order to resolve the issues. These terms and conditions will be used by the Purchasing Division to resolve the issues.

Warranties: Unless otherwise stated, all supplies shall be new and unused. All products shall carry manufacturer's warranties in addition to implied warranties. The Supplier warrants all supplies to be free from defects in labor, material, and workmanship (manufacturing) and be in compliance with the contract specifications.

ADDITIONAL TERMS:

1. This Contract represents the entire agreement of the parties hereto, and may not be amended except in writing signed by both parties.
2. All times referenced herein are Columbus, Ohio local times.
3. *CML is not responsible for any work or services provided by Contractor prior to the issuance of a P.O. by CML.*
4. Contractor will supply its own tools and materials.
5. Contractor will make arrangements for EFT (electronic funds transfer).
6. A completed W9 form is required on file with CML prior to CML issuing payment for services provided by Contractor. The W9 form can be found at
7. <http://www.irs.gov/pub/irs-pdf/fw9.pdf>. Please fill out the form and return with the signed contract to the Procurement Department of the Columbus Metropolitan Library at 96 S. Grant Avenue, Columbus, OH 43215 or email: procurement@columbuslibrary.org.

22-015 - Appendix A – Price Proposal Form

Areas of Consideration (Check any/all categories that your firm wishes to be considered.)

Security Cameras Access Control Equipment Intrusion Protection

Item	Estimated Quantity (A)	Markup Cost Factor (B)	Total (A) x (1+(B)) = (C) (C)
1. Approved Material Purchase		_____ %	\$ _____
Item	Estimated Quantity of Hours (A)	Fixed Hourly Rate (B)	Total (A) x (B) = (C) (C)
2. Configuration Services		\$ _____	\$ _____
3. Installation Services		\$ _____	\$ _____
Total (1 + 2 + 3)			\$ _____

Submitted by:

Contractor Name

Date

Submitted by

Signature

Title

Notes:

- A. The Contractor shall complete the Price Proposal form in its entirety.
- B. All fees due to the Contractor shall be all inclusive and shall include but shall not be limited to, labor, materials, Social Security, Medicare, statutory payroll taxes, subscriptions, software licenses, insurance, vehicles, travel time, general and administrative expenses, and Contractor profit.
- C. All prices shall remain fixed and are not subject to any modifications or cost living adjustments.
- D. Contractor shall outline any additional fees and services not included in the fixed fee proposed. The Contractor shall also disclose broker commissions on applicable benefits offerings (such as stop loss) as appropriate.
- E. The Contractor shall invoice CML on a monthly or quarterly basis.
- F. The Columbus Metropolitan Library is a tax-exempt entity.

Appendix B - Proposer's Diversity & Inclusion Participation Form

A completed Proposer's Diversity & Inclusion Participation Form or documentation of good faith efforts must accompany the completed Form of Proposal or Bid Form.

_____ ("Bidder") submits the following information regarding its levels of MBE/WBE Participation:

List all MBE/WBE subcontractors and suppliers, with contract amounts, that Bidder will use for its work on the Project. (Continue list on additional sheets of paper if necessary.)

Name of Subcontractor / Supplier	MBE or WBE	Subcontract Amount
1.		\$
2.		\$
3.		\$
4.		\$

A. TOTAL AMOUNT OF MBE/WBE SUBCONTRACTS	\$
TOTAL PRICE	\$
B. PERCENTAGE OF DIVERSITY PARTICIPATION* (A ÷ B x 100)	%

The bidder's commitment of total workforce hours for Minority Workforce participation on the project is: _____%.

The bidder's commitment of total workforce hours for Women Workforce participation on the project is: _____%.

I certify under penalty of perjury that the forgoing and/or attached statements and information are true and correct. The undersigned will immediately notify the Owner in the event that any of the information provided in this Diversity & Inclusion Participation Form changes in any material way.

By: _____ Date: _____

Print Name and Title: _____

***If the Proposer does not indicate that it has achieved the Diversity & Inclusion Participation Goal set forth in the Instructions to Proposers, the Proposer must attach to this Form, a narrative, including exhibits, demonstrating and certifying that good faith efforts, as set forth in the Instructions to proposer, were actively and aggressively undertaken by the proposer, to reach such goals.**

Appendix C – Evaluation Tool – 22-015

<u>Responsiveness Criteria</u>	<u>Criteria Weight</u>	<u>Score (0-5)</u>	<u>Extended Score</u>
Technical Evaluation			
1. Quality and comprehensiveness of the Contractor's response	25		
2. Quality and comprehensiveness of the Contractor's work plan ongoing service delivery.	25		
3. Review of the contractor's staffing plan and project team	25		
4. Review of experience on projects of similar size and scope	25		
Criteria Weight			
Criteria Weight	800		
Weighted Technical Score			
Cost Evaluation			
Criteria Weight	200		
Weighted Cost Score			
Total Composite Score (Weighted Technical Score + Weighted Cost Score)			

The weighted points will be multiplied times the numbers of Criteria listed above for a maximum total of 800 points (5 points X 100) for the Technical Score.

Members of the evaluation committee will utilize a zero (0) to five (5) scale to evaluate each proposal. Members of the evaluation committee will utilize the evaluation form in Appendix C and apply the scoring formula outlined below:

Zero (0)	Unsatisfactory	Does not conform to requirements.
One (1)	Poor	Conforms to requirements in a limited manner.
Two (2)	Satisfactory	Generally meets requirements with limitations.
Three (3)	Good	Meets requirements as written.
Four (4)	Excellent	Meets and generally exceeds requirements as written.
Five (5)	Outstanding	Exceeds requirements in all aspects.

Appendix D- Acknowledgement of Addenda

CML RFP 22-015

Project Description: Security Equipment Sourcing, Configuration, and Installation Services

Instructions: The respondent is to complete Part I or Part II of this form, whichever is applicable, and sign and date this form. This form serves as the respondent's acknowledgment of the receipt of the Addenda to this solicitation which may have been issued by the CML prior to the Proposal Due Date and Time.

Part I: Check Box if Applicable:

Listed below are the dates of issue for each Addendum received in connection with this solicitation.

Addendum # 1, dated: ___/___/___ Addendum # 2, dated: ___/___/___

Addendum # 3, dated: ___/___/___ Addendum # 4, dated: ___/___/___

Addendum # 5, dated: ___/___/___ Addendum # 6, dated: ___/___/___

Part II: Check Box if Applicable: NO ADDENDUM WAS RECEIVED IN CONNECTION WITH THIS COMPETITIVE SEALED BID.

NOTE: THE BIDDER MUST SIGN AND COMPLETE THIS FORM

Company Name: _____

Name: _____

Signature: _____

Title: _____

Date: _____

08 March 2022

SECTION 28 00 00 - DIVISION 28 - ELECTRONIC SAFETY AND SECURITY
INTRODUCTORY STATEMENT

PART 1 GENERAL

1.01 REQUIREMENTS

- A. All work included under this heading is subject to the Bidding Requirements, the Instructions to Bidders, the General Conditions, and/or the Division 1 General Requirements written for this entire Specification and shall apply to all work herein.
- B. In addition to conforming to the documents listed in Paragraph 1.01 A. above, the work performed by the Division 28 Contractor shall conform to all provisions of Sections 28 00 00 through 28 99 99 as included and made part of this Specification. The Division 28 Contractor is to consider the word "Contractor" when used in these Sections to mean himself/herself.
- C. The Division 28 Contractor must read the Specifications of all divisions, because they will be responsible for any and all work described in other Sections where reference is made to Division 28 and/or Electronic Safety and Security Contractor.

1.02 APPLICABLE SECTIONS

- A. Division 28 Contractor shall perform work described in the preceding paragraphs, and as it relates to Division 28 work in the following Sections (as included):
 - 26 05 27 Telecommunications Bonding Infrastructure
 - 27 00 00 Communications Introductory Statement
 - 26 06 10 Cable Tray for Communication Systems
 - 26 07 12 Security System Raceways
 - 27 10 00 Structured Cabling
 - 27 52 21 Nurse Call / Code Blue System
 - 27 53 13 Clock System
- B. Where reference is made to the Division 27 Contractor in the above applicable Division 27 Specification Sections, it shall be construed to mean Division 28 Contractor.

1.03 RESPONSIBILITY

- A. The Engineer's efforts under this Contract are aimed at designing a project that will be safe during construction and after full completion of the project. The Engineer has no expertise in, and takes no responsibility for, construction means and methods or job site safety during construction, which are exclusively the Contractor's responsibility. Processing and/or approving submittals made by the Contractor which may contain information related to construction methods or safety issues, or participation in meetings where such issues might be discussed must not be construed as voluntary assumption by the Engineer of any responsibility for safety procedures.

08 March 2022

- B. If a conflict occurs between the Drawings and/or the Specifications, immediately call the conflict to the attention of the Architect at least ten (10) days before bids are submitted, so an addendum clarification may be issued. Conflicts not brought to the Architect's attention before bids are due, shall be priced by the Contractor to include the most expensive, highest quality and quantity of the conflicting items in question.

END OF SECTION

SECTION 28 00 15 - SUBMITTALS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Refer to the GENERAL CONDITIONS and Division 1 for general requirements.
- B. Materials and equipment installed in this work shall meet all the requirements of the Contract Documents and no materials or equipment shall be ordered until submittals are reviewed and approved by the Architect and Engineer.
- C. Submit complete catalog data or shop drawings for each manufactured item of equipment and all components to be used in the work, including specific performance data, material description, rating, capacity, working pressure, dimensional data, material gauge or thickness, wiring diagrams, brand name, catalog number, and general type.
- D. Catalog data for equipment reviewed by the Engineer shall not take precedence over the requirements of the Contract Documents. The review of the Engineer shall not relieve the Contractor from the responsibility for deviations from Drawings or Specifications, nor from the responsibility for providing proper clearance and coordination with other Trades.
- E. When submitted for review, all shop drawings shall bear the Contractor's signed certification that he/she has reviewed, checked, and approved the shop drawings, that they have been coordinated with the requirements of the project and with the provisions of the Contract Documents, and that he/she has verified all field measurements and construction criteria, materials, catalog numbers, and similar data. Annotations shall be in red ink.
- F. Each required Specification Section submittal shall be complete with all required information included in one PDF file. External web links are not permitted. Include a transmittal cover page indicating Specification Section name and number.
- G. Submittals shall be sent to shopdrawings@korda.com.

1.02 CONTRACTOR'S RESPONSIBILITIES

- A. Complete review of shop drawings, product data, and samples prior to submission.
- B. Determine and verify:
 - 1. Field Measurements
 - 2. Field Construction Criteria
 - 3. Catalog Numbers and Similar Data
 - 4. Conformance with Specifications
- C. Coordinate each submittal with requirements of the work and the Contract Documents.
- D. Include a letter in the front of the submittal of any deviations in the submittals from the requirements of the Contract Documents.

- E. Make submittals and resubmittals, if necessary, promptly in accordance with the approved schedule and in such sequence as to cause no delay in the work or in the work of any other Contractor, or the project as a whole.
- F. Make any corrections or changes in rejected submittals as required by the Architect and resubmit until approved.
- G. Begin no fabrication or work which requires submittals until approved submittals are returned.

1.03 INCORPORATION OF SUBMITTALS INTO RECORD AND INFORMATION MANUALS

- A. Refer to Section 28 00 20, "Record and Information Manuals."

1.04 CERTIFICATIONS

- A. Provide:
 - 1. Test Agency results verifying capacities, operating conditions and power requirements at design conditions
 - 2. Manufacturer's Statement of Compliance with Standards discussed in individual Specification Sections
 - 3. Equipment labels indicating Certification requirements
 - 4. Quality standard designations on each unit piece
 - 5. Typed verification that noted mixes, chemical compositions, and testing procedures were complied with
 - 6. Other Certifications listed in other Sections of the Specifications

1.05 REQUIRED SUBMITTAL INFORMATION

- A. Submittal Transmittal
 - 1. Provide the following information on the Transmittal Form for each submittal:
 - a. Project name and address.
 - b. Specification number, as listed for each submittal item required in Paragraph 1.05C below.
 - c. Item description, as listed for each submittal item required in Paragraph 1.05C below. Where equipment is identified by number or tag on the documents, same shall be indicated on the submittal.
 - d. Specification number and item description (b and c, above) for each submittal if more than one submittal is sent under one transmittal form.
 - e. Name, address and telephone number of Contractor.
 - f. Bid package number (if applicable).
 - 2. Submittal Transmittal Forms not properly identified with the above information will be returned (without review) to the Contractor.
- B. Refer to the following letter key:
KEY FOR REQUIRED SUBMITTALS:
 - A. Shop Drawings and/or Layout Drawings
 - B. Product Data Sheets
 - C. Wiring Diagrams

- D. Installation, Operation, and Maintenance Instructions (Due at the end of project)
 - E. Reports or Test results (Due at the end of project)
- C. Submit information on equipment items as listed below.

SECTION #	CONTRACT ITEM	SUBMITTALS REQUIRED
28 00 20	RECORD AND INFORMATION MANUALS	A, B, C, D
28 13 00	SECURITY AND ACCESS CONTROL SYSTEM	A, B, C, D
28 23 00	VIDEO SURVEILLANCE SYSTEM	A, B, C, D
28 15 00	INTRUSION DETECTION	A, B, C, D

- D. After approval, one (1) copy shall be returned to the Contractor. Contractor shall make prints of the approved transparencies and reproductions of all other shop drawing information as necessary for his/her use and for inclusion in the Record and Information Manuals.

END OF SECTION

SECTION 28 00 20 - RECORD AND INFORMATION MANUALS

PART 1 GENERAL

1.01 RECORD DRAWINGS

- A. Refer to Division 1 for general requirements as well as for specific information regarding Record (As-Built) Drawings. All drawings shall be provided in electronic PDF format.

1.02 OPERATION AND MAINTENANCE MANUALS

- A. Refer to Division 1 for general requirements and for specific information regarding Operation and Maintenance Manuals, including required format(s) (paper and/or electronic) and quantity. If no such requirements are listed in Division 1, provide in electronic format. Submit one (1) copy of draft manual to the Architect for review and approval thirty (30) days before final inspection is due. After approval, submit three (3) approved manuals to the Owner and obtain receipt. (See Section 26 00 99, "Requirements for Contract Completion.")
- B. Paper Copy Manuals shall be loose leaf, three-ring, heavy-duty hard-cover binders. Material shall be typewritten or printed and be fully legible. Each section shall be divided by labeled tabs.
- C. Electronic Copy Manuals shall be PDF file format. Individual documents shall have filenames corresponding to specification sections and system names. Each document shall have bookmarks corresponding to the systems, subsystems, and equipment names. Use electronic files prepared by manufacturers where available.
- D. The following items, together with any other necessary pertinent data, shall be included in each Manual:
 - 1. Each manual shall be labeled on front cover with project name, Contract, Contractor's name, Architect, Engineer, and date of project completion.
 - 2. Manufacturers' names, nearest Factory Representative, and model and serial numbers of components of systems
 - 3. Operating instructions, start-up and shutdown procedures
 - 4. Maintenance instructions
 - 5. Routine and 24 hour emergency service/repair information:
 - a. Name, address, and telephone number of servicing agency
 - b. Names of personnel to be contacted for service arrangements
 - 6. Parts list with numbers of replaceable items, including sources of supply
 - 7. Manufacturers' literature describing each piece of equipment
 - 8. One (1) approved copy of each submittal
 - 9. Written warranties
 - 10. Certificate of Material Receipt and Certificate of System Completion
 - 11. Record (As-Built) Drawings
 - 12. IP and MAC address identified for each item required to have an address

13. Certificate of Final Inspection signed by Building Authority Having Jurisdiction
14. Test results
15. Video recordings of all equipment demonstrations and training sessions

END OF SECTION

SECTION 28 13 00 - SECURITY AND ACCESS CONTROL SYSTEM

PART 1 GENERAL

1.01 DESCRIPTION

- A. Division 28 Contractor shall furnish and install a complete Security and Access Control System as shown on the Drawings and as specified herein. Provide all accessories and equipment as necessary for a complete system. The access control system shall match the current Kantech system by Tyco.
- B. System shall be complete with control panels, door contacts, motion detectors, keypads, power supplies, batteries, phone line dialer, audible devices, supervised wiring, and all other items required for a complete fully functioning system. The connection to the intrusion devices shall be fully supervised and support normally open, normally closed, supervised and non-supervised circuits.
- C. The system shall connect to all reader and alarming devices to support the following:
 1. The system shall support Standard Cards, Biometric technologies as well as Government cards with the following specifications:
 - a. Proximity (125 KHz),
 - b. MIFARE®, MIFARE DESFire®, MIFARE DESFire® EV1 (13.56 MHz),
 - c. Biometric Identification & Authentication (1:1 and 1:N multi-factor),
 - d. HID® iCLASS®,
 - e. NFC,
 - f. Magnetic Swipe,
 - g. Barcode (1D linear, 2D datamatix, US & International formats),
 - h. PIV, PIV-II, TWIC, CAC (Transition, Endpoint) HSPD-12 FIPS 201 Compliant
- D. Electric strikes/latches and power supplies are provided by the door hardware supplier. This Contractor is required to coordinate with door hardware supplier and Division 26 Contractor, and is responsible for final connections to access control system including integration with automatic handicap door operators.
- E. The security system shall provide monitor and control interface to the CCTV System (28 23 00). The input interface shall monitor selected video motion alarm contact closures from the CCTV System, causing an alarm when un-authorized motion is detected by the CCTV System. The output interface shall provide contact closures to the CCTV System to start video recording at full speed for selected cameras when an alarm occurs.
- F. The Security System shall be designed and installed to not interfere with egress requirements for life safety nor interfere with intrusion or fire alarm systems.

1.02 QUALITY ASSURANCE

- A. The system shall be UL listed and approved for the application intended and shall be compliant with all standards and regulations that may apply. These listing and approvals shall include, but not be limited to, FCC, CE, UL 1950, UL 294, and UL 1076. The latter UL 1076 will be applied only to the overall system, including the host when available.
- B. The contractor shall be Kantech Gold certified and a Kantech Global partner to install the system and will meet all training required by the manufacture.

1.03 SUBMITTALS

- A. For Review:
 - 1. Product data sheets of all components
 - 2. Wiring Diagrams
 - 3. Full Size Layout Drawings
- B. To be included in Record and Information Manuals:
 - 1. One (1) copy of each approved submittal
 - 2. Test results
 - 3. Certificate of System Completion
 - 4. Certificate of Material Receipt

1.04 MANUFACTURERS

- A. Security and Access Control System
 - 1. Kantech
- B. Proximity Card Reader
 - 1. HID – iCLASS
- C. Power Supplies
 - 1. Altronix
 - 2. LifeSafety Power
 - 3. ASSA ABLOY

PART 2 PRODUCTS

2.01 CONTROL UNIT

- A. Control unit shall contain all necessary components to provide complete control, testing and indicating facilities for the entire security alarm and access control system. The unit shall have battery back-up providing four hours of continuous operation during power outages.
 - 1. The unit shall have processing capabilities to remain completely operational in an offline mode should the communications link become non-functional,
 - 2. The unit shall have as a part of their standard package the ability to communicate with servers and other local controllers via an Ethernet based TCP/IP protocol.

3. The unit shall have the capability to interface standard Wiegand devices, as well as provide I/O to various serial protocols, including but not limited to RS-485, RS-422, and RS-232,
 4. The unit shall have as a part of their standard package the ability to communicate with servers and other local controllers via an Ethernet based TCP/IP protocol,
 5. The unit shall have peripheral I/O panels that provide additional digital I/O both logic level and form-C contacts.
- B. The Contractor shall provide sufficient cabinets, card, and related hardware to control all doors, door contacts and other related devices indicated on the drawings, plus spare capacity of 25% per Telecommunications Room (TR). This spare capacity shall be distributed throughout the system control panels on a TR by TR basis, i.e. each TR shall contain the available spare capacity as defined above.
- C. To ensure continued, one-call support, the system shall be constructed of sensing components provided directly by the system manufacturer, such as power supplies, motion detectors, door and window position switches, glass break detectors, or other sensing devices that the manufacturer offers.
- D. The Contractor shall include all power supplies, batteries and other peripheral devices required to provide a fully functional system as described herein, and indicated on the Drawings.
- E. The system shall support user interaction by way of a keypad, web browser, system software, key switch, or radio frequency wireless control, using integrated or auxiliary devices provided by the system manufacturer.

2.02 CREDENTIAL READERS AND CREDENTIALS

- A. The credential reader shall be a read only Multi-technology contactless smart card reader and be designed to securely read, interpret, and authenticate access control data from 13.56 MHz contactless smart card credentials and 125 kHz proximity cards.
1. Customized security protection through support of the device-independent Secure Identity Object™ (SIO) portable credential methodology to provide enhanced security and performance features.
 2. Backwards compatibility with legacy 13.56 MHz contactless smart card and 125 kHz proximity access control formats (E.g. 26-bit, 32, 35-bit, 37-bit, 56-bit, and HID Corporate 1000 formats). Compatibility across the product line shall be assured without the need of special programming.
 3. The multi-technology contactless smart card reader shall be configurable to provide multiple hierarchical degrees of key compatibility for accessing the smart card access control data.
 4. The multi-technology contactless smart card reader shall provide simultaneous support for 125 kHz proximity FSK (HID Proximity, AWID). PSK (Indala), and ASK (EM4102) 125 kHz technology to increase credential technology migration options.
- B. The Credential shall be a 13.56MHz based proximity card.
1. The card shall be 2.125" x 3.370" x 0.030" ±0.003" nominal.
 2. The card shall be constructed of polyvinyl chloride (PVC) laminate.
 3. The card shall have an operating temperature of -50° to 160° F. and weigh 6.8g.

4. The card shall be RF programmable at 13.56MHz with customer specified ID numbers.
 5. The card shall use passive technology allowing an infinite number of reads.
 6. The card shall be capable of accepting either direct image or thermal printing.
 7. The card shall be laser engraved with an external identification number.
- C. Provide battery backup with batteries and battery charger as required to provide one-hour operation of the security system in the event of a power failure.
- D. Proximity Card Readers shall read cards up to 4" away, fit in a standard 1-gang wall box, be black in color, and have bi-color LED indicator. Provide 100 proximity cards with the system. Programming of cards shall be included and coordinated with Owner.

2.03 ACCESS CONTROL SOFTWARE FUNCTIONS

- A. General
1. The Web based CCAS shall operate on a dedicated server system **Supplied by Owner**. This dedicated server shall run network and Internet services for industry standard web browsers to use in order to administer personnel records. For reporting purposes, a browser-accessible reporting package shall be used. Dynamic on-line help shall be available within the software with step-by-step instructions available for common administration tasks.
 2. A copy of all personnel records from the individual LCP's shall be stored in the CCAS and shall be available to all authorized operators. All hardware components/modules shall be commercial off-the-shelf products offered by recognized industry manufacturers. Systems utilizing proprietary hardware shall not be acceptable.
 3. The client Web browser PC shall be 100% IBM compatible PC running Microsoft IE and network enabled. No proprietary or advanced computer hardware, i.e. high end video graphics cards, etc. shall not be necessary in order to retrieve and/or edit personnel records.
 4. The CML provided server shall interface, through the network, with the existing Access Control hardware server

2.04 MISCELLANEOUS EQUIPMENT

- A. Provide all cabling required for installation of complete system.
- B. Provide I/O points for 8 inputs and 8 relay outputs for interface into the CCTV System (28 23 00).
- C. Provide Lockdown button for emergency door lockdown.
1. One button lockdown devise
 2. Install under desk here indicated on drawings
 3. Program to communicate through Kantech system
 - a. Basis for design GRI GR3045 Panic Switch Set with Screw Terminals
 - b. Engineered approved equivalent.
- D. Provide Duress Alarm as noted on drawings.
1. Integrated LED to indicate signal transmission
 2. Full 2 second delay on panic Button

3. Multichannel, Frequency Hopping Spread Spectrum technology - to overcome frequency blocking and interference
4. 128 bit AES encryption for high level protection against analysis tools and digital attacks
5. Long-life lithium batteries included
6. Program to communicate through Kantech system
7. Basis For design: DSC PG9938 PowerG Wireless Panic Key
8. Engineered approved equivalent

PART 3 EXECUTION

3.01 INSTALLATION

- A. Division 28 Contractor shall install Security System as shown on the Drawings in accordance with Manufacturer's written instructions.
- B. All wiring shall be installed in conduit.
- C. All delayed egress equipped doors will be monitored by the Security System for device power supply status, fire alarm relay status, device arm/disarm status, device alarm status, and door position.

3.02 TESTING

- A. Division 28 Contractor shall provide a complete functional test of all components in accordance with Manufacturer's recommendations.
- B. Operate system for a minimum of seven (7) consecutive days with no problems before claiming Contract Completion.
- C. Refer to Section 26 08 40, "Electrical Tests, Adjustments, Inspection."

3.03 SPARE PARTS

- A. Division 28 Contractor shall furnish one (1) spare device for each type used, including keypad, passive infrared detector, and door contacts.
- B. Obtain a signed copy of the Certificate of Material Receipt from Section 26 00 99, "Requirements for Contract Completion."
- C. Coordinate the I/O interface, programming and wiring with CCTV System supplier (28 23 00) for control and monitor of the CCTV System.

3.04 EQUIPMENT DEMONSTRATION

- A. After all system tests have been completed, schedule an instruction period with the Owner. Instruction to be provided by Manufacturer's authorized field technician. Provide four separate sessions of four hours. Record sessions on flash drive and furnish two copies to Owner.

- B. Instruction shall include:
 - 1. Location of all components of the system and explanation of their function
 - 2. Demonstration of equipment
 - 3. Maintenance and repair procedures
 - 4. Programming procedures
 - 5. Review of documents in Record and Information Manuals

- C. Division 28 Contractor shall have all participants sign the Certificate of System Completion in Section 26 00 99, "Requirements for Contract Completion."

3.05 WARRANTY OF WORK

- A. The Division 28 Contractor shall warrant all materials, equipment, and workmanship for a period of one (1) year from date of completion. Refer to Section 28 00 00.

END OF SECTION

SECTION 28 15 00 - INTRUSION DETECTION

PART 1 GENERAL

1.01 DESCRIPTION

- A. Division 28 Contractor shall furnish and install a complete Security Intrusion Detection System as shown on the Drawings and as specified herein. Provide all accessories and equipment as necessary for a complete system. Any required licensing and programing related to the existing system shall be procured through and installed by the vendor of record, Garber Connect provider. The contractor is required to provide and coordinate any required licenses and services as part of the contract.
- B. The systems shall notify, by means of DTMF dial out on standard analog A1B phone lines with network attached backup connection, the Owner's approved central office.
- C. The system shall utilize keypads to arm and disarm the zones. The keypads shall be located as indicated on the Drawing, and shall be programmed to arm/disarm the zone with which it is associated.
- D. The Digital Alarm Communicator System (DACS) specified herein shall include a Digital Alarm Communicator Transmitter (DACT), test timer, battery charging/voltage supervision circuitry, powered two-wire smoke detector circuit, diagnostics displays, lightning/EMI protection circuits, and the associated optional modules and components for a complete DACS system.
- E. The DACT firmware shall support programmable "software" features as detailed in section 2.2 System Features/Capability Summary. The following describes the general functional requirements of the DACS system:
 - 1. The DACS shall support the connection and reporting of intrusion and commercial fire detection devices.
 - 2. The DACS shall provide identification, annunciation, and communication of alarmed detectors by point.
 - 3. The DACS shall be "modularly" expandable using hard-wired modules and wireless receivers or connected to a command center.
 - 4. The DACS shall have electrically-supervised detection loops and power supplies (mains and battery(s)). This supervision shall be programmable for the purposes of reporting this information to the DACR. The battery supervision must include missing-battery supervision. The mains supervision reporting must be able to be suppressed until another signal is sent to the Digital Alarm Communicator Receiver (DACR) (tag along reporting).
 - 5. The DACS shall be capable of reporting and communicating alarm or trouble event data by reporting to one or two (2) off-site remote (DACR) via dial-up analog telephone lines. Pulse or Dual-Tone Multi-Frequency (DTMF) dialing option is required.

6. The DACS shall be capable of sending (manually or automatically) test and status reports to remote DACRs. Automatic tests shall be capable of being sent daily, weekly or once each 28 days. Automatic test times shall be capable of being set as an offset of up to 24 hours from the current time. Automatic test reports shall be capable of being deferred by one test interval if any other report is transmitted in the current interval.
7. The DACS shall be programmable locally or remotely. Programming shall be accomplished via a command center or a computer with a remote programmer and diagnostic software package. The Contractor shall provide a fully licensed copy of this software to the Owner at no additional cost to the Owner. The Contractor shall install and configure the software to be fully functional to the Owner on a PC as assigned by the Owner. An on-site user must be able to initiate remote programming while on-line with the servicing location. The remote programming device must provide a compare feature and allow for downloading either the stored program or the (un)modified program copied from the panel. The number of system programmers shall be severely restricted via the use of program locking features and passwords. Passcode protection in excess of sixteen million combinations is required. The panel must allow the local programming option to be disabled and must provide a method to program a panel, while no one is home, when the panel shares a line with an answering machine
8. The DACS shall annunciate alarm, trouble, service reminders, and other relevant system status messages in English text at the command center. Point description text is to be sixteen custom characters per point.
9. The motion sensors specified shall be a PIR detector designed for commercial indoor applications. The unit shall consist of a self-locking two-piece enclosure with a built in two-way bubble level. The detector shall sense a field of coverage that encompasses the associated windowed wall. The detector shall incorporate:
 - a. Sensor data fusion technology to ensure that the detector sends alarm condition based only on precise information
 - b. Tri-focus optics technology to eliminate coverage gaps
 - c. Multi-Point Anti-mask with Integrated Spray Detection protects the detector against masking attempts.

1.02 QUALITY ASSURANCE

- A. The system shall be the standard product of one manufacturer, and the manufacturer shall have been in business manufacturing similar products for at least five years.
 1. All equipment, systems, and materials furnished and installed shall be new and installed in accordance with the applicable standards of:
 - a. National codes: NEC, NFPA, UBC
 - b. Approvals and listings: UL
 - c. Security Industry Association (SIA)
 - d. Local Authorities Having Jurisdiction

1.03 SUBMITTALS

- A. For Review:
 1. Product data sheets of all components
 2. Wiring Diagrams
 3. Full Size Lay-out Drawings

- B. To be included in Record and Information Manuals:
 - 1. One copy of each approved submittal
 - 2. Test results
 - 3. Certificate of System Completion
 - 4. Certificate of Material Receipt

1.04 MANUFACTURERS

- C. Intrusion Detection Products
 - 1. DSP NEO
 - 2. DMP
 - 3. Honeywell
 - 4. Bosch

PART 2 PRODUCTS

2.01 SYSTEM FEATURE/CAPABILITY SUMMARY

- A. Security Industry Association (SIA) False Alarm Reduction Compliance: By factory default settings, the DACS shall be compliant with SIA's Control Panel Standard for False Alarm Reduction (ANSI/SIA CP-01- 2000, © 1994-2000 SIA).
- B. Number of Loops/Sensors: 40 separately-identifiable points. Eight are on-board loops and up to 40 are offboard addressable points connected to five point expansion modules (max) and/or two RF Receivers (max).
- C. Programming Point Functionality: Each point in the system shall provide for the following matrix of selectable type of response in the system.

Type	Response	Options
24-hour, Fire	No Alarm Response	No Point Options
24-hour, Fire Alarm with Verification	Reports	Trouble on Open
24-hour, Voice Active	Alarm Report Delay	Trouble on Short
24-hour, Tamper	Swinger Bypass	Trouble on Open or Short
24-hour, Emergency	Smart Swinger Bypass	Cross Point
24-hour, Visible Panic	Alarm Output	Part Arming
24-hour, Invisible Panic	Log Event	Pulse Count/Time
24-hour, Burglary		Sensor Monitor Trouble
24-hour, Independent Point Control		
Controlled, Keyswitch		
Controlled, Entry/Exit Delay 1		
Controlled, Entry/Exit Delay 2		
Controlled, Follower		
Controlled, Instant		
Controlled, Instant (Part On Mode)		
- D. Configurable Independent Areas: The DACS shall provide a maximum of four areas that may be configured independently of the other three areas.

- E. RF Compatibility: The DACS shall be compatible with RF/wireless detection devices, smoke detectors, command centers and keyfobs.
- F. Number of Command Centers: A maximum of eight command centers, each capable of displaying custom English text on liquid crystal or vacuum fluorescent (VF) displays and sounding different patterns of audible alarm for different events, shall be required. LED Command Centers may also be used to display point status and arm/disarm status, and carry out user command functions.
- G. Number of User Passcodes: Up to 32 different passcodes shall be required. Passcodes shall be 3 to 7 digits in length. Passcodes shall be assigned one of four different authority levels to carry out functions such as changing passcodes from the command center, activating one-time passcodes and changing watch tone responses. These passcodes shall also be required for performing various system functions such as arming/disarming the system, transmitting a duress code, and silencing sounders.
- H. Communication Formats: The Modem IIIa2 format shall be utilized for optimum system performance. The DACT shall report to a Commercial Central Station using an alarm receiver that supports the Modem IIIa2 communication format. Said receiver shall be as manufactured by the intrusion detection system manufacturer, specifically for use in the system being provided. One such advantage is point identification information transmission to DACRs (Alarms, Troubles, and Restorals by point). Others include actual point number; point text; actual user number; bypassed points; relay activation; and opening/closing reports by user.
- I. Testing, Diagnostic, and Programming Facilities: Automatic test reports and remote system access for diagnostics, and programming shall also be supported via a remote central station computer utilizing the dedicated software.
- J. Reports: Reports to DACRs at commercial central stations as a result of system supervision shall include alarm, trouble, missing modules, restoral, system status, AC failure and low battery. The DACS shall also transmit test reports once every hour, 24 hours, 7 days, or 28 days. CPU failure shall be annunciated locally.
- K. "Phone Routing": The DACS shall have the capability of communicating with up to 2 different DACRs (destinations). Each destination can support up to two phone numbers. Each phone number can be up to 32 digits long. The DACS reports shall be classified into 24 sub-categories or "report groups." Each DACR shall be designated as a primary or duplicate destination for each report group. The transmission of events allows the reporting of different types of information to different remote DACRs. The report groups shall be as follows:
- | | |
|---------------------------------------|--------------------------------------|
| • 24-hour, Fire | • Controlled, Follower |
| • 24-hour, Fire Alarm w/ Verification | • Controlled, Instant |
| • 24-hour, Independent Point Control | • Controlled, Instant (Part On Mode) |
| • 24-hour, Tamper | • System Status Reports |
| • 24-hour, Emergency | • Walk Test Start/End Reports |
| • 24-hour, Visible Panic | • ABC Key/Duress Reports |
| • 24-hour, Invisible Panic | • Test Reports |
| • 24-hour, Burglary | • Open/Close Reports |
| • 24-hour, Voice Active | • Alarm Reports |

- Controlled, Keyswitch
- Controlled, Entry/Exit Delay 1
- Controlled, Entry/Exit Delay 2
- Restoral Reports
- Bypass/Force Bypass Reports
- Point trouble/Point Trouble Restoral Reports

L. Number of Programmable Outputs: The DACS shall provide a minimum of four on-board programmable outputs, which may be expanded to 20 by connecting up to two output modules to the DACS. Each output module shall provide eight fully programmable Form "C" outputs for a total of sixteen outputs (eight per output module). The following functions can be executed:

- Arming
- Arming Beeps (kysw & RF arming)
- Auto Arm Pre-Arming Alert
- Follow Command Center Sounder
- Entry/Exit Delay
- Bell Test on Close
- Phone Line Fail
- Ack Received
- AC Fail
- Low/Missing Battery
- Siren Supervision Fail
- Sensor Trouble Monitor
- Duress
- User Tamper
- Bell Time
- Strobe
- Silent Alarm
- Alarm/Fire Alarm
- Fire Verification
- System Trouble
- RF Keyfob Functions
- ABC Key Functions
- Unsuccessful Dialing Attempts
- Comm Fail Event
- Panel Off-Hook
- Ring Detect
- Voice Request
- Ready to Arm
- Watch
- Exit Error
- AC 60 Hz
- Ground Start
- Follow Point Index
- Follow Passcode
- Sked Only
- Change Outputs

The Contractor shall provide a minimum of one output for each of the exterior door contact indicated, plus four (4) spare contacts. These contacts shall be interfaced to the Video Surveillance System to trigger pre-programmed pan/tilt/zoom presets to set the exterior cameras to allow for recording of appropriate events. It shall be the responsibility of the Intrusion Detection Contractor to provide all cabling and hardware to route the cabling to the DVR, and provide all necessary programming to provide the necessary closures of the contacts. Final termination of the cabling and programming of the DVR shall be by the Video Surveillance contractor. The Intrusion Detection Contractor shall verify all requirements of the interface with the Video Surveillance Contractor, and fully test all functionality prior to Owner's final acceptance of the system.

M. Output Mode: The DACS shall provide outputs with the following mode functions:

- Steady
- Latch
- Toggle
- One Shot
- One Shot with Re-Trigger
- One Shot with Reset Pulse

Output modes shall also perform reverse logic functions (output activate/deactivate states are reversed).

N. Alarm Output Selections: Two different types of alarm output selections shall be supported by the DACS: Steady and Temporal Code 3.

O. Miscellaneous Features: The DACS shall provide programmable Swinger count (1, 2, 3 or 4), separate programmable swinger counts for alarm output and alarm reporting, smart swinger option and momentary and maintained keyswitch on/off operation. See below for keyswitch arming states:

- Maintained, All On, Off from Any
- Maintained, All On, No Off
- Momentary, All On, Off from Any
- Momentary, All On, No Off

- Maintained, No On, Off from Any
 - Maintained, Part On, Off from Any
 - Maintained, Part On, No Off
 - Maintained, No On, Off from Part On/Part 2 On
 - Momentary, No On, Off from Any
 - Momentary, Part On, Off from Any
 - Momentary, Part On, No Off
 - Momentary, No On, Off from Part On/Part 2 On
- P. DACS Power Ratings: The DACS shall provide 600 mA of auxiliary power and 1.85 A of alarm power, both rated at 12 VDC. Additional auxiliary power shall be provided by adding battery/charger modules up to a maximum of 2 amps. The Contractor shall verify exact power requirements for the project and provide all necessary power devices required to provide 100% of the power required by the initial installation, as well as spare capacity of 20%.
- Q. DACS Fault Detection: The DACS shall provide a programmable point scan time at either 300 ms or 20 ms.
- R. User-Programmable Features: The DACS shall provide a "user-friendly" interface for operating the system to the operational criteria of the application. A service passcode with the appropriate authority level can be assigned to the servicing agent allowing him limited access to system functions. User programmable/activated functions assigned by authority level include:
1. Arming the System: The required authority level can perform the following arming functions:
 - All/Part/Part 2 On with Delay
 - All/Part/Part 2 On with Delay, no Exit Tone
 - All/Part/Part 2 On with no Delay
 2. Disarming the System: The required authority level may disarm the system and perform one-time system disarm.
 3. Disable Open/Close Reports: The sending of opening/closing reports may be restricted by authority level.
 4. Force Arm/Bypass Points: The required authority level may force arm or bypass faulted points.
 5. Arm/Disarm All Areas by Command Function: The required authority level may arm and disarm all areas using a command function.
 6. System Operation Command Functions: The required authority level may perform the following system operations via command functions:
 - View Alarm Memory
 - System Test
 - View System Trouble
 - Remote Program
 - Walk Test
 - Reset Sensors
 - View Point Trouble
 - Set Time and Date
 - Change Skeds
 - Renew One-Time Passcodes
 - Change/Add Other Passcodes
 - Delete Passcodes
 - Set Watch Tone
 - Set Watch Points
 - Set Part 2 Points
 - Toggle Auto Call Forwarding On/Off
 - Auto Call Forwarding Enable
 - Auto Call Forwarding Disable
 - Adjust Command Center keystroke volume/display lgt
 - Toggle Watch Feature On/Off
 7. Move to Area Command Function: The required authority level may perform the Move to Area command function.

8. Extend Close Command Function: The required authority level may perform the Extend Close (Automatic Arming) function.
 9. View Log Function: The required authority level may view the system log.
- S. Auto Call Forwarding: The DACS shall provide an automatic call forwarding feature that dials the entered digits to activate the telephone company's call forwarding service when the system is armed All On. The enabling/disabling of this feature may be restricted by authority level.
- T. 254 Event Log: The DACS shall provide a history log capable of holding up to 254 events, including alarm events, arming the system, and disarming the system.
- U. Programmable Skeds: The DACS shall provide up to 8 programmable scheduled events (skeds) that occur at a specific time of day and day of week. These events can be used to automatically arm/disarm the system or control output functions.
- V. Optional Printer Interface Module Compatibility: The DACS shall provide a connection port for a compatible optional printer interface module to print panel events.
- W. Sequential Entry Delay: The DACS shall commence the Entry Delay sequence when the location with an Entry/Exit Delay point type is faulted and continues with the faulting of consecutive locations (lowest to highest) assigned to Follower point types. The sequence of point types must be consecutive and without any gaps. For example, Location sequence 2, 3, 4, and 5 with Location 2 as an Entry/Exit point type and Locations 3 to 5 as Follower point types is OK. A location sequence of 2, 3, 5 with Location 4 as a Fire point type is not a valid sequence.

2.02 SYSTEM INTERFACE REQUIREMENTS

- A. Grounding: The Contractor shall properly earth ground the DACS.
- B. Primary power: The Contractor shall provide a dedicated 120 VAC power circuit to the DACS system. This circuit shall be connected to the emergency power system. The 120 VAC is stepped down to 18 VAC to power the DACS panel using a class two, plug-in transformer. This power circuit shall be properly rated to continuously power all points and functions indefinitely in full alarm condition.
- C. Primary power supervision: When the primary power source fails, the system can be configured to report an "AC Fail" message to a commercial central station. The creation of this message is suppressed if the AC Failure is less than 60 seconds. The message can be programmed to "tag-along" with another message transmitted to the central station. The system will always display a loss of primary power on the command center and may be configured to provide additional audible warning.

- D. Secondary power (standby battery): The Contractor shall provide adequate battery power as defined by the relevant application criteria, (UL 985 and 865 for alarm installations or NFPA 72 chapters for fire applications). Appropriate battery chargers shall be provided consistent with the battery backup capacity. The battery capacity shall be a minimum of 4 hours at full capacity, unless other jurisdictional requirements exceed this minimum. The Contractor shall verify the duration required of the battery capacity and provide the required capacity at no additional cost to the Owner.
- E. Secondary power supervision: When the secondary power source experiences an 85% depletion of its standby capacity, the system can be configured to report a "Low Battery" message to a commercial central station. The system will always display a low battery condition on the command center and may be configured to provide additional audible warning.
- F. Wiring: The contractor shall provide cables consistent with the manufacturer's recommendations. The following general guideline shall be followed for wiring installation: Wiring shall be appropriately color-coded with permanent wire markers, and shall be compliant with all ratings required by all applicable codes and the local authority having jurisdiction.
- G. EMI/Lightning Protection: The DACS system shall be protected from EMI and lightning surges.
- H. Telephone interface: This interface shall conform with FCC rules parts 15 and 68.
- I. Auxiliary function control interfaces: Auxiliary functions such as activating bells, strobes, or lights shall be accomplished using the optional relay modules. These auxiliary interfaces shall be electrically isolated to avoid inter-system interference or damages.
- J. Non-Volatile Backup: Functional criteria programmed into system memory shall be backed up to internal non-volatile RAM. Additionally, the number of system programmers shall be severely restricted via the use of program locking features and passwords.

2.03 SYSTEM SENSOR REQUIREMENTS

- A. Door Contacts
 - 1. Where still accessible door contacts shall be recessed round 3/4" plug type door contacts by DSC, DMP, Bosch or Honeywell.
- B. Motion Sensors
 - 1. The motion sensors shall be listed and approved by UL, ULC, CE, FCC, IC, and EN50131-2-4 grade 2.
 - 2. The motion sensor shall operate on 9 VDC-15 VDC, with a maximum current draw of 25 mA.
 - 3. The motion sensor shall be capable of operating in temperatures ranging from -20°F to +130°F.
 - 4. The motion sensors shall utilize both infrared and microwave technologies, as well as light level sensors.

5. The motion sensors shall utilize active white light suppression to combine infrared disturbance with visible light spectrum to minimize false triggers caused by transient sources such as passing automobile headlights.
6. The motion sensors shall utilize adjustable optics with 86 zone tri-focus optic configuration.
7. The microwave sensors shall have adjustable sensitivity and supervised control.
8. The sensor shall provide automatic temperature compensation.
9. The approved manufacturer and series shall be Bosch Professional Series, with equals by GE and Ademco. The Contractor shall verify the appropriate coverage range and provide the required unit.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Division 28 Contractor shall install security system as shown on the Drawings in accordance with Manufacturer's written instructions. The system
- B. All wiring shall be installed in conduit.

3.02 TESTING

- A. Division 28 Contractor shall provide a complete functional test of all components in accordance with Manufacturer's recommendations.
- B. Operate system for a minimum of seven consecutive days with no problems before claiming Contract Completion.
- C. Refer to Section 26 08 40, "Electrical Tests, Adjustments, Inspection."

3.03 SPARE PARTS

- A. Division 28 Contractor shall furnish one spare device for each type used, including keypad, passive infrared detector and door contacts.
- B. Obtain a signed copy of the Certificate of Material Receipt from Section 26 00 99, "Requirements for Contract Completion."

3.04 EQUIPMENT DEMONSTRATION

- A. After all system tests have been completed, schedule an instruction period with the Owner. Instruction to be provided by Manufacturer's authorized field technician. Provide four separate sessions of four hours. Record sessions on DVD and furnish two copies to school.
- B. Instruction shall include:
 1. Location of all components of the system and explanation of their function
 2. Demonstration of equipment
 3. Maintenance and repair procedures

4. Programming procedures
 5. Review of documents in Record and Information Manuals
- C. Division 28 Contractor shall have all participants sign the Certificate of System Completion in Section 26 00 99, "Requirements for Contract Completion."

3.05 WARRANTY OF WORK

- A. All components, parts, and assemblies supplied by the Manufacturer and installed by the Contractor shall be warranted against defects in material and workmanship for a period of at least 36 months (parts and labor), commencing upon date of acceptance by Owner. A qualified factory-trained service representative shall provide warranty service.

END OF SECTION

SECTION 28 23 00 - VIDEO SURVEILLANCE SYSTEM

PART 1 GENERAL

1.01 DESCRIPTION

- A. Furnish and install a complete IP Video Surveillance System as shown on the Drawings and as specified herein. Provide all accessories and equipment as necessary for a complete system.
- B. The Surveillance System shall utilize IP-based cameras to monitor the internal and external areas of the facility. The section specifies requirements for the provision of all equipment, materials, labor, documentation, and services necessary to furnish and install a complete and operational integrated Cloud Security Camera Video Management System (Cloud VMS) for the project, which supports an unlimited number of users, cameras, servers, and sites.
- C. The system will have the ability to store video on a network video recorder, in the cloud or as a Hybrid System with both cloud and local NVR storage.
- D. QUALITY ASSURANCE, MANUFACTURE
 1. Minimum 3-year experience manufacturing similar products.
 2. Products shall be non-proprietary in such that it may accept a number of different manufacturer cameras in differing forms and functions.
 3. Functional cameras shall include, standard single and multi-sensor cameras, PTZ, fisheye, thermal, explosion proof, etc.
 4. Functional camera shall include differing camera resolutions ranging from 2MP up to 4K cameras.
 5. Functional camera shall include different form factors to include dome, PTZ, bullet, turret, and fisheye.
- E. QUALITY ASSURANCE, CONTRACTOR
 1. Minimum 3-year experience installing security products. Installers shall be trained and authorized by the Manufacturer at the time of this submittal to install, integrate, test, and commission the system3-year experience manufacturing similar products.
 2. Contractor working on this project must possess a valid certificate from the equipment manufacturer verifying completion of Installation and Service Training.
 3. Supply a list of a minimum of five (5) projects over \$100,000 that the firm has completed along with contact names and phone numbers of the Owners' Representatives for those projects. At least three (3) of the completed facilities shall have been occupied and in full operation for at least one (1) year.
 4. The contractor shall be a **certified installer for the security products** for this project and maintain that status with the warranting manufacturer, including all training requirements, for the duration of the cable infrastructure project.
 5. It is the intent of this contract for the Contractor to provide sole responsibility for material, labor, and service for the security system. The Integrator shall, at a minimum, staff the project with two certified installers for project foremen and crew leader positions.

- F. All equipment shall be UL listed and labeled and in accordance with applicable NEMA and ANSI Standards.

1.02 SUBMITTALS

- A. For Review:
 - 1. Product data sheets of all components
 - 2. Wiring Diagrams
 - 3. Schematic Block diagrams
 - 4. Network bandwidth calculation
 - 5. Digital video storage calculation
 - 6. Copies of all certifications
- B. To be included in Record and Information Manuals:
 - 1. One (1) copy of each approved submittal
 - 2. Test results
 - 3. Certificate of System Completion

1.03 MANUFACTURERS

- A. As listed within. Basis of design listed is intended to meet the minimum requirements. Other acceptable manufacturers are as noted.

PART 2 PRODUCTS

2.01 IP CAMERA SYSTEM

- A. The system shall be a complete IP based video surveillance system that shall utilize the Owner's network as the method of transport to a video surveillance server that shall record and retain the video and provide an export capability to transfer files that the Owner wishes to record to their choice of media.
- B. Cameras
 - 1. All Cameras shall utilize Internet Protocol as the transport for the video signaling.
 - 2. Housing color for all exterior pole-mounted cameras (including any attached mount and box) shall be painted by the manufacturer to match the lighting pole color.
 - 3. The cameras shall meet or exceed the following performance requirements and criteria.
 - 4. 2MP Varifocal Indoor Dome Camera:
 - a. Image Sensor: 1/2.8" 2MP CMOS
 - b. Lens: 3.2 ~ 10mm (3.1x) motorized varifocal
 - c. Horizontal Angle of View: 109.0°(Wide) ~ 33.2°(Tele)
 - d. Vertical Angle of View: 57.4°(Wide) ~ 18.7°(Tele)
 - e. Compression: H.265/H.264, MJPEG
 - f. Resolution: 1920x1080 2MP
 - g. Day & Night: Auto (ICR)
 - h. Network: 10BASE-T / 100BASE-TX (RJ-45)
 - i. PoE: IEEE802.3af compliant
 - j. Vandal Resistant: No
 - k. Basis of Design: Hanwha Techwin QND-6082R

5. 2MP Varifocal Outdoor Dome Camera:
 - a. Image Sensor: 1/2.8" 2MP CMOS
 - b. Lens: 3.2 ~ 10mm (3.1x) motorized varifocal
 - c. Horizontal Angle of View: 109.0°(Wide) ~ 33.2°(Tele)
 - d. Vertical Angle of View: 57.4°(Wide) ~ 18.7°(Tele)
 - e. Compression: H.265/H.264, MJPEG
 - f. Resolution: 1920x1080 2MP
 - g. Day & Night: Auto (ICR)
 - h. Network: 10BASE-T / 100BASE-TX (RJ-45)
 - i. PoE: IEEE802.3af compliant
 - j. Vandal Resistant: Yes, IK10
 - k. Environmental: IP66 rated for outdoor use
 - l. Basis of Design: Hanwha Techwin QNV-6082R
6. 4MP Outdoor Bullet Camera:
 - a. Image Sensor: 1/3" 4MP CMOS
 - b. Lens: 3.2 ~ 10mm (3.1x) motorized varifocal
 - c. Compression: H.265/H.264, MJPEG
 - d. Resolution: MAX 2592x1520 4MP
 - e. Day & Night: Auto (ICR)
 - f. Network: 10BASE-T / 100BASE-TX (RJ-45)
 - g. PoE: IEEE802.3af compliant
 - h. Vandal Resistant: Yes, IK10
 - i. Environmental: IP66 rated for outdoor use
 - j. Basis of Design: Hanwha Techwin QN0-7082R
7. 2MP Varifocal Outdoor Bullet Camera:
 - a. Image Sensor: 1/2.8" 2MP CMOS
 - b. Lens: 3.2 ~ 10mm (3.1x) motorized varifocal
 - c. Horizontal Angle of View: 109.0°(Wide) ~ 33.2°(Tele)
 - d. Vertical Angle of View: 57.4°(Wide) ~ 18.7°(Tele)
 - e. Compression: H.265/H.264, MJPEG
 - f. Resolution: 1920x1080 2MP
 - g. Day & Night: Auto (ICR)
 - h. Network: 10BASE-T / 100BASE-TX (RJ-45)
 - i. PoE: IEEE802.3af compliant
 - j. Vandal Resistant: Yes, IK10
 - k. Environmental: IP66 rated for outdoor use
 - l. Basis of Design: Hanwha Techwin QNO-6082R
8. 360-Degree Fisheye Indoor Camera:
 - a. Image Sensor: 1/1.8" 6MP CMOS
 - b. Lens: 1.14mm fixed
 - c. Angular Field of View: H: 187° / V: 187° / D: 187°
 - d. Compression: H.265/H.264, MJPEG
 - e. Resolution: 2560 x 2048 6MP
 - f. Day & Night: Auto (Electrical)
 - g. Network: 10BASE-T / 100BASE-TX (RJ-45)
 - h. PoE: IEEE802.3af compliant
 - i. Vandal Resistant: No
 - j. Basis of Design: Hanwha Techwin QNF-8010

9. 180-Degree Multi-Sensor Panoramic Indoor/Outdoor Camera:
 - a. Image Sensor: 2MP x 4
 - b. Lens: 2.8mm fixed
 - c. Angular Field of View: H: 209° / 180° / V: 83.3° (total with 4 sensors)
 - d. Compression: H.265/H.264, MJPEG
 - e. Resolution: 7.3 MP
 - f. Day & Night: Auto (ICR)
 - g. Network: 10BASE-T / 100BASE-TX (RJ-45)
 - h. PoE: IEEE802.3af compliant
 - i. Vandal Resistant: Yes, IK10
 - j. Environmental: IP66 rated for outdoor use
 - k. Basis of Design: Hanwha Techwin PNM-9022V
10. Dual-Sensor Indoor/Outdoor Camera:
 - a. Image Sensor: 1/2.8" 2MP CMOS x 2
 - b. Lens: 6.0mm fixed x 2
 - c. Total Pixels: 4 megapixel
 - d. Resolution: 1920 x 1080 x 2
 - e. Day & Night: Auto (Electrical)
 - f. Network: 10BASE-T / 100BASE-TX (RJ-45)
 - g. PoE: IEEE802.3af compliant
 - h. Vandal Resistant: Yes, IK10
 - i. Environmental: IP66 rated for outdoor use
 - j. Basis of Design: Hanwha Techwin PNM-7000VD with (2) SLA-2M6000D lens
11. The Indoor/Outdoor 360 Multi-sensor type cameras shall meet or exceed the following performance requirements and criteria:
 - a. Image Sensor: 1/1.8" 5MP CMOS x 4
 - b. Lens: 4.13 9.4mm (2.3x) motorized varifocal
 - c. Resolution: 2560x1920, 2560x1440, 1920x1080, 1600x1200, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x24
 - d. Day Night: Auto (ICR)
 - e. Network: Metal shielded RJ-45(10/100/1000BASE-T)
 - f. PoE: IEEE802.3af compliant
 - g. Outdoor: IP66 rated for outdoor use
 - h. Basis of Design: Hanwha Techwin PNM-9085RQZ
12. Acceptable Equivalent Manufacturers:
 - a. Axis and Panasonic i-PRO
13. Provide enclosures and appropriate mounting bracket for each camera provided based on the location and environment of the installation location. Refer to drawings for camera mounting details and schedule. All exterior wall mount cameras shall be installed with an exterior wall mount kit such that the camera is horizontally mounted (not vertically mounted on the wall). For exterior ceiling mount camera locations, where installed on a gable or sloped ceiling, ensure that camera view will be level to the ground by either (a) rotating the camera lens or (b) providing an appropriate pitched mount bracket to compensate for the slope.
14. See attached camera schedule for type and location.

2.02 CLOUD BASED CAMERA VIDEO MANAGEMENT SYSTEM (CLOUD VMS)

- A. Cloud-based video surveillance as a service (VSaaS) solution for video management and long-term video storage, supporting an unlimited number of users, cameras, servers and sites, with a browser-based video management system application (web app) and mobile device applications (mobile apps) for iOS and Android devices shall be considered.
1. The system shall have an open architecture supporting IP cameras, encoders, and other IoT devices from multiple manufacturers providing best-of-breed solutions ranging from low-cost, entry-level features to high performance features.
 2. The software shall have the capability to run multiple browser applications simultaneously on one workstation with multiple monitors.
 3. The contractor shall meet all requirements as stated in Qualification section 1.01.C
 4. The VMS shall run on off-the-shelf PC hardware and support all leading manufacturers' cameras and devices (over 1500 models), as well as all industry standard compression formats (MPEG4, MJPEG, H.263, H.264 and H.265)
 5. The contractor is responsible for all programming, installation, licensing and all equipment for a complete system.
 6. The system shall be non-proprietary in such that it may accept a number of different manufacturer cameras in differing forms and functions.
 7. Acceptable manufactures include:
 - a. Qumulex Cloud Video Management System (QxCloudVMS)
 - b. Eagle Eye Cloud VMS
 - c. Wisenet Sky (Cloud)
- B. Network Video Recorder Hardware (NVR)
1. The NVR shall be a rack mounted unit capable of being installed in an EIA standard 19" rack without the use of custom mounting hardware with the exception of commercial, off the shelf, rack mount hardware from the NVR server manufacturer. Each NVR shall have Scalable Architecture with unlimited number of cameras, connected to multiple recording servers (up to 64 cameras per server) at multiple sites; support for MJPEG, MPEG4, H.263 and H.264 compression formats, at image resolutions up to 5MP (and higher) and frame rates of 30 fps or more; support for analog cameras via a wide range of IP video encoders.
 2. Each NVR shall be configured via an administration utility for setup and configuration of cameras and I/O devices, camera event settings, archive settings, scheduling, and soft buttons for manually triggered events.
 3. Each NVR shall automatically discover and detect cameras and other devices based on user preferences and have the following other features
 - a. Batch Device Configuration
 - b. Export/import of configuration data
 - c. Set automatic system restore points
 - d. Recording and Archiving
 - e. Maintenance-Free, Transparent Archiving
 - f. Multi/dual-stream support
 - g. Support for DNS and NAT (Network Address Translation.)
 - h. PTZ Preset Settings
 - i. PTZ Patrols
 - j. Two way audio

- k. Networking: Support for Multi-Network operation
 - l. Detailed logging
 - m. Advanced Motion Detection with three resolution levels of motion detection.
 4. Each NVR shall have no limit on the number of concurrent client users, and no incremental cost for additional Clients.
 5. Each NVR shall support up to eight connected displays.
 6. The NVR shall be configured with RAID-5 storage consisting of a 4U chassis and eight hot swappable hard drives. The RAID-5 storage shall be internal to the server and shall provide notification of a drive failure to the administrator.
 7. In addition to the previously declared requirements of the NVR, it must meet all specifications set by the manufacturer.
 8. The contractor should price and retention per camera at 7 days. Explanation of retention process and capability should accompany this bid.
 9. Provide all bridges, gateways or other devices needed to complete the system installation.
 10. The NVR must have 2 network interface cards. Both cards shall be RJ45 connections with the capability of a 1 Gbps each.
 11. Acceptable Manufacturer shall be Exacq, or VMS/Camera Manufacturer Product
- C. Provide all components and cost for a cloud storage solution per camera. Include an explanation of how a Hybrid system would work.
- D. Media Converter/POE (For pole cameras)
1. A fiber optic Ethernet media converter, externally powered, capable of communicating Ethernet over fiber via a Gig E SFP port and supplying Ethernet data and power (PoE+) over Cat 5e/6 cable
 2. Receive an optical signal via an SFP port device power and supply Ethernet signal and power via RJ-45 connector.
 3. Minimum 50 Watts of power for each port.
 4. Provide 2 ports of POE power and 10/100/1000Base-T
 5. Basis for design: Perle S-1110HP-XT
 6. Equivalent Manufactures: Altronix, Comnet, and Vigitron

2.03 APPLICATION

- A. Provide IP cameras with lenses appropriate for the areas to be covered.

2.04 INSTALLATION

- A. Install Video Surveillance System as shown on the Drawings in accordance with manufacturer's written instructions.
- B. Provide 120 volt power to all equipment from nearest emergency circuit.
- C. Provide grounding of all equipment in accordance with ANSI/EIA/TIA-607.
- D. Coordinate Camera height with owner before securing.
- E. Install all components in cabinets and racks.
- F. Coordinate complete system installation with Owner's representative.

- G. Install Ethernet Switches and validate connectivity throughout. Configure all VLANs, IP Routing, and IP Subnets.
- H. Provide all required Integration Services to setup and program the Network (IP addresses, VLAN's, Routing, Wireless Surveys, etc.).
- I. Contractor shall supply the "latest" software updates as part of the system configuration for two (2) years after system acceptance.

2.05 TESTING

- A. Provide a complete functional test of all components in accordance with manufacturer's recommendations.
- B. Operate system for a minimum of seven (7) consecutive days with no problems before claiming contract completion.
- C. Refer to Section 26 08 40, "Electrical Tests, Adjustments, Inspection."

2.06 EQUIPMENT DEMONSTRATION

- A. After all system tests have been completed, schedule an instruction period with the Owner. Instruction to be provided by manufacturer's authorized field technician. Include four (4) sessions of four (4) hours each on different days.
- B. Instruction shall include:
 - 1. Location of all components of the system and explanation of their function
 - 2. Demonstration of equipment
 - 3. Maintenance and repair procedures
 - 4. Programming procedures
 - 5. Review of documents in Record and Information Manuals
- C. Contractor shall have all participants sign the Certificate of System Completion in Section 26 00 99, "Requirements for Contract Completion."

2.07 WARRANTY OF WORK

- A. Contractor shall warrant all materials, equipment, and workmanship for a period of one (1) year from date of completion.

END OF SECTION